



2010 GEORGIA LOGISTICS REPORT

FUELING LOGISTICS COMPETITIVENESS

PREPARED AND PRESENTED BY:
The Georgia Center Of Innovation For Logistics



Logistics

2010 GEORGIA LOGISTICS REPORT

EXECUTIVE SUMMARY



Logistics

Logistics is one of the world's largest and most complex industries. In fact, it is not just *an industry*, it is an Ecosystem, or industry-of-industries where all sectors and participants rely on one another to move freight from Point-A to Point-B. The more connected this Logistics Ecosystem, the more efficient and reliable the movement of the freight. Driving this connectivity is our goal at the Center of Innovation for Logistics and a primary purpose of the annual Summit and Logistics Report.

The Logistics Ecosystem has two main groups: 1) Those providing services to move cargo; and 2) Those generating cargo needing to be moved; or more simply 1) Logistics Providers and 2) Logistics Users. Last year's report entitled "Focus on Providers" covered this in great detail and explored the economic impact of the industry along with extensive data surrounding the flow of freight. Such details include the fact that currently in Georgia there are over 10,000 logistics providers employing 142,000 Georgians and generating more than \$16B in annual sales.

The 2010 report titled "Fueling Logistics Competitiveness" explores a few of the areas having the greatest effect on these logistics companies. We have specifically identified five, and refer to them as the "5-Factors of Logistics Competitiveness".

THESE 5-FACTORS ARE: #1-POLICY, #2-INFRASTRUCTURE, #3-OPERATIONS, #4-TECHNOLOGY, AND #5-WORKFORCE.

The report is not a how-to-guide. Rather, it is a compilation of insight, expertise and ideas from industry experts all over the world distilled and sorted into the framework of the 5-Factors. While all focused on logistics, the Factors are not directly connected to one another. With this in mind, the report was designed and written for the individual factors to stand alone.

As you look over the report, and explore the components of each factor, we encourage you think about opportunities and/or challenges facing your business or organization that could be improved or pursued. Each of the factors has varying ways in which they affect a company or organization, and also differ in the degree to which they make an impact. For Example:

FACTOR #1 – POLICY &

FACTOR #2 – INFRASTRUCTURE

Both of these factors play important but broader roles in the Ecosystem, yet a better understanding of their current state and future direction can provide valuable information for a company's own more focused strategy development. The policy factor explores legislative, regulatory, and funding activities at both the Federal and State level. Sample topics include:

- Federal Stimulus and TIGER grant funding
- National Export Initiative
- National and Georgia High Speed Rail Corridor Development
- State transportation funding bills and governance
- Federal regulations for Hours-of –Service, Homeland Security, and Sustainability

While infrastructure looks at:

- International freight hubs – air & sea
- Location of Georgia's top freight generating facilities
- Statewide flow of freight into, out, through and inside of Georgia
- Definition and evaluation of intermodal hubs & inland ports
- Updates on Georgia's strategic freight & logistics, and transportation planning efforts

FACTOR #3 – OPERATIONS

The foundation of a company's competitiveness is based on three operational components: First, an understanding of costs and rates; next, access to new customers, markets & growth; and finally, incorporating innovation and a willingness to flex with the desire and demands of the market and its customers. These are the same components followed in Factor #3. Sample topics include:

- Current rates and projections across all modes of transportation
- Resources to access international trade opportunities
- Cold storage markets
- Bio-fuel logistics opportunities
- Merger and acquisition activity in logistics

FACTOR #4 – TECHNOLOGY

There should be no surprise to find technology as a top competitiveness factor in logistics. The differentiating factor between the "technology haves and have-nots" is becoming more important when competing for new customers or even retaining existing ones. In logistics technology there are 3-V's that define the various application areas: Volume, Velocity, and Visibility. This 4th factor of the report addresses these 3-V's by looking at the following areas:

- Supply Chain Visibility: Types of solutions & how to get started implementing
- Top ROI producing logistics solutions
- Main stream logistics technology: RFID, GPS, xMS, EOBR, SaaS
- Logistics related R&D in Georgia
- What's next? – Bokodes, Maglev, iPhone TMS

FACTOR #5 – WORKFORCE

The private industry and the jobs they create are the heartbeat of any industry, and logistics is no exception. This logistics workforce is the focus of this 5th factor and examines these topics:

- Updated numbers on the scope of the industry - covering 2009-2010
- National demand for logistics workers
- Sample workforce development programs
- Inventory of logistics education/training assets in Georgia
- Logistics compensation trends

**THE REPORT IS AVAILABLE FOR FREE DOWNLOAD AT OUR DEDICATED WEBSITE:
REPORT.GEORGIALOGISTICS.ORG**

Here, you will find the report in its entirety, and also broken into the 5-Factors for easier downloading. Also, located on this site is the 2009 report "A Focus on Providers" which is a good source of information and is an important companion to this year's edition.





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FACTOR #1: POLICY



The consulting firm of McKinsey & Co. recently published a sector guide to policy, emphasizing how industry sector performance correlates closely with the local policy environment or what they refer to as the “rules of the game” for competitive markets.

“Whether in telecommunications or retail, MGI case studies show that the employment and productivity outcomes of

countries reflect the incentives to companies set by regulation. Regulation that facilitates business entry tends to increase competition and productivity, while flexible hiring laws, lower minimum wages, and part-time employment arrangements correlate with higher employment and more rapid adjustment to change. Policy changes can impact sector performance in two to three years.

In traded sectors, where success requires local companies to be competitive in the regional or global marketplace, policy requires broader understanding of the global industry landscape. Some regulations can unexpectedly halt sector growth For the best odds for sustained growth, efforts to enhance competitiveness should target those activities with a realistic potential for competitive advantage and be based on solid business logic.

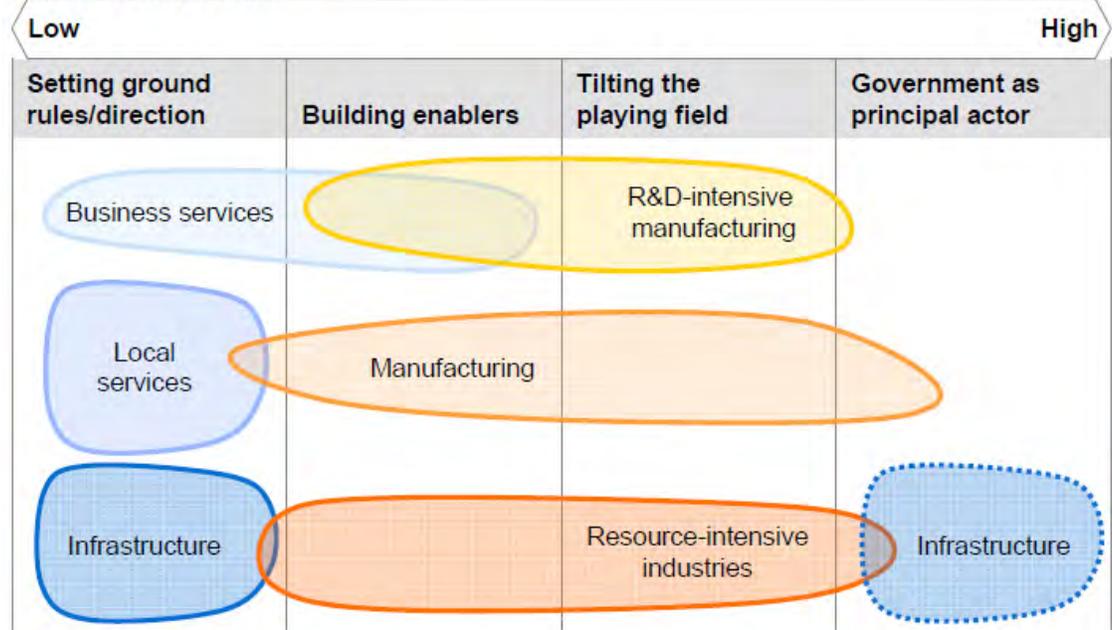
Policy makers should take into account the fact that their influence on largely non-tradable “domestic” sectors is more direct than it is in those sectors that compete globally. In non-tradable sectors, sector performance correlates closely with the local policy environment that sets the “rules of the game” for competitive market dynamics.”

Sector performance correlates closely with the local policy environment that sets the “rules of the game” for competitive market dynamics.

How to Compete and Grow: A sector guide to policy - McKinsey Global Institute (MGI) - March 2010

GOVERNMENT POLICY TOOLS NEED TO BE TAILORED TO SUIT SECTOR COMPETITIVENESS DRIVERS

Degree of intervention



SOURCE: McKinsey Global Institute/Public Sector Office Competitiveness Project

Policy is not one-size-fits-all, and requires careful thought to make effective decisions for how to be a valuable partner to the private industry.

In this report, McKinsey discusses how government policy needs to be tailored by sector to suit competitiveness drivