# Atlanta Regional Freight Mobility Plan

## Final Report

## February 2008

**For the**

**Atlanta Regional Commission**

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# Chapter 1: Introduction

Building on recommendations of the Atlanta Regional freight Task Force, ARC and GDOT began work activities to develop the *Atlanta Regional Freight Mobility Pla*n in late 2005. The Study is a jointly funded effort by ARC and the Georgia Department of Transportation. This partnership recognizes the importance and need for both agencies to jointly address freight issues in the region. The purpose of plan is:

- To conduct a comprehensive regional study of freight, goods, and services mobility needs
- Develop a framework to proactively address freight and goods movement mobility needs and challenges in our region
- Examine all modes of freight transportation system with emphasis on air, rail and trucking

The Atlanta region is one of the strongest and fastest growing logistics clusters in the nation. Metro Atlanta ranks fifth in the nation in transportation and logistics employment and the State of Georgia was recently ranked as the best state for logistics because of its air, ground, rail and sea facilities as well as corporate logistics centers and intellectual capital. As a result of the strategic role the region plays in the nation's freight system, identifying and programming effective improvements to accommodate increasing freight, goods, and services movement in the Atlanta area is critical to the region's economic vitality and quality of life. The development of a data-driven, policy-based Regional Freight Mobility Plan for the Atlanta Metropolitan area is essential to the identification and prioritization of improvements that accommodate mobility of both people and goods while mitigating the negative impacts on congestion, safety, and communities.

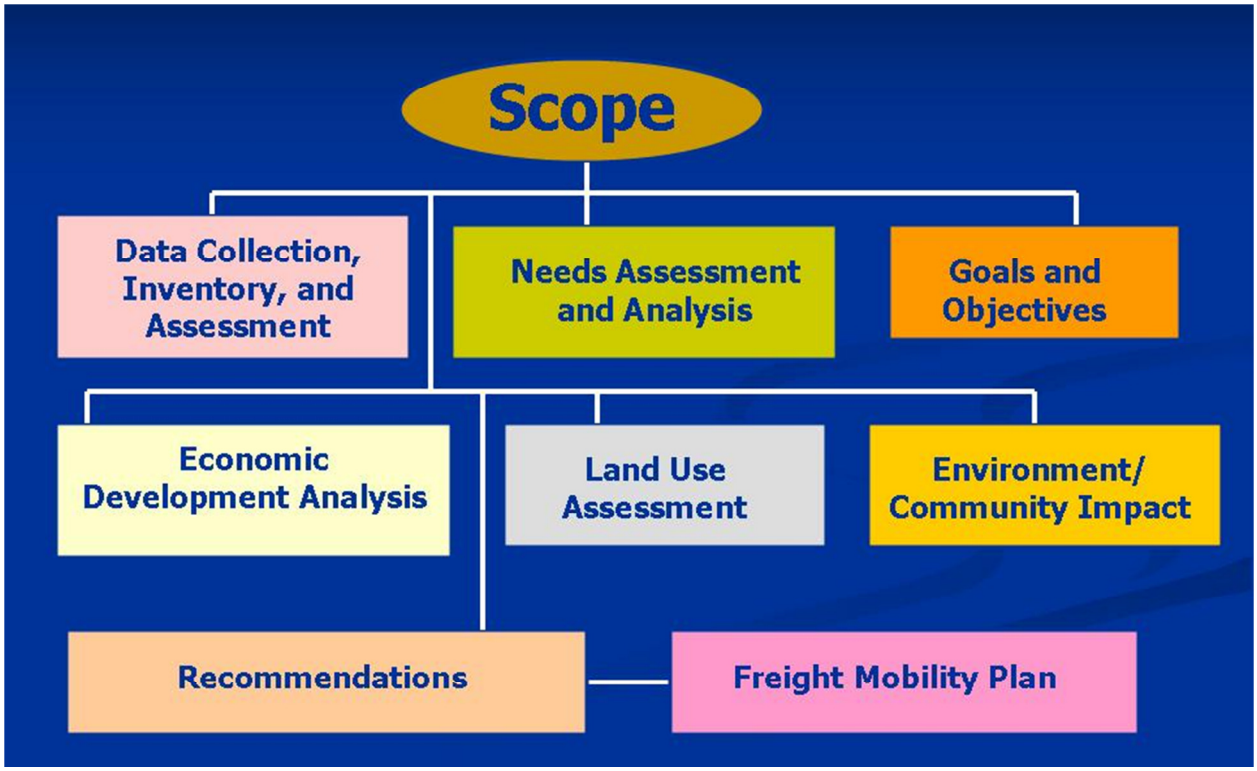
The final report is the culmination of work from prior deliverables produced in the study. These reports are located on the World Wide Web (www) and have been made available to stakeholders for review. The findings and comments on these reports were used to help develop recommendations in this report.

## *Description of Project Tasks*

This effort represents the region's first comprehensive examination of goods movement and freight mobility. As such, it was comprehensive in terms of examining a wide range of associated issues and concerns. The study involved the tasks illustrated in Exhibit 1.1:

- ***Data Collection***: The data collection effort included obtaining TRANSEARCH, a commercially available commodity flow database, conducting O/D surveys throughout the region, administering web based surveys for private sector freight stakeholders, conducting one-on-one interviews with the private sector; soliciting feedback from area truck drivers by placing regional maps in company break rooms, driving the regional priority freight highway network, and coordinating study efforts with other regional and statewide planning efforts.

**Exhibit 1.1: Freight Mobility Plan Scope**




- ***Needs Assessment***: The needs assessment consisted of establishing freight mobility goals and objectives for the region, documenting existing conditions including a commodity flow profile and modal profiles, forecasting future freight flows, identifying needs, developing a customized Commodity Information Management System (CIMS) software for use by ARC staff, conducting a safety analysis related to commercial vehicle crashes, developing freight specific performance measures and identifying needs and deficiencies.

- ***Land Use Assessment***: The Land Use Assessment task focused on conducting five case studies of freight intensive areas throughout the region. The case studies focused on identifying land use conflicts as well as elements that work well in the region. Findings from the case studies were used to develop freight supportive land use recommendations and guidelines aimed at local planners and decision makers.

- ***Community & Environmental Impact Scan and Assessment:*** Building upon the land use analysis, the study examined the environmental justice issues associated with freight. The purpose of the analysis was to examine the degree to which the negative effects of freight including noise, emissions and safety concerns disproportionately impacts EJ populations and to identify potential mitigation strategies.

- ***Regional Economic Assessment***: The economic analysis included documenting the role of freight in supporting the local economy, developing county level freight fact sheets,

assessing the economic impact of improved freight mobility on the regional economy and evaluating the impact of the displacement of freight activity on the regional economy.

- ***Recommendations and Strategies***: The final task in the study effort is to identify projects and strategies for enhancing freight mobility while mitigating its negative impacts. Recommendations, which are presented in this report, were developed based on the needs identified through out the study and screening of the initial projects and recommendations.

## *Goals and Objectives*

The development of goals and objectives for the *Atlanta Regional Freight Mobility Plan* involved numerous inputs with the primary components being stakeholder interviews (both public and private sector) and a half-day Executive Freight Forum conducted in November 2006. Stakeholder interviews are discussed in Chapter 2 of the current report and the Data Technical Report produced in June 2006. The proceedings from the Executive Freight Forum are provided in Appendix A of the Needs Assessment Report produced in August 2006.

Based on the input from both public and private sector stakeholders, the following goal for regional goods movements was developed and agreed to by stakeholders in the study:

***"To enhance regional economic competitiveness by providing efficient, reliable and safe freight transportation while maintaining the quality of life in the region's communities."***

The objectives of the Plan are:

- Facilitate an understanding of the importance of freight mobility to the region's economy and quality of life;
- Develop a dialogue between public decision makers and private sector freight stakeholders regarding freight needs and strategies;
- Integrate freight considerations in the public planning processes at all levels;
- Identify a regional freight transportation subsystem that is recognized as being essential to continued regional economic growth; and
- Develop a goods movement action plan that is data driven and stakeholder informed.

## *Organization of the Report*

The remainder of the report is organized around the objectives of the needs assessment as follows:

- Summarize stakeholder outreach methods and findings;
- Profile existing conditions including current and future regional commodity flows, modal profiles and bottlenecks;
- Summarize future forecasts and needs;
- Examine economic significance of freight movements in the Atlanta region;
- Evaluate projects and recommendations; and
- Detail the Atlanta Regional Freight Mobility Plan recommendations.

# Chapter 2: Stakeholder Outreach

This Chapter summarizes the extensive stakeholder outreach effort undertaken as part of the study. Stakeholders, both public and private, played an integral role in the research conducted for the study. In addition, they were instrumental in the identification of needs and challenges as well as development of the strategies and recommendations. The outreach effort consisted of the six components:

- O/D surveys
- Bottleneck mapping exercise
- Stakeholder surveys
- Targeted interviews and field observations
- Committee service including the Freight Task Force, Technical Advisory Committee and Steering Committee

## *O/D Surveys*

Truck drivers traveling in and out of the Atlanta metropolitan area were interviewed to understand where they started their trip, where they will end their trip, and what roads they use. Known as an origin and destination (O/D) survey, the information gathered is used to identify alternative strategies for accommodating truck traffic on the roadways serving the Atlanta metropolitan area. Additional information on the O/D survey is available on-line in the *Data Collection Tech Memo*.

The interviews were conducted using handheld computers running a data collection application customized for this project. A printed map was used to allow truck drivers to highlight the route of their trip. Exhibit 2.1 summarizes the O/D data collection sample by collection location.

Data captured includes:

- Date and time stamp
- Weather conditions
- Vehicle type
- Trip origin
- Trip destination
- Stop in the Atlanta metro area
- Trip frequency
- Trip purpose
- Facilities visited
- Vehicle load status
- Routes avoided
- Route flexibility

**Exhibit 2.1: Summary of Interview and Volume Counts for O/D Surveys by Survey Site**

| Location | Volume thru Site | Volume duration | Interview shift duration | No of recorded interviews | Estimated Count during Int Hrs | Count/Int (Weighting Factor) | Interview Percent |
|---|---|---|---|---|---|---|---|
| I-75 SB WS Forsyth | 3867 | 10 hours | 8 hours | 199 | 3094 | 15.5 | 6.43% |
| I-20 EB WS Lithia Springs | 1894 | 7.5 hours | 7.5 hours | 126 | 1894 | 15.0 | 6.65% |
| I-20 WB WS Bremen | 2421 | 7.5 hours | 7.5 hours | 117 | 2421 | 19.7 | 5.08% |
| I-75 NB WS Forsyth | 3883 | 10 hours | 7.5 hours | 119 | 2912 | 23.5 | 4.26% |
| I-85 NB WS LaGrange | 2070 | 7.5 hours | 6.75 hours | 108 | 1863 | 17.3 | 5.80% |
| I-85 SB WS LaGrange | 2170 | 7.5 hours | 7.5 hours | 137 | 2170 | 15.6 | 6.41% |
| I-85 SB WS Lavonia | 2545 | 8 hours | 8.2 hours | 103 | 2545 | 22.9 | 4.36% |
| I-85 TS Exit 149 Commerce | 230 | 8 hours | 8.25 hours | 92 | 230 | 2.3 | 43.91% |
| I-20 TS Exit 114 Madison | 140 | 3.5 hours | 3.5 hours | 33 | 140 | 4.0 | 25.00% |
| I-285 TS Exit 53 | N/A | | 6.83 hours | 101 | | | |
| I-75 TS Exit 296 Cartersville | 429 | 12 hours | 7.5 hours | 117 | 268 | 2.2 | 45.87% |
| Fairburn CSX Yard | 186 | 8 hours | 8 hours | 175 | 186 | 1.1 | 94.09% |
| I-85 TS Exit 61 Fairburn | 279 | 12 hours | 8 hours | 100 | 186 | 1.8 | 54.30% |
| I-75 SB WS Ringgold mm 343 | 1800 | 8 hours | 8 hours | 138 | 1800 | 13.0 | 7.67% |
| Norfolk Southern Austell Yard | 858 | 8 hours | 7.5 hours | 169 | 804 | 4.9 | 20.51% |
| I-85 TS Exit 149 Commerce PM Collection | 251 | 8.75 hours | 8.75 hours | 96 | 251 | 2.6 | 38.65% |
| I-285 TS Exit 53 PM Collection | 576 | 9 hours | 9 hours | 60 | 576 | 9.6 | 10.42% |
| QT on Fulton Industrial | 569 | 8 hours | 8 hours | 149 | 569 | 3.7 | 26.89% |
| Totals/Averages | 24168 | | | 2139 | 22696 | 10.4 | 9.60% |

The key findings from the O/D surveys are:

- 95% of the survey sample were tractor trailers;
- 37% of the trucks had no origin or destination in the Atlanta region while 20% had both an origin and destination in the region;
- The most significant generators of the freight movements are warehousing and distribution (46%), manufacturing (17%), retail (11%), airport related including construction (10%), other construction (4%) and rail yards (4%);
- 30% of the trucks were empty;
- 85% of the drivers have some flexibility in their routes; and
- 3% are carrying hazardous materials.

## *Bottleneck Mapping*

Maps of the Atlanta region were issued to various transportation carriers that operate within the area. The drivers from these companies had the opportunity to indicate trouble areas in the region on the map itself and provide comments pertaining to that specific location. The issues were separated into four categories:

- Geometric Constraints
- Traffic Issues
- Infrastructure Problems
- Safety Hotspots

The mapping activities produced several different results and were compiled into four different categories that depict the variance in issues across the region. The distributions centers that agreed to participate include:

- Publix
- FedEx Freight
- Coca-Cola Company
- UPS

The initial industry view is that several areas consistently impede freight flows. These issues are magnified during rush hour, but persist throughout the day.

Specific bottlenecks identified by the drivers include the following:

- I-85 is a main north-south through fare that many carriers use to get to points south and north of I-285. Many traffic issues occur during 6 a.m. and 9 a.m. and 4 p.m. – 6 p.m.;
- I-85 merging onto I-285 eastbound conflicts arise with truck merging. The primary concern is the length of acceleration/decelerations lanes (Less than ½ a mile). Many freight facilities exist west of the I-85/I-285 interchange, primarily located in College Park and Fairburn;
- SR 400 and I-85 interchange incurs significant merging issues around the afternoon rush hours. Three lanes from SR-400 merge into I-85 creating a significant queue;
- Merging issues at Jimmy Carter Blvd interchange on I-85;
- I-20/85/75 interchanges create a severe merging issue. In addition, appropriate signage is needed ahead of the interchange;
- Constricted lanes from I-20 to Riverside Parkway;
- I-75 at exit 224 presents merging issues as drivers often travel too fast for large commercial vehicles to react;
- Merging issues also occur as I-75 approaches I-285 and at I-675;
- I-285 presents problems due to narrow lanes, and slighted stripping. Merging issues occur at Peachtree Industrial, Pleasantdale Road, Lavista Road, I-75 and I-20 interchanges;

- Howell Mill Road has many maintenance issues that impact large trucks. This street is in older condition with certain obstacles, such as low power lines and tree limbs that impede trucks and create safety issues. In addition, Howell Mill incurs merging issues at I-75 merge;
- Panola Road runs from US 78 to SR-3 east of Atlanta. This roadway lacks the needed capacity for truck movement. This roadway also incurs traffic issues at I-20 interchange and along Covington Highway;
- SR 316 problems include construction, lane width, and I-85 merging issues. The SR 316/I-85 interchange project will address merging issues. This route is used as a main thoroughfare through Lawrenceville and is the access road to various freight terminals such as Publix and ABF Freight;
- Buford Highway extends northeast from the center of Atlanta and parallels I-85. The segment from McGinnis Ferry Road to SR 141 struggles to support truck volume.
- Peachtree Road and Ponce De Leon Road are both located in the center city limits and are used by commercial vehicles; however, they are considered too narrow for safe use by truckers.

## *Stakeholder Surveys*

The purpose of the survey was to capture information from the business community within the Atlanta region that provides specific data on truck delivery and shipping patterns. The survey was administered to shippers and carriers that are considered major freight generators. Understanding that feedback from the business community was critical for the study success, the survey had to be clear, concise, stimulating and beneficial.

The survey was created online through the use of a professional online survey tool (SurveryMonkey.com). The program provides the ability to format questions in an approach that effectively collects and tallies responses. The use of an online survey provides more control over the receipt of the information, and could personalize the interaction between WSA and the respondent by allowing for multiple versions of the survey to be administered based on responses to individual questions. The survey was formatted for responses from three specific groups; shippers and receivers, transportation carriers and operators, and the general public. The alternative versions of the survey allow for customized questions targeting specific stakeholder groups.

The main elements of the survey include:

- Business type
- Number of deliveries to warehouses, distribution centers and business
- Day of week deliveries occur
- Time of day deliveries (typical delivery pattern)
- Number of inbound and outbound loads (shipments) depending on business type
- Destinations of loads to determine the truck routes used in the Atlanta area

The response to the survey was as follows:

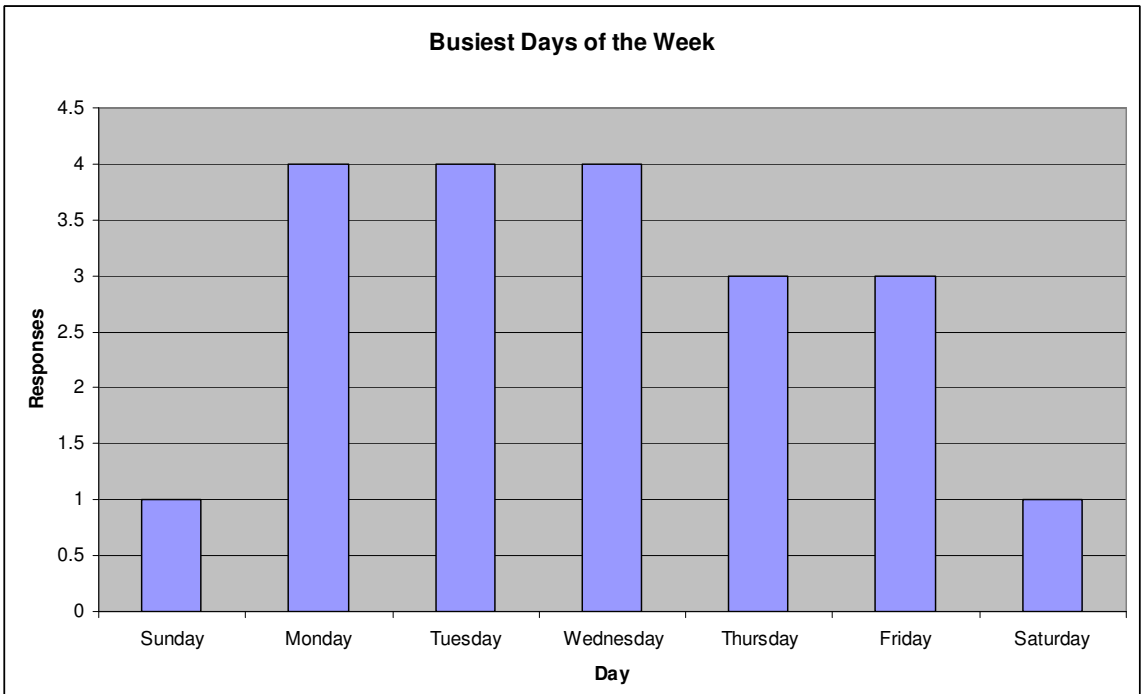
- 31 public responses
- 24 carrier responses
- 74 shipper responses

Although the overall survey responses are limited, the motor carriers that responded to the survey shipped general freight merchandise and owned an average of 130 tractors. These records indicate that these companies are larger in nature, and therefore serve a wider region. Carriers domiciled in the Atlanta region had a strong local presence and primarily service the southeast. Responding shippers transport retail and grocery freight to the Atlanta region and throughout the Southeast.

Key findings from the surveys include:

- The busiest days of the week tended to be in the beginning to middle part of the week (Exhibit 2.2). This was confirmed in the stakeholder interviews.

**Exhibit 2.2: Day of Week Operating Data from stakeholder Surveys**




- Delivery location security was the biggest concern among the respondents. From a carrier perspective, focus on the security of the cargo and trailer assets is paramount. Poor lighting, access and inadequate staff levels inhibit secure and safe freight transfers.

- Monday, Tuesday, and Wednesday were the days recorded as the highest amount of shipping activity and mirror the responses from the carriers.
- The peak season for these shippers occur during the spring months (March, April, and May) and late fall to winter months (September thru December). Retail and food shippers often have the same delivery schedules due to the various products offered. For example, clothing retailers see an upward shift in late summer due to back-to-school promotions followed by the holiday season.
- From a shipper perspective, the most important element that influences outbound transportation is cost followed by service.
- Rail service is still perceived as an effective mode of transporting goods in terms of cost, however, relatively 'fair" in terms of on-time reliability.
- Security is also noted as a potential liability as cargo theft is significant.

## *Targeted Interviews and Field Operations*

As part of the data collection effort, seventy private sector interviews were conducted. Exhibit 2.3 lists the companies that were interviewed along with the type of business they conduct. Selection focused on industry, county location, and size (including both smaller as well as larger stakeholders). An important requirement was to reach the sectors generating growth in the economy, particularly the so-called trade clusters mentioned above that are crucial to regional prosperity and place demands on more than the local network. In addition to the private sector interviews, twenty two public sector interviews were conducted.

**Stakeholder Identified Bottlenecks**

Stakeholder interviews identified many bottlenecks and trouble spots hinder efficient freight movement in and through the 20 county study area. A subjective list of issues brought forth through the interview process is as follows:

- Intersection of 316 and I-85 N is the "worst bottleneck in Atlanta at 6am;"
- Intersection of I-285 and I-85N (otherwise referred to as Spaghetti Junction) "is the worst in the city," and continues to deteriorate with Gwinnett County growth;
- Intersection of I-285 and I-75N was named the second worst bottleneck in the city;
- I-675 at McDonough (Northwest Atlanta);
- I-675 and I-75;
- I-75N between I-285 and I-575;
- GA 400;
- Peachtree St. is "awful," (especially around the Lenox Mall);
- Cobb Parkway suffers from a plethora of ill-synchronized traffic lights, according to interviews that exacerbates area congestion.

**Exhibit 2.3: Private Sector Stakeholder Interviews**

| Company | Industry | Company | Industry |
|---|---|---|---|
| Ackerman | Real Estate | International Paper | Printing |
| Air Freight | Air cargo | JB Hunt | Truckload |
| Allied | Truckload | K-Mart | Retail |
| Alltell | Communication | Koch Foods | Poultry |
| Atlanta Air Cargo Association | Air cargo | Kuehne & Nagel | Freight forwarder |
| Atlanta Metro Chamber of Commerce | Industry rep | McCollisters | LTL |
| Atlanta Expo Center | Venue | Modalgistics | Logistics |
| Atlanta Hartsfield Jackson Int Airport | Air cargo | NACOM | Auto |
| Atlanta Journal & Constitution(=Cox) | Printing | Natural Resources, GA | Waste |
| Baldwin Paving | Aggregate | | Waste |
| Benton Express | LTL | Norfolk Southern | Rail |
| Brent Scarborough | Construction | Phillips Arena | Venue |
| Chick-Fil-A | Food/Bev. Distribution | Pilgrim's Pride | Poultry |
| Coke Bottling | Food/Bev. Distribution | Pratt Industries | Paper |
| Coke Dispatch | Food/Bev. Distribution | Printpak Industries | Printing |
| CSX | Rail | Publix | Food/Bev. Distribution |
| Cushman & Wakefield of Georgia | Real Estate | Ryder | Logistics |
| Delta | Air Freight | Saia | LTL |
| e*freightrac limited | Logistics consulting | Sara Lee Bakery Group Inc - Fresh Bread | Food/Bev. Distribution |
| Emory Hospital | Medical | Sara Lee Bakery Group Inc - Refrgt Dough | Food/Bev. Distribution |
| FARC | Metals | Shaw Industries Group Inc | Textiles |
| FedEx Freight Dispatch | LTL | Southeastern | LTL |
| FedEx Freight Sales | LTL | Staubach | Real Estate |
| Freeman Decorating Co Inc | Venue | Sysco | Food/Bev. Distribution |
| Frito-Lay | Food/Bev. Distribution | Trimac | Truckload |
| GA Motor Truck Assn | NGO | Transus | LTL |
| GA Ports - Savannah | Port | United Distributors | Wine/Liquor Distributor |
| GA Tech | Education | UPS | LTL |
| Gainey Transportation | Truckload | Vertis Logistics | Logistics |
| General Motors | Auto | Vulcan Materials | Aggregate |
| Georgia Pacific | Paper | W.W. Williams | Auto |
| Harrison Poultry | Poultry | Wal-Mart | Retail |
| Haverty's | Furniture | Walton Press | Paper |
| Hill Phoenix Inc | Cooling Equip. | Wellstar Health System Inc | Medical |
| Home Depot | Retail | Yellow Transportation | LTL |

One key regional freight stakeholder described the impact that these bottlenecks have on their business by stating that they have had to turn away customers because bottlenecks made service within performance standards impossible. The company has responded in recent years by constructing an additional distribution terminal on the northeast side of Atlanta to assist in serving additional clients. However, this method of combating congestion problems is both timely and costly.

Another stakeholder provided a detailed view of areas of slow operation on the south side of Atlanta, as depicted in Exhibit 2.4:

**Exhibit 2.4: Zones of Slowed Operation, South Side**

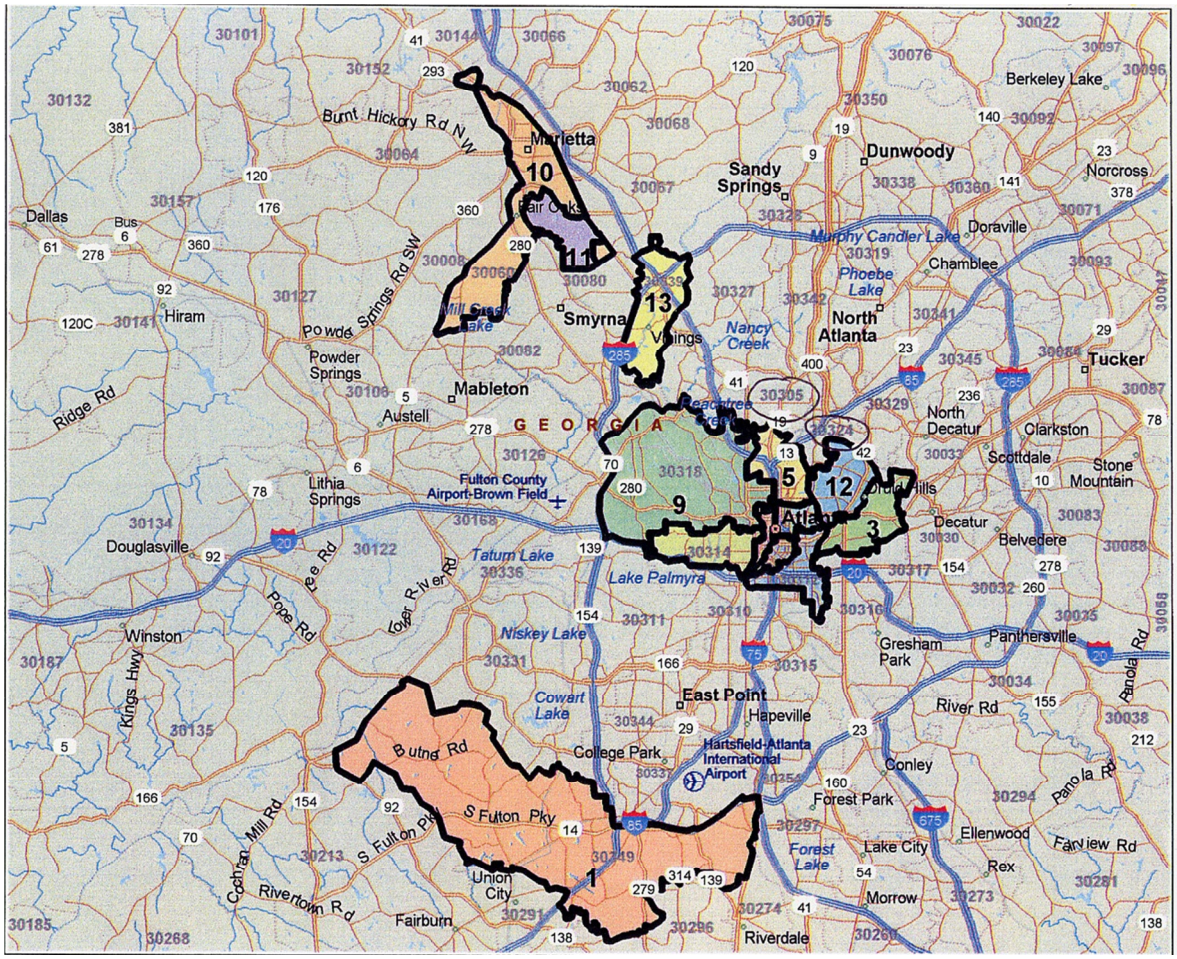



Exhibit 2.4 refers to the coverage area of the south side distribution center (the company also has a distribution center covering Atlanta's north side) where congestion causes drivers to experience slower operations and deliveries. The company determines slow delivery areas based on driver observations and as confirmed by sales managers. Company drivers are compensated based on the amount of product delivered but receive additional compensation for being assigned to heavily congested areas. The driver and sales force travel together through

areas and jointly decide areas deemed as "slow." This joint determination is particularly reliable as an identification of congested districts. Downtown Atlanta, Fulton Industrial Boulevard, and the Marietta area are congested zones with prolonged travel times due to recurring congestion.

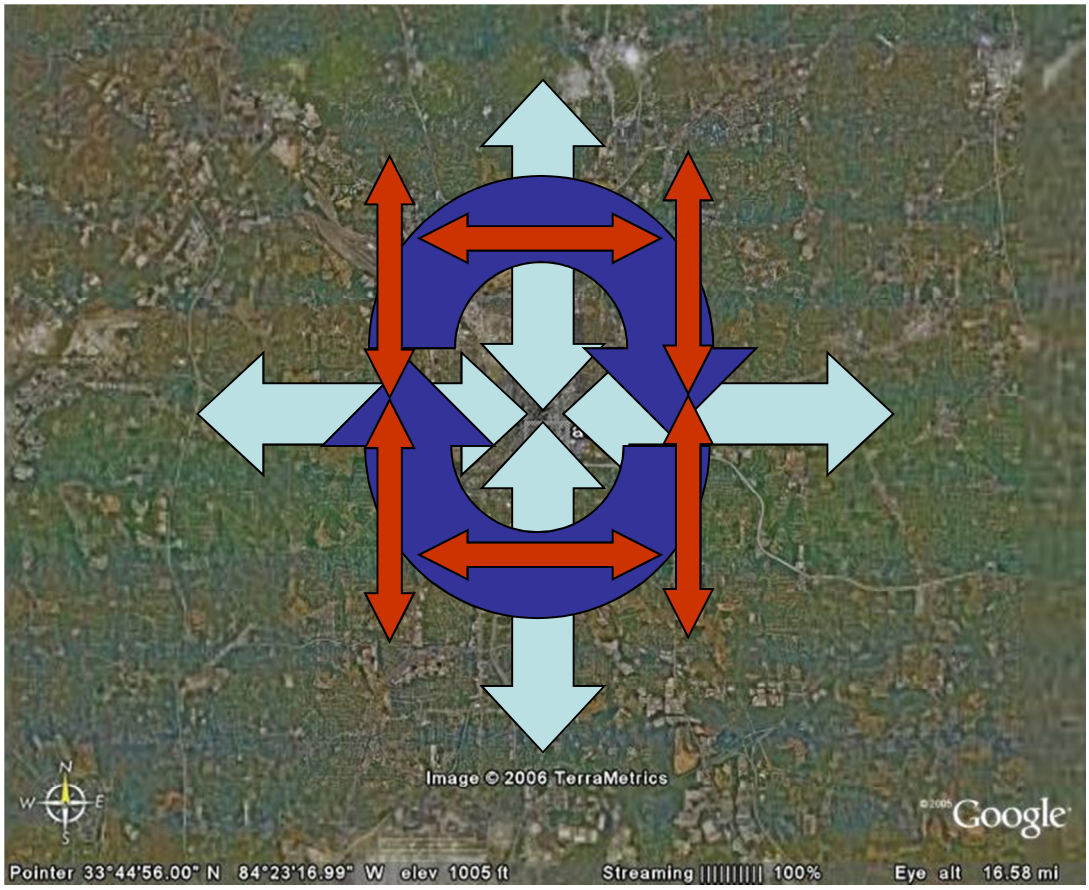
Another significant problem is the inability for trucks to transverse the city, without resorting to I-285. Observations from professionals who operated truck fleets in other cities clarified how Atlanta's surface structure differs from other urban areas and how Atlanta's structure contributes to congestion they perceive as worse. The region's surface routes are essentially set up as radials out from the city's center – rather than as a grid system of intersecting arterials, similar to what would be found in Los Angeles, Detroit or Washington D.C. Currently, it isn't as challenging to travel North and South from the city, but there is no good way to move across it. This problem is not only critical on the North side between I-75 and I-85, but also exists through the center and on the South side of Atlanta. The absence of traverse surface arterials also implies a lack of relief routes. Cross-town truck drivers have no alternative to using I-285, and have no alternative when it backs up, and the I-285 along with its major interstate feeders tends to choke up. Exhibit 2.5 schematically illustrates the radials, the Perimeter, and the gridline routes that are generally absent in the region.

An overlapping issue is the obligation for through trucks traversing Georgia in some directions to travel via the Atlanta metropolitan area. This is a consequence of geography and the highway network's design, which is not new to Georgia planners. Even so, through drivers report that they would not enter Atlanta if they could get around it, and as regions like the industrial belt of the western Carolinas grow, they place more stress on the metropolitan system.

In addition to the list of bottlenecks identified, stakeholders mentioned a variety of other problems:

- Traffic in the right two lanes of I-285 is more concentrated than it needs to be. Traffic in these lanes includes trucks (which are restricted from traveling outside of the right two lanes) plus all traffic coming on and off the interstate that must pass across the far right lane of traffic;
- The Buckhead area has numerous bottlenecks and experiences severe congestion. Not only does GA 400 traffic hinder the ability to efficiently get to Buckhead, but once drivers are in Buckhead, narrow streets, building construction close to roads, and an abundance of traffic generates highly congested driving conditions;
- Lack of speed enforcement poses problems. While drivers are required to follow the speed limit, they are negative affected by those drivers (freight trucks and passenger vehicles) traveling at speeds 10 miles + over the legal speed limit, creating hazardous driving conditions. The pattern of speeding up, passing a truck driver, jumping in front and slamming on the brakes, not only causes the truck driver to expend more fuel than necessary, but more importantly, causes accidents.

**Exhibit 2.5: Absence of Traverse Routes**




Throughout the interview process the project team asked stakeholders how they deal with congestion and bottlenecks, and received a myriad of responses. Of particular interest was reaction to questions about the Georgia Navigator website.[1] Some companies applied the website's information on traffic delays, construction-related backups, and accidents to work out alternate routes, essentially tracing backwards from the bottlenecks. However, more common were companies who were unaware of the Navigator, or who knew of it but hardly used it. Perhaps because it is a passive system, the Navigator appears to be employed reactively and sporadically, and even among active users, no one was observed who had the website up and visible.

**Stakeholder Suggestions**

Meetings with local stakeholders generated a wealth of ideas and recommendations for improvement of the region's conditions, and especially methods for managing congestion. One method the project team specifically inquired about was the functionality of Georgia Navigator, and whether this could be improved if some type of email or audible alert from the website were issued to drivers or dispatchers. This idea had wide appeal (even among those who were

[1] http://www.georgianavigator.com/

previously unfamiliar with the resource) as a means of enhancing communication, diverting drivers away from trouble spots and assisting drivers stuck in traffic to get out.

Other suggestions include:

- Provide incentives to receivers to encourage night deliveries
- Institute a truck-only lane. (Feedback on a toll for this lane was mixed, but overall positive. Decisions of whether or not to use depend on lane length and cost.)
- Construction of east-west routes directly across Atlanta, particularly to the north of I-285, between I-75 and I-85
- Allow through traffic on I-20 on off-peak hours inside I-285
- Construct an additional perimeter around I-285 for through traffic
- Traffic update signs that appear on the interstates are very helpful, but more of them are needed, and they could be used more effectively.
- Extend MARTA to the northern counties. (One stakeholder believed that Chicago traffic is improved by its relatively comprehensive passenger rail system)
- Traffic lights on Cobb Parkway need to be synchronized to reduce congestion
- Enforce speed limits
- A high school driver education class to educate passenger drivers on safe methods of contending with freight traffic

## *Committee Input*

The primary committees were consulted throughout the conduct of the freight mobility study including the Atlanta Freight Task Force, the Technical Advisory Committee and the Steering Committee.

The Atlanta Regional Freight Task Force served as the foundation for stakeholder outreach. The study team met with the task force to kick-off the study and continued to consult with them at key milestones during the course of the study. The task force participation was broadened to include:

- Service on Steering and Technical Committees
- Solicitation of other private sector candidates for interview and surveying
- Participation in the Goals and Objectives Charrette
- Technical review of Needs Assessment
- Input into project selection and prioritization process for both interim recommendations and final recommendations
- Identification of “quick-start” projects

The Steering and Technical Committees comprised individuals from both the private and public sector. This provided the opportunity for interaction and mutual information exchange regarding the public and private sector concerns and issues. The Steering Committee was populated with policy makers charged with implementing study findings. The technical committee consisted of staff level individuals who are expected to be more hands-on in supplying data and information as well as review of the methods. The Steering Committee met five times throughout the duration of the study and the technical advisory committee met nine times.

# Chapter 3: Existing Conditions

This chapter summarizes existing freight mobility conditions in the region. The chapter comprises the following sections:

- Description of how freight moves in the region;
- Discussion of the region's modal segmentation;
- Profile of the region's freight transportation system; and
- Summary of regional bottlenecks and chokepoints.

## *Freight Movement in the Region*

Goods enter and/or exit the state and Atlanta region by any one of the following modes:

Ocean Carriers – Freight moves through the ports in one of the three ways:

- *Inland-point Intermodal Service* – The ocean carrier arranges transfer of marine container from vessel to rail and rail line haul movement, all under one rate.
- *Transportation to the Port Gate with a Container Mounted on a Chassis* - The customer separately arranges for a marine container to be transported from port gate to destination distribution center via long-haul truck or dray.
- *Transportation to Inland Warehouses* – Dray from port gate to warehouse may be arranged by line or by customer. The customer contracts with a Third Party Logistics (3PL) firm, sometimes a subsidiary of the ocean carrier or the Non-Vessel Owning Common Carriers (NVOCC), to provide deconsolidation and transloading into domestic trailers or containers.

Air Cargo – Air cargo is the only example where cargo movements are controlled as part of an integrated supply chain system through the airports. The major air cargo and express companies are referred to as integrated carriers for that reason.

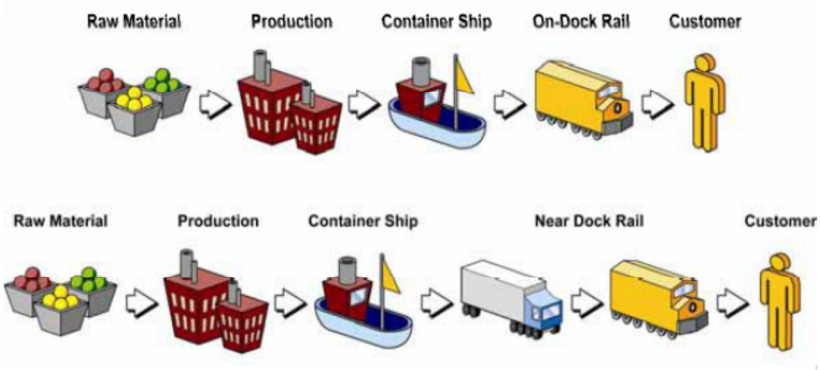
Railroads – The main market emphasis for the railroads in the study area is the intermodal business, including container traffic through the ports. Freight moves on to destinations north, south, east and west of the study area.

- The railroads wholesale their intermodal train capacity directly to the marine lines or rely on third party intermodal marketers for the domestic and transload business segments.
- The drayage part of the business (pick-up and delivery of containers to and from port terminals and shippers) is typically arranged by the intermodal marketing companies. An intermodal shipment consists of several trip segments (or legs).
- The line-haul is the long haul rail portion of the trip between the originating and terminating intermodal yards. On either end of the line-haul is the local dray to and from the actual shipper or receiver of the goods.

Trucking – The truck mode plays a significant role in moving goods door-to-door between shippers and receivers, as well as transferring goods from one mode to another (for example, between a port and an intermodal yard). In addition, freight moves on the region's highways to destinations in all directions of the study area.

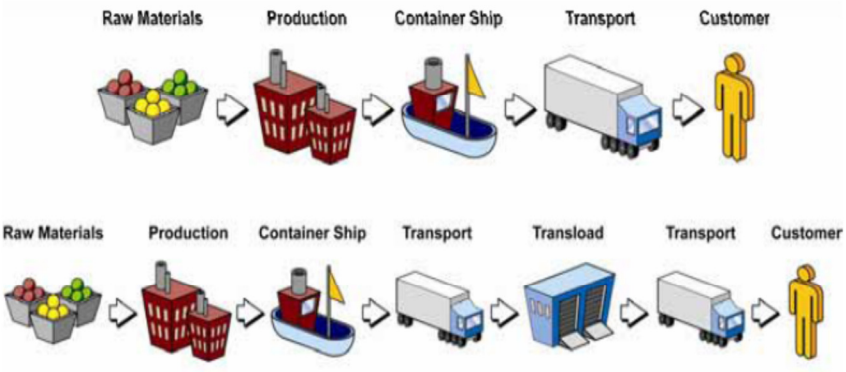
Supply Chain Movements – As shown in Exhibit 3.1, international goods move into the region first through the Ports (via oceangoing vessels) then enter the Atlanta region via rail and truck. Sometimes the cargo is first loaded onto trucks for transport to inland (near-dock, off-dock, or inland distribution centers) for transloading to rail. These goods typically move 500 miles or more and are shipped as whole containers.

**Exhibit 3.1 International Rail Distribution**



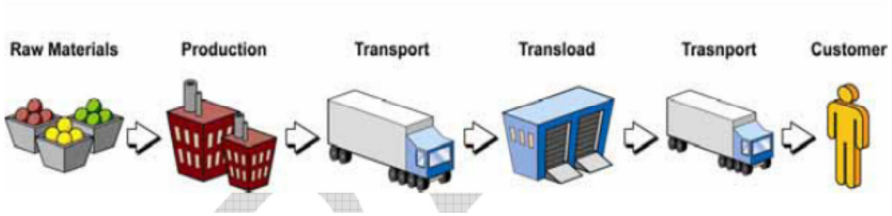

As shown in Exhibit 3.2, international goods that move into the state of Georgia first through the Ports (via oceangoing vessels) or airports (via international flights) enter and also leave the region via truck, including goods that are transloaded at inland distribution centers both inside and outside of the Atlanta region.

**Exhibit 3.2 - International Local/Regional Distribution**




Domestic goods produced within region for domestic consumption both inside and outside the Atlanta region are primarily moved by trucks. Exhibit 3.3 illustrates that these goods typically leave the place of production and are transported to a transload or distribution facility to be distributed to the customer.

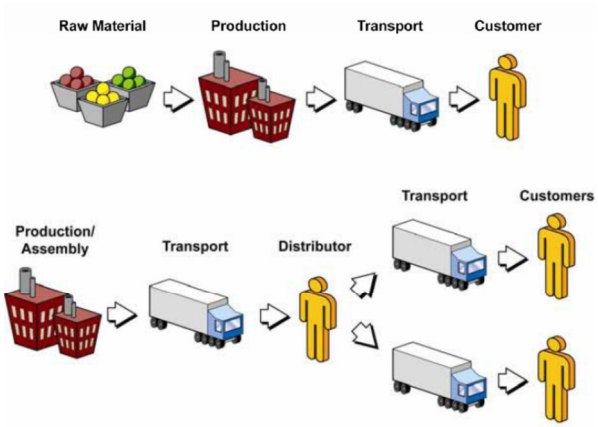
**Exhibit 3.3 Domestic Regional Distribution**




The final component is local and regional distribution, where goods are shipped directly from the point of production to the customer. As depicted in Exhibit 3.4, in some cases, one customer acts as a distributor, resulting in multiple "secondary" trips to other customers.

Because of its role as an inland distribution hub, the Atlanta region must accommodate all of these types of movements. A seamless multi-modal freight transportation is necessary for efficient freight mobility and mitigation of negative consequences.

**Exhibit 3.4 Domestic Distribution Local/Regional**

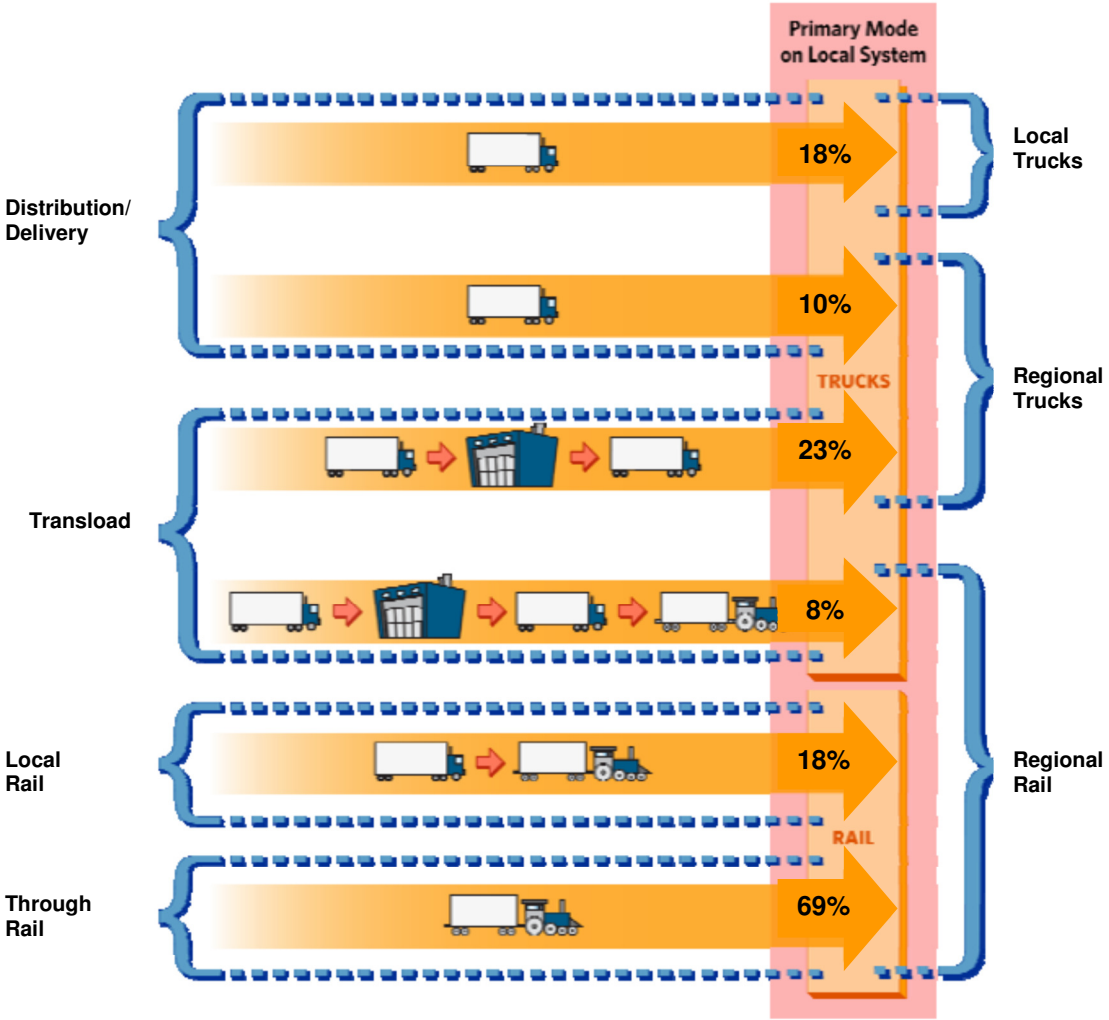



## *Regional Modal Market Segmentation*

Within the Atlanta Region, goods movement consists of six broad modal segments, as illustrated in Exhibit 3.5. Each of these modal market segments presents strategic opportunities for applying goods movement specific actions. On the one end of the spectrum are intermodal rail shipments which are through rail movements, and which involve no truck movements on the local and regional highways. This mode of transport is indicative of international container cargo shipments coming through the region from seaports or other rail hubs such as Memphis and Chicago.

Because of the potential national implications of the efficiency of these movements, there are likely to be more opportunities for strategic investments and funding options. On the other end of the spectrum are local and regional distribution and delivery shipments which exclusively involve truck moves on the local and regional highway system servicing local customers. This mode is indicative of domestic cargo and/or local and regional international cargo shipments serving the local market. The segments in between involve a more complex set of cross modal and staging activities resulting in additional trips on the regional highway system and may include other modes including rail and air. Because of the localized nature of the pick-ups and deliveries, these movements offer fewer opportunities for specific solutions and rely more on broad improvements across the region's roadway network.

**Exhibit 3.5: Modal Segmentation of Freight Movements in the Atlanta Region**




Regional Rail Market Segment – Approximately 70 percent of the freight tonnage traveling via rail in the region represents through traffic. This segment of rail traffic consumes significant capacity on the region's rail system and represents some key markets for the private rail companies. Not only is the availability of the Class 1 rail service important for offering an

alternative to trucked through movements, this traffic also requires no local truck trips for loading or off-loading. Any required transshipment is done via lifts from one train to another inside the rail yards. It is estimated that about 18 percent of the rail freight in the region is transported via truck to/from a regional rail yard, reinforcing the need for efficient access to rail yards and seamless intermodal connections. The remaining rail freight is comprised of goods being shipped by those directly served by the railroads. Notable is the fact the intra-regional rail flows which are most likely to serve customers, is projected to be the fasted growing component of rail freight in the region between 2005 and 2030. However, this will continue to comprise a relatively small share of the total rail freight volume. The inbound and outbound flows, which typically require a truck movement, are projected to grow the most in terms of absolute volume, followed closely by through traffic.

Regional Truck Market Segment – Through truck traffic comprises the largest single truck market segment in the Atlanta region (approximately 40 percent). However, the other 60 percent of the trucked freight market comprises a mixture of trucks serving the larger southeastern regional market for which Atlanta acts as a distribution hub and the local market including manufacturers, commercial and retail establishments in the 20 county study region. The regional truck market accounts for an estimated 33 percent of the trucked freight in the Atlanta study area. Of that, 10 percent is transported goods being produced in the region and exported to points outside the region. The remaining 23 percent is generated by manufacturing, distribution and warehouse transloading activity. That is, trucks bring goods to a facility inside the study region where some value-added activity occurs (i.e., manufacturing or packaging/consolidation), which are then trucked to customers outside of the study region.

Local Truck Market Segment – The presence of local goods movement (e.g., domestic cargo, local distribution) cannot be overlooked within Atlanta region. However this segment represents the least opportunity for strategically directing regional solutions and funding options due to the fact that it uses a broad system of local roadways and serves a large number of users spread throughout the region. Therefore the most effective approach towards improving mobility and reducing emissions for this market segment is more comprehensive and would include broader general purpose and operational enhancements to both regional and local highways and roadways as well as local land use and zoning regulations. Solutions for this specific market segment should be implemented in conjunction with solutions for regional congestion including solutions directed at the movement of people.

## *Profile of the Region's Freight Transportation System*

The region's freight transportation system consists of highways, railroads, Atlanta Hartsfield Jackson International Airport and numerous intermodal facilities. In addition, east coast ports significantly impact the region; therefore, while the ports are located outside the study region, they should be evaluated as part of the region's freight system.

**Atlanta Regional Priority Freight Highway Network**

In an effort to focus the Freight Plan and guide the limited resources to maximize regional benefit, a Regional Priority Freight Highway Network (PFHN) was identified based on the following criteria:

- Average Annual Truck Volume
- Average Annual Truck Percentage
- Connectivity to significant freight generator
- Designation as truck route
- Stakeholder identified route
- Intermodal Connectors
- Role in terms of servicing local vs. regional freight needs

The PFHN was reviewed with the freight stakeholders during development of the freight plan. This network shall be monitored and adjusted where needed based on stakeholder input in the future.

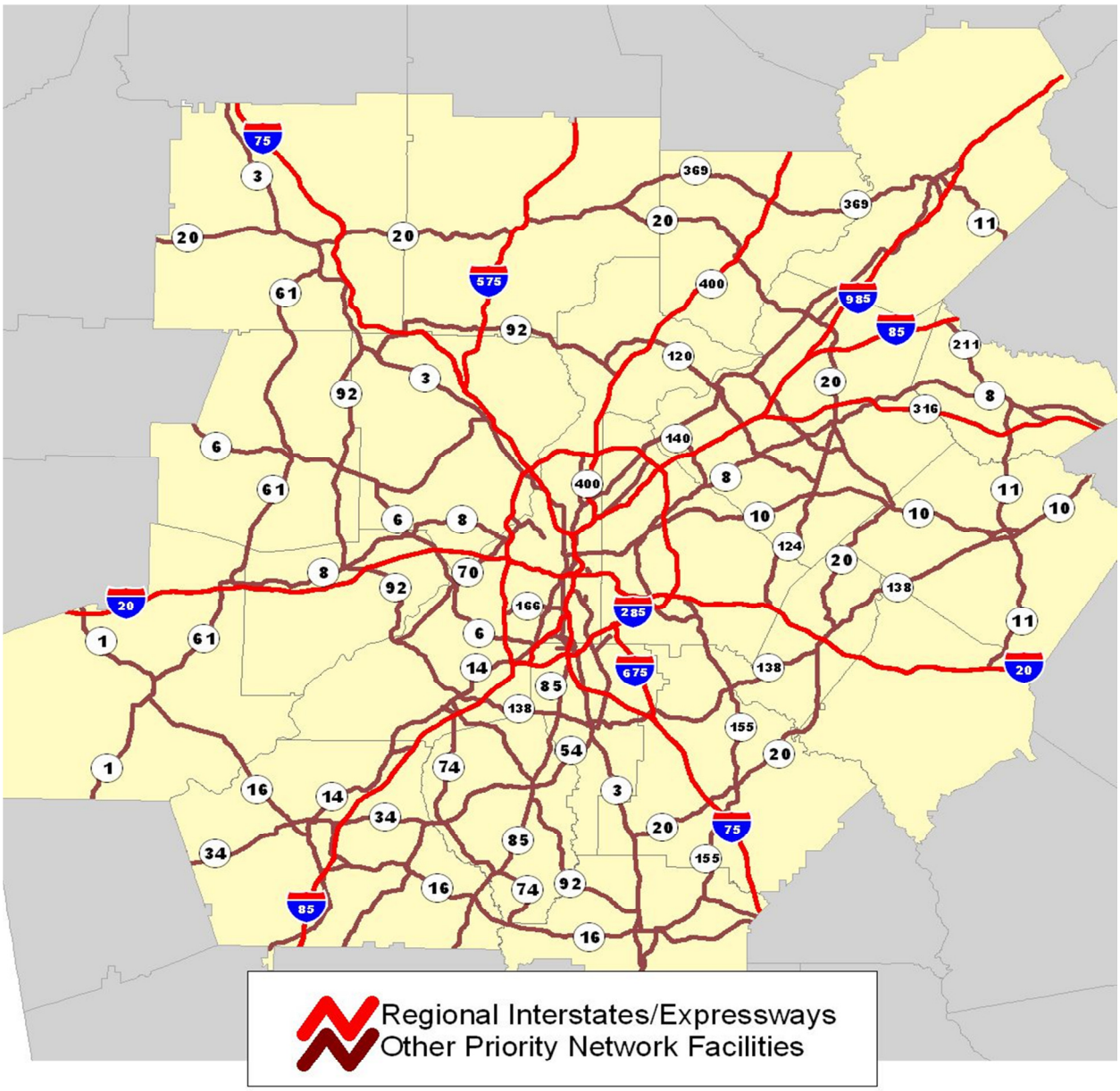
The trucking industry transports about 70 percent of the total freight moved in the United States. In comparison, trucked freight represents nearly 84 percent of the fright tonnage moving in the Atlanta region with 53 percent of the outbound, 77 percent of the inbound and 79 percent of the through freight traveling by truck. Because of the heavy reliance on truck transportation, the highway system is instrumental in the efficient movement of freight in the Atlanta region. Motor carriers utilize the highway system to transport freight to customers throughout the region and to distribute goods to consolidation and intermodal freight facilities. Exhibit 3.6 depicts the proposed priority freight highway network for the Atlanta region.

Following are key observations regarding the network:

- The interstate routes, i.e., I-75, I-85, I-20 and I-285, are severely congested, which is exacerbated by the lack of good alternatives;
- The stem routes embed the interstates into the commercial community. They travel north-south and east-west cutting a partial path through the dense northern territory, and they link up with each other;
- Stem routes can be city streets in some of the denser parts of town, and can operate in a series, such as the corridor linking Fulton Industrial Boulevard[2] to the airport and Douglasville via Camp Creek Parkway and Thornton Road;

[2] The term "stem" is perhaps loosely applied to a road like Fulton Industrial Boulevard and a few others, since the Boulevard is the origin and destination point. However, it is a long road with many side streets full of businesses, so in that sense it is the main travel route to reach them.

**Exhibit 3.6: The Proposed Atlanta Regional Priority Freight Highway Network**
Note: Not all existing truck routes illustrated for clarity purposes

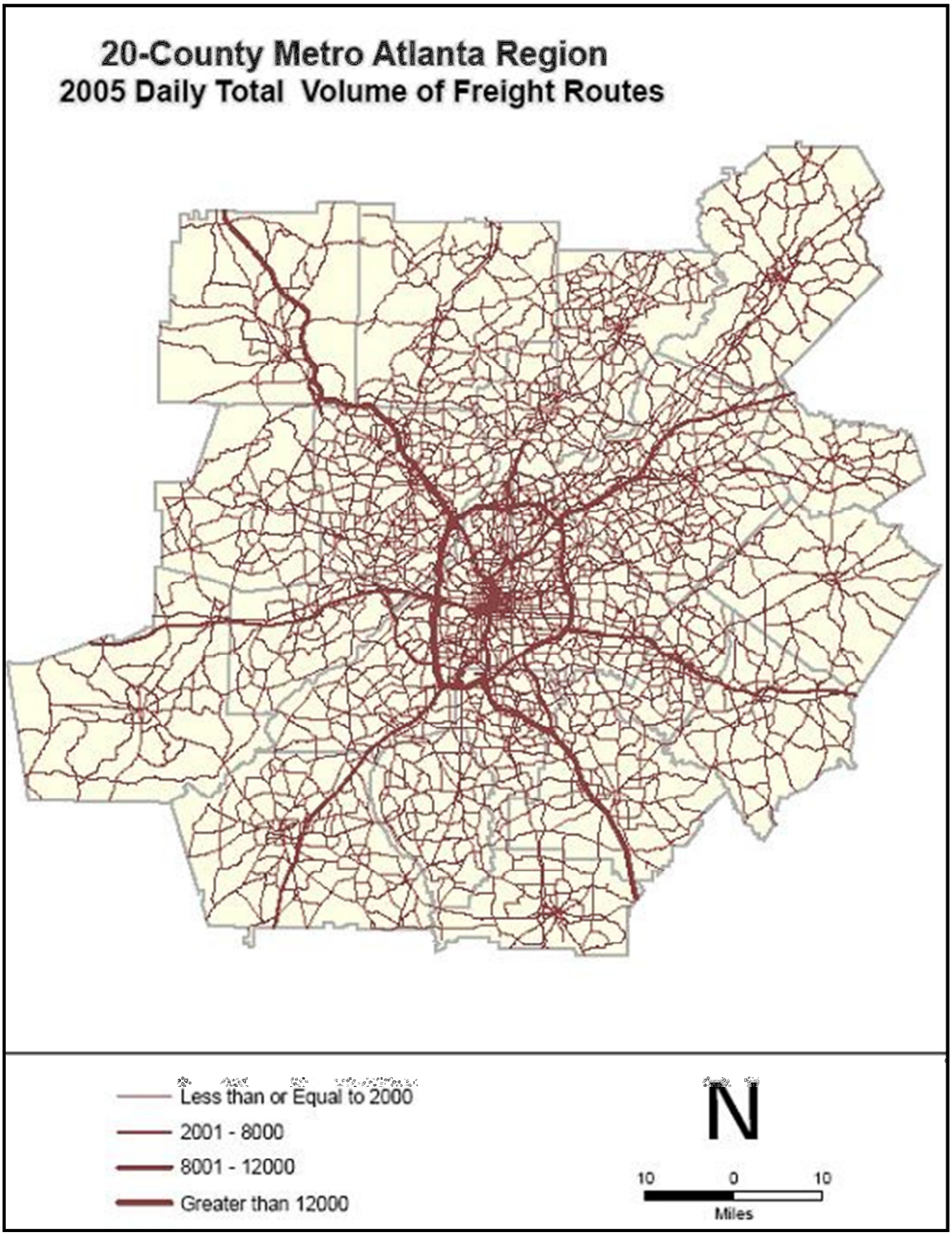


- The stem routes bear a close relationship to the economic geography, but they are less the routes that businesses grew up around (although some are), as they are the routes for getting *between* businesses. This is a crucial consideration for network and land use management, because cross-town corridors are most efficient when they are not heavily laden with local, turning traffic from roadside development; and

- The prior point notwithstanding, freight carriers (including commercial fleets and the private fleets of local industries) do not describe most of these routes as "truck friendly". In other words, they are not a well-conceived freight transport system; rather they are just the most practical or direct facilities available. Neither are the stem routes a really viable alternative to the congested interstates: carriers consistently report that they cannot avoid the interstates because other options are inadequate.

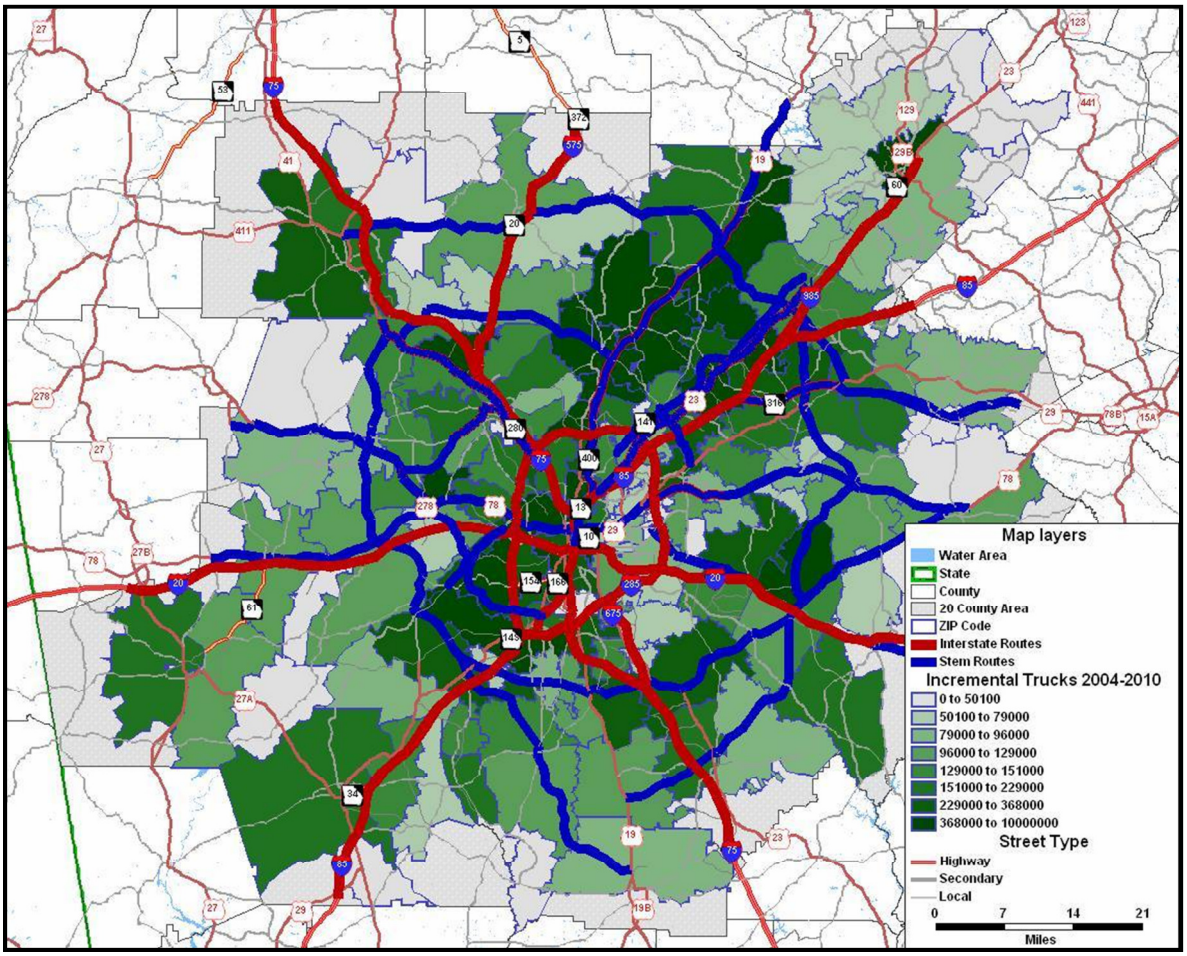
This last perspective is best illustrated by reproducing a map using ARC's travel demand model. Exhibit 3.7 depicts daily truck volumes on Atlanta metropolitan roadways. The volumes include overhead truck traffic, which emphasizes the interstate system. Nevertheless, almost no facilities stand out on this map other than the interstate system (the main exception is the Camp Creek-Thornton Road connection to I-20, which passes through the Fulton Industrial Park). Indeed, the map demonstrates the very thing that stakeholders report: no viable interstate alternatives exist, so they are obliged to use them.

**Exhibit 3.7: Daily Truck Counts on Roadways**



The importance of the PFHN is illustrated by its alignment with forecast traffic growth. Exhibit 3.8 considers this in terms of the incremental truck traffic by zip code through the year 2010. In this light, the network is very well situated to serve new volume in that it reaches all of the growth concentrations, and connects them to others around the region. However, the effectiveness of the PFHN in enhancing freight mobility and meeting the needs depends on the "freight friendliness" of the individual facilities.

**Exhibit 3.8: Priority Freight Highway Network and Zip code Traffic Growth**
Note: Existing truck routes and intermodal connectors not illustrated for clarity purposes



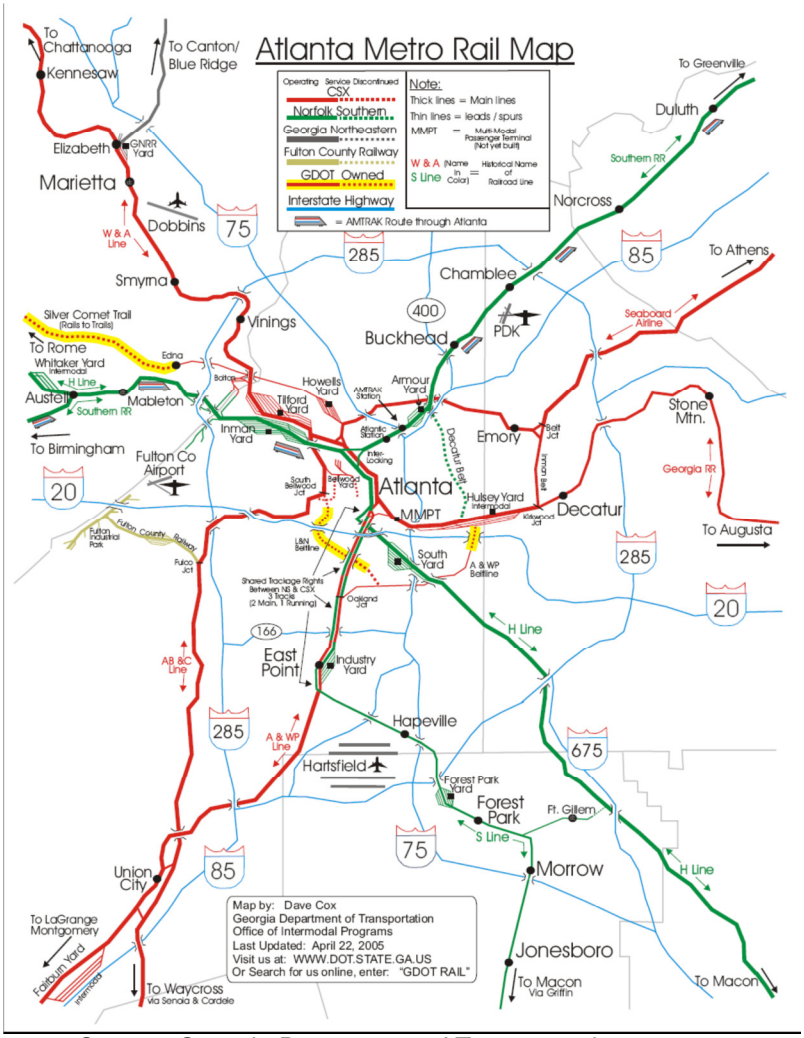

**Regional Rail Network**

Since its beginnings as a terminus in the cotton trade, Atlanta has been the center of the rail-served markets of the Southeast. Six percent of the nation's rail tonnage today is based in or carried through the region, including 11 percent of U.S. intermodal volume. One hundred thirty million tons of regional rail freight includes unit trains of coal and grain, merchandise trains of forest and food products, chemicals, minerals, and automobiles, and fast trains of international

and domestic containers. Rail is 13 percent of Atlanta's freight tonnage but has an important role in essential economic sectors like the supply of feedstock to electric utilities, and the burgeoning international trade. The Atlanta region's 130 million tons of rail freight consists of 59 million tons of carload traffic moving in general merchandise trains, 52 million tons of bulk freight in unit trains, and 19 million tons carried in containers and trailers on intermodal trains.

There are two primary Class I railroads operating in the Eastern United States, CSX Transportation and Norfolk Southern. Atlanta is served by both, along with three small railways. Exhibit 3.9 displays this network at the regional level. The Class I systems stretch generally from the Atlantic Coast to the Mississippi River, and from the Gulf Coast to the Canadian border.

**Exhibit 3.9: Atlanta Regional Rail Network**




*Source: Georgia Department of Transportation*

Key observations to make about the rail networks include:

- The Appalachian mountain range results in a long gap between rail lines, which begins just north of Atlanta. The gap is bridged at a few points, but the routes cross difficult terrain and are not fast, high capacity lines. Their chief purpose is to bring coal from the mountains as apposed to linking eastern and western territories. The consequence of the gap is that, both railroads have eastern and western sections stretching from northern Georgia to Pennsylvania.

- Partly because of the mountains, and also for reasons of history and economic geography, the route structure of the Class I railroads has a predominantly north/south orientation. In the southern states, there are east/west corridors flowing from the gateways of Memphis, New Orleans, and Meridian MS to Georgia and Florida, but the traffic flows most strongly toward the north.

- Norfolk Southern (NS) has limited presence in western Tennessee and Kentucky, and CSX is limited in Mississippi. CSX serves Florida directly; NS serves it through connection to the Florida East Coast Railway. While the two railroads have about the same amount of track in Georgia, the NS routes converge on Atlanta and Macon, while those of CSX offer more alternatives.

Norfolk Southern Network – A consequence of the NS network layout is that Atlanta literally is the linchpin of its southern system. Its eastern and western halves join only at three places; Asheville NC (through the Appalachians), Columbus GA (over an un-modernized line), and Atlanta. Between Austell in Cobb County and Inman Yard on the west end of downtown, four corridors come together on a single right-of-way with double and triple tracking: the route to Ohio through Chattanooga, the route west via Birmingham, the route south to Savannah and Florida via Macon, and the route to Virginia through Charlotte. Seventy trains cross this section of network daily, which is as much volume as NS puts between Chicago and Toledo on its Midwestern main.

To manage this obvious bottleneck, classification yards[3] surrounding Atlanta were developed by NS and its predecessors through the years, in order to reduce the intensity of operations in the metropolitan area. The closest of these yards is in Macon; others at Sheffield AL (near Muscle Shoals) and Linwood NC (between Charlotte and Greensboro) were specifically constructed to relieve Atlanta, and there are further facilities in Chattanooga and Knoxville that contribute to the same purpose.

CSX Transportation – CSXT has major corridors south, north, west and east that cross at Atlanta, and it maintains classification yards at Waycross, Nashville, Birmingham, and Hamlet NC (between Charlotte and Fayetteville). However, the CSXT southern operations center is in Waycross, where two main lines come from Birmingham and Montgomery without touching Atlanta. There are lines to the ports at Savannah, Charleston, and Jacksonville, and links to the CSXT east/west corridor follow I-10. For hundreds of miles north of Atlanta the CSX network is

[3] Classification yards are operating hubs that break trains apart and form new ones that will travel directly to one or a few destinations. Many trains begin or end in Atlanta because of the size of its market. The function of the exterior yards is to keep traffic that is not bound for Atlanta on non-stop trains that just pass through.

bifurcated with no east/west connections. However, south of the city is a variety of routes, and even in metropolitan Atlanta there is more than one line, so that traffic crossing the region is not all funneled through the downtown right-of-way where CSX parallels Norfolk Southern. The upshot is that Atlanta is a primary market in the CSXT system, but less sensitive operationally than for NS.

Rail Access – Access for all of the rail facilities in one sense is good. Hulsey is just blocks away from both I-20 and I-75/85, Inman lies between I-285 and I-75, and the newer intermodal terminals were sited for proximity to highways. The bulk terminals and Hapeville are near I-285, while only Lawrenceville is further out. There are local difficulties for the central Atlanta locations, however. Access to Hulsey is at a bend in the road with no turning signal, and road geometry as well as traffic in the old industrial Chattahoochee district make maneuvering and truck travel difficult for Howells and Inman Yards. In field interviews, a tank truck operator singled out the Howells bulk terminal as their most difficult spot for access in the region, and several LTL carriers named the Chattahoochee district among the worst they frequent.

Transfer Terminal Capacity – Capacity at the transfer terminals is presently adequate. The auto facilities are losing their outbound volume, and while field interviews uncovered nothing specific about the bulk operations, they are in slow growth markets and are unlikely to be strained. Fairburn and Austell were built to relieve Hulsey and Inman, and the two outer terminals have room for expansion. The inner facilities have been filling in again, of course, but are not currently pressed and the carriers should be able to move volume outward to a reasonable degree. The long term challenge is the intermodal growth rates. Atlanta outbound and inbound volumes are expected to grow almost 30 percent between 2004 and 2010, and to swell over 300 percent during the next thirty years. When Fairburn and Austell were developed, the difficulties attending the public approval process were such that the railroads concluded new terminals could not be built close in the future.

Track Capacity – The choke point at Atlanta is more acute for NS than for CSX. There are two main arrows of growth expected by CSX on its system: the I-95 Corridor, and the Southeastern Corridor between Chicago and Florida. The latter has two branches south of Nashville: the first through Birmingham, and the second to and through Atlanta. The branches join at Manchester, GA and continue to Waycross with combined volume. The implication being that Atlanta is one of three routes absorbing the growth in the southeast with the greatest stress south of the metropolitan region, on the segment heading into Waycross. While CSX is investing in capacity on its Southeastern Corridor, Atlanta does not need to be its focus.

Norfolk Southern faces a different prospect, because most of the growth in its southern system connects to the linchpin at Atlanta. The western approaches from Chattanooga and Birmingham are single track routes; the alternative route from Birmingham through Columbus, GA has clearance restrictions that prohibit stack train passage, and a roadbed that is not geared to main line operation. Development of the "Meridian Speedway" corridor between Mexico, Dallas, Atlanta, and the Northeast via the Meridian MS gateway on the Kansas City Southern is building a new volume vector across Alabama that requires east-west capacity. To reduce pressure on Atlanta, in the long run a branch north from Birmingham through Tennessee in the western network probably will see investment, and the Columbus route may also come into play. In the meantime, NS is looking at capacity improvement along its Atlanta bottleneck route, between Inman and Spring Street.

Bottlenecks and Developments – A key pinch point affecting both railroads occurs at their Howell Junction connection, at the east end of Tilford and Inman Yards on a CSX interlocking. Carrier respondents felt that grade crossings at this location would be expensive but effective at improving throughput in the center of the Atlanta crossroads. A joint GDOT-CSX study is now underway to examine capacity between Atlanta and Athens for potential passenger service, and this same study may uncover route alternatives for the Atlanta metropolitan area as well. The recent abandonment of development plans by an owner of Beltline right-of-way is creating new concerns in the metropolitan district, because any attempt to implement passenger traffic onto the already-overloaded freight network could congest operations out across the southeastern region.

**Air Cargo**

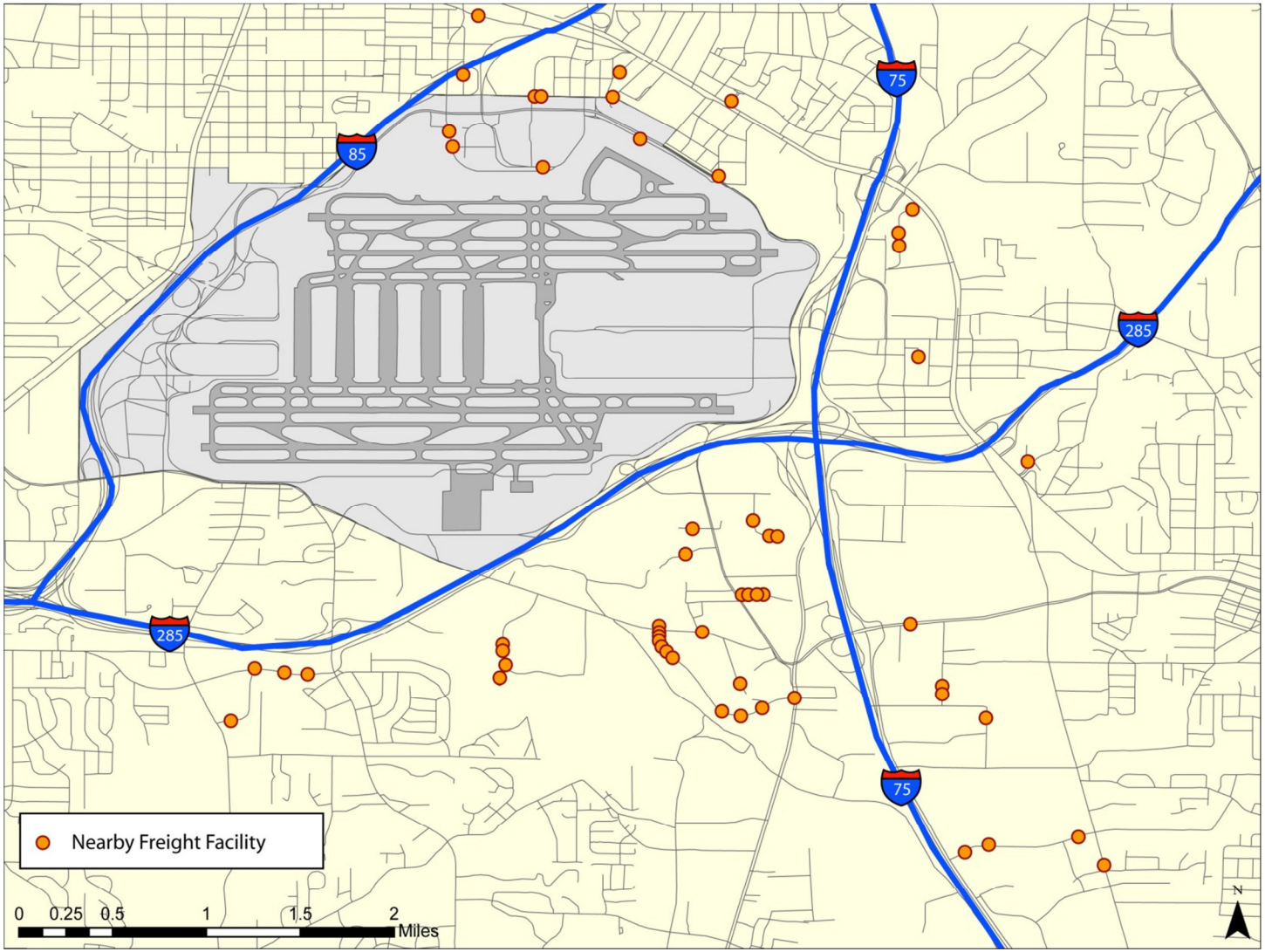
Air cargo activity within the ARC Study region is dominated by Atlanta-Hartsfield Jackson International Airport (H-JAIA). As of October, 2006, H-JAIA is the only airport in the study region that offers scheduled air cargo service.[4] Through a combination of commercial passenger carriers, all-cargo carrier and integrated express carriers, H-JAIA serves all domestic air cargo hubs, primary international gateways, major metropolitan areas and over 40 international destinations. In 2005 Atlanta handled 846,200 tons of air cargo, inclusive of domestic and international, freight, express and mail. In terms of annual tonnage in 2005, H-JAIA ranks 10th of U.S. airports and 25th internationally.

Atlanta Hartsfield-Jackson International Airport houses three airside cargo complexes that handle integrated express carrier cargo, all-cargo carrier cargo and commercial passenger carrier belly-space cargo. The North Complex, Midfield Complex and South Complex total 1.55 million square feet of warehouse space with 28 aircraft parking positions and 398 truck bays.

Exhibit 3.10 illustrates the main clusters of freight forwarder warehouse and distribution facilities in relation to H-JAIA. Note the concentration of facilities along I-75 and near the intersection of I-75 and I-285; it is from these points that the majority H-JAIA air cargo arrives and departs.

[4] OAG Worldwide Cargo Guide, October 2006

**Exhibit 3.10: H-JAIA Freight Forwarder Facility Location**



It is typically near or at the airport access points where air cargo drayage traffic is funneled and bottlenecks occur. This is compounded when passenger traffic commingles with truck traffic at the same access points. However, Hartsfield-Jackson Atlanta International Airport maintains excellent traffic separation between passenger and truck traffic. Access to the passenger terminal is provided on the west side of the Airport via 1-85, while truck access to the Airport's three air cargo complexes is provided to the east and south via I-75 and I-285, respectively. This is not to say that there are not congestion issues or bottlenecks, but the Airport's layout does eliminate a key problem of commingled traffic encountered at other airports.

Exhibit 3.11 highlights the major access routes and areas for trucks entering or departing the Airport. Key stakeholder concerns include:

- The Aviation Blvd. exit from I-75 provides access not only to Aviation Blvd and the Midfield Complex, but also connects to Loop Rd. Loop Rd. provides access to both the North and South Complex. This interchange has been reported to "easily backup" during peak activity (morning and evening cut-off times). Congestion is also reported once trucks exit I-75 onto Aviation Blvd. and enter the Loop Rd. intersection.

- Aviation Blvd. and Loop Rd. are also reported to experience congestion for reasons described in the previous paragraph; queued trucks waiting to load and unload. Traffic congestion immediately surrounding the South Complex and Midfield Complex truck-docks can be severe. Not only must the trucks park and wait, their presence restricts the maneuverability of other traffic in the area.

In all, the air cargo operators stressed the importance of road and highway access to their operations. Because of the nature of H-JAIA's air cargo activity, a high percentage of freight forwarder international traffic is long-haul trucking, which comprises an integral component of the Airport's operations. As pointed out by a Delta representative, because Atlanta Hartsfield is Delta's primary hub, there is tremendous international and flight frequency and capacity available to market. To reach that market nationwide, ground service (drayage) must reach a long way.

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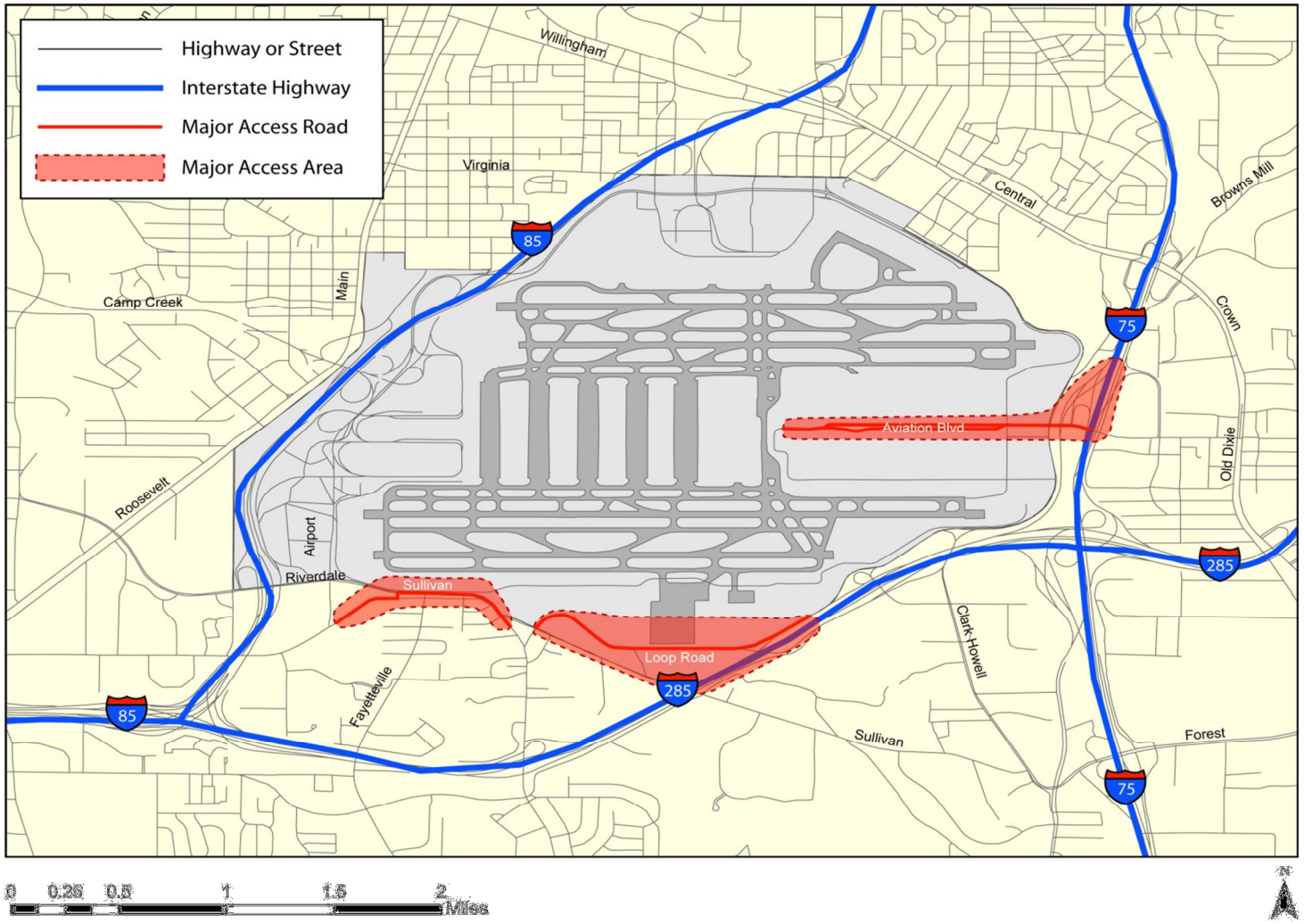
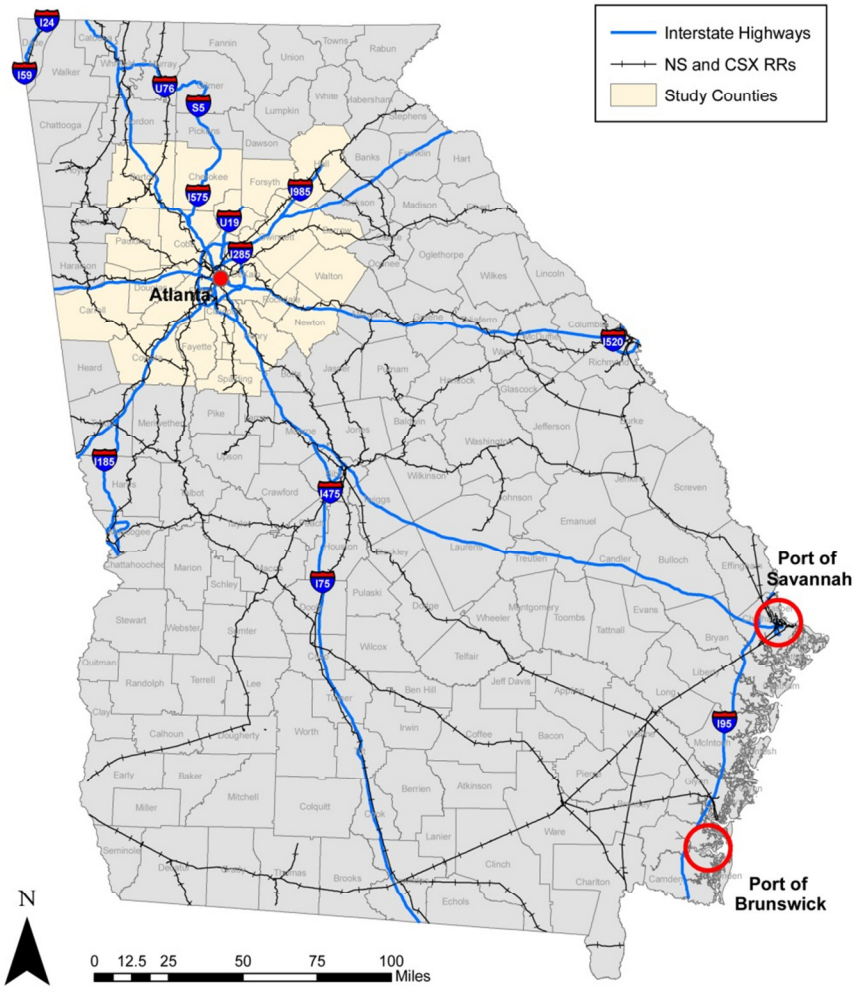
**Exhibit 3.11 Major H-JAIA Air Cargo Access Routes**



## Port Influence on the Region

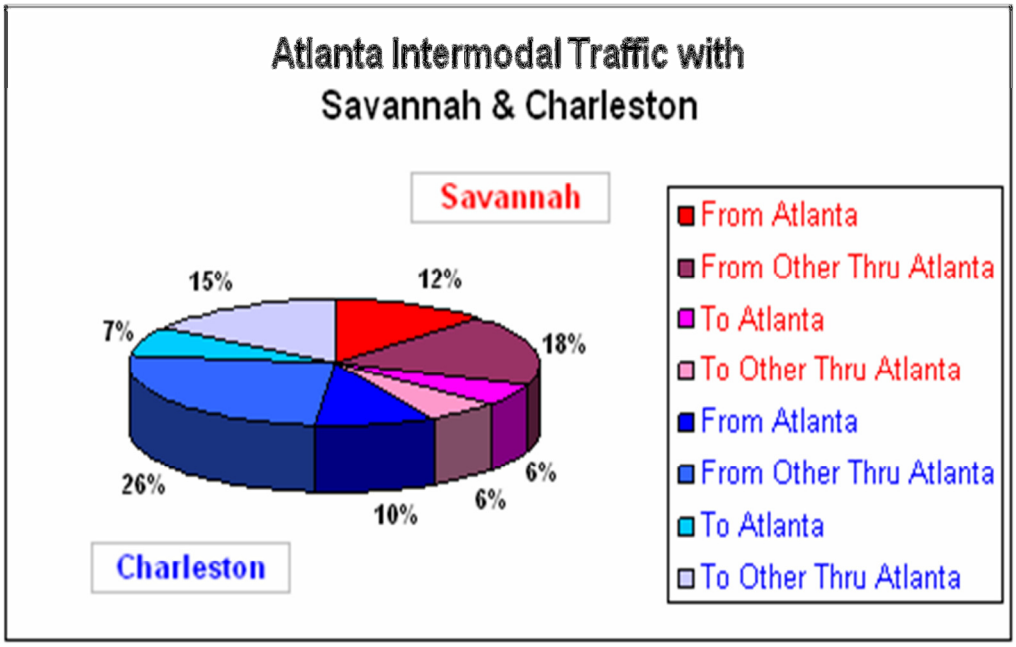
The Georgia Ports Authority (GPA) operates two deepwater ports in the State of Georgia; the Port of Savannah and the Port of Brunswick. Located approximately 250 miles to the southeast of Atlanta in Chatham County, the Port of Savannah is the primary deepwater port serving the ARC Study region. Approximately 80 miles to the south of the Port of Savannah is the Port of Brunswick which handles bulk, break-bulk and containerized freight. Exhibit 3.12 illustrates the location of these two ports in relation to the study region along with primary interstate and rail connections. In addition, the Port of Charleston and the Port of Jacksonville have notable impacts on the Atlanta region.

**Exhibit 3.12 Ports of Savannah and Brunswick**



Intermodal rail traffic with the port cities of Savannah and Charleston totaled 3.6 million tons in 2004, which was 19 percent of the Atlanta region's intermodal business. Although data sources do not fully identify the foreign trade portion of this traffic, it accounts for most of it. Nearly two-thirds of this tonnage is traffic passing through Atlanta, as seen in Exhibit 3.13 (where the labels "From Other" and "To Other" denote overhead). Charleston tonnage (in blues) is 70 percent larger than Savannah's (in reds), and volumes to these cities are double the size of the volumes from them, implying that a heavier quantity of exports than imports travels by rail.

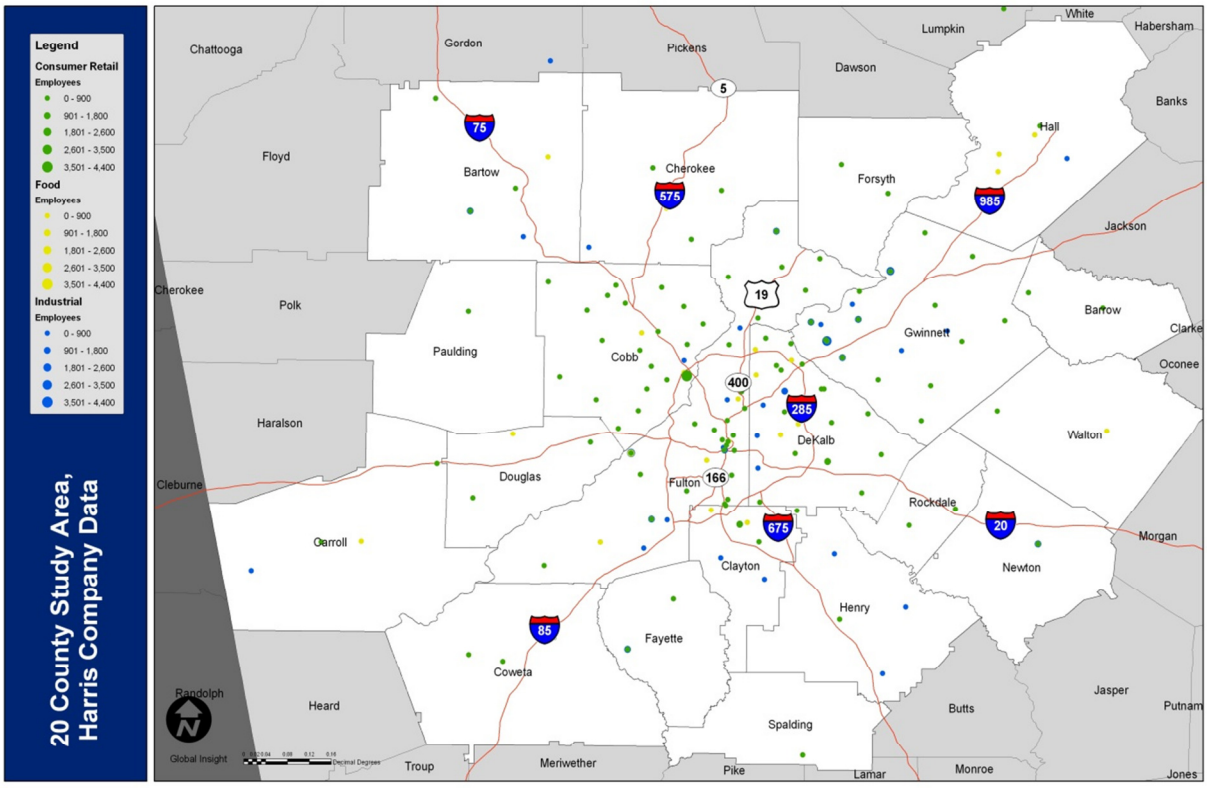
**Exhibit 3.13: Intermodal Rail Traffic between Atlanta and Major Seaports**




## Logistics and Freight Facilities

Atlanta's warehouses and distribution centers are clustered in Fulton and Gwinnett counties and along the I-85 corridor. Fulton and Gwinnett counties represent 28 percent and 22 percent of Atlanta's warehouses and distribution centers respectively, with Dekalb County representing the 3rd largest share at 12%. Exhibit 3.14 shows consumer retail, food and industrial distribution companies locations in the 20 county region. While several are located within the I-285 along I-75, I-85, and 400, the majority of these facilities are located outside of the perimeter, thus providing good access to the local Atlanta market and surrounding regional markets. There is more activity along the northern arms of I-85 and I-75, but the general pattern is one of concentric dispersion around the Atlanta central business district.

**Exhibit 3.14: Distribution Companies in Atlanta Region**




Key area distribution centers are classified into one of the three cited categories: Consumer Retail, Food, and Industrial. Using the Harris Establishment Dataset, approximately 280 major companies distribute in the consumer retail segment, 150 in food, and approximately 400 in industrial.[5]

It was noted during stakeholder interviews that shippers are starting to look outside the Atlanta metro region for distribution facilities due to congested conditions. As they do so, Atlanta will retain its competitiveness relative to other areas (such as Macon, Valdosta, Chattanooga and Charlotte) because the region's advantages outweigh its disadvantages. Atlanta's primary attributes are two-fold: its excellent infrastructure and its large local market. Turning to infrastructure, Atlanta has excellent interstate access including I-85 and I-75 north and south, and I-20 east and west. Atlanta has excellent rail access on the core networks of both Norfolk Southern and CSX, and has the train frequency and service quality of a rail hub. These features, coupled with Hartsfield-Jackson International Airport

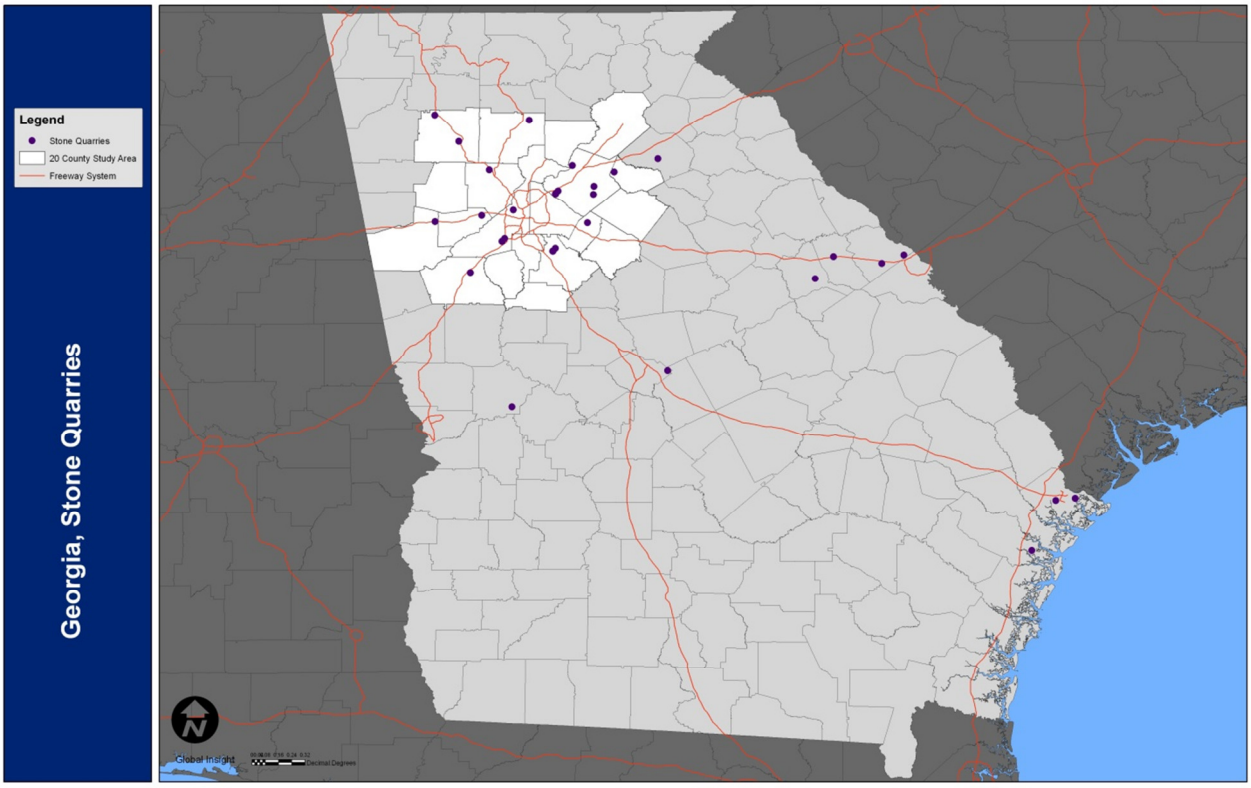
[5] These counts remove companies with employee totals below certain thresholds. These minimum thresholds are 20 employees for Consumer Retail and Food, and 40 employees for Industrial. The map is based on the Harris establishments in these groups, but does not display all of them because of geo-coding limitations.

and the Delta hub, and a four-hour drive from the Port of Savannah, give Atlanta much to offer in the way of sufficient infrastructure to accommodate distribution facilities.

The aggregates industry is important from a facilities point of view because it serves Atlanta's growing construction and development. It generates a significant amount of heavy truck freight on both Atlanta's highways and surface routes. One prominent feature of aggregates movement is the development of quarries to support short travel distances, which then utilize more surface routes and fewer highways. Additionally, it is an industry critically impacted by congestion as crews on a construction site often cannot work without aggregate material and require large quantities of it. A delay in an aggregate material delivery can result in construction workers being paid while unable to work, or the possibility of materials being lost when hot asphalt or wet cement – each usable only for a limited time – cannot be used until the aggregates load arrives.

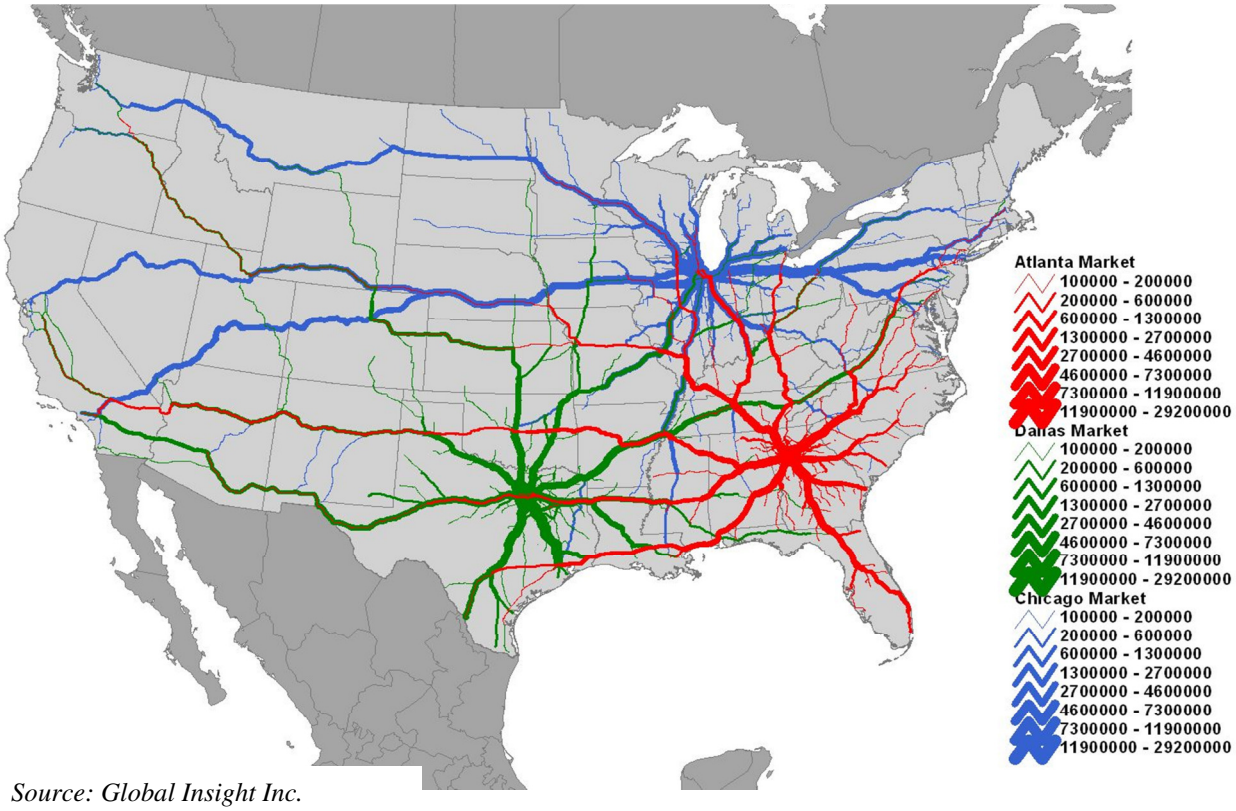
Aggregate facilities necessary to supply the construction boom in metro Atlanta are also important. Exhibit 3.15 depicts the location of a selection of Atlanta's rock quarries (the origin points for aggregates traffic). Every quarry accounts for several hundred loaded trucks per day, each carrying 14 to 25 tons of crushed stone and traveling about a dozen miles to job sites.

**Exhibit 3.15: Major Stone Quarries throughout Georgia**



Just as important as infrastructure, Atlanta presents a huge local market to serve as the anchor for distribution centers. Unlike the much smaller markets of Macon or Valdosta, companies located in Atlanta send a significant portion of their shipments from their facility locally, minimizing freight expenses and improving service. Exhibit 3.16 illustrates the highway freight networks for the three largest inland distribution cities in the U.S. Note that Chicago and Dallas (as well as Atlanta) all have large local markets.

**Exhibit 3.16 Largest Distribution Markets in the U.S.; Atlanta, Chicago & Dallas**




*Source: Global Insight Inc.*

## *Bottlenecks and Chokepoints*

The needs assessment report developed as part of the study effort details dozens of specific bottlenecks and chokepoints throughout the 20-county study region, many of which are also identified in ARC's congestion management program. This section summarizes the bottlenecks and chokepoints and categorizes them into the following major issues:

- Safety
- Congestion

## Safety

Safety is a large component of freight transportation and is extremely important to commercial freight motor carriers. Understanding crash data is extremely important in creating policy or investing technology that addresses safety. Information regarding safety implications was gleaned from crash data for the region. The data used is from the Critical Analysis Reporting Environment (CARE) system developed as part of the CARE Project at the University of Alabama. This system combines databases of crash data from state sources with analysis and reporting tools.

Multiple years of data are assessed to identify trends as well as even-out results that might be seen if looking at only one or two years of data. Within the CARE databases, two databases were found to contain multiple years of crash data. For the Atlanta region, some key findings that should be incorporated into future freight planning considerations include:

- The Atlanta region had 8,819 crashes on average from 2000-2005.
- Fulton County has the most commercial vehicle crashes, registering 11,628 crashes, followed by Dekalb and Cobb County at 9,038 and 6,850, respectively.
- 62 percent of Commercial Vehicle crashes are caused by Commercial Vehicles themselves.
- Commercial vehicles crashes increased 41 percent since 2000.
- Although a slight discrepancy exists when comparing for month by month commercial vehicle crashes, January and February records the fewest crashes at approximately 7 percent. Traditionally, freight volumes tend to be lower during these months.
- Saturday and Sunday record the least amount of crashes during the week, but commercial vehicle crashes remain constant throughout the week.
- The vast majority of most commercial vehicle crashes occur between 7am to 7pm, peaking from 3pm to 4pm.
- Only 1 percent of commercial vehicles crashes result in fatalities.
- 68 percent of commercial vehicle crashes involve tractor trailer combination vehicles and only 3 percent of all commercial vehicle crashes involved hazardous materials.
- 33 percent of all crashes occur at intersections.

The data pinpoints key corridors that should receive attention:

- I-285 in Clayton, Dekalb and Fulton County;
- I-75 between SR 140 and I-20;
- I-75 between I-285 to SR 138 in Clayton County;
- SR 5 to I-285 in Cobb County;
- I-75 from I-675 to SR 16 in Spalding County;
- I-85 in Coweta, Dekalb and Fulton County;
- I-20 in Dekalb, Douglas, Fulton and Rockdale County;

- SR 20 at SR 316 in Gwinnett County;
- US 78 in Gwinnett County;
- US 23 in Gwinnett County; and
- SR 16 in Spalding, Coweta, and Carroll.

These corridors undergo significant truck volume and commercial vehicle crashes. It is important to note that the focus should be directed towards the inner city areas of the corridor. Naturally, the closer to the city center, the more traffic volume occurs and the possibility for commercial vehicle crashes increase. This is apparent in Fulton County. However exurban areas such as Winder experience a high amount of commercial vehicle crashes, indicating that these locations cannot be ignored.

**Congestion**

Exhibits 3.17 through 3.19 illustrate that the roadway system is severely congested along all major arteries in the region during the morning and evening rush timeframes with more capacity during the mid-day. During the 6am-10am period, (the north sides of I-285 along with many arterials are congested. The results from ARC's travel demand model reinforce information provided by private stakeholders regarding the congested routes and peak period.

Exhibit 3.19 illustrates how service levels greatly improve during the midday hours of 10am-3pm. The morning peak trips are typically complete by this time of day. The primary route system shows uninterrupted flows except for roadways located within the city center. It should be noted that the percentage of trucks is often higher during off-peak hours relative to morning rush. However, because the overall level of passenger traffic is greatly reduced during the midday hours, the LOS is improved.

The heaviest traffic flow occurs during the evening rush hour period as return from work trips, other personal trips, and truck traffic move through the network as shown in Exhibit 3.20. The northern loop of I-285 extending northerly and the west side of I-20 are at full capacity from 3pm to 7pm.

**Exhibit 3.17: 2005 Atlanta Region Morning Peak Level of Service**

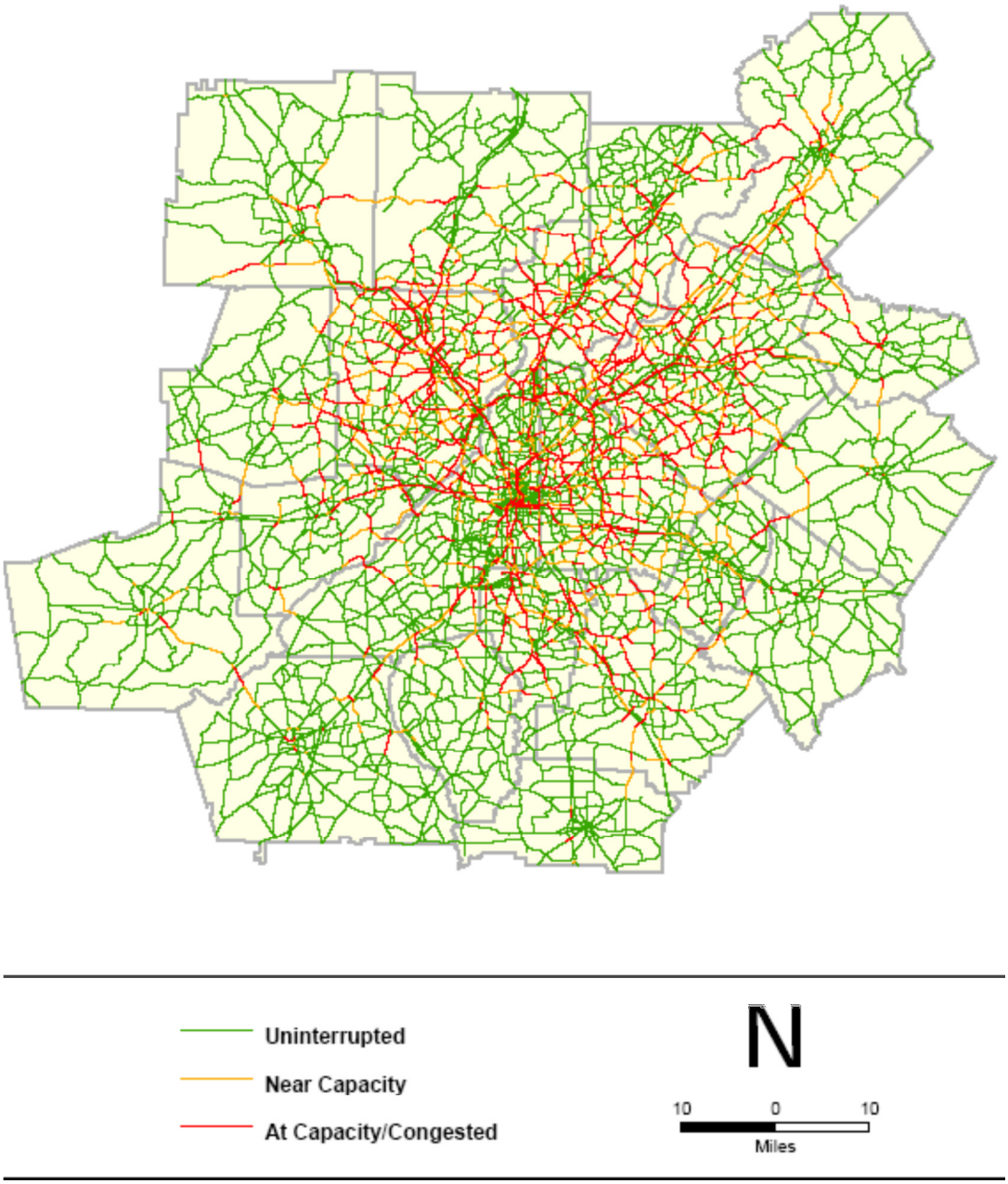


**Exhibit 3.18: 2005 Atlanta Region Midday Level of Service**

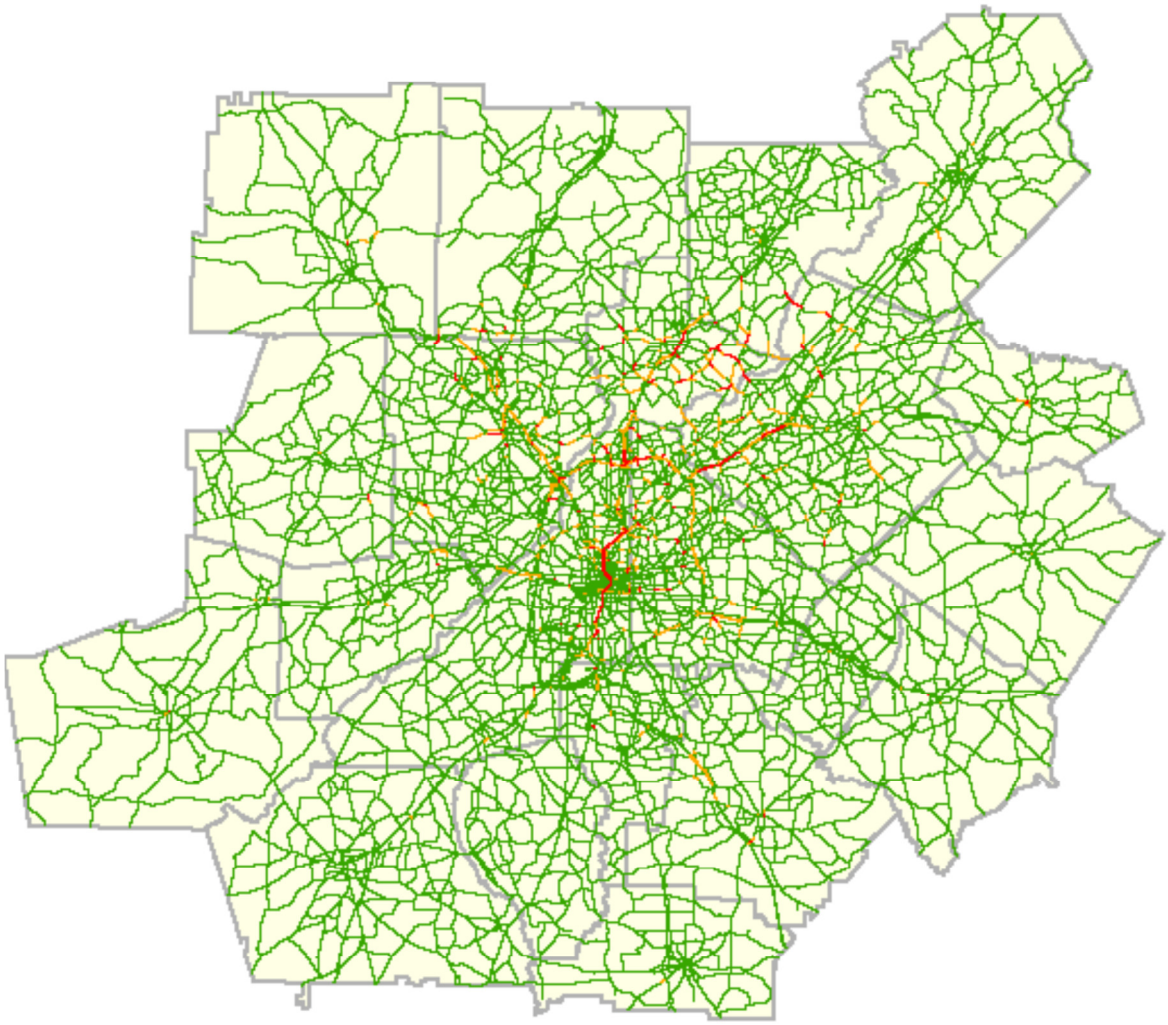
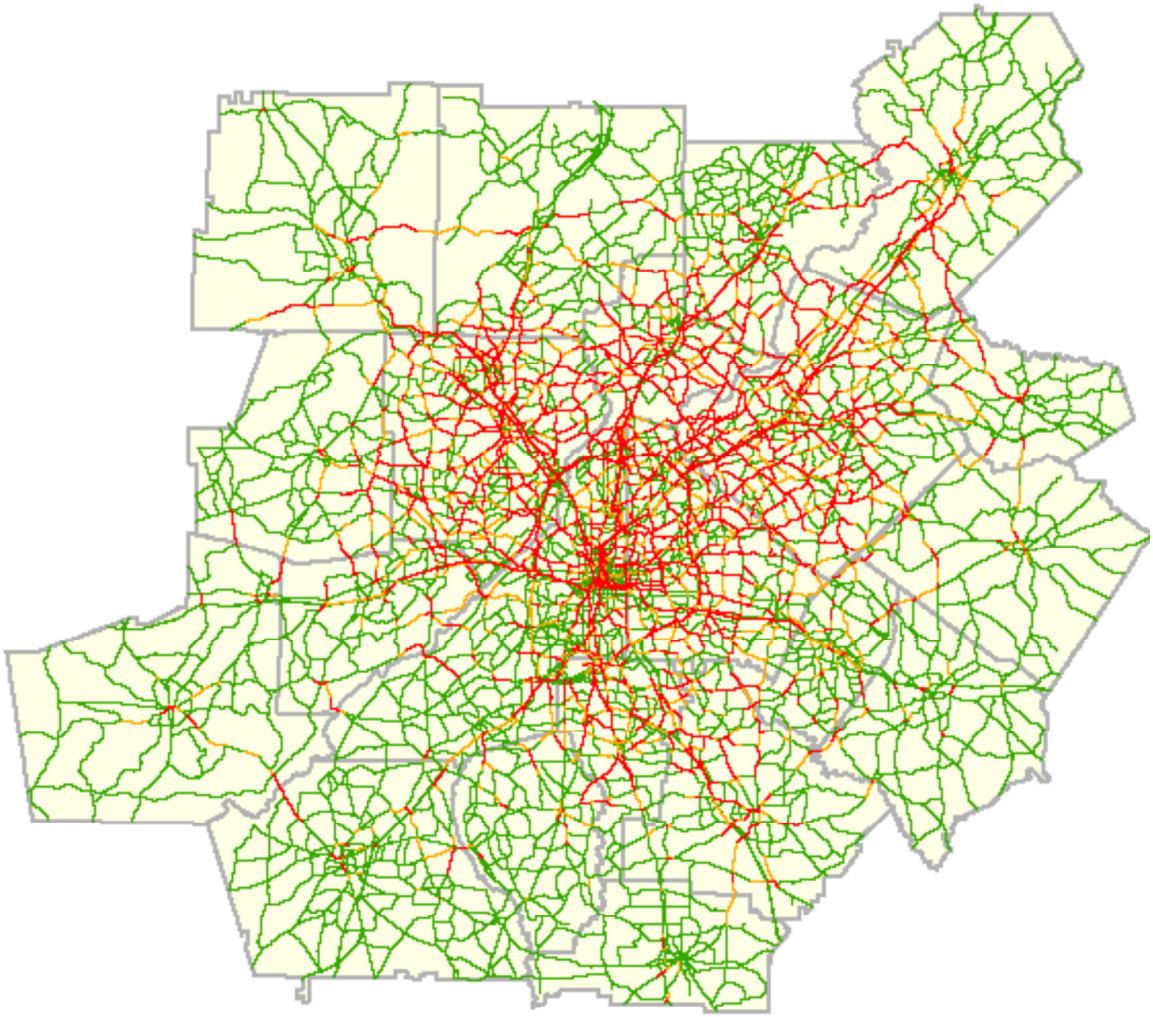


**Exhibit 3.19: 2005 Atlanta Region Evening Rush Highway Level of Service**



When selecting locations for distribution centers, companies often run site selection models, performing the analysis in-house or through real estate advisor firms. The role of congestion in these models is interesting, because they may not explicitly account for it in a quantitative manner. Neither is congestion really a part of network access, and reportedly is handled more as a qualitative issue. For example, one real estate advisor claimed that they would not locate a company at the top of I-285 if its deliveries would require heavy use of I-285 to access the Atlanta market. For many shippers and developers, congestion is not thought of when selecting a city to locate – it is often not thought of at all until a facility is operational, at which point the focus becomes how to operate efficiently in the face of it. While realtors could not say that congestion has much influence on the attractiveness of Atlanta or of sites within it, they also were reluctant to discount its influence in the future. Roadway congestion affects the efficiency of distribution operations and therefore the economic performance of distribution businesses. If the Atlanta region's goal is to continue to be a hub of trade related activity, the region will have to contend with the inefficiencies in its highway system. .

Throughout the stakeholder outreach and analytical process, intersections and interchanges were identified by private sector stakeholders as bottlenecks. The most commonly cited issues and concerns include:

- Inadequate geometrics and signal timing at Intersections along key commercial corridors;
- At-grade crossings that intersect key arterial routes with many trains passing each day, thus creating delay and safety concerns;
- Congestion at all of the interstate-to-interstate interchanges;
- Inadequate merging lanes at many of the interstate interchanges;
- Interchanges with inadequate geometrics; and
- Lane restrictions around interstate interchanges.

## *Land Use Evaluation*

The purpose of the land use task was to assist the Atlanta Regional Commission and its member jurisdictions to improve the coordination of land use planning and freight and goods mobility, and to support the development of the overall regional freight strategy.

The Atlanta region is expected to reach almost 7 million people by 2030. This growth has and will continue to put development pressure on areas with existing infrastructure. Key freight corridors with access to the interstate and major arterials are also becoming prime space for high density office and residential or mixed-use developments. As a result, the incidence of adjacent but incompatible land uses is growing (e.g., residential subdivisions bordering warehouse facilities). As property values increase within the urban core, distribution and logistics firms locate facilities at more remote sites at the metropolitan fringe. As the Atlanta region grows, the demand for reliable and timely freight movement will increase, and cities and counties will experience land use planning challenges associated with this demand.

The ARC identified the connection of land use and transportation as a key element of developing the ARC Regional Freight Mobility Plan. Given that industrial, warehouse, and distribution activities will continue to grow in the Atlanta region, it is important for municipalities, counties and the ARC to plan for these activities. It is important for those who shape urban design through municipal and regional policies and plans to provide guidance for accommodating these activities. When structured appropriately, such guidance can help reduce the sprawl of freight activities by developing goods and trade-related distribution facilities within existing transportation corridors and zones. This can also help ensure a balance between the movement of people and the movement of goods across key corridors in the region.

The goals of integrated freight-land use planning are to facilitate:

- Preserve the region's quality of life by seeking "peaceful coexistence" of freight and non-freight land uses.
- Preserve and enhance efficient and safe access and mobility for freight transportation purposes.
- Support smart transportation planning and projects.

With explosive growth and land development, the ARC region faces major challenges related to accommodating necessary freight facilities and movements as well as preserving residents' and businesses' mobility and quality of life. Key findings regarding land use conflicts include:

- Based on the research and case studies, local attention to freight in the ARC region is currently inadequate to effectively address freight needs. In particular, consideration of intra-municipal and corridor-level impacts of freight-related development appears to be minimal in most cases.
- Comprehensive planning and zoning tools and documents typically deal with freight and logistics facilities in general terms, and assessments of their impacts, to the extent they do occur, focus mainly on local traffic concerns and accommodation of increased traffic levels rather than management of mobility and access.
- Few planning documents or processes reviewed discuss the unique characteristics and impacts of freight-intensive land uses in terms of land use conflicts, mobility or quality of life. Addressing development of these types of facilities without recognition of their unique activities and impacts results in the potential for poorly coordinated land uses and consequent negative impacts on the transportation system, businesses, visitors and residents.
- It is important to recognize that designing our communities, transportation system and region for goods movement mobility and access can also improve overall mobility and access.
- In today's "just in time" distribution and logistics environment, we can generally predict that logistics, freight and goods movement facilities will locate in areas with relatively inexpensive land for large footprint facilities, access to the high-speed/

high-capacity transportation network and at sites that support time-sensitive operations. Thus, it is possible and advisable to take a proactive approach to planning for inevitable growth in freight.

- Freight supportive land use planning is critical to sustaining the Atlanta Region's economic vitality, mobility and quality of life.

The ARC and its planning partners should evaluate in future RTP and RDP updates and pursue the following objectives:

- Preserve freight mobility as the region continues to develop
- Coordinate freight and non-freight land uses and mobility needs
- Ensure adequate segregation and protection of different land uses
- Build goods movement and logistics needs into land development and site design

# Chapter 4: The Economic Role of Freight Transportation

As a thriving regional transportation hub, the Atlanta region has one of the highest concentrations of workers in wholesale trade and transportation services of any area in the country with over 520,000 employees. The economy is highly diversified, containing local operations for over 450 of the Fortune 500 companies. The region is home to the headquarters of more than 20 of these companies. Located at the intersection of major interstate routes, including the I-85 and I-75 highways at the compass corners bisected by I-20 running east/west, and also encompassing main lines of the Norfolk Southern and CSX railroads, Atlanta is a major transportation and distribution center. It is home to Hartsfield-Jackson International Airport and in close proximity to major marine container ports, linking world commerce to southeastern markets and in many cases points beyond. Atlanta is just 250 miles, or half a day's drive, from the burgeoning Port of Savannah, and within 350 miles of the Ports of Charleston and Jacksonville.

## *Regional Economic Profile*

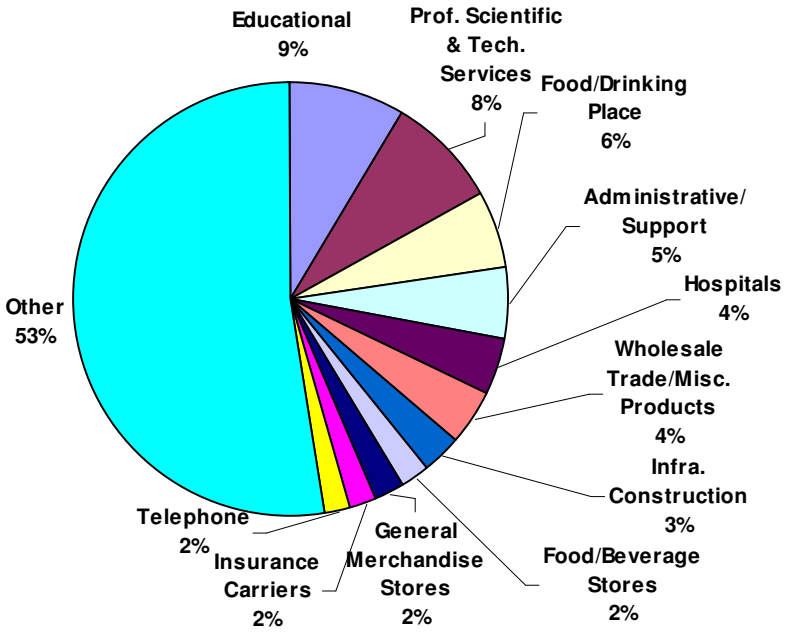
There are multiple industrial clusters within Atlanta, both old and new, reflecting the development of the region. Two are the most prominent: The Fulton Industrial area southwest of the city which consists of large, long-established commercial facilities, and then new growth arising at the district's outer tip. The I-85 corridor is in Northeast Atlanta. This northeast area combines older properties at the outskirts of the region with new developments pressing outward in an extended vector of growth.

The Atlanta region has seen increasing growth in the suburbs in recent past, which account for the majority of the metro area's population. While the relative economic competitiveness of the city center has begun to diminish, new investment on the both commercial and residential sectors is breathing new vitality into Atlanta's Downtown and Midtown districts.

With respect to employment, Atlanta's largest sectors include Education, Professional Scientific & Technical Services, and restaurants and beverage establishments serving business, visitors, and the rising population.[6] The top 11 sectors, measured in terms of employment, are displayed in Exhibit 4.1. These top 11 sectors represent just over 47% of Atlanta's total employment - the remaining 53% (labeled as "Other") are comprised of 84 different sectors, each representing 2% or less of Atlanta's total employment.

[6] Sectors classified by 3-Digit NAICS

**Exhibit 4.1: Regional Employment by Sector[7]**




*Source: Global Insight*

Industry Sector – Amidst the sectors listed above, important clusters include transportation and logistics, financial services, and information technology. Some of the city's largest employers are Delta Airlines, BellSouth, Emory University, Lockheed Martin, IBM, Cox Enterprises, AT&T, Turner Broadcasting, Coca-Cola, and SunTrust Bank. Part of the interview target strategy was to ensure that each of Atlanta's significant industries and clusters were represented.

Freight Movements by Industry – The Atlanta region's largest industries in terms of freight tonnage include construction aggregates, warehouse & distribution centers (including air), wood products, chemical & fertilizer materials, beverages, and motor vehicles[8,9]. However, other freight significant industries in Atlanta include the movement of goods that are not necessarily heavy, but require special attention. These products range from high-tech items, to chemicals and pharmaceuticals and represent an important perspective when considering Atlanta's freight industry.

One of the most significant of the freight groups is the warehouse and distribution sector. Atlanta provides unique benefits to this industry segment for at least three key reasons. First, Atlanta is the center of the growing southeast, enabling carriers to quickly serve key markets in all directions of the city, and giving distribution centers a central location. Second, Atlanta's location allows it to serve as a staging point for companies serving the

[7] Data taken from Harris establishment dataset.
[8] Numbers are current. Ford and GM have plants slated for closure.
[9] Area's largest industries in terms of freight tonnage obtained from TRANSEARCH 2004 database.

Florida peninsula. Florida's geography, its large population centers and its low industrial production make it a notoriously imbalanced freight market. It is highly inefficient for most carriers to operate in Florida. By staging goods in Atlanta, distribution networks can take advantage of a productive logistical location and remain within an overnight drive of the central Florida market. Finally, Atlanta's interstate system places it in an efficient location to serve as a crossroads to the national network. I-75 provides access to the north and south, I-85 provides access to areas northeast and southwest of Atlanta and I-20 reaches from the Atlantic to Texas, and beyond.

Population Growth – Regional population growth among these counties over the last 10 years has been impressive. (1994-2004).[10] Compound annual growth rates (CAGR) have been as high as 8.9% for Forsyth County. Henry and Paulding also posted impressive population growth rates (CAGR) at 7.3% and 6.7%, respectively, and Newton and Cherokee Counties grew at or above a 5% pace. Over half of the counties included in the study area witnessed population growth faster than the national average over this period. Fulton County's population grew at a modest rate of 1.3%, reflecting a mature market status.[11] Detailed growth rates by county are included in the Exhibit 4.2.

**Exhibit 4.2: Total Population Growth –Compounded Annual Growth Rate**

| County | CAGR 1994-2004 | County | CAGR 1994-2004 |
|---|---|---|---|
| Barrow | 4.7% | Forsyth | 8.9% |
| Bartow | 3.6% | Fulton | 1.3% |
| Carroll | 2.8% | Gwinnett | 4.7% |
| Cherokee | 5.0% | Hall | 3.9% |
| Clayton | 2.8% | Henry | 7.3% |
| Cobb | 2.5% | Newton | 5.4% |
| Coweta | 4.6% | Paulding | 6.7% |
| De Kalb | 1.1% | Rockdale | 2.1% |
| Douglas | 3.0% | Spalding | 0.6% |
| Fayette | 3.1% | Walton | 4.9% |

Economic Presence – Among the counties listed, Fulton maintains the largest economic presence with over 17% of the area's total population and the largest employment[12] of the 20 counties. Fulton's employment growth is slowing with an expected compound annual growth rate of 1.5% between 2005 and 2025. Henry, Forsyth and Gwinnett counties are expected to experience employment growth at rates of 3.0%, 3.0%, and 2.8%, respectively. Newton, Walton, Paulding and Barrow counties represent the smallest share of employment in 2005 in the study region, and relative to the rest of the region, are not expected to demonstrate as strong employment growth between 2005 and 2025.[13]

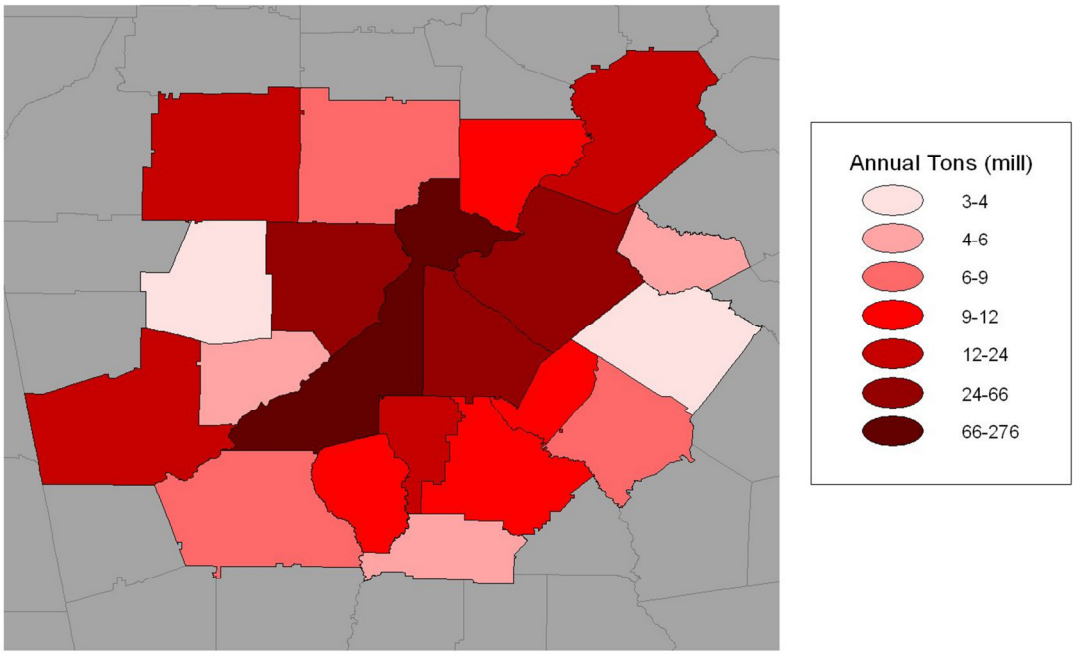
[10] 2004 is the last year of available historic data. Global Insight, Inc. Regional Economic Service.
[11] Global Insight, Inc. Regional Economic Service. May 2006.
[12] Employment refers to total, non-farm employment
[13] CAGR 2005-2025; Newton (1.4%), Walton (0.4%), Paulding (2.1%), Barrow (0.9%)

Income – Fulton, Cobb, Gwinnett and DeKalb counties benefited from the highest average annual wages[14] of the 20 county area in 2005, with average wages of $56K, $47K, $46K and $46K, respectively. These same counties are also expected to witness rapid wage growth – ranging from 4.1-4.6% compound annual growth between 2005 and 2025. Forsyth County has experienced compound annual average wage growth of 5.1% between 1996 and 2005 and will pick up its growth pace, growing at 5.3% between 2005 and 2025 (CAGR). Douglas, Barrow and Spalding trail the 20 county area with average annual wages hovering around $30K in 2005, and will experience annual growth on pace with the other counties.[15]

## *Freight and the Regional Economy*

Total freight volume across all modes, moving in and/or through the defined 20 county area in 2005 was over 900 million tons. This total includes all traffic originating in the Atlanta region and heading outbound, traffic originating outside heading inbound and all local traffic moving within the region. Exhibit 4.3 highlights the concentration of freight volumes originating and terminating in the study area. (Note that this figure does not include through traffic.)

**Exhibit 4.3: Freight Originating and Terminating in the Study Area, By County**




*Source: TRANSEARCH*

[14] Average annual wages refer to total, non-farm
[15] Global Insight, Inc. Regional Economic Service. May, 2006.

Fulton County represents the highest volume of tonnage of all counties in the study region. Gwinnett and Cobb counties each represent significant tonnage, while Paulding and Walton have the lightest volumes of the 20 county region.

Nationwide, the 20 counties that comprise the Atlanta study area represent the 7th highest volume of freight tonnage when compared to other metropolitan markets (where Business Economic Areas are used to define the other urban regions). New York, Los Angeles, Chicago, Houston, San Francisco and Dallas held the 1st through 6th spots for total tonnage in 2004. While Atlanta's volume was on par with tonnage numbers registered in San Francisco and Dallas (674 million and 625 million, respectively), New York, Los Angeles, and Chicago each either double or nearly double the Atlanta region's volumes.[16]

## *Freight's Contribution to the Regional Economy*

Freight is an economic driver for the region, accounting for more than 100,000 direct jobs throughout the twenty-county region.[17] In addition to direct freight transportation employment by railroads, trucking companies and air cargo carriers, the freight and logistics sector includes employment in research and development, information technologies, educational services and trade related services. It is because of the demand for freight and logistic services that the region is home to support industries comprising a growing logistics cluster that is providing innovation worldwide. Should the region start to lose its position as a regional and national logistics hub as a result of increased transportation costs or unfriendly policies and regulations, it could also lose some professional services jobs that are supporting the industry.

To identify the role of the freight transportation industry on the regional economy, the study team used a customized economic model developed by Regional Economic Models Inc. (REMI). The REMI model consists of two regions – the 20-county Atlanta region and the rest of Georgia. It was used to model the impact in the reduction in freight transportation employment. Specifically, three scenarios were modeled:

- Truck transportation employment reduction of 5%
- Truck transportation employment reduction of 10%
- Truck transportation employment reduction of 20%

Exhibit 4.4 presents the results of this reduction for the year 2030.

[16] TRANSEARCH
[17] Global Insight Inc.

## Exhibit 4.4
## Economic Impact of Reducing Truck Transportation Employment in 2030

| | 5% Decrease | % Chg | 10% Decrease | % Chg | 20% Decrease | % Chg |
|---|---|---|---|---|---|---|
| **Total Impacts** | | | | | | |
| GRP (Nom Million $) | (1,670) | -0.1% | (3,346) | -0.2% | (6,708) | -0.5% |
| Personal Income (Nom Million $) | (810) | -0.1% | (1,623) | -0.2% | (3,255) | -0.4% |
| Total Employment | (6,965) | -0.1% | (13,952) | -0.2% | (27,971) | -0.5% |
| | | | | | | |
| **GRP** (Nom Million $) | | | | | | |
| 1. Atlanta Region | (1,565) | -0.2% | (3,135) | -0.3% | (6,285) | -0.6% |
| 2. Rest of Georgia | (105) | 0.0% | (211) | -0.1% | (423) | -0.1% |
| | | | | | | |
| 1. Atlanta Region | (761) | -0.1% | (1,523) | -0.3% | (3,054) | -0.6% |
| 2. Rest of Georgia | (50) | 0.0% | (100) | 0.0% | (201) | -0.1% |
| | | | | | | |
| **Employment** | | | | | | |
| 1. Atlanta Region | (6,671) | -0.2% | (13,360) | -0.4% | (26,780) | -0.7% |
| 2. Rest of Georgia | (294) | 0.0% | (592) | 0.0% | (1,191) | 0.0% |

*Source: Wilbur Smith Associates*
*GRP and Personal Income reported in Millions of Nominal $s.*

Key findings include:

- A mere 5% decrease in truck transportation employment leads to a loss of nearly $1.6 billion in GRP for the Atlanta region in 2030 alone. This translates into over $760 million in personal income and nearly 7,000 full-time jobs.
- A 20% reduction in the region's employment in the trucking industry is projected to give rise to a loss of more than $6.2 billion in GRP, $3.0 billion in personal income and 26,700 full-time equivalent jobs in the Atlanta region.
- The state could lose an additional $423 million in GSP and $201 million in personal income.
- These impacts also translate into lost tax revenue for state and local governments.

## *The Economic Impact of Increasing Transportation Costs*

In addition to examining the impact of losing freight transportation employment, the REMI model was use to simulate the economic implications of transportation costs in the Atlanta region.

Four scenarios were modeled including:

- A half a percent (0.5%) increase in transportation costs
- A one percent (1.0%) increase in transportation costs
- A five percent (5.0%) increase in transportation costs
- A half a percent (0.5%) *decrease* in transportation costs

The results are displayed in Exhibit 4.5.

**Exhibit 4.5**
**Economic Impact of Changes in Transportation Costs in 2030**

| | Base Forecast | Increase by 0.5% | Increase by 1% | Increase by 5% | Decrease by 0.5% |
|---|---|---|---|---|---|
| **Total** | | | | | |
| GRP | 1,415,802 | (8,911) | (17,606) | (79,994) | 9,137 |
| Personal Income | 854,035 | (7,820) | (15,450) | (70,533) | 8,009 |
| Total Employment | 6,204,091 | (66,083) | (130,575) | (595,220) | 67,706 |
| | | | | | |
| **GRP** | | | | | |
| 1. Atlanta Region | 1,024,316 | (8,661) | (17,107) | (77,515) | 8,886 |
| 2. Rest of Georgia | 391,486 | (250) | (499) | (2,480) | 250 |
| | | | | | |
| **Personal Income** | | | | | |
| 1. Atlanta Region | 551,779 | (7,270) | (14,358) | (65,347) | 7,452 |
| 2. Rest of Georgia | 302,256 | (550) | (1,092) | (5,186) | 557 |
| | | | | | |
| **Total Employment** | | | | | |
| 1. Atlanta Region | 3,777,864 | (62,590) | (123,600) | (560,800) | 64,200 |
| 2. Rest of Georgia | 2,426,227 | (3,493) | (6,975) | (34,420) | 3,506 |

*Source: Wilbur Smith Associates*
*1) GRP and Personal Income reported in Millions of Nominal $s.*
*2) Employment represents full-time equivalent jobs*

Key Findings include:

- Transportation costs in Atlanta have a significant impact on the entire State of Georgia;
- A mere half a percent increase in transportation cost in the Atlanta region gives rise to a 1% reduction in employment, which translates into over 66,000 lost jobs statewide in the 2030;
- A 5% increase in transportation costs in the Atlanta region leads to a 15% decrease in employment, a 6% decrease in personal income and nearly an 8% decrease in gross regional output in the year 2030 in the Atlanta 20 county region; and
- A 5% increase in transportation costs in the Atlanta region results in a loss of $7.3 billion in state and local tax revenue in the year 2030.

Investing to decrease transportation costs by one half of a percent in the Atlanta region could generate an additional $825 million in state and local tax revenue in year 2030.

# Chapter 5: Future Freight Forecasts and Needs

## *Regional Freight Forecasts*

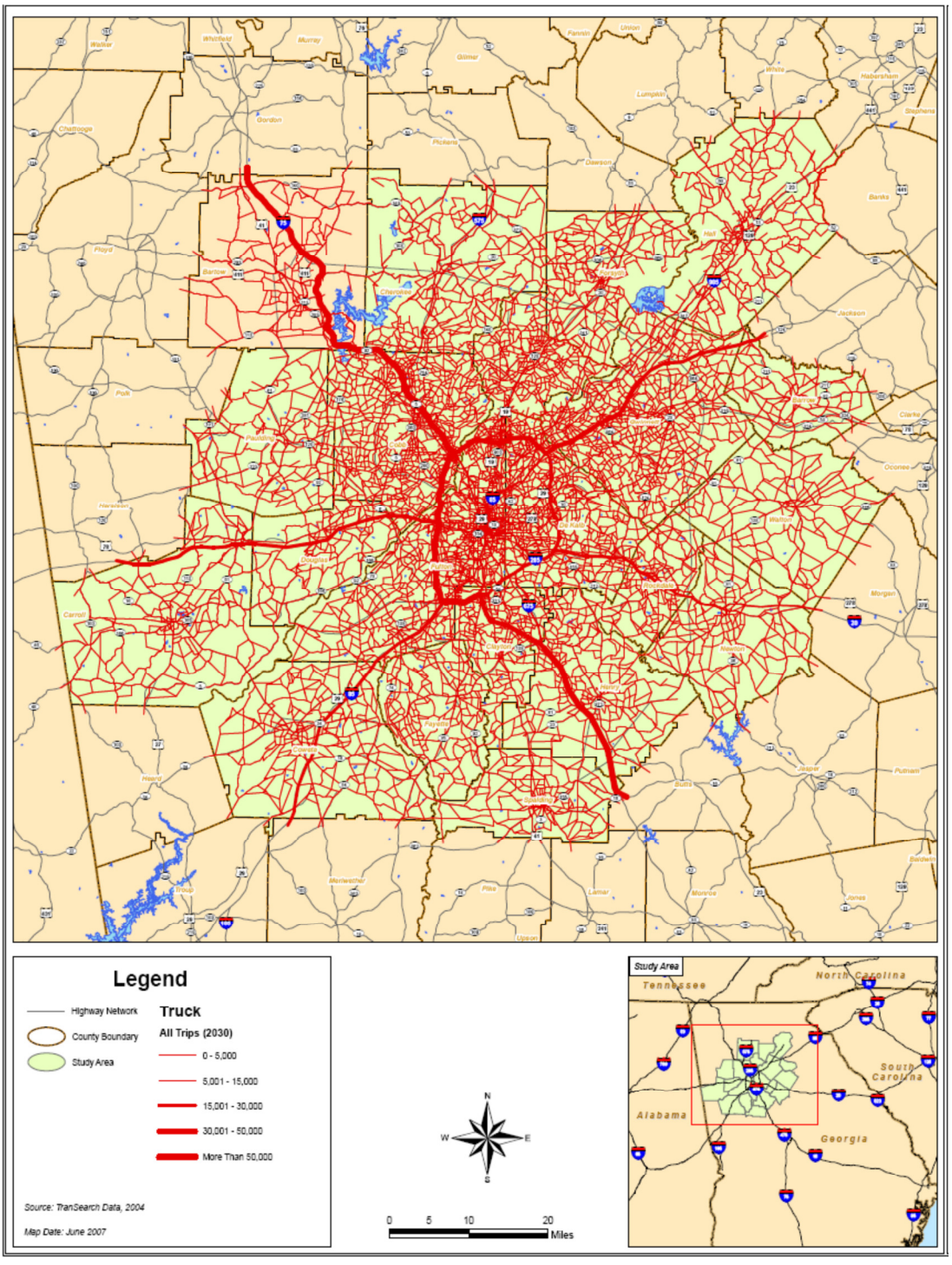
The future flow of commodities that originate, terminate, pass through and move internally in the study region is described in this section. This analysis includes commodity flows by mode and county for the year 2030. The values ascertained for the forecasted year 2030 were derived from the base year 2005 TRANSEARCH database. These future commodity flows provide a depiction of the change in freight flows for the Atlanta region. Exhibit 5.1 summarizes the projected growth in freight flows by commodity, mode and direction for the 20-county Atlanta region in 2030. In 2030 the total projected freight flow is nearly 1.7 billion tons, a 78 percent increase from the 950 million tons that moved in 2005.

**Exhibit 5.1: Freight Flows by Mode for the 20-county ARC Region, 2005 to 2030 (in tons)**

| | | 2005 | 2030 | % Change |
|---|---|---|---|---|
| Truck | Local | 102,907,000 | 222,199,000 | 116% |
| | Outbound | 105,622,000 | 215,885,000 | 104% |
| | Inbound | 304,225,000 | 546,004,000 | 79% |
| | Through | 328,464, 000 | 555,754,000 | 69% |
| | **TOTAL** | **841,220,000** | **1,539,844,000** | **83%** |
| | | | | |
| Air | Outbound | 280,000 | 678,000 | 142% |
| | Inbound | 1,078,000 | 2,687,000 | 149% |
| | **TOTAL** | **1,359,000** | **3,366,000** | **148%** |
| | | | | |
| Rail | Local | 64,000 | 190,000 | 195% |
| | Outbound | 2,961,000 | 7,261,000 | 145% |
| | Inbound | 31,498,000 | 50,759,000 | 61% |
| | Through | 75,271,000 | 92,502,000 | 23% |
| | **TOTAL** | **109,795,000** | **150,714,000** | **37%** |
| | | | | |
| **All Modes TOTAL** | | **952,374,000** | **1,693,924,000** | **78%** |

The increase in freight volumes is estimated to translate into, on average, over 140,000 additional trucks on the region's highway system daily. Exhibit 5.2 depicts projected regional truck volumes in 2030. As can be seen, the I-75/I-285/I-75 corridor is projected to be most concentrated corridor in the region with regards to truck traffic. In addition, the northern section of I-85 and the western section of I-20 are also projected to continue to carry significant volumes of trucks.

## Exhibit 5.2: Projected 2030 Total Truck Volumes



It is important to note that the forecast of freight flows in the region are a result of variable economic, population and geographic factors. Economic factors that influence projected values are important to the variety of industries in the Atlanta region. These forecasts do not predict modal shifts in commodity movement. Instead, if a commodity is moving by truck today, it is assumed to move by truck in 2030. Any shifts in modal shares are a result in the shift in the types of commodities moving as well as the origins and destinations of movements. These forecasts represent *unconstrained forecasts*; thus, it is assumed that there will be sufficient capacity on the region's transportation system to accommodate the increased traffic.

Following are several key observations derived from the details of the 2030 forecasts presented in the Needs Assessment Report:

- The total amount of freight movement is projected to increase by 78 percent through 2030 from 952 million in 2005 to 1.7 billion in 2030.
- Of the approximately 1.7 billion tons of commodity moving to, from, within and through the region, 39 percent passes through the region and 35 percent terminates in the region.
- Food and Kindred Products is the top commodity shipped in the region growing by 84 percent and accounting for approximately 17 percent of all freight shipped by 2030. Furthermore, 98 percent of this commodity is transported via trucks.
- Secondary Traffic, or goods for distribution, is projected to grow by 210 percent by 2030 to 236 million tons, much of which will travel by truck.
- Freight shipped by rail as a share of total freight hauled is projected to decrease by 3.4 percent by 2030, but rail volume is anticipated to increase by 37 percent.
- Local economic factors will potentially adjust rail volumes. As distributors and manufactures in the region continue to reevaluate operations, potential changes to commodities such as transportation equipment could lead to decreasing rail share by 2030.
- Air cargo is forecast to expand by 148 percent, but still account for only 0.2 percent of the total share of the total freight flow.
- Electrical equipment moved by air is expected to expand by 545 percent;
- Freight tonnage in Douglas County is projected to grow by 241 percent by 2030, putting additional pressure on already strained highway infrastructure such as I-20 and US 78.
- The cities in the southeast such as Macon, Georgia and Charleston South Carolina will continue to be major trading partners with the Atlanta region.

## *Regional Freight Mobility Needs*

Current and future freight mobility needs are based on data, technical analysis and stakeholder input presented above. These needs focus on regional concerns and represent general systemic needs. Systemic needs can be defined as universal or general mobility issues, which include broader infrastructure, operational, institutional and/or regulatory deficiencies or inefficiencies. Often, but not always, addressing

systemic needs requires significant investment in terms of infrastructure and money and/or innovative solutions. The systemic needs for current and future freight mobility in the Atlanta region are organized around seven key issues including:

- System Capacity
- Freight System Operations
- Land Use Conflicts
- Safety
- Education and Public Awareness
- Regional Approaches
- Community and Environmental Impacts

## System Capacity

Congestion and resulting capacity deficiency is the major issue affecting freight mobility, while infrastructure deficiencies are the primary cause of congestion. The five leading freight congestion and infrastructure deficiencies in the Atlanta region are summarized below.

### *Insufficient Grid System Deters Alternative Routes*

Throughout the stakeholder input process, one of the most significant problems identified was the inability for trucks to cross the city transversely, without resorting to I-285. Observations from professionals who have operated truck fleets in other cities made clear how Atlanta's surface structure differs from other urban areas and how Atlanta's structure contributes to congestion. The region's surface routes are essentially set up as radials from the city's center – rather than as a grid system of intersecting arterials, similar to what would be found in Los Angeles, Detroit or Washington D.C. Currently, it isn't terribly difficult to move North and South from the city, but there is no good way to move across it. This problem is not only critical on the North side between I-75 and I-85, but also exists through the center and on the South side of Atlanta. The absence of traverse surface arterials also implies a lack of relief routes. Cross-town truck drivers who have no alternative to using I-285, also have no alternative when it backs up, and the I-285 along with its major interstate feeders tends to lock up, even at non-peak periods.

### *Bottlenecks at Key Interstate Interchanges and Freight Generators*

The fact that key interchanges on the region's interstate system cause considerable recurring congestion is no surprise to most since a national report released by the Alliance of Highway Users identified Atlanta as having three of top twenty worst interchange bottlenecks in the U.S. These three include the I-75/I-85 interchange, the I-85/I-285 Interchange and the I-75/I-285 interchange. Other notable interchange bottlenecks identified as regional needs include:

- I-85 and SR400
- I-85 and Jimmy Carter Blvd
- I-285 interchanges at Peachtree Industrial Blvd, LaVista Road, Pleasantdale Road and I-20
- I-85 and SR316

Other non-interchange bottlenecks related to key freight generators include heavy commercial and retail areas in the region, key industrial corridors and facilities serving significant intermodal yards or distribution centers. The bottlenecks receiving the most citations include:

- Peachtree Street – especially around Lenox Mall
- Buckhead area
- Cobb Parkway – signal timing is issue for commercial vehicles
- Thornton Road at Austell Intermodal Yard – growth of commercial activity along corridor forces excessive truck/passenger vehicle interactions
- Fulton Industrial Boulevard – volume leads to prolonged travel times
- Downtown Atlanta – volume and design issues lead to prolonged travel time and difficulty with pick-up and deliveries
- Marietta area – growth in area leading to increasing interaction between truck and passenger traffic.

***At-grade rail crossings***

While there has been improvement in reducing the number of at-grade crossings, these continue to be an issue for local communities throughout the region. Not only do these crossings impact both freight and passenger mobility but they also create safety concerns for the traveling public. As rail freight is projected to increase by 37 percent in terms of tonnage and 53 percent in terms of carloads or containers by 2030, the delays and safety concerns arising as a result of at-grade crossings will also continue to increase.

Exhibit 5.3 displays the top five at-grade rail crossings in terms of AADT by County. Notable is the fact that there are 15 crossings in the study area that experience more than 20,000 AADT (identified in bold). Gwinnett County has among the most significant at-grade crossings in terms of both AADT and the number of trains per day. Fulton County also has notable crossings with both high AADT and significant train activity. In terms of train activity, Henry County stands out with its top five at-grade crossing experiencing between 30 and 45 trains per day.

## Exhibit 5.3: Top Five At-Grade Rail Crossings based on AADT, by County

| County | RR Crossing Owner | Road Name | AADT | Trains per Day |
|---|---|---|---|---|
| **Barrow** | CSX Transportation | Athens St. | 13,450 | 30 |
| | CSX Transportation | SR 11 S Broad | 10,720 | 16 |
| | CSX Transportation | Horton St. | 6,770 | 19 |
| | CSX Transportation | Old Rd. | 5,684 | 1 |
| | CSX Transportation | Jefferson St. | 3,240 | 16 |
| **Bartow** | CSX Transportation | East Main | 11,950 | 47 |
| | CSX Transportation | Burnt Hickory Rd. | 9,870 | 6 |
| | CSX Transportation | Burnt Hickory Rd. | 9,870 | 24 |
| | CSX Transportation | US 411 | 7,840 | 1 |
| | CSX Transportation | Old Mill Rd. | 6,380 | 6 |
| **Carroll** | Norfolk Southern Corp. | Industrial Blvd. | 17,130 | 31 |
| | Norfolk Southern Corp. | Maple St. | 9,800 | 4 |
| | Norfolk Southern Corp. | Carroll St. | 9,210 | 31 |
| | Norfolk Southern Corp. | Ala. St. | 9,070 | 6 |
| | Norfolk Southern Corp. | Dixie St. | 7,950 | 8 |
| **Cherokee** | Georgia Northeastern | Water Works | 15,300 | 2 |
| | Georgia Northeastern | NA | 14,370 | 2 |
| | Georgia Northeastern | Marietta Rd. | 12,010 | 4 |
| | Georgia Northeastern | Arnold Mill Rd. | 9,140 | 2 |
| | CSX Transportation | NA | 8,400 | 2 |
| **Clayton** | **Norfolk Southern Corp.** | **SR 54 Jonesboro Rd.** | **35,740** | **2** |
| | Norfolk Southern Corp. | Jonesboro Bypass | 17,200 | 7 |
| | Norfolk Southern Corp. | Clayton State Blvd. | 16,720 | 7 |
| | Norfolk Southern Corp. | Mt Zion Rd. | 15,300 | 2 |
| | Norfolk Southern Corp. | Forest Pkwy. | 15,100 | 8 |
| **Cobb** | **CSX Transportation** | **Sandy Plains Rd.** | **21,090** | **2** |
| | **Georgia Northeastern** | **Marr Rd.** | **20,030** | **4** |
| | CSX Transportation | Piedmont Rd. | 19,670 | 4 |

| County | RR Crossing Owner | Road Name | AADT | Trains per Day |
|---|---|---|---|---|
| **Fulton** | **Norfolk Southern Corp.** | **Murphy** | **23,750** | **12** |
| | **Norfolk Southern Corp.** | **Monroe Dr.** | **20,910** | **2** |
| | **Norfolk Southern Corp.** | **Simpson** | **20,000** | **1** |
| | CSX Transportation | Welcome All Rd. | 18,900 | 16 |
| | CSX Transportation | Old Fairburn Rd. | 18,900 | 16 |
| **Gwinnett** | **Norfolk Southern Corp. (under construction)** | **Pleasant Hill Rd.** | **33,750** | **29** |
| | **Norfolk Southern Corp.** | **Button Gwinnett Drive** | **28,630** | **6** |
| | **Norfolk Southern Corp.** | **Suwanee Dam Rd.** | **26,580** | **29** |
| | **CSX Transportation** | **Harmony Grove Rd.** | **21,800** | **20** |
| | Norfolk Southern Corp. | Lawrenceville St. | 15,510 | 29 |
| **Hall*** | Norfolk Southern Corp. | Athens St. | 11,160 | 35 |
| | CSX Transportation | Industrial Blvd. | 7,850 | 4 |
| | CSX Transportation | Mason Dr. | 5,940 | 8 |
| | CSX Transportation | MLK Jr. St. | 5,250 | 2 |
| | Norfolk Southern Corp. | White Sulphur Rd. | 4,920 | 29 |
| **Henry** | Norfolk Southern Corp. | Flippen | 14,140 | 45 |
| | Norfolk Southern Corp. | Hampton St. | 10,970 | 46 |
| | Norfolk Southern Corp. | Jonesboro St. | 8,280 | 46 |
| | Norfolk Southern Corp. | SR 155 | 4,750 | 30 |
| | Norfolk Southern Corp. | Gas Plant Rd. | 4,170 | 45 |
| **Newton** | The Great Walton Rail | Covington By-pass | 10,300 | 1 |
| | CSX Transportation | Emory St. | 10,270 | 6 |
| | Norfolk Southern Corp. | Washington St. | 9,774 | 4 |
| | Norfolk Southern Corp. | Roper Rd. | 1,530 | 35 |
| | CSX Transportation | New Alcovy Rd. | 9,730 | 10 |
| **Paulding** | The Great Walton Rail | Pace St. | 9,300 | 2 |
| | CSX Transportation | Mount Olivet Rd. | 472 | 4 |
| | CSX Transportation | NA | 458 | 10 |

| County | RR Crossing Owner | Road Name | AADT | Trains per Day |
|---|---|---|---|---|
| | CSX Transportation | Church St. | 13,405 | 10 |
| | CSX Transportation | Cherokee | 11,900 | 38 |
| **Coweta*** | Norfolk Southern Corp. | Franklin Rd. | 10,580 | 2 |
| | CSX Transportation | Weldon Rd. | 6,190 | 10 |
| | CSX Transportation | Broad St. | 5,200 | 11 |
| | CSX Transportation | McCollum-Sharpsburg Road | 4,900 | 16 |
| | CSX Transportation | Martin Luther King Jr. Drive | 4,870 | 22 |
| **Dekalb*** | **CSX Transportation** | **Conyers St.** | **28,140** | **6** |
| | **CSX Transportation** | **Hugh Howell Rd.** | **22,200** | **2** |
| | **Norfolk Southern Corp.** | **Johnson Ferry Rd.** | **22,150** | **2** |
| | **Norfolk Southern Corp.** | **Pleasantdale Rd.** | **21,960** | **2** |
| | CSX Transportation | Rockridge Rd. | 15,720 | 10 |
| **Douglas** | Norfolk Southern Corp. | (UR) Campbellton | 16,120 | 31 |
| | Norfolk Southern Corp. | Mosley St. | 15,670 | 31 |
| | Norfolk Southern Corp. | Burnt Hickory Rd. | 5,680 | 31 |
| | Norfolk Southern Corp. | Rose Ave. | 5,220 | 31 |
| | Norfolk Southern Corp. | Brown St. | 2,380 | 31 |
| **Fayette** | **CSX Transportation** | **Tyrone Rd.** | **30,440** | **2** |
| | CSX Transportation | Lee's Mill Rd. | 7,430 | 30 |
| | CSX Transportation | Crabapple Lane | 6,380 | 30 |
| | CSX Transportation | Dividend Dr. | 5,740 | 30 |
| | CSX Transportation | Tyrone Rd. | 5,620 | 30 |
| | Norfolk Southern Corp. | Academy Dr. | 390 | 20 |
| | Norfolk Southern Corp. | Johnson St. | 390 | 29 |
| **Rockdale** | CSX Transportation | Sigman | 10,900 | 4 |
| | CSX Transportation | NA | 8,590 | 8 |
| | CSX Transportation | West St. | 5,490 | 8 |
| | CSX Transportation | Covington Hwy. | 5,040 | 2 |
| | CSX Transportation | N. Salem Rd. | 4,400 | 8 |
| Spaulding | Norfolk Southern Corp. | Hill St. | 12,700 | 10 |
| | Norfolk Southern Corp. | High Falls Rd. | 9,980 | 1 |
| | Norfolk Southern Corp. | High Falls Rd. | 9,930 | 10 |
| | Norfolk Southern Corp. | Hwy. 16 A.K. Bolton | 9,500 | 4 |
| | Norfolk Southern Corp. | Solomon St. | 9,340 | 2 |
| **Walton** | CSX Transportation | Broad St. | 7,940 | 2 |
| | CSX Transportation | Monroe Rd. | 6,710 | 2 |
| | CSX Transportation | Madison Ave. | 3,690 | 2 |
| | CSX Transportation | Atha St. | 1,710 | 2 |
| | CSX Transportation | Davis St. | 760 | 2 |

*Source: Georgia Department of Transportation, 2006*

** At-grade crossings with higher AADT but no trains have been omitted*

***Rail Capacity Limitations and Development Issues***

Resolution of capacity limitations is the first consideration impacting long term development of freight rail services in the Atlanta region. It impact rail operations in the whole southeastern market, and just as clearly requires regional network investments. An example is the necessity for NS shuttle trains between Austell and Inman because of the lack of a link between the Birmingham and Chattanooga lines. This creates two additional movements across the Atlanta bottleneck route, using capacity that could otherwise be used for new traffic.

There are a number of issues surrounding the development of rail services in the Atlanta region:

- *Two new corridors* will impact the growth of international trade traffic coming to and through the region. The Meridian Speedway establishes a direct rail route to Mexico City, and supports Atlanta's ambition to be a formal or informal center of Latin American trade. The Heartland Corridor between the port at Norfolk, VA and the Ohio Valley, under development with federal assistance along former export coal routes, will compete with the ambitions of Savannah and Charleston to become new landbridge gateways for Asian goods bound to the Midwest.

- *Two prospective locations* for industrial redevelopment exist at rail-served sites on the south side of town. One is Fulton Industrial Park, which has superb highway access but could benefit from public sector action to spur preparation of adequate land parcels and infrastructure. The availability of outbound loads of manufactured goods is one aspect of the Atlanta market that attracts trucking capacity to the region, and its nurture would offset the region's worsening congestion. Manufacturing derives benefit from rail service as well, and the revitalization of rail service might be a condition set by ARC for its involvement in redevelopment. One form this could take might be introduction of competitive access to the site, as a stimulus to service quality.

- The second location is the Fort Gillem military base in Forest Park, now slated for closure. This is a rail-served property near I-285 and I-675 in the city's truck terminal district that could be redeveloped for industry and used to preserve Atlanta manufacturing in efficient locations for freight logistics.

- *Two concerns* for the future of intermodal rail service are the marginalization of trailer operations, and the long term effect of growth on terminal capacity. Trailers are the preferred equipment for the majority of motor carriers and are the dominant equipment on the nation's highways. The rail preference for containers is due to linehaul cost advantages and capacity utilization – but if capacity is sufficient, the linehaul can be managed. The reason for concern is that insistence on containers creates a substantial barrier to intermodal use and a limitation on fleet utilization, which act as disincentives for motor carrier adoption of rail service. The upshot is continuation of the established trend by which intermodal is relegated to international transport, and domestic traffic stays on the road.

Quadrupling growth in intermodal traffic eventually will exhaust terminal capacity. The trend in other American cities has been for facilities in the central business district to close, and give way to ever-larger operations on the far rim of the metropolitan region. The consequence is that the urban area becomes entirely dependent on truck drayage, and rail alternatives exist strictly for exterior linehaul service. To prevent this requires three things: preservation of the in-town facilities as prime freight assets with material public benefits, continued access to high-service trains via direct or shuttle connections and land planning that anticipates rail.

***Potential Diversion of Through Truck Traffic***

The trucking industry transports 70 percent of the total freight moved in the United States. In comparison, trucked freight represents nearly 84 percent of the freight tonnage moving in the Atlanta region with 53 percent of the outbound, 77 percent of the inbound and 79 percent of the through freight traveling by truck. (53, 77 and 79 are all below 84) Because of the heavy reliance on truck transportation, the highway system is instrumental in the efficient movement of freight in the Atlanta region. Motor carriers utilize the highway system to transport freight to customers throughout the region and to distribute goods to consolidation and intermodal freight facilities. The roadway network is a critical factor in enabling effective connections for the region's economy.

The highway network is experiencing severe congestion during morning and evening peaks. The volume of freight, combined with the fact that local traffic is forced to use the same system as through traffic due to the lack of viable alternatives, has contributed to conditions that drivers describe as some of the worst in the nation. Exacerbating the current capacity constraints is the fact that the number of trucks in the region is expected to increase by 91 percent between 2005 and 2030. This translates into an additional 141,000 trucks daily on the region's highway system, of which over 37,000 will represent through traffic.

**Freight Operations**

Throughout the stakeholder input process and the ground observations of operating conditions conducted by the consultant team, operational issues including the need for improved network management, updated design standards to accommodate newer commercial vehicle requirements and an updated and properly signed regional truck route system. While these were not the only operational issues that arose, these three represent the most commonly identified needs across a spectrum of users.

***Using ITS for Network Management***

One of the more notable insights arising from the engagement of the private sector in the needs assessment was the priority placed on more effective management of existing infrastructure relative to investing in new infrastructure. One area of focus for the private sector is the availability of real-time information. Meetings with local stakeholders generated a wealth of ideas and recommendations for improvement of the region's conditions, and especially methods for managing congestion. One method the project

team specifically inquired about was the functionality of Georgia Navigator, and whether this could be improved if some type of email or audible alert from the website were issued to drivers or dispatchers. Some companies applied the website's information on traffic delays, construction-related backups, and accidents to work out alternate routes, essentially tracing backwards from the bottlenecks. However, more common were companies who were unaware of Navigator, or who knew of it but hardly used it. Perhaps because it is a passive system, Navigator appears to be employed reactively and sporadically, and even among active users, no one was observed with the website up and visible.

The idea of expanded uses of Navigator information had wide appeal (even among those who were previously unfamiliar with the resource) as a means of enhancing communication, diverting drivers away from trouble spots and assisting drivers stuck in traffic.

***Design Standards to Accommodate Freight Requirements***

The field work uncovered examples of inadequate consideration of freight needs in terms of facility design. Design deficiencies were documented on some of the key freight routes in the study region as well at specific facilities. The deficiencies include design elements such as inadequate turning radii, acceleration lanes, signal timing and pavement standards.

In many cases, facility-specific problems involve the inability of trucks to turn in and out of facilities. For example, one grocery store chain has access problems at one of its downtown Atlanta locations. The chain, which mainly uses 48' trucks, has been forced to purchase 43' trucks (which haul less product) to make the tight turn from the street into its loading area. Similarly, a paper manufacturer has major problems with Eagles Landing Parkway, which runs between the company's two local locations. The company's operations require trucks to turn left out of the manufacturing facility and cross Eagles Landing to reach the warehouse. Due to the turn radius between the two facilities, it is difficult for 53' trucks to make the turn and both lanes of Eagles Landing are blocked in the process. Other specific examples are provided in the Data Technical Report.

Design deficiencies can have significant cost implications for operators in the region. Tight maneuvering can lead to increased travel times, increased safety hazards and property damage. In some instances, where design deficiencies prohibit the use of the operators' traditional fleet, investment in new equipment is required. These costs directly affect the price of transporting freight in the region, thereby impacting regional economic competitiveness.

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***Lack of Regional Truck Route System***

A designated roadway truck route system is instrumental in supporting the efficient and reliable movement of freight. Commercial vehicles rely on properly engineered and constructed roads to move through the region to deliver freight in a timely and safe manner. Identifying, designating and designing truck routes can be an important

component of freight mobility and mitigation of freight-passenger conflicts. Designated truck routes should consist of the following:

- Targeted design standards: Truck routes provide a means for targeting truck supporting design standards and policies towards for specific corridors rather than across-the board

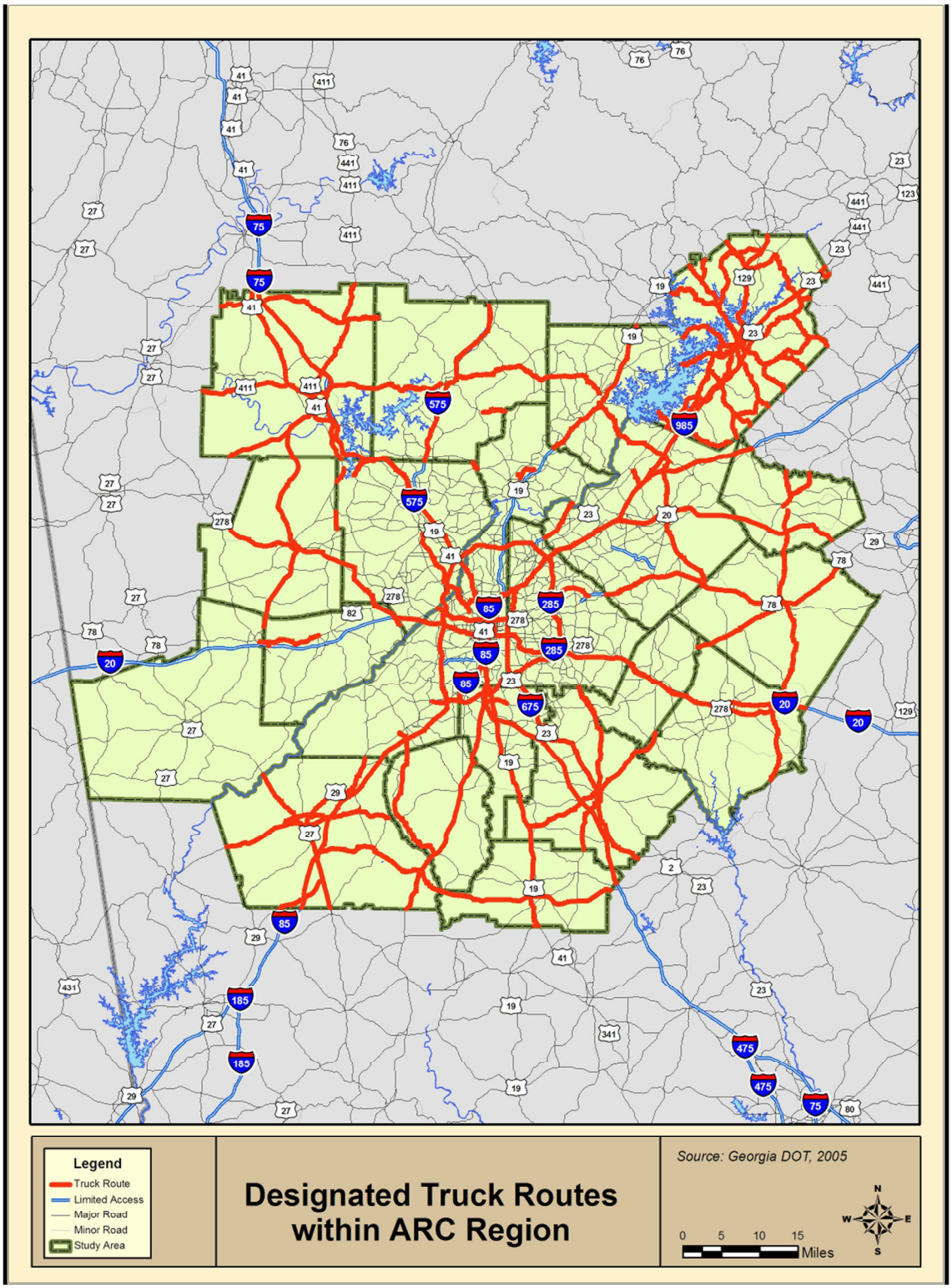
- Cost effectiveness: Improving roads to accommodate larger trucks requires significant investment. Designated routes provide a means to more rationally allocate resources to specific corridors with higher benefits. Truck routes also allow favorable opportunities to implement the use of ITS systems.

- Safety: Improving design standards and segregating freight traffic along specific corridors would also reduce operating incompatibilities and diminish the incidence of accidents.

- Productivity: Improving truck operations within trade corridors leads to increased productivity, lower truck operating costs and improved reliability.

The 20-County Atlanta region has disparities in truck routes that have been officially designated. The lack of truck route connectivity is apparent throughout the region. Exhibit 5.4 depicts the current designated truck route network.

**Exhibit 5.4: Existing Regional Truck Routes**



The officially designated truck routes shown above reveal the difference in the amount of truck routes west of I-285 and north of I-285 in Fulton County. Cobb County also has limited truck route access. Both Fulton and Cobb Counties have the highest volume of freight moving inbound and outbound in the region; yet, the counties have extremely limited options for truck carriers to travel eastward into the counties from the other regions of the country. Also notable is that truck route plan for the City of Atlanta has not been updated in over 25 years. Developing a region-wide identifiable truck route system will create increased opportunities to promote connectivity throughout the region, county by county thereby improving the efficiency of the entire roadway system and economic competitiveness of the region.

***Commercial Practices Changes***

In response to capacity constraints and increased service requirements, private sector stakeholders continue to modify their shipping and receiving practices. They seek off-peak deliveries and consolidation. These practices are constrained by several factors including potential negative community impacts such as noise, labor force constraints and coordination difficulties.

Off-Peak Delivery Options – As demonstrated in Exhibits 3.18 through 3.20, the roadway system is severely congested along all major arteries in the region during the morning and evening rush timeframes while the off-peak timeframes offer much better operating conditions.

Many of the food distributors interviewed introduced their delivery experience during the Olympics as a time when congestion posed fewer problems and deliveries were on time. Because of the influx of tourist traffic into Atlanta during the Olympics, city officials mandated that freight deliveries be made at night. This forced receiving windows to remain open and trucks were able to avoid peak transit hours. When discussing possible remedies to dealing with congestion, some food distributors hearkened back to the system implemented during the Olympics with a sense of nostalgia and accomplishment. Even those distributors who referred to the Olympics as a difficult period (due to the unusually late hours kept and the failure of receivers to have staff awake and available) agreed that delivering at night avoided congestion and made delivery times more predictable.

Coca-Cola Enterprises bottling company is one of several distributors interested in moving a portion of their operations to off-peak. The company's market objective is to have product within ten minutes of any consumer, and to remind the consumer of its availability by a variety of means. This means that distribution is a fundamental part of business strategy. They are evaluated by Wall Street in terms of their return on invested capital, and the investment in their private truck fleet is one component. The more productive the private fleet becomes through less time spent in traffic, the lower the capital requirement and the better the return. For this company, whose association with Atlanta goes back over a century, congestion on the roadways has a direct influence on their market effectiveness and their attraction of capital. In their evaluation, roadway improvements can be helpful at the margins, but no investment the region could make

would produce benefits comparable to evening operations. Even Coca-Cola could not move all of its business off-peak: its vending machine operations require drivers to handle cash, and there are safety concerns associated with the drivers working alone at night. Nevertheless, moving just a portion of deliveries off-peak would be a step in alleviating congestion. The question is can receivers be encouraged to accommodate this and what role should the public sector play?

The majority of food distributors interviewed expressed an interest in moving to night deliveries but are currently hindered by the unwillingness of many receivers (e.g. grocery store receiving docks) to accept deliveries at night. The receivers have their own business reasons for resistance: at minimum, it requires a staff member on night shift (although there is precedence for drivers to become qualified for key access). Sixty-two percent of food distributors interviewed that are willing to move to night deliveries under the right circumstances.

Consolidation Mechanisms for Local Deliveries – The impetus to minimize truck traffic on the road during the Olympics led another food distributor to suggest a consolidation technique. Under current (and non-Olympic) operations, each food vendor serving a restaurant typically makes independent restaurant deliveries.

This generates a multiple vehicles on surface routes, all attempting to unload at difficult-to-access restaurants. During the Olympics, a single food distributor accepted deliveries from a range of vendors all destined for Restaurant "A", and then made one consolidated delivery to Restaurant "A". The result was that small vendors delivered to one large (easier to access) loading facility and one large truck delivered once to a restaurant, thereby reducing the number of trucks on the road. If companies could be encouraged to operate this way under normal circumstances, truck traffic could be reduced and efficiency enhanced. The drawback to this system is the fact that restaurant delivery drivers are also salesmen who work to maintain relationships with their restaurants and risk losing sales if they delivered to a consolidation point, rather than directly to the restaurant. If a middle ground can be reached between the vendor and the consolidator, heightened efficiency and reduced traffic could be the result.

**Land Use Conflicts**

Given that industrial, warehouse, and distribution activities will continue to grow in the Atlanta region regardless of the desire to attract or stave them off, it is important for municipalities, counties, and the ARC to plan for these activities. Moreover, it is important for those who shape urban design through municipal and regional policies and plans to provide guidance for accommodating these activities. When structured appropriately, such guidance can help reduce the sprawl of freight activities by developing goods and trade-related distribution facilities within existing transportation corridors and zones. This can also help ensure a balance between the movement of people and the movement of goods across key corridors in the region and create an environment that enhances economic competitiveness and sustainability. Two key areas of concern in regard to land use conflicts impact freight mobility.

***Encroachment of Residential Use into Traditionally Industrial Corridors/Areas***

One distributor interviewed complained of noise abatement policies interfering with delivery times in certain areas. Such noise abatement policies restrict deliveries before and after certain times of the day in areas where there is a residential population, often preventing drivers from arriving at a location before or after rush hour. Noise abatement policies are just one of many issues arising from the encroachment of residential areas into or adjacent freight areas. These land-use conflicts are common place and are becoming increasingly problematic in locations where freight traffic can no longer access established industrial areas due to neighborhood restrictions, no-truck routes requiring a circuitous approach, and heavy congestion along previously adequate access routes.

The issue is not that industrial and residential areas need to be made separate, which may be undesirable and probably is impractical. From a freight logistics standpoint, the issue is access, through the retention of clear, efficient truck routes into industrial centers as residential areas develop.

**Freight District Redevelopment**

Given the significance of logistics and distribution in the Atlanta economy, it is vital that distribution companies continue to be attracted to the city and can operate efficiently in the future. Development growth for distribution and other industrial facilities is occurring in several areas. Specifically, on the I-85 north corridor to Braselton and Jackson County (approximately 75 miles Northeast of Atlanta), on I-75 around McDonough, and the area between I-85 S, I-75 S, and I-20 (an area that allows distribution centers to efficiently serve Florida). Other key areas of industrial growth include the intersection of I-85 S and I-285, between I-85 and I-20 (an area that has good access to three rail yards), and the I-75 south corridor to Macon.

Atlanta used to be classified as city that could expand without barriers. In other words, as areas grew congested, companies could pack up and move down to the next exit. The result of this ongoing freight sprawl development pattern in Atlanta is that companies have begun to find themselves facing possible locations that are too far away from the local market. The solution to this is redevelopment of older freight areas. This is already happening with Atlanta's residential population as people are moving back into redeveloped areas of town. One problem facing redevelopment of industrial areas is that large distributors want new facilities that are modern than un-used facilities currently in place. This is particularly evident in the Fulton Industrial area where there are several small pieces of land held by different owners. Fulton Industrial's superb road access and I-285 location make it an ideal candidate for redevelopment, with a real benefit for truck travel and its associated effects. Even so, with old buildings and various signs of deterioration, Fulton Industrial area will require a variety of upgrade investments.

**Safety**

Safety is a focus of planning organizations and private sector freight stakeholders. Carriers wish to operate effectively and efficiently and maintain high safety standards.

Any breach in safety standards place carriers in a vulnerable position and at high risk to be liable for damage endured as result of a driver's negligence. Accidents lead to high insurance premiums as well as potential settlements that raise costs tremendously. The freight industry has a vested interest in ensuring the region's infrastructure is conducive for safe travel for all motorists.

- Although one-third of all commercial vehicle crashes occur at intersections, identifying the amount of crashes at intersections can provide additional insight to identifying problem areas. Issues such as geometric design and turning radii could be the primary reasons that crashes occur at intersections. A need exists to collect and record more detailed data on crashes involving commercial vehicles and this will provide more insight into the root causes.
- The data does pinpoint key safety hotspots and corridors that should receive attention:

    - I-285 in Clayton, DeKalb and Fulton County;
    - I-75 between SR 140 and I-20;
    - I-285 to SR 135 in Clayton County;
    - SR 5 to I-285 in Cobb County;
    - I-675 to SR 16 in Spalding County;
    - I-85 in Coweta, DeKalb and Fulton County;
    - I-20 in DeKalb, Douglas, Fulton and Rockdale County;
    - SR 20 at SR 316 in Gwinnett County;
    - US 78 in Gwinnett County;
    - US 23 in Gwinnett County;
    - SR 16 in Spalding County

**Education and Public Awareness**

In discussing the goods movement industry, the key problem is the "common wisdom" that the sector provides relatively low paying jobs and uses huge facilities that provide very few jobs per square foot of space. Further, many believe that in exchange for such limited economic rewards, the sectors saturate our transportation infrastructure and cause enormous health and safety issues. It is also commonly believed that the primary beneficiaries of the logistics sector are private businesses and consumers outside of the Atlanta Region who benefit from low cost imported goods while paying nothing for Atlanta's overburdened infrastructure. On the other hand, statements that the goods movement sector benefits the region's economy can be so vague as to offer no answer to these objections.

The ability to advance the need for more proactive freight mobility planning and especially for freight specific projects will hinge on the level of public awareness with regards to the benefits of freight planning and the impact of freight mobility on regional competitiveness and quality of life. The communication of these benefits (as well as the cost of not providing for efficient freight mobility) is essential to move from a "not in my backyard" (NIMBY) mentality with regards to freight activity to one of accommodation while mitigating the negative impacts.

## Regional Approaches

The freight mobility needs assessment revealed many needs across a wide spectrum of issues and potential responses. While there is much diversity among the categories of needs, ranging from new capacity to improved signage to integrated land-use, there is one common theme – the need for a regional approach to freight mobility and all the planning factors that impact the freight subsystem. Because of the interstate and intra-regional nature of freight movement, bottlenecks or inefficiencies in one local community impacts freight mobility throughout the 20-county region. Therefore, ensuring the efficiency of freight mobility throughout the region necessitates addressing the needs and issues at a regional as opposed to local level. However, many of the specific issues enumerated above are the domain of local governments and not subject to regional approval. While this may limit the role that ARC can play in implementing responses, it does not eliminate the possibility to influence the outcomes. Given the role of ARC as the regional planning body, it has access to resources to assist local governments in developing and implementing local plans. It is through these resources that ARC can influence and promote planning to accommodate and enhance freight mobility.

## Community and Environmental Impacts

### *Environmental Justice Analysis*

For the Atlanta region, environmental justice (EJ) community is defined as a community with populations that exceed regional averages for certain population groups that are adversely or disproportionately affected by negative impacts in the area. For this study, potential negative impacts refer to freight-based operations and facilities. As defined by the Atlanta Regional Commission (ARC) EJ communities have greater than 9.1% of the population living in poverty, 30.4% African American, 3.6% Asian, or 7% of Hispanic origin.

Based on U.S. Census numbers from 2000, the environmental justice analysis in this report revealed that of the 74 census block groups in the five case study areas 64 meet at least one of the ARC's criteria for an environmental justice community; 37 meet at least two of the criteria; and nine meet three. What this demographic analysis shows is that the well-established freight-based study areas, Atlanta Road/Marietta Boulevard and Fulton Industrial Boulevard, have potential environmental justice concerns. Atlanta Road/Marietta Boulevard meets EJ criteria in 30 out of 34 block groups; Fulton Industrial Boulevard in 16 out of 17. The Fairburn study area has nine of its nine block groups meeting at least one EJ criteria. Gwinnett and Henry Counties have relatively few environmental justice concerns. Thus the well-established freight areas need to deal with the mitigation of EJ issues and the prevention of new EJ communities.

### *Environmental Analysis*

The land use analysis formed the foundation of the key environmental issues presented in five case studies of freight intensive land use in the region. The identified

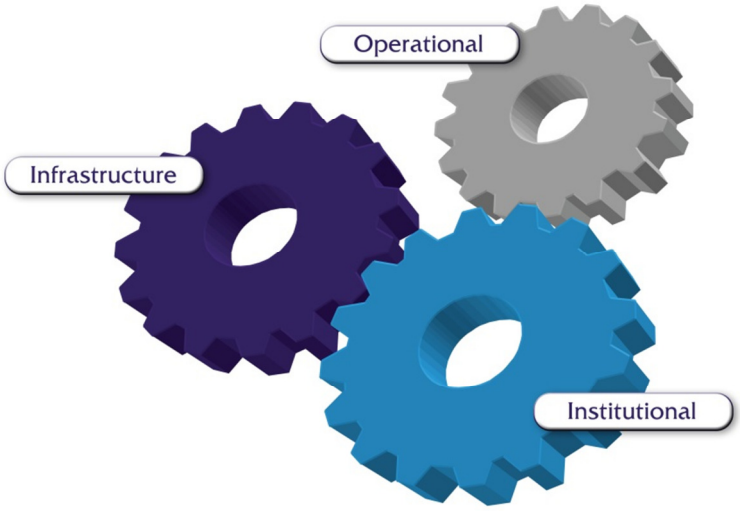
environmental sensitivities include: floodplains, steep topography, wetlands, reservoirs, agricultural and forest lands, and streams and rivers. The Community and Environmental Impact technical report describes in general how freight impacts these elements of the environment and what some of the specific issues are in each study area. Overarching trends indicate that: freight, particularly diesel-emitting freight, has a significant impact on air quality; the construction and operation of freight facilities can disrupt the functionality of natural habitats; and freight is a significant contributor to point- and non-point source water pollution.

# Chapter 6 – Evaluation of Projects and Strategies to Improve Regional Goods Mobility

## *Introduction*

This chapter identifies a range of options to address the identified issues, challenges and problems related to goods movement discussed in Chapter 5. These options result in a list of projects and recommendations that will be incorporated into the Atlanta Regional Freight Mobility Action Plan. The analysis is regional in focus; thus, the resulting strategies and recommendations are more regional as opposed to locally specific as is found in traditional corridor or sub-regional planning efforts. The current chapter presents an overview of the potential projects and recommendations as well as the screening process. The final recommendations are presented in Chapter 7 and Chapter 8 outlines the implementation plan.

The nature of goods movement and the magnitude and diversity of the challenges confronting the Atlanta region require multi-faceted recommendations that address institutional, operational, and infrastructure approaches to meet the region's freight needs. There is no single solution that addresses the region's goods movement needs. Improving one aspect and not the others will only partially address the needs and, in some cases, may even exacerbate the negative impacts associated with efficient freight movement.




There is a need for continuous and simultaneous implementation across the institutional, operational, and infrastructure strategies. This translates into the development of a coordinated plan that selects and prioritizes strategies in a manner that allows the region to capitalize on short term, relatively easy to implement solutions while organizing and planning for the longer term investments. Simply implementing larger infrastructure investments will not achieve the goal of both enhancing freight mobility and mitigating the negative community impacts associated with freight movement.

Not all of the recommended projects and strategies fall under the jurisdiction of ARC. Many of the specific projects fall under the domain of local governments. Other recommendations impact areas outside of the region and thus, fall under the jurisdiction of the Georgia Department of Transportation (GDOT).

The key categories of needs identified include:

- Operational Enhancements
- Mitigation of Land Use Conflicts
- Safety Enhancements
- Expansion of Education/Public Awareness
- Adoption of Regional Approaches
- Mitigation of Community and Environmental Impacts
- Expansion of System Capacity

This chapter describes the sketch level screening process used to identify and investigate the various projects and recommendations that are refined for incorporation into the Regional Freight Mobility Action Plan. This task included substantial technical and qualitative evaluations, the results of which are summarized in this chapter.

## *Process for Developing and Screening Recommendations*

The process focused on assessing potential strategies and recommendations targeting system performance, land use conflicts, safety, regional approaches and awareness, community impacts, and regional economic enhancement.

**Developing the Recommendations**

A quantitative and qualitative process was used to develop recommendations, emphasizing stakeholder input. The process focused on identifying general themes or categories of projects supported by specific and representative regionally significant freight mobility needs.. The list of specific projects should not be considered a full inventory of needed improvements.

***Step 1) Initial List***
An initial list of the types of projects and strategies that could improve the movement of goods was identified in interim deliverables including the data collection technical report, land use technical report and the needs assessment report. These recommendations were presented to stakeholder committees for input and feedback. This list focused on specific modes or areas of the goods movement system (e.g., rail, highway, air, land use, warehousing) and the categories of identified needs. A matrix of projects and recommendations was developed based on this information and was provided as an interim deliverable.

***Step 2) Expanded List***
With input from the project partners, including GDOT, FHWA, GRTA, SRTA, local planners and private sector stakeholders, the initial list of the types of needed improvements was expanded to include specific projects and strategies. This resulted in a broad list of potential projects and strategies without regard to financial, engineering or political feasibility.

***Step 3) Refined List***

Using the following initial qualitative screening criteria, the broad list of projects and strategies was refined:

- Does the project or strategy enhance ***regional*** goods movement?
  Does the project or strategy address a direct component of the Regional Freight Priority Highway Network?
  Does the project or strategy address a local concern that can be found regionally?
- Does the project or strategy mitigate negative impacts associated with freight movement?
- Does the project or strategy enhance regional economic competitiveness?

The result is a list of categories of projects and specific projects examples that address institutional and policy, operational and infrastructure based strategies. The project team organized the projects and strategies into 14 categories for improving freight mobility:

1. Mitigation of Interchange Bottlenecks
2. Maintain and Enhance Intermodal Connectors
3. Addition of Mainline Rail Capacity
4. Rail Grade Separations
5. ITS Technologies
6. Management and Operational Strategies
   - Public Sector Operational Techniques to Optimize Freight Travel
     a. Signal timing
     b. Signage
     c. Geometric design
     e. Restrictions in terms of weight or clearance
   - Private Sector Operational Techniques to Optimize Freight Travel
     a. Off-peak operations
     b. Consolidated deliveries
     c. Regional drop yards
7. Preserve Lands for Freight Uses
8. Implement Institutional Changes to Improve Feasibility of Freight Projects of Regional Significance
   a. Public-public coordination
   b. Public-private partnerships
9. Enhance Freight Network Safety
10. Improve Data and Analytical Methods
11. Promote Regional Approaches and Leadership
12. Enhance Public Awareness of Freight Transportation
13. Expand Highway Infrastructure

Exhibit 6.1 summarizes the projects and strategies evaluated in the screening process.

**Exhibit 6.1 Summary of Projects and Strategies Evaluated in the Screening Process**

| Project Category | Program/Project | Specific Project and/or Location of Notable Examples |
|---|---|---|
| ITS technology | Use ITS technology to increase efficiency on Regional Priority Freight Highway Network | • Implement system to distribute GDOT GA Navigator system data out to trucking companies and other private users with truck fleets to improve information flow of accidents and incidents. Develop freight specialists in operations center who manage the core freight system, prepare and implement response plans for maintenance of flow during incidents, coordinate routing with construction, communicate regularly with dispatchers at local truck terminals<br>• Work with other states (TN, FL, KY and OH) to develop a I-75 virtual corridor with a common ITS infrastructure<br>• Coordinate with TMAs, such as Downtown Atlanta, to distribute information to the freight industry on localized transportation congestion expected to be created by special events. |
| Public sector operations | Improve signal timing to ensure adequate for freight mobility with a priority on facilities on the Freight Priority Freight Highway Network | Example projects:<br>• SR34 bypass at US 29<br>• SR154/McCollum Sharpsburg Rd at I-85 Southbound ramps<br>• SR154/McCollum Sharpsburg Rd at Lower Fayetteville Rd<br>• US29 at SR154/McCollum Sharpsburg Rd<br>• Thornton Rd at I-20<br>• Thornton Rd at Maxham Rd<br>• Buford Hwy/I-285<br>• Cobb Parkway |
| | Ensure power lines are high enough to ensure truck clearance or are located underground in urban areas such as downtown Atlanta | • Throughout downtown and residential communities ex.- Northside Dr and Howell Mill Rd |
| | Improve and ensure adequate signage on major freight routes, including non-interstate facilities | • I-85 at Exit 61– need notice of upcoming exit<br>• Regional truck routes (all)<br>• Intermodal terminals (all) |

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| | Enhance freight mobility needs on city commercial streets, including operational strategies such as signal optimization and geometric improvements, where feasible | • Ponce DeLeon Ave.<br>• McGinnis Ferry between Buford Hwy and SR 141 (under construction #FN-233).<br>• Peachtree Street in Buckhead<br>• Chattahoochee Avenue<br>• Huff Road |
| | Develop regional freight system that meets the operating requirements for trucks | • Develop a regional truck route master plan that maps the necessary improvements on the region's priority freight network to bring all routes up to freight operating standards<br>• Develop a trucker's map with designated regional truck subsystem to distribute to regional and national carriers and shippers. |
| | Coordination of construction activities | • Meet with private sector freight stakeholders prior to start of major construction activity to solicit feedback on potential impacts to freight operations and potential mitigation strategies |
| Private sector operations | Implement off-peak and consolidated delivery programs | • Organize pilots of controlled scope to explore and sort out the problems of night deliveries and consolidated daytime deliveries. Exploit leadership of businesses with incentives to get program off the ground. Most peak management initiatives thus far depend on pricing, not on overcoming commercial hurdles. |
| | Regional drop yards | • Establish regionalized drop yards outside of I-285 to reduce the need for truck to travel on I-285. Drop yards could be operated by third parties enabling multiple uses to utilize the facilities, making it more economically feasible. |
| Institutional changes | Financing arrangements | • The projects that will have the greatest impact on freight (and passenger) mobility are large scale mega-projects. Implementation of these projects will require alternatives to financing for both the public and private sector and likely will not occur without institutional change. |
| | Regional approaches | • Employing regional approaches is critical to enhancing freight mobility due to the nature of the movements. Often actions in one local jurisdiction can create ripples of impacts throughout the region. Many of the specific recommendations will require institutional changes to provide incentives for local communities to make decisions that are in the best interest of the region. Given ARC's role in regional decision making, the agency has the framework in place to advance and administer such programs. |

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| | Trucking regulations | • Permitted loads: Implement a pilot program modifying, as necessary, the traveling requirements for permitted loads with respect to escorts and lights so they may travel safely in off-peak/night conditions. Use findings regarding impacts to evaluate decision to permanently modify requirements.<br>• Longer combination vehicles (LCVs): The ability to divert significant truck traffic onto alternative roadways should they be built (i.e., toll roads, regional truck bypass) will hinge on the benefits and costs to the industry. Designing for and allowing LCVs on these new facilities provides benefits to the industry, providing greater incentives for them to divert to these facilities. |
| Safety | Geometric design for safe operations of trucks | • As part of the proposed future Regional Truck Route Master Plan, seek to ensure all Priority Freight Highway Network facilities meet the standards for operations of heavy trucks. |
| | Share the road programs aimed at truck/passenger vehicle interaction | • Educate general public on passenger car/truck safety.<br>• Implement driver education programs in high schools |
| | Truck enforcement | • Increase funding for truck enforcement to increase safety inspections and driver qualification verification. |
| Preservation of existing freight land uses | Reduce land use conflicts in consultation with local governments and freight industry | • Develop "Quick Reference" guide detailing freight-specific building and site requirements for use by local jurisdictions when conducting permitting and site review<br>• Work with GRTA on the development of alternative DRI standards for development along freight intensive corridors and/or areas<br>• Encourage zoning policy in key freight corridors that allowing landowners to hold land for future freight uses by reducing the associated costs. For example, a Warehousing and Distribution zone has been implemented in parts of Chicago and Orlando.<br>• Use the LCI process to encourage local communities to implement freight supportive land use guidelines |

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| | Identify and preserve specific areas in the region that can serve as Integrated Regional Logistics Centers. | • Modernizing Fulton Industrial Park, which has superb highway access but could benefit from public sector action to spur preparation of adequate land parcels and infrastructure.<br>• Continue planning work that may preserve Fort Gillem military base in Forest Park, now slated for closure. This is a rail-served property near I-285 and I-675 in the city's truck terminal district that could be redeveloped for industry<br>• Both CSX and NS have expressed the imminent need for future rail yards in the Atlanta region. Work with rail companies to identify desired sites for future rail yards (addressing both public and private sector needs) based on the availability of supporting transportation infrastructure (existing or planned) and work with the railroads to preserve those sites. |
| Improve data and analysis | Enhance ARC's freight data collection and truck model | • Incorporate data and tools obtained through the ARFMP into the ARC truck modeling process.<br>• Work with Federal Highway Administration (FHWA) and American Trucking Research Institute (ATRI) to determine benchmarks of travel time reliability. Partner with trucking companies to track vehicles and establish priority corridors. Use an academic partner as intermediary to protect confidentiality. |
| Regional leadership | Engage elected officials and high ranking local policymakers in regional freight planning discussions and efforts | • Conduct a peer to peer exchange with regional leaders from other regions experiencing freight planning challenges, such as Chicago and Dallas.<br>• Have annual executive freight forum that brings together the region's elected leaders with private sector freight stakeholders to discuss freight challenges and opportunities. |
| | Provide training and assistance to local planners and neighborhood groups | • Conduct workshops with local neighborhood groups and policymakers on land use co-existence strategies. Provide freight expertise and planning elements to counties and local communities for the Comprehensive Transportation Plan (CTP) and other related processes. Specifically, the City of Atlanta is interested in participating in this process as it undertakes its first CTP. ARC should work with the city to provide support during the public involvement task by providing presentation materials, potential speakers and contacts for the private sector. |

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| Public awareness | Educate the public on benefits of freight | • Distribute the one page county economic fact sheets developed as part of the study to local public officials, chambers of commerce and neighborhood groups.<br>• Prepare freight education package for local neighborhood groups summarizing the benefits of freight as well as mitigation strategies for addressing negative community impacts. |
| | Education / penetration into the households. "Discussing freight around the kitchen table." | Partner with academia, public school systems and private industry to promote topic. Develop programs for elementary, middle and high school students including providing printed material on role and benefits of freight, how freight "works" and classroom speakers. |
| Interchange bottlenecks | Address interchange congestion via redesign, widening, separation | Key Interchanges for freight<br>• I-285 and I-85 (Spaghetti junction)<br>• I-285 and I-75<br>• I-20 and I-285<br>• I-675 and I-75<br>• Peachtree Industrial and I-285<br>• Pleasant Hill and I-85<br>• Jimmy Carter Blvd and I-85 |
| Intermodal connectors | Ensure intermodal connectors have proper roadway geometry and signaling | • Boulevard to Hulsey Yard<br>• Bolton Rd/Marietta Rd to Tilford and Inman Yards<br>• Chattahoochee to Howell Yard<br>• Bolton Rd/Parrot Ave to Chattahoochee Colonial Pipeline truck terminal |
| Mainline rail capacity | Add mainline rail capacity | • Double track mainlines from Atlanta to Chattanooga<br>• Examine feasibility of high speed double stack corridor from Savannah-Atlanta-Memphis |

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| Grade crossings | Reduce at-grade crossings, or mitigate adverse impacts, through strategies such as grade separation, closing, or improved geometrics for facilities on the Regional Priority Freight Highway Network | • Priority on eliminating at-grade crossings along single track mainlines<br>• Second priority on eliminating at-grade crossings that cut off access to emergency facilities such as those through downtown areas<br>• Counties with at-grade crossings that have highest AADT and trains include Fulton and Gwinnett – priority crossings to address in these counties include<br><br>Norfolk Southern Corp. Murphy<br>Norfolk Southern Corp. Monroe Dr.<br>Norfolk Southern Corp. Simpson<br>CSX Transportation Welcome All Rd.<br>CSX Transportation Old Fairburn Rd.<br>Norfolk Southern Corp. Suwanee Dam Rd.<br>CSX Transportation Harmony Grove Rd.<br>Norfolk Southern Corp. Lawrenceville St. |
| Expand highway infrastructure/ capacity | Add highway capacity and/or reduce demand on regional system, where supported by planning and engineering studies | - Expand truck only lanes on interstate system where demand warrants and in conjunction with establishing a coherent regional system<br>- Develop a regional bypass (potentially outside of the Atlanta region) that integrates land use and access management controls.<br>- Develop a more freight-friendly arterial system by upgrading Priority Freight Highway Network |

**Screening of Potential Strategies**

The objective of the screening process is to identify projects or types of projects that could enhance regional freight mobility and/or mitigate the negative impacts associated with freight movements. The process was applied to specific regional projects, categories of types of local projects with notable examples, and specific non-infrastructure related recommendations and strategies.

The categories of projects were evaluated using criteria based on identified needs. The resulting criteria were vetted with the TAC and the Freight Task Force and include:

1. **Truck Diversion:** How much does the project or strategy shift freight from truck to rail and remove through truck traffic from the region's highway system?
2. **Highway Congestion/Delay:** How much will the project or strategy reduce highway congestion and delay for both passenger and freight movement?

3. **Rail Congestion/Delay:** How much will the project or strategy reduce rail congestion and delay for freight movement?
4. **Travel Time/Reliability:** How much will the project or strategy improve travel time and reliability for both passenger and freight movement?
5. **Freight Trip Times:** How much will the project or strategy improve trip time for freight movement?
6. **Truck Traffic Peak/Off-Peak Shares:** How much will the project or strategy shift the share of truck traffic from peak to off-peak times?
7. **Freight Vehicle Miles of Travel:** How much will the project or strategy reduce regional truck vehicle miles of travel?
8. **Freight Vehicle Hours of Travel:** How much will the project or strategy reduce regional truck vehicle hours of travel?
9. **Safety**: How much does the project or strategy reduce truck crashes and improve pedestrian safety along corridors?
10. **Truck Emissions:** How much will the project or strategy reduce truck emissions?
11. **Community Impacts:** How much will the project or strategy reduce community impacts associated with goods movement along transport corridors and freight intensive areas, including those in dense areas?
12. **Land Use Impacts - Transport Corridors:** How much will the project or strategy reduce land use impacts associated with goods movement along transport corridors?
13. **Land Use Impacts - Intermodal/Warehouse/Distribution Facilities:** How much will the project or strategy reduce land use impacts associated with goods movement between intermodal yards, warehouse and distribution facilities?
14. **Regional Economic Output/Competitiveness:** How much will the project or strategy improve the economic output and competitiveness of the region?
15. **Jobs/Economic Opportunity:** How much will the project or strategy increase the number of jobs and economic opportunity associated with goods movement in the region, , including those immediately in proximity to freight businesses?
16. **Cost:** What is the overall cost of the project or strategy?

This evaluation was completed using available documentation, previous and concurrent studies, stakeholder input and new analyses by the project team. In many cases the evaluations were completed through roundtable-type discussions of available data and information among project team experts. Information and data presented in previous task technical memoranda and the needs assessment served as the primary basis for qualitative evaluations. A summary of the evaluation of the categories, projects and strategies is included in the following pages. The evaluations use a qualitative measurement of project and strategy performance as low, medium or high.

It is understood that the qualitative evaluation methodology employed will not produce results suitable for documenting project-specific feasibility, nor will the qualitative evaluations result in a true cost benefit analysis of various projects or strategies. However, the analysis does provide generalizations about the types of impacts that can be expected from alternative categories of projects.

The results of the qualitative evaluation are meant to offer comparisons between each project and strategy for each specific evaluation criteria and are provided in Exhibit 6.2. Since each project or strategy was evaluated independently, the results of the qualitative evaluation cannot be summed across all categories; thus, the qualitative evaluation will not provide a summary of prioritized projects and strategies based on the aggregate of all criteria. The evaluation does, however, provide insight into the trade-offs of alternative strategies, allowing policy makers to move forward with the projects most in line with their goals and objectives.

**Exhibit 6.2: Summary of Screening Process for Project Categories**

| Project category | Evaluation Criteria | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Truck Diversion | Highway Congestion | Rail Congestion | Travel Time Reliability | Freight Trip Times | Off-peak Shift | Freight Vmt | Freight Vht | Safety | Emissions | Community Impacts | Land Use-corridors | Land Use- Industrial Centers | Economic Competitiveness | Job Opportunities | Project Costs |
| Highway Capacity | ● | ● | ◒ | ◒ | ● | ◒ | ○ | ◒ | ◒ | ○ | ○ | ○ | ○ | ◒ | ○ | ● |
| Interchange Bottlenecks | ○ | ● | ○ | ◒ | ◒ | ○ | ○ | ◒ | ● | ◒ | ○ | ○ | ○ | ○ | ○ | ● |
| Intermodal Connectors | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ◒ | ◒ | ◒ | ○ | ○ | ◒ |
| Mainline Rail Capacity | ● | ◒ | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ◒ | ○ | ● |
| Grade Separation | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ◒ | ○ | ● | ○ | ○ | ○ | ○ | ● |
| ITS Technology | ○ | ○ | ○ | ○ | ◒ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Public Sector Operations | ○ | ○ | ○ | ○ | ◒ | ○ | ○ | ○ | ◒ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Private Sector Operations | ○ | ◒ | ○ | ◒ | ◒ | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Institutional Changes for Regional Projects | ● | ● | ● | ○ | ◒ | ○ | ○ | ◒ | ◒ | ○ | ○ | ● | ● | ● | ◒ | ○ |
| Safety | ○ | ● | ○ | ● | ● | ○ | ○ | ○ | ● | ○ | ○ | ○ | ○ | ◒ | ○ | ◒ |
| Preservation Of Freight Lands | ○ | ◒ | ○ | ○ | ○ | ◒ | ◒ | ◒ | ○ | ◒ | ● | ● | ● | ● | ● | ○ |
| Improve Data And Analysis | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Regional Leadership | ◒ | ◒ | ◒ | ○ | ◒ | ○ | ◒ | ◒ | ◒ | ◒ | ● | ○ | ● | ● | ○ | ○ |
| Public Awareness | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ◒ | ○ | ◒ | ◒ | ◒ | ○ | ○ | ○ |

***Legend:***
- ● High
- ◒ Medium
- ○ Low

# Chapter 7: Freight Mobility Plan Strategies and Recommendations

## *Development of Recommendations*

Chapter 6 discussed the initial list of projects and recommendations as well as the screening process. The current chapter presents the recommendations that resulted from the screening process and Chapter 8 puts forth the implementation plan. The development of recommendations led to three key strategy categories for addressing goods movement and freight mobility in the Atlanta region:

- Institutional and Policy Strategies
- Operational Improvement Strategies
- Infrastructure Strategies

The strategies are not exclusive and one is not more important than the other. Instead, the success of one will depend on the implementation of the other; leading to the need for coordinated and simultaneous implementation.

### Institutional and Policy Strategies

A comprehensive approach to goods movement requires a regional approach to planning, public awareness of the challenges and benefits of freight movement, and a planning process that institutionalizes freight needs. The recommendations address the institutional and policy aspects necessary to promote freight mobility while mitigating negative impacts.

- **Funding**
  - Identify, prioritize, and fund freight projects in the RTP and TIP
- **Planning and Programming**
  - Making freight an integral component of the regional planning and programming processes
  - Project prioritization process that considers freight movement
  - Developing a Regional Freight Improvement Program as part of the TIP
- **Regional Economic Competitiveness**
  - Logistics hub – continuing to maintain the region's role as the logistics hub and it's prominence in the warehouse and distribution sector
  - Air Cargo – continue to expand the region's capacity in air cargo operations
- **Land Use Planning**
  - Preservation of existing freight intensive areas
  - Promote Integrated Logistics Centers/Freight Villages – clustering of freight uses
  - Development and implement freight supportive land use guidelines

  - Incorporate county-level freight needs assessments and strategies into the County Transportation Plan (CTP) program

- **Transportation Planning**
  - Need for foresight in long range transportation and land use planning, and the shared interests of the private and public sector.
  - Support strategies that maximize freight access and mobility on Regional Priority Freight Network (Regional Priority Network + Existing Truck Routes + Intermodal Connectors)
  - Corridor Planning – incorporate freight as a key component of future corridor and sub-area studies and analysis

- **Private sector freight stakeholder involvement in the regional planning process**
  - Continue to support the Regional Freight Mobility Council

- **Regional Management and Operational**
  - Support regional Incident Management Program and initiatives such as the TIME Task Force
  - Invest and implementation ITS strategies that support and benefits freight movement
  - Improve regional access management programs that decrease turning movement conflicts on freight corridors

- **Regional Freight Data Collection Program**
  - Develop a pooled funding between ARC, GDOT, and SRTA for continuous freight data collection
  - Use ITS to collect real time freight data

***Recommendation: Conduct peer exchanges with other comparable regions; provide local government freight-related training and capacity building; and begin feasibility discussions on establishing a multi-state I-75 Coalition***.

Peer exchanges allow knowledge and experiences to be shared among diverse regions and encourage collaboration. A minimum of two peer exchanges should be organized – one for regional leadership and one for staff technical planners. The regional leadership peer exchange should be coordinated with FHWA's Freight Peer to Peer exchange program. A potential format is to set up a peer exchange among elected leaders and key public planning leadership with other major freight distribution regions such as Chicago and Dallas. A second peer exchange format should target staff-level planners and focus on sharing lessons learned as well as keys to success to considering freight in the planning process.

A challenge is the limited exposure of governmental planning staff regarding freight planning principles. It is recommended that ARC continue to train regional transportation planning staff on freight planning basics. Staff that will be charged with managing and overseeing regional plans and studies should have a working knowledge of freight transportation needs and requirements. This can be accomplished by conducting and/or sponsoring required freight planning training sessions and workshops.

Freight movement is multi-jurisdictional in nature, and mitigating bottlenecks often requires multi-jurisdictional approaches. I-75 is a major freight corridor with high volumes of through traffic that crosses several states. Forming a multi-state I-75 coalition assists all the states in addressing common issues and concerns while creating a competitive national trade corridor. It is recommended that GDOT and ARC explore forming such a coalition with neighboring states.

***Recommendation: Establish an on-going freight-related outreach and communications program and encourage development of a "share the road" driver education program.***

Deliverables for this study included county economic freight facts in the form of one page fact sheets for each county. Economic modeling conducted as part of the study demonstrates the economic benefits arising from freight transportation as well as the economic costs of increasing freight transportation costs. This information can be used to inform local policymakers and the general public of the economic role of freight in the region. Public awareness can be increased by working with neighborhood groups. ARC should make resources available to conduct workshops with local neighborhood groups and policymakers on land use co-existence strategies.

Highway safety is a priority concern of both the public and private sector. Evidence suggests that implementing "share the road" education programs that teach safe driving techniques around commercial vehicles has a positive impact on crash rates. ARC assess how local schools providing driver's education programs and the private sector (most notable the Georgia State Motor Carrier Association) can develop educational materials on educating drivers for sharing the road with commercial vehicles.

***Recommendation: Incorporate freight-specific measures into project prioritization procedures***.

It is recommended that ARC further study and discuss with planning partners opportunities to implement the freight performance measures outlined in the Needs Assessment document. Special consideration for existing developed communities must be given to preserve the quality of life in these areas. Solutions for these areas are different than those in suburban areas. Strategies must be tailored for each unique area:

- Improving geometrics and operations on Regional Priority Freight Highway Network
- Improving operations of an intermodal connector
- Improving facilities providing access to a key freight generators
- Reducing at-grade rail crossings
- Reducing commercial vehicle and passenger vehicle interaction
- Reducing truck idling and emissions

**Operational Improvement Strategies**

During the Executive Freight Forum, managers from leading regional shippers and freight companies suggested that 50% of funding for freight-supportive projects should be spent on

operational solutions. Operational improvements represent a critical element of the freight mobility strategy by making it is possible to get more use out of the existing regional infrastructure by increasing system efficiency. This strategy is important considering the financial constraints facing the region, with operational improvements being relatively lower cost with shorter implementation timeframes. Operational strategies are divided into two primary categories – public sector improvements and private sector initiatives.

***Public Sector Operational Recommendations***

Public sector operational recommendations are focused around five themes: signal timing, signage, geometric design, weight or clearance restrictions, and land use conflicts. It is recommended that the public sector operational improvements be targeted to priority freight corridors.

***Recommendation: Establish a Freight Corridor Traffic Signalization Improvement Program to improve signal timing and support efficient freight movement along the priority freight corridors.***

Problems with signal timing along regional freight routes as commonly identified as an operational issue during interviews with regional private sector carriers and shippers. These traffic flow problems arise from inadequate timing on signal cycles and lack of synchronization of signals along corridors. Because trucks have longer acceleration and deceleration times, many corridors experience increased travel times, idling and blocked intersections. These travel conditions create inefficiencies not only to trucks but also passenger vehicles as well.

Routes that are part of the Regional Priority Freight Highway Network should be reassessed to determine adequate traffic flow and signal optimization. Stakeholder interviews did identify several areas in the region that warrant special attention, receiving multiple listings as problem locations (not in priority order):

- Buford Highway Corridor (DeKalb, Gwinnett)
- Cobb Parkway Corridor (Cobb County)
- SR 154/McCollum Sharpsburg Road at I-85 Southbound ramps (Coweta County)
- SR 154/McCollum Sharpsburg Road at Lower Fayetteville Road (Coweta County)
- SR 34 Bypass at US 29 (Coweta County)
- Thornton Road/SR 6 (Paulding, Cobb, Douglas, Fulton)
- Thornton Road/SR 6 at Maxham Road (Cobb County)
- US 29 at SR 154/McCollum Sharpsburg Road (Coweta County)

***Recommendation: Prepare a Regional Truck Route Plan and Identify Freight Districts Signage Improvements***

Truck routing strategies and restrictions in place for regional jurisdictions vary. Some cities and counties have an extensive truck route system which others have limited guidance to the trucking industry on preferred routing. It is recommended that a Regional Truck Route Plan be pursued as a follow-up to the Atlanta Regional Freight Mobility Plan. Benefits from the study

would include consistent routing plans across regional corridors while providing a tool to inform transportation providers of regional truck routes and restrictions.

Many truck drivers on are not from the region and, given the turnover rate in the industry, a number are first-time visitors. Drivers unfamiliar with the region depend on signage to direct them to designated truck routes and pick-up and deliveries. Insufficient or ineffective signage leads to time delays for drivers and increases VMT and VHT as drivers search for destinations. Several areas were repeatedly noted by truck drivers as confusing and difficult to travel to within the region and should receive special attention for improved signage:

- Inman Yard improved signage from I-285 (City of Atlanta)
- Hulsey Yard improved signage from I-20 (City of Atlanta)
- Huff Road area improved signage from interstates (City of Atlanta)
- DeKalb County Farmer's Market area improved signage from I-285 (DeKalb)

***Recommendation: Upgrade Regional Priority Freight Highway Network routes, where needed, to meet minimum geometric and weight requirements to support freight movement needs***

A major challenge is the substandard geometric conditions on many critical freight routes as identified by regional drivers and carriers. The issues most commonly noted were insufficient turning radii at intersections and inadequate acceleration and merging lanes at exits and interchanges. Many complex interchanges require significant attention be given to truck traffic when designing facilities. Many of the region's interstate-to-interstate interchanges have been rebuilt and reconstructing these complex interchanges will be costly as well as complex due to the need to maintain traffic flow during construction periods. Improvements should be designed in manner to accommodate freight traffic. Other operational improvements could involve the control of access rights at the interchanges.

***Recommendation: Implement a Georgia Navigator Freight-User Communications Program encouraging increased use of incident-related information by private-sector freight dispatchers.***

Increasing the use of the Georgia Navigator system information outputs has wide appeal among public and private sector stakeholders. Better utilization of Georgia Navigator incident-related information by the private sector is a tremendous opportunity. A program is recommended to be pursued that encourages information sharing with dispatchers for freight carriers and shippers. These contacts would share information on crashes, construction and general congestion for dispatchers to pass on to truck drivers the Navigator website. Centralizing communication through dispatchers increases system efficiency and effectiveness.

***Recommendation: Encourage discussions at the Land Use Coordinating Committee (LUCC) to lead discussions identifying opportunities to preserve important freight-related corridors and districts.***

On-going discussions can occur at the LUCC regarding areas in the region experiencing conflicting land uses that threaten the long-term viability of freight-dependent areas. Areas

already experiencing industrial growth that need to be protected include the I-85 north corridor to Braselton and Jackson County (approximately 75 miles Northeast of Atlanta), I-75 around McDonough, and the general area in the southern part of the region bounded by I-85 south, I-75 south, I-285 and SR 16 (an area that allows distribution centers to efficiently serve Florida). Other expected freight-related growth areas include the I-85 south / I-285 interchange area; the area between I-285 and I-20 (an area that has good access to three rail yards), and the I-75 south corridor to Macon. There are several areas positioned for redevelopment that can support freight-related developments. These areas include the Fulton Industrial Boulevard area and the Fort Gillem redevelopment in Forest Park. Both areas are rail-served with ready access to the regional interstate network.

***Recommendation: Prepare Model Freight-Related Land Use Guidelines and Site Design Standards***

Workshops and interview results indicate that local governments experience challenges during the review of land use review applications, including site plan review. Many study participants indicate that having a model reference to refer to during these land use reviews would assist local governments in providing better service by understanding freight design needs and allow flexibility in making recommendations.

Using input from the regional freight task force, ARC should develop a "Quick Reference Card" or Model Freight-Related Land Use Guidelines and Site Design Standards for building and site design specifications necessary to ensure efficient freight operations. These recommendations can be implemented in the planning review process and program evaluation processes.

### *Private Sector Operational Improvements*

Many private businesses are modifying their operations in response to increasing congestion. Two such practices include the movement of operations to off-peak and the use of consolidation centers.

***Recommendation: Implement an Off-Peak Delivery Pilot Program promoting off-peak deliveries in key commercial areas.***

Building on the success of similar programs during the 1996 Olympics, a pilot program with adequate incentives, should be implemented to encourage off-peak deliveries. Close coordination should occur with ARC's TDM division to identify TMAs or CIDs willing to participate in and help lead the program. Upon completion of a pilot program, the effectiveness and usefulness of strategies can be assessed and potentially applied to other areas.

Business districts and corridors served by relatively narrow commercial streets should be given priority consideration:

- Ponce De Leon Avenue
- McGinnis Ferry Road between Buford Highway and SR 141
- Peachtree Street in Buckhead

- Huff Road
- Downtown Atlanta area
- Marietta Blvd/Bolton Road area

Off-peak operations can be implemented to mitigate general congestion along busy commercial corridors and at intermodal facilities. These programs require the cooperation of the public and private sectors as well as the neighborhood groups. Barriers to the use of off-peak deliveries include costs to the private sector, night time noise, and security concerns. However, there is precedent for this happening in Atlanta and one suggestion is to start with an extended pilot program in one or two commercial areas to allow the assessment of associated costs and benefits.

**Infrastructure Strategies**

Large-scale infrastructure improvements, such as expanding roadways or rail lines, were often among the first recommendations provided by study participants when providing suggestions to address freight mobility and congestion. These projects are typically the most complex, take the most time, and are the most costly. Large-scale infrastructure recommendations require careful thought and consideration as to how improvements relate to the overall transportation network and support regional planning goals and objectives – including regional policies. Infrastructure strategies focus on four categories:

- Interchanges
- Rail crossings
- Intermodal connectors
- Highway and rail capacity

Exhibit 7.1 summarizes the recommended projects of regional significance and is followed by a discussion of the recommended projects.

# Exhibit 7.1
# Infrastructure Strategies (IS) - Order Does not Denote Priority

| Name | Description | Cost |
|---|---|---|
| I-75 / I-575 Interchange Improvements | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements | included as part of overall managed lanes project |
| I-75 North / I-285 / Windy Hill Road Interchange Improvements, other I-75 North Corridor Improvements in Cobb, Cherokee, and Bartow | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements. Add capacity and reconstruct interchanges. Corridor under review as part of EIS. | TBD |
| I-20 West / I-285 Interchange Improvements (Fulton) | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements | $ 98,000,000 |
| I-85 North and GA 400 Interchange Improvements - New Directional Ramps and Widening Viaduct | The lack of directional ramps from I-85 South to SR 400 and from SR 400 to I-85 North creates significant peak period congestions on area surface roadways such as Sidney Marcus and Buford Highway. This project addresses a major freight movement bottleneck for traffic accessing the Buckhead and Perimeter Center activity centers. | $ 50,000,000 |
| Bolton Road Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Bolton Road from I-285 to Marietta Street. Provides access to the Tilford and Inman Yard Rail Terminals. 2.1 miles. | $ 21,000,000 |
| SR 280/SR 5/South Cobb Drive Corridor Improvements | SR 280/SR 5 accommodates significant freight movement and experiences peak period delays. Capacity and operational upgrades are needed from US 41 to I-285 and to Bolton Road | $ 85,000,000 |

| | | |
|---|---|---|
| I-85 South Corridor Improvements in Fulton and Coweta Counties | I-85 South Corridor forecast to have rapid freight industry growth. Reconstruct interchanges at SR 74 and SR 138 and construct new interchanges at Poplar Road and Amlajack Boulevard. Assess potential of new interchange at Gullet Road and I-85 in south Fulton County. | $ 96,000,000 |
| I-20 East Corridor Improvements in DeKalb and Rockdale Counties | Extensive freight movement route providing access to Augusta and the Carolinas. Significant freight congestion at I-285 interchange. Add capacity between Columbia Drive and Evans Mill Road; reconstruct interchanges at Panola and SR 138; improve ITS capabilities along corridor. | $ 258,000,000 |
| I-20 East / I-285 Interchange Improvements (DeKalb) | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements | $ 81,000,000 |
| US 78 / Stone Mountain Highway Improvements | US 78 supports significant freight movement between the Athens and Atlanta region. Grade separate US 78/ SR 124 intersection; interparcel access at in corridor, including at Highpoint Road and Park Place North; construct access road from Rockbridge Road to Davis Road. | $ 54,000,000 |
| SR 316 grade-separations at SR 20 and Collins Hill Road | SR 20 and Collins Hill Road provide access to industrial and distribution areas in Lawrenceville and these locations experience severe congestion. | $ 25,000,000 |
| I-75/I-675 Interchange Improvement | This location experiences significant delays during peak travel periods, creating a major bottleneck for interstate traffic traveling on I-75. Project will include Auxiliary Lanes from I-75/I-675 On-Ramp to Eagles Landing Parkway. This interchange was repeatedly identified as a major freight bottleneck in interviews among regional trucking companies. | $ 10,000,000 |
| Atlanta to Chattanooga Rail Line Double Tracking | Critical bottleneck in regional rail network that is needed to support freight strategies. Expands the capacity of this heavily utilized rail line. Project also improves existing at-grade crossings. 113 miles. | $ 452,000,000 |

| | | |
|---|---|---|
| Atlanta to Macon Rail Line Double Tracking | Critical corridor in regional rail network that is needed to support freight strategies, including addressing long-term capacity needs for Port of Savannah. Project also improves existing at-grade crossings. 94 miles. | $ 376,000,000 |
| Atlanta Howell Junction Improvements | *Further study required to evaluate the engineering feasibility of the project.* Improve Wye interlocking bottleneck at the intersection of the N-S and CSX rail lines. | TBD |
| Boulevard Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Boulevard from I-20 to Hulsey Yard entrance. Provides access to the Intermodal Hulsey Truck/Rail Terminal. 0.5 miles. | $ 3,000,000 |
| Buford Highway / SR 13 Corridor Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Buford Highway / SR 13 from Lindbergh to SR 120. Additional information in Buford Highway Multimodal Corridor Study. | $ 45,000,000 |
| Chattahoochee Avenue Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Chattahoochee Avenue from Marietta Street to Howell Mill Road. Provides access to the Tilford and Inman Yard Rail Terminals. 1.7 miles. | $ 8,500,000 |
| CSX Transportation/Harmony Grove Rd. | Improve grade-crossing geometrics | $ 2,000,000 |
| CSX Transportation/Old Fairburn Rd. | Improve grade-crossing geometrics | $ 2,000,000 |
| CSX Transportation/Welcome All Rd. | Improve grade-crossing geometrics | $ 2,000,000 |
| Doublestack corridor from Port of Savannah to Memphis, TN | Improve freight movement along rail line forecast to experience significant growth. | TBD |
| I-20 West Corridor Improvements in Fulton, Cobb, Douglas Counties | Including operational improvements at SR 6 interchange. Recommendations detailed in the Southern Regional Accessibility Study. | $ 10,000,000 |
| I-285 / LaVista Road Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project.* This interchange was repeatedly identified as a major freight bottleneck | $ 25,000,000 |

| | | |
|---|---|---|
| I-285 / Peachtree Industrial Blvd Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project.* This interchange was repeatedly identified as a major freight bottleneck | $ 25,000,000 |
| I-285 Upgrade Improvements | I-285 functions as the region's bypass for freight traffic without destinations in the central city. Potential improvements include capacity upgrades, ITS, interchange reconstructions. Corridor under evaluation in the I-285 Strategic Implementation Plan and revive285 studies. | TBD |
| I-75 South Corridor Improvements | I-75 experiences significant freight movement challenges accommodating southeastern truck traffic between the Midwest and Florida markets. Increase mainline capacity between I-675 and SR 16 and reconstruct interchanges where needed as defined in the Envision6 RTP. | $ 400,000,000 |
| I-85 North and SR 140/Jimmy Carter Blvd Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project.* This interchange was repeatedly identified as a major freight bottleneck for traffic accessing warehousing and distribution areas north of I-85 and as an alternative route to the Mountain Industrial Blvd. area. Expanding turning lanes for on-off ramps and adjusting access points for local roadways will improve traffic flow and improve safety. | $ 35,000,000 |
| I-85 North at I-285 Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project - Revive 285 project underway.* A significant amount of existing truck congestion is created from merging to an from I-285. Corridor under evaluation in the I-285 Strategic Implementation Plan and revive285 studies. | TBD |
| Marietta Road Operational Improvements | Make operational improvements (intersection improvements, upgrade existing lane widths, improve signals) ) on Marietta Road from Bolton Road to West Marietta Street. Bicycle and pedestrian project planned (AT-AR-BP303). Provides access to the Tilford and Inman Yard Rail Terminals. 3 miles. | $ 15,000,000 |

| | | |
|---|---|---|
| Norfolk Southern Corp./Lawrenceville St. | Improve grade-crossing geometrics | $ 2,000,000 |
| Norfolk Southern Corp./Monroe Dr. | Improve grade-crossing geometrics | $ 2,000,000 |
| Norfolk Southern Corp./Murphy | Improve grade-crossing geometrics | $ 2,000,000 |
| Norfolk Southern Corp./Simpson | Improve grade-crossing geometrics | $ 2,000,000 |
| Norfolk Southern Corp./Suwanee Dam Rd. | Improve grade-crossing geometrics | $ 2,000,000 |
| Parrott Avenue Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve geometrics) on Parrott Avenue at throughout corridor connecting at Bolton Road . Provides access to Chattahoochee Colonial Pipeline Truck/Pipeline Terminal. 1 mile. | $ 5,000,000 |
| SR 16 Corridor Improvements in Spalding County, Fayette, and Coweta Counties | SR 16 is the southern most east-west route in the region and holds the opportunity to divert truck traffic from I-85 to I-75. Widen SR 16 from 2-4 lanes between SR 16 Extension and Griffin South Bypass; Widen SR 16 from 2-4 lanes between US 29 and Poplar Rd (Limited Access); bypasses around Turin, Sharpsburg, Senoia. Recommendations detailed in the Southern Regional Accessibility Study. | $ 293,000,000 |
| SR 6 / Thornton Road Corridor improvements | Implement recommendations from SR 6 Corridor Study. Including truck friendly lanes from SR 81 (Paulding) to I-85 South (Fulton); widen Sweetwater/Hiram Lithia Springs Road from 2 to 4 lanes US 278/78 to Pearson Road; New 4 lane corridor extending Hiram-Lithia Springs Road from Pearson Road to SR 6; Widen Lee and Sweetwater Road from 4 to 6 lanes from I-20 to US 278/78. | $ 146,000,000 |

***Interchanges***

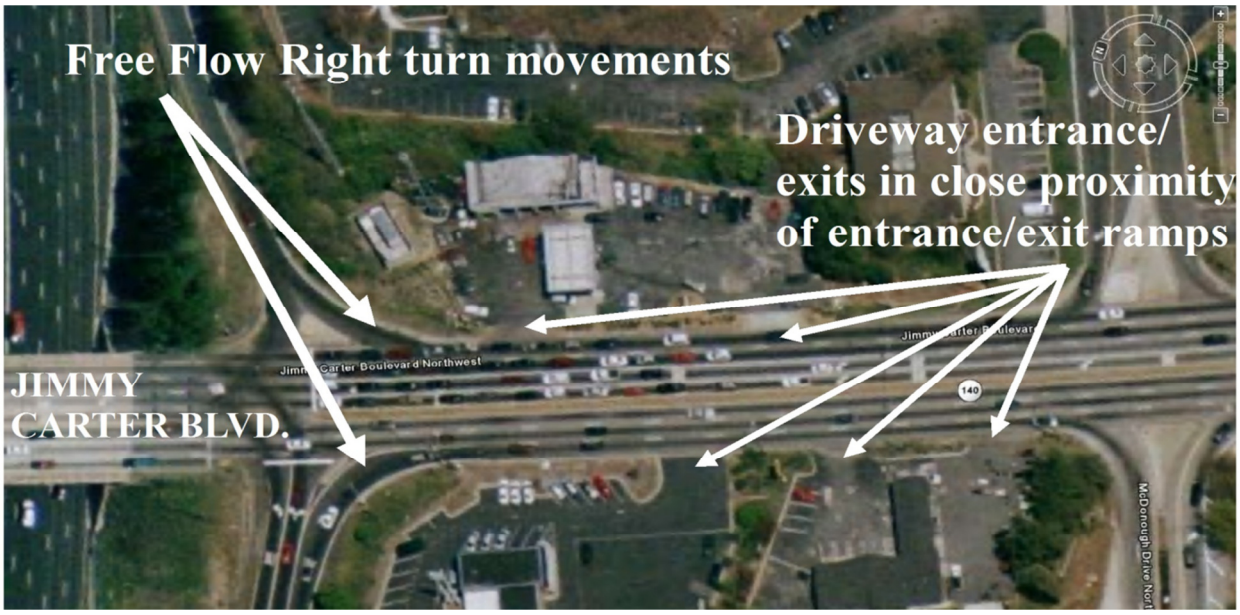
Many interchanges and intersections are significant bottlenecks and safety concerns. Mitigation of these bottlenecks provides benefits in terms of increased efficiency and safety and supports emission reductions.

***Recommendation: Enhance bottleneck interchanges on the Regional Freight Priority Network through redesign, operational improvements, and capacity expansions such grade-separations.***

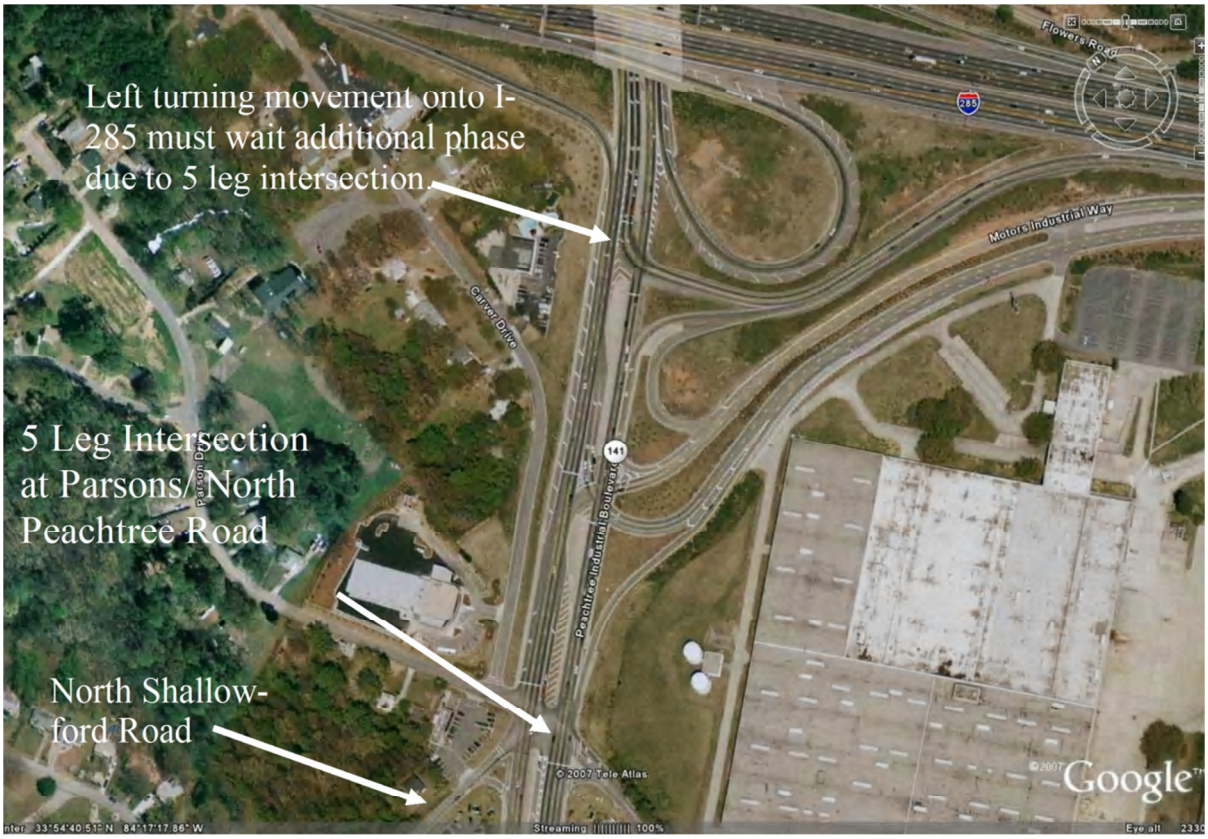
The Needs Assessment document identifies several key interchange bottlenecks for freight movements:

- I-285 and I-85 (DeKalb)
- I-285 and I-75 (Cobb)
- I-20 and I-285 (DeKalb, Fulton)
- I-75 and I-575 (Cobb)
- I-675 and I-75 (Henry)
- Peachtree Industrial Blvd. and I-285 (DeKalb)
- Pleasant Hill Road and I-85 (Gwinnett) – Interchange Justification Report underway
- Jimmy Carter Blvd and I-85 (Gwinnett) – Interchange Justification Report underway

These interchanges are complex and re-design is extraordinarily expensive and would be long-term investments. However, in some instances they can be improved by addressing access and management and operational strategies such as signal timing. Several interchanges have businesses with driveway entrances located too close in proximity to exit lanes and free flow right turning movements. These driveways present weaving obstacles and could potentially increase operational efficiency if the driveway entrances were to be closed or moved. This may involve the potential purchase of the business and the parcel as some driveways cannot be re-located. The interchange of Jimmy Carter Boulevard and I-85 is an example of multiple access points conflicting with free flow turning movements and access to the interstate.




At some locations, the entire corridor area must be examined as a whole. Peachtree Industrial Boulevard at I-285 is one such example. Traffic currently backs up getting on I-285 from southbound Peachtree Industrial Boulevard. Southbound travelers turning left have a considerable wait time due to a five legged intersection at Peachtree Industrial and Parson/North Peachtree Road. Due to its configuration, there is an additional phase required for the fifth leg. This extra phase causes travelers waiting to turn left onto I-285 to wait for the cycles to finish before a left turn arrow is allowed. A potential improvement is closing one leg of the five leg intersection. Closing access of North Shallowford Road at Peachtree Industrial would reduce wait times at both intersections. Motorists could gain access to North Shallowford from N. Peachtree.




***Rail Crossings***

The over 1,600 at-grade rail crossings in the 20-county study region lead to excessive traffic delays, safety concerns and create significant community impacts. While a few of the major at-grade crossings are currently being addressed through on-going or planned improvements, additional work toward closing and consolidating crossings is needed.

***Recommendation: Work with governments and the private sector to mitigate issues associated with crossings including reducing the number of at-grade crossings. This includes grade separation and crossing, consolidation.***

Minimizing the number of crossings is the optimal way of addressing at-grade crossings and should be employed when possible. However, elimination is not always feasible. In those circumstances and as a shorter term mitigation strategy when closing may be a long term alternative, enhancing the safety at rail crossings should be a priority. This can be accomplished via gate systems and signaling devices.

***Intermodal Connectors***

Intermodal connectors are often referred to as the last mile, indicating the critical role they play in impacting the efficiency of freight movement. These connectors often carry significant volumes of trucks and thus, inefficiencies in these facilities can give rise to notable bottlenecks.

***Recommendation: Develop truck friendly lanes on intermodal connectors for key freight generators throughout the region.***

Many of the intermodal connectors in the region suffer from increased congestion as a result of an influx of residential housing and passenger vehicles in close proximity of the intermodal facilities. .Developing a truck friendly lane in each direction consisting of a 12 to 13 foot lane with freight friendly geometrics would promote freight mobility and enhance safety of operations for both trucks and passenger vehicles. Priority connectors as identified by private sector stakeholders should include:

- Boulevard to Hulsey Yard
- Bolton Rd/Marietta Rd to Tilford and Inman Yards
- Chattahoochee to Howell Yard
- Bolton Rd/Parrot Ave to Chattahoochee Colonial Pipeline truck terminal
- SR 6 to Austell Intermodal Yard

***Highway Infrastructure Investment Strategies***

As summarized in the needs assessment, future highway and rail system performance will deteriorate if the forecasted growth in freight occurs while maintaining current investment levels. When the existing system performance is reviewed, it is clear that the existing system performs at constrained levels under significant daily and peak hour congestion. If current investment levels are maintained, any additional growth in highway and rail volumes will result in further degraded system performance as well as the associated environmental and community impacts. Although the policy and operational recommendations represent necessary elements for addressing freight in the region, they are not enough to accommodate the projected growth in freight activity in the region.

Based on the freight forecast, even if the significant growth in through cargo is offset through diversion to outside the region (i.e., due to increasing transportation inefficiencies as opposed to investment in diversion strategies), there will be growth in the freight moving in the region and associated growth in volumes on the rail and highway system resulting from growth in regional demand for goods. In conclusion, a baseline scenario assuming current investment levels and the unconstrained forecast in freight flows will result in negative impacts to both system performance and the region's environment and communities.

To address the need for additional capacity, there are three potential capacity investment strategies:

Investment in Truck Only Lanes (TOL) - TOLs beyond Envision6 RTP investments and GDOT's Statewide Truck –only-Lane Feasibility Study recommendations as well as other potential new corridors.
Investment in Diversion Strategies – Regional freight by-pass and rail diversion strategies
Investment in Priority Freight Highway Network - Developing a truck arterial grid system by upgrading routes on the Regional Freight Priority Highway Network to meet truck operating needs

The *Envision6* RTP represent the current investment levels and the potential recommendations represent additional investment. Because it is beyond the scope of the current study to assess the feasibility of these alternative investment strategies, the focus of the current analysis is to address questions of priorities in terms of the types of the improvements as opposed to facility specific projects improvements themselves. The evaluation provides information regarding the support for and the potential trade-offs of alternative investment strategies. In realty, it is likely that a combination of the different investment strategies will be most effective.

***Recommendation: Invest in expanding the region's highway system through the most feasible combination of a regional bypass system, truck only lanes and enhancements to the region's Priority Freight Highway Network. .***

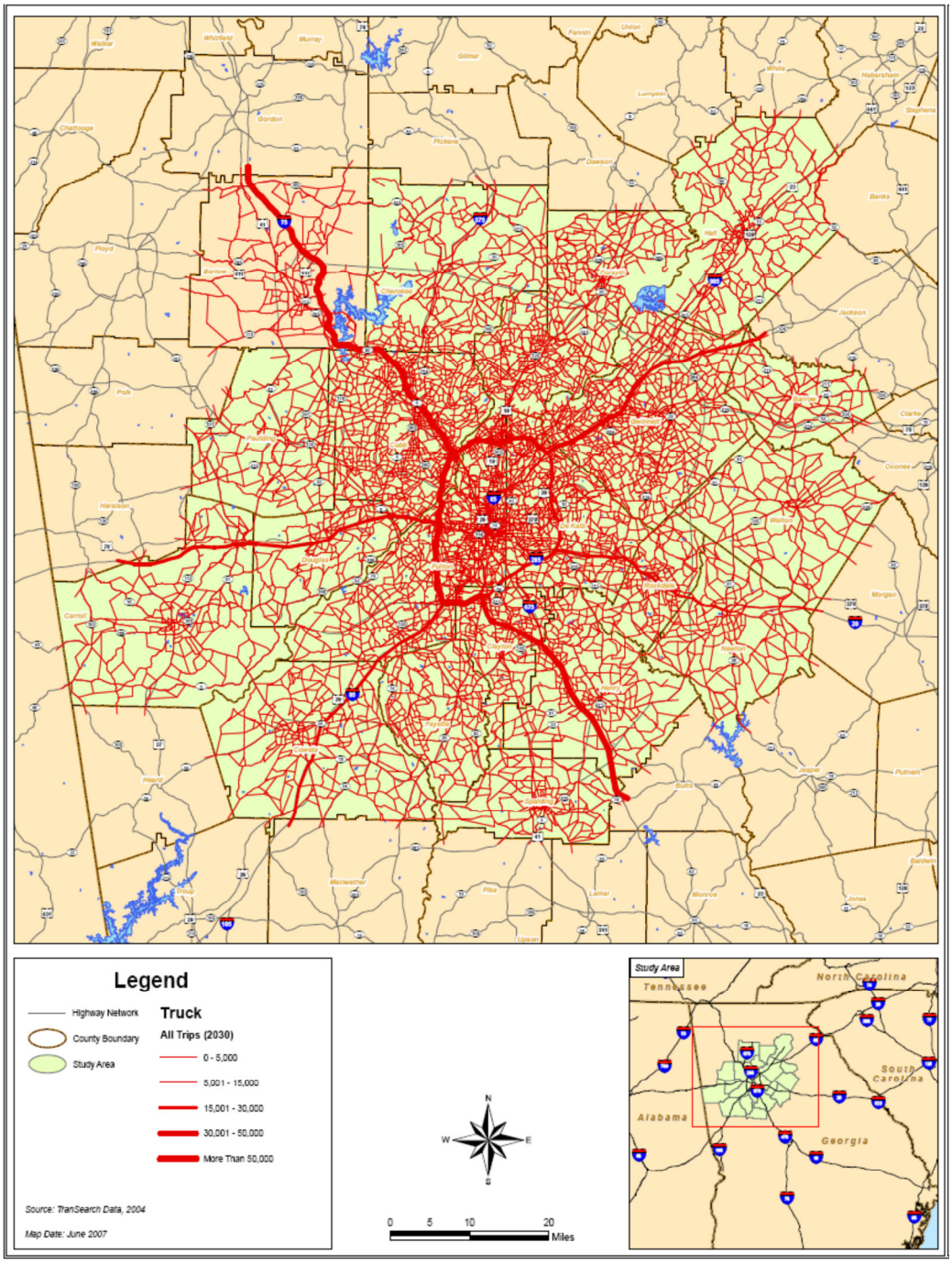
Regional freight bypass/diversion strategies - A common theme during stakeholder interviews was the potential capacity that could be freed by diverting through traffic, without destinations in the Atlanta region, away from the regional freight system. Initial assessment of the impact of diverting through traffic suggests that this strategy potentially has significant impact on the regional system. As documented in the data collection technical report and needs assessment, nearly 40 percent of the freight tonnage traveling in the region has neither an origin nor destination in the region. This translates into over 84,000 average annual daily trucks on the regional system in 2030.

Several potential options exist in creating a freight by-pass. A freight by-pass could be created by upgrading existing routes, such as state routes. A new alignment may also be potentially developed. However, existing right-of-way and environmental constraints limit the feasibility of constructing new alignments in most areas within the planning region. Freight diversion strategies may be supported by the several new interstate corridors that are under consideration in the southeastern United States.

Stakeholder interviews combined with data analysis suggest that the northeast (I-85 to I-75) and northwest (I-75 to I-20) portions of the region may be most positively impacted by a freight bypass/diversion strategy with the southwestern portion (I-20 to I-75) of the region being second priority. The southeastern portion of the region demonstrates the least amount of demand and should be considered a lower priority.

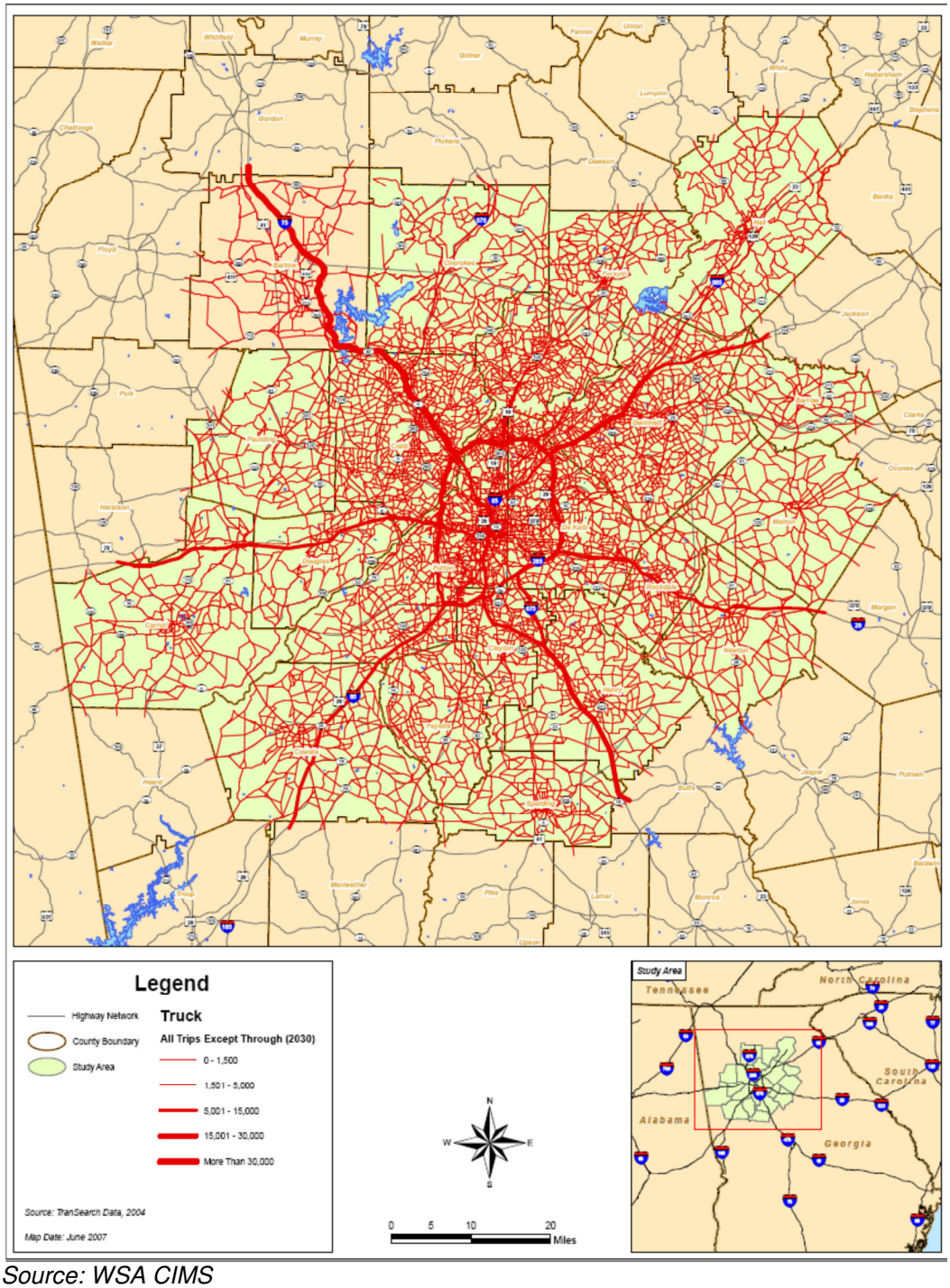
Exhibits 7.2 and 7.3 display truck volumes on the region's freight network assuming no diversion of through traffic and assuming all through truck traffic is diverted to an alternative facility. While this exercise does not provide definitive analysis on the benefits of removing all through traffic, it does demonstrate that doing so could have significant impacts on the overall demand on the region's priority freight subsystem. The examination suggests that diverting through trucks away from the region's existing interstate system would lead to a reduction of, on average, approximately 20,000 trucks daily from the I-75 corridor alone.

**Exhibit 7.2: Projected 2030 Truck Volumes, All Traffic**




*Source: WSA CIMS*

**Exhibit 7.3: Truck Volumes with Diversion of all Through Trucks, 2030**




*Source: WSA CIMS*

Private sector stakeholders routinely noted the need to remove from regional interstates freight not needing direct access to the region. A popular option among public sector stakeholders, as well as the general public comments received, was the possibility of diverting truck traffic to the rail system. However, any significant diversion from truck to rail would require substantial investment in the rail system as well as changes in rail services.

Regardless of how the diversion of through traffic is accomplished, sketch level analysis indicates significant potential benefits in terms of congestion relief through the diversion of through truck traffic; thus, a more in-depth analysis of the most feasible alternative to accommodate through traffic is required.

Truck only lanes – There are numerous recent and on-going initiatives with regards to regional truck only facilities including a statewide assessment of truck lane feasibility being led by GDOT. In addition, some truck lane facilities along I-75 are included in the *Envision6* RTP. This study recommends the inclusion of truck lanes along existing facilities but to also include the examination of new corridors and locations. An examination of truck volumes indicates that truck lanes may be justified on some but not all interstates. Any future truck lanes project should only be pursued if it leads to a coherent truck lanes system.

The current private proposals in the region (as well as nationally) hinge on the tolling of truck facilities based on the potential for productivity and time saving benefits accruing to the trucking industry. However, a recent study completed by WSA for USDOT, Office of the Secretary suggests that that the majority of the user benefits accrue as a result of the safety benefits. In addition, a majority of the total travel time and vehicle operating cost savings accrues to traffic remaining on the general purpose lanes. This finding indicates that it may be more efficient to develop tolled passenger only lanes to complement the general purpose lanes. The economics of truck only lanes can change significantly if the lanes provide for the use of longer-combination vehicles (LCVs) and adequate parking facilities with auxiliary services that help mitigate the hours of service regulations. In-depth analysis of these issues specific to the Atlanta region is necessary to make a definitive assessment of how these general findings may impact the effectiveness of truck only lanes in the Atlanta region.

Investment in the Region's Priority Freight Highway Network – Investing in the routes deemed to be significant to facilitate efficient freight movement will improve the grid system consisting of key routes. Facilities identified as part of the priority freight highway network in Exhibit 7.4 should be a minimum of two-lane with sufficient passing lanes and freight friendly geometrics. In addition, since some of these facilities pass through downtowns, bypasses around these locations are desirable when supported by regional development strategies. Developing "freight friendly" lanes, or lanes that are 12 to 13 feet wide with truck appropriate geometrics, along these routes is recommended.

**Exhibit 7.4: Regional Priority Freight Highway Network**

### *Rail Capacity Investments*

As noted in the Needs Assessment Report, both of the Class 1 Railroads operating in the region are facing capacity constraints for accommodating future growth on key corridors. In addition to accommodating growth, there is a desire among regional leaders to promote the diversion of truck traffic to rail at the same time there is an increasing desire to develop commuter rail service in the region and support implementation of the Beltline, all of which is likely to require public investment in the private sector rail infrastructure. While the costs of rail infrastructure varies significantly depending on the specifications such as speed capabilities, grade separation and terrain, estimates from recent planning documents for rail capacity in Texas, California and Virginia range from about $11 million to $28 million per mile for single track. Because of the fixed nature of the asset, freight railroads will take on these investments selectively and with primary regard for private benefits, in the absence of some public sector incentive.

A sense of the size of the traffic opportunity is given by the pair of tables in Exhibit 7.5, which compare the ARC market to the nation for the commodities most highly contested between truck and intermodal rail transport: dry goods that can move in van trailers or containers. The tables consider the distance and density of intercity traffic lanes, because those two factors have a pronounced effect on the economic competitiveness of rail. They show that the ARC region is a well-developed intermodal market with rail share above the national average, in part because it has a greater proportion of long distance, high density lanes. More particularly, they show the region has a greater proportion of medium and high density lanes in the 300 to 1,000 mile range where intermodal is doing exceptionally well, with market share more than triple the national average. There is some distortion in these numbers, because railroad billing practices cause certain kinds of traffic to appear to travel shorter distances than it really does. Even so, it is clear that especially favorable density, coupled with Atlanta's hub role in intermodal and the proximity of major ports on the coast, are supporting more and better trainload service and are making an unusually competitive profile possible. Moreover, about one-third of the dry goods traffic currently moving by highway falls directly within this market segment, offering a strong upside for new conversions from truck to rail – provided there is capacity to accept it. Atlanta's function as a hub brings with it the substantial percentage of overhead rail volume cited elsewhere in this report, and that volume absorbs capacity. However, while there is a temptation to encourage this traffic to be routed elsewhere, the risk is that it would take the hub operations along with it, and leave Atlanta with diminished service, options, and importance.

**Exhibit 7.5: Traffic Lanes and Intermodal Share**

MARKET TONNAGE DISTRIBUTION BY DISTANCE & DENSITY
ARC vs. Total US - Dry Van Containerizable Goods - 2004

| HIWAY MILES | MARKET | LANE DENSITY (Annual Tons [000] by IMX+Truck) < 100 ALL | 100-1000 ALL | > 1000 ALL | Total ALL |
|---|---|---|---|---|---|
| Total | US | 8% | 25% | 66% | 100% |
| ≥ 500 | US | 7% | 13% | 8% | 27% |
| < 500 | US | 2% | 13% | 58% | 73% |
| Total | ARC | 3% | 25% | 72% | 100% |
| ≥ 500 | ARC | 3% | 13% | 13% | 29% |
| < 500 | ARC | 0% | 12% | 59% | 71% |
| Key Segment: | | | | | |
| 300 - 1000 | US | 5% | 13% | 14% | 31% |
| 300 - 1000 | ARC | 2% | 19% | 21% | 41% |

RAIL INTERMODAL MARKET SHARE BY DISTANCE & DENSITY
ARC vs. Total US - Dry Van Containerizable Goods - 2004

| HIWAY MILES | MARKET | LANE DENSITY (Annual Tons [000] by IMX+Truck) < 100 ALL | 100-1000 ALL | > 1000 ALL | Total ALL |
|---|---|---|---|---|---|
| Total | US | 1% | 3% | 4% | 4% |
| ≥ 500 | US | 1% | 6% | 30% | 12% |
| < 500 | US | 0% | 1% | 1% | 1% |
| Total | ARC | 3% | 5% | 8% | 7% |
| ≥ 500 | ARC | 3% | 6% | 28% | 16% |
| < 500 | ARC | 0% | 5% | 4% | 4% |
| Key Segment: | | | | | |
| 300 - 1000 | US | 0% | 3% | 7% | 4% |
| 300 - 1000 | ARC | 0% | 7% | 22% | 14% |

***Recommendation: Invest in rail capacity to meet the projected increase in rail freight and to encourage the diversion of truck traffic to rail.***

CSX and NS each have two major network strategies affecting growth in and through Atlanta, and requiring capacity investments. For CSX, Atlanta lies on its Southeastern Corridor connecting Chicago and Jacksonville. This is one of three legs of a triangle forming the core of the CSX system (the other two sections are the I-95 Corridor between Jacksonville and New York, and the Water Level route linking New York to Chicago). The company plans healthy growth on the Southeastern Corridor over the next several years, causing sections both north and south of Atlanta to approach capacity during the period. This same route also interchanges with the BNSF at Birmingham, forming the so-called Fast Corridor linking Atlanta to California over Memphis. This is expected to handle two intermodal trains daily each way and add 150,000 annual containers to Fairburn, requiring more sidings on the line and expansion at the terminal.

NS is developing the Crescent Corridor, with a southern section between Birmingham and northern Virginia via Atlanta and Charlotte (more or less on the lines of I-85), and a northern section between the same points via Knoxville (more or less on the lines of I-81), with an extension from Knoxville to Memphis. As with CSX, there is also a westward corridor from Birmingham, in this case to Texas and Mexico via an interchange with the KCS in Mississippi, which is marketed as the Meridian Speedway. Aggressive growth plans (NS believes the Crescent Corridor as a whole can divert one million truck loads in six years, if fully developed) will demand expansion at Austell and route improvements between Atlanta and Birmingham. It

is worth noting that these strategic corridors for CSX as well as NS do not include direct routes between Atlanta and the ports at Savannah and Charleston. However, in discussions with the ARC study team, carrier representatives asserted that a doublestack route between Savannah and Memphis is one target for development, and doubletracked mainline capacity between Atlanta and Chattanooga is another. More locally, carriers have identified grade separations at the downtown Howell Junction connection between CSX and NS as a way to improve throughput over the Atlanta crossroads for both of them.

The two railroads acknowledge a definite role for public-private partnerships in their capacity projections, and in some cases are counting on them to bring their plans fully to fruition. ARC and GDOT should undertake an examination of the potential benefits from truck to rail diversion associated with these potential investments, but in so doing should consider the following points:

- High quality intermodal service between Atlanta and the Savannah and Charleston container ports must be assured. There is no question that the carriers will maintain service to the ports; the risk is that the service will be geared to the needs of markets beyond Atlanta, and not meet the requirements of central Georgia businesses. Already the transit times are two days for distances that a truck can travel in less than one. If growth in container trade soaks up line and terminal capacity, there will be a temptation to devote capacity exclusively to the higher revenue long haul trains, and to walk away from Atlanta regional service. ARC and GDOT can use investment in other rail projects as a bargaining chip, to procure port service adequate for Atlanta. If the Class I railways do not want to underwrite the short haul trains themselves, there is precedent for a third party operator to step in and contract for daily train operations. Whoever runs the trains, two things needed are a) sufficient capacity on the port-Atlanta routes to support such operations; and b) priority for track utilization consistent with competitive travel schedules.

- In-town terminals with domestic rail service should be preserved. The trend for rail terminals (and for that matter, logistics facilities of all types) to be exiled to the periphery of urban areas can be observed around the country, which results in longer truck trips for pickup and delivery that are detrimental to congestion management, energy consumption, and emissions. Atlanta is fortunate to have intermodal, bulk, and automobile transfer facilities still active in the heart of the metropolitan region (in some cases paired with similar terminals further out). As noted above, efficient access to all rail terminals is an important multimodal planning objective, because it boosts throughput capacity and effective service, but ARC should take the further step of treating them as a regional network, and looking for the retention of interior service whenever facility improvements are proposed. Retention requires sustained access to high-service trains via direct or shuttle connections, but it also requires community land use planning and governance that understands urban terminals as vital assets.

A second facet concerns the utilization of capacity. The major intermodal terminals have room to grow for a number of years, but rail intermodal volume one day will catch up to them. Class I carriers in other cities have discontinued domestic service to make room for more international volume – which is not necessarily local volume. This means that the opportunity to divert domestic freight traffic from the local highways is shut off, and the

scope of multimodal planning for freight is diminished. When the day comes that terminal capacity becomes constrained, ARC should support new expansion, but should require that the continued provision of domestic service be incorporated.

- Development of passenger rail service is a regional objective, and GDOT is studying several options. Because right of way is limited, this is likely to involve joint use of infrastructure that is currently dedicated to freight, and because of operational differences such as train speeds and schedules, its effect on freight capacity and service can be extensive and negative. At minimum, this implies that passenger rail service cannot be proposed on the cheap, and needs to include features like multi-tracking so that freight trains are insulated from interference. It also means that opportunities to avoid interference (such as the Beltline seemed to offer) are valuable, and have long-term consequences for practical passenger potential if they are lost.

# Chapter 8: Atlanta Regional Freight Mobility Implementation Plan

The goal of the Chapter 8 is to implement recommendations from the operational, policy and infrastructure strategies to ensure a comprehensive approach to accommodating freight mobility while mitigating negative impacts. Chapter 7 presented the recommendations and the current chapter will provide a proposed plan for the implementation of those recommendations.

The development of the implementation plan includes the categorizing recommendations into short or near term, medium term and long term actions, as well as the identifying organizations responsible for implementation. The short term actions represent "low-hanging" fruit or initiatives that can and should be implemented in a relatively short time period (2 years or less). In addition, actions that require a higher level of effort or resources but are considered to be a priority action are classified as short term. The medium term (2 to 5 years) to long term (over 5 years) actions require more time and resources for implementation. Exhibits 8.1 – 8.3 depict the Atlanta Regional Freight Mobility Action Plan. Please note that the cost estimates reflect "ball park" estimates that serve as a starting point for further consideration.

## Exhibit 8.1: Infrastructure Strategies (IS) - Order Does not Denote Priority

| Project # | Current ARC # | Name | Description | Cost | Potential Implementing Agencies |
|---|---|---|---|---|---|
| IS-1 | AR-933 | I-75 / I-575 Interchange Improvements | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements | included as part of overall managed lanes project | GDOT |
| IS-2 | AR-934C | I-75 North / I-285 / Windy Hill Road Interchange Improvements, other I-75 North Corridor Improvements in Cobb, Cherokee, and Bartow | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements. Add capacity and reconstruct interchanges. Corridor under review as part of EIS. | TBD | GDOT |
| IS-3 | AR-939 | I-20 West / I-285 Interchange Improvements (Fulton) | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements | $ 98,000,000 | GDOT |
| IS-4 | AT-AR-212(A-B) | I-85 North and GA 400 Interchange Improvements - New Directional Ramps and Widening Viaduct | The lack of directional ramps from I-85 South to SR 400 and from SR 400 to I-85 North creates significant peak period congestions on area surface roadways such as Sidney Marcus and Buford Highway. This project addresses a major freight movement bottleneck for traffic accessing the Buckhead and Perimeter Center activity centers. | $ 50,000,000 | GDOT |
| IS-5 | AT-AR-245 | Bolton Road Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Bolton Road from I-285 to Marietta Street. Provides access to the Tilford and Inman Yard Rail Terminals. 2.1 miles. | $ 21,000,000 | GDOT, ARC, Local Government, other stakeholders |

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| IS-6 | CO-175A-B | SR 280/SR 5/South Cobb Drive Corridor Improvements | SR 280/SR 5 accommodates significant freight movement and experiences peak period delays. Capacity and operational upgrades are needed from US 41 to I-285 and to Bolton Road | $ 85,000,000 | GDOT, ARC, County and City governments. |
| IS-7 | CW-AR-03, CW-AR-04, FS-AR-182, FS-AR-183 | I-85 South Corridor Improvements in Fulton and Coweta Counties | I-85 South Corridor forecast to have rapid freight industry growth. Reconstruct interchanges at SR 74 and SR 138 and construct new interchanges at Poplar Road and Amlajack Boulevard. Assess potential of new interchange at Gullet Road and I-85 in south Fulton County. | $ 96,000,000 | GDOT, ARC, Local Governments |
| IS-8 | DK-AR-009A, DK-AR-243, AR-305, RO-138 | I-20 East Corridor Improvements in DeKalb and Rockdale Counties | Extensive freight movement route providing access to Augusta and the Carolinas. Significant freight congestion at I-285 interchange. Add capacity between Columbia Drive and Evans Mill Road; reconstruct interchanges at Panola and SR 138; improve ITS capabilities along corridor. | $ 258,000,000 | GDOT, ARC, Local Governments |
| IS-9 | DK-AR-241 | I-20 East / I-285 Interchange Improvements (DeKalb) | Reconstruct major freight bottleneck to improve safety by improve geometric standards for truck movements | $ 81,000,000 | GDOT |
| IS-10 | GW-078C, GW-331, GW-333, GW-334 | US 78 / Stone Mountain Highway Improvements | US 78 supports significant freight movement between the Athens and Atlanta region. Grade separate US 78/ SR 124 intersection; interparcel access at in corridor, including at Highpoint Road and Park Place North; construct access road from Rockbridge Road to Davis Road. | $ 54,000,000 | GDOT, ARC, Gwinnett, Business community |
| IS-11 | GW-204B-C | SR 316 grade-separations at SR 20 and Collins Hill Road | SR 20 and Collins Hill Road provide access to industrial and distribution areas in Lawrenceville and these locations experience severe congestion. | $ 25,000,000 | GDOT, ARC Gwinnett County |

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| IS-12 | HE-AR-232 | I-75/I-675 Interchange Improvement | This location experiences significant delays during peak travel periods, creating a major bottleneck for interstate traffic traveling on I-75. Project will include Auxiliary Lanes from I-75/I-675 On-Ramp to Eagles Landing Parkway. This interchange was repeatedly identified as a major freight bottleneck in interviews among regional trucking companies. | $ 10,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-13 | NA | Atlanta to Chattanooga Rail Line Double Tracking | Critical bottleneck in regional rail network that is needed to support freight strategies. Expands the capacity of this heavily utilized rail line. Project also improves existing at-grade crossings. 113 miles. | $ 452,000,000 | State agencies (Georgia and Tennessee), MPOs, rail companies |
| IS-14 | NA | Atlanta to Macon Rail Line Double Tracking | Critical corridor in regional rail network that is needed to support freight strategies, including addressing long-term capacity needs for Port of Savannah. Project also improves existing at-grade crossings. 94 miles. | $ 376,000,000 | State agencies, MPOs, rail companies |
| IS-15 | NA | Atlanta Howell Junction Improvements | *Further study required to evaluate the engineering feasibility of the project.* Improve Wye interlocking bottleneck at the intersection of the N-S and CSX rail lines. | TBD | State agencies, ARC, City of Atlanta, rail companies |
| IS-16 | NA | Boulevard Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Boulevard from I-20 to Hulsey Yard entrance. Provides access to the Intermodal Hulsey Truck/Rail Terminal. 0.5 miles. | $ 3,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-17 | NA | Buford Highway / SR 13 Corridor Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Buford Highway / SR 13 from Lindbergh to SR 120. Additional information in Buford Highway Multimodal Corridor Study. | $ 45,000,000 | GDOT, ARC, Local Government, other stakeholders |

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| IS-18 | NA | Chattahoochee Avenue Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve signals) on Chattahoochee Avenue from Marietta Street to Howell Mill Road. Provides access to the Tilford and Inman Yard Rail Terminals. 1.7 miles. | $ 8,500,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-19 | NA | CSX Transportation/Harmony Grove Rd. | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-20 | NA | CSX Transportation/Old Fairburn Rd. | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-21 | NA | CSX Transportation/Welcome All Rd. | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-22 | NA | Doublestack corridor from Port of Savannah to Memphis, TN | Improve freight movement along rail line forecast to experience significant growth. | TBD | State agencies (Georgia, Alabama, Tennessee), MPOs, rail companies |
| IS-23 | NA | I-20 West Corridor Improvements in Fulton, Cobb, Douglas Counties | Including operational improvements at SR 6 interchange. Recommendations detailed in the Southern Regional Accessibility Study. | $ 10,000,000 | GDOT, ARC, Local Governments |
| IS-24 | NA | I-285 / LaVista Road Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project.* This interchange was repeatedly identified as a major freight bottleneck | $ 25,000,000 | GDOT |
| IS-25 | NA | I-285 / Peachtree Industrial Blvd Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project.* This interchange was repeatedly identified as a major freight bottleneck | $ 25,000,000 | GDOT |

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| IS-26 | NA | I-285 Upgrade Improvements | I-285 functions as the region's bypass for freight traffic without destinations in the central city. Potential improvements include capacity upgrades, ITS, interchange reconstructions. Corridor under evaluation in the I-285 Strategic Implementation Plan and revive285 studies. | TBD | GDOT, ARC, Local Governments |
| IS-27 | NA | I-75 South Corridor Improvements | I-75 experiences significant freight movement challenges accommodating southeastern truck traffic between the Midwest and Florida markets. Increase mainline capacity between I-675 and SR 16 and reconstruct interchanges where needed as defined in the Envision6 RTP. | $ 400,000,000 | GDOT, ARC, Local Governments |
| IS-28 | NA | I-85 North and SR 140/Jimmy Carter Blvd Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project.* This interchange was repeatedly identified as a major freight bottleneck for traffic accessing warehousing and distribution areas north of I-85 and as an alternative route to the Mountain Industrial Blvd. area. Expanding turning lanes for on-off ramps and adjusting access points for local roadways will improve traffic flow and improve safety. | $ 35,000,000 | GDOT, ARC, Local Governments |
| IS-29 | NA | I-85 North at I-285 Interchange Improvements | *Further study required to evaluate the engineering feasibility of the project - Revive 285 project underway.* A significant amount of existing truck congestion is created from merging to an from I-285. Corridor under evaluation in the I-285 Strategic Implementation Plan and revive285 studies. | TBD | GDOT |

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| IS-30 | NA | Marietta Road Operational Improvements | Make operational improvements (intersection improvements, upgrade existing lane widths, improve signals) ) on Marietta Road from Bolton Road to West Marietta Street. Bicycle and pedestrian project planned (AT-AR-BP303). Provides access to the Tilford and Inman Yard Rail Terminals. 3 miles. | $ 15,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-31 | NA | Norfolk Southern Corp./Lawrenceville St. | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-32 | NA | Norfolk Southern Corp./Monroe Dr. | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-33 | NA | Norfolk Southern Corp./Murphy | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-34 | NA | Norfolk Southern Corp./Simpson | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-35 | NA | Norfolk Southern Corp./Suwanee Dam Rd. | Improve grade-crossing geometrics | $ 2,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-36 | NA | Parrott Avenue Operational Improvements | Implement operational improvements (intersection improvements, upgrade existing lane widths, improve geometrics) on Parrott Avenue at throughout corridor connecting at Bolton Road . Provides access to Chattahoochee Colonial Pipeline Truck/Pipeline Terminal. 1 mile. | $ 5,000,000 | GDOT, ARC, Local Government, other stakeholders |
| IS-37 | NA | SR 16 Corridor Improvements in Spalding County, Fayette, and Coweta Counties | SR 16 is the southern most east-west route in the region and holds the opportunity to divert truck traffic from I-85 to I-75. Widen SR 16 from 2-4 lanes between SR 16 Extension and Griffin South Bypass; Widen SR 16 from 2-4 lanes between US 29 and Poplar Rd (Limited Access); bypasses around Turin, Sharpsburg, Senoia. Recommendations detailed in the Southern Regional Accessibility Study. | $ 293,000,000 | GDOT, ARC, County and City governments. |

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| IS-38 | NA | SR 6 / Thornton Road Corridor improvements | Implement recommendations from SR 6 Corridor Study. Including truck friendly lanes from SR 81 (Paulding) to I-85 South (Fulton); widen Sweetwater/Hiram Lithia Springs Road from 2 to 4 lanes US 278/78 to Pearson Road; New 4 lane corridor extending Hiram-Lithia Springs Road from Pearson Road to SR 6; Widen Lee and Sweetwater Road from 4 to 6 lanes from I-20 to US 278/78. | $ 146,000,000 | GDOT, ARC, Local Governments |

## Exhibit 8.2: Operational Improvement Strategies (OIS)

| Project # | Name | Description | Cost | Potential Implementing Agencies |
|---|---|---|---|---|
| OIS-1 | Regional Freight Intersection Bottleneck and Traffic Signalization Program | A focused funding program to upgrade truck-heavy intersections to needed geometric standards and upgrade signal systems. Focus on Regional Freight Priority Network. | Depending on availability of funding - suggested program of $2,000,000 per year. | GDOT and Local Governments |
| OIS-2 | TIME Task Force and the TRIP Program Enhancement | Expand funding for traffic flow and incident response on the Regional Freight Priority Network. | $200,000 per year. | GDOT, ARC, other planning partners |
| OIS-3 | Buford Highway Corridor Signalization Improvements (Atlanta, DeKalb, Gwinnett) | Corridor accommodates significant freight movement and has numerous pedestrian safety issues. Upgrade corridor signals from Atlanta to SR 120. Additional detail in Buford Highway Corridor Study. | $13,000,000.00 | GDOT, ARC, other planning partners |
| OIS-4 | Cobb Parkway Corridor Signalization Improvements (Cobb County) | Improve/modernize signalization equipment and software from SR 5 to Paces Ferry Road. | $10,000,000 | GDOT, ARC, other planning partners |
| OIS-5 | SR 154/McCollum Sharpsburg Road at I-85 Southbound ramps Signalization Improvements (Coweta County) | Improve/modernize signalization equipment and software. | $70,000 | GDOT, ARC, other planning partners |
| OIS-6 | SR 154/McCollum Sharpsburg Road at Lower Fayetteville Road Signalization Improvements (Coweta County) | Improve/modernize signalization equipment and software. | $70,000 | GDOT, ARC, other planning partners |

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| OIS-7 | SR 34 Bypass at US 29 Signalization Improvements (Coweta County) | Improve/modernize signalization equipment and software. | $70,000 | GDOT, ARC, other planning partners |
| OIS-8 | Thornton Road/SR 6 Signalization Improvements (Paulding, Cobb, Douglas, Fulton) | Improve/modernize signalization equipment and software from SR 61 to I-20. | $10,000,000 | GDOT, ARC, other planning partners |
| OIS-9 | Thornton Road/SR 6 at Maxham Road Signalization Improvements (Cobb County) | Improve/modernize signalization equipment and software. | $70,000 | GDOT, ARC, other planning partners |
| OIS-10 | US 29 at SR 154/McCollum Sharpsburg Road Signalization Improvements (Coweta County) | Improve/modernize signalization equipment and software. | $70,000 | GDOT, ARC, other planning partners |
| OIS-11 | Inman Yard improved signage from I-285 (City of Atlanta) | | TBD | GDOT, ARC, other planning partners |
| OIS-12 | Hulsey Yard improved signage from I-20 (City of Atlanta) | | TBD | GDOT, ARC, other planning partners |
| OIS-13 | Huff Road area improved signage from interstates (City of Atlanta) | | TBD | GDOT, ARC, other planning partners |
| OIS-14 | DeKalb County Farmer's Market area improved signage from I-285 (DeKalb) | | TBD | GDOT, ARC, other planning partners |
| OIS-17 | Off-Peak Delivery Pilot Program | Identify sponsors, including governments, business associations, and TMAs willing to participate in the program. | ARC in cooperation with Private Businesses and Local Governments | Organizational support through ARC. |
| OIS-18 | Georgia Navigator Freight-User Communications Program | Better utilization of Georgia Navigator incident-related information by the private sector is a tremendous opportunity. A program is recommended to be pursued that encourages information sharing with dispatchers for freight carriers and shippers. These contacts would share information on crashes, construction and general congestion for dispatchers to pass on to truck drivers the Navigator website. | GDOT in cooperation with ARC | $250,000 start-up |

## Exhibit 8.3: Institutional and Policy Strategies (IPS)

| Project # | Name | Description | Suggested Implementation Timeframe* | Potential Implementing Agencies | Estimated Cost |
|---|---|---|---|---|---|
| IPS-1 | Pursue policies, programs, and studies maintaining the Atlanta region's leadership role in the southeastern United States as a hub for logistics, warehousing and distribution, and air cargo operations | Incorporate freight-supportive policies in future RTP/RDPs and CTPs while seeking to preserve existing freight-related land use areas such as Fulton Industrial Boulevard and Fort Gillem. May involve land acquisition and private sector incentives to spur redevelopment | Short-term | State, Regional, Local Governments | NA |
| IPS-2 | Local Government Freight Training and Capacity Building Program | Provide governments staffs with training on freight planning and site design review best practices. Encourage pubic sector transportation planning staff complete the web based NHI course – Integrating Freight in the Transportation Planning Process. Pursue hosting the NHI Advanced Freight Planning Course and the FHWA workshop on Engaging the Private Sector in Freight Planning. | Short-term | ARC, GDOT, US DOT | Use existing US DOT and ARC resources where possible. Cost of NHI course $600 per participant. |
| IPS-3 | Regional Truck Route Plan | Develop a region wide truck route plan and ensure adequate signage for all regional truck routes and intermodal facilities. Evaluate potential the benefits and costs of innovative strategies such as modifying existing truck restrictions inside I-285 to allow truck operations at night. Complete “gaps” in the existing regional truck route system and reduces missed turns resulting in reduced travel time and VMT/VHT. | Short-term | ARC, GDOT, regional partners | $500,000 |

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| IPS-4 | Evaluate freight-specific measures for use in project prioritization procedures | Develop and implement freight specific performance measures and project prioritization criteria for use in the planning process as procedures are updated in future RTP/TIPs (TIP and RTP Blueprints). | Short-term | ARC, regional partners | Internal agency staff resources |
| IPS-5 | Increase freight industry participation on ARC planning committees | Add an ex-officio freight industry representative to TCC and LUCC to encourage additional input on freight-related issues | Short-term | ARC | NA |
| IPS-6 | Establish an on-going Freight Planning Newsletter | Supports on-going efforts to disseminate information and maintain interest in freight planning efforts. | Short-term | ARC | Internal agency staff resources |
| IPS-7 | Freight Peer Exchange Program | Conduct periodic (year to bi-year) information sharing exercises with other national peer regions to improve freight planning and implementation programs. Promotes the exchange of ideas and strategies among peers facing similar challenges. | Short-term, on-going | ARC, USDOT | Seek federal peer exchange program funding |
| IPS-8 | I-75 Commerce Corridor Coalition Initative | Forming a multi-state I-75 coalition assists all the states in addressing common issues and concerns while creating a competitive national trade corridor. I-75 boasts the largest volume of through freight traffic in the region and serves as a primary north south trade route extending from Detroit, MI to Tampa, FL. Working with neighboring states increases the visibility of the corridor as one of national significance and potentially opens new funding sources for necessary improvements. Model proposed initiative after the National I-10 Freight Corridor. | Short-term study with project identification and implementation medium to long-term | GDOT, ARC, Other State DOTs | Internal agency staff resources initially. Multi-state coalitions are often initially funded as a pooled-fund with each participating state contributing equal amounts from Federal SP&R funds. |

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| IPS-9 | Freight Data Collection Program | Combine funding between ARC, GDOT, and SRTA to support freight planning data needs (traffic counts, accident rates, train movements, geometric bottlenecks) | Medium-term | GDOT, SRTA, ARC | $250,000 per year |
| IPS-10 | Establish an on-going Sub regional Freight-Related Land Use Planning Program, following the LCI model | Study in more detail areas experiencing land use conflicts and identify actions to protect freight-related land uses. | Medium-term | Local Governments, CIDs | $200,000 per year |
| IPS-11 | Integrated Logistics Centers/Freight Villages Feasibility Study | Integrated developments hold the promise to establish more sustainable freight distribution areas by seeking the most appropriate sites, from a land use and infrastructure standpoint, to encourage the location and expansion for future freight-related business. | Medium-term | ARC, Regional Chambers of Commerce, State of Georgia, other freight industry representatives | $500,000 |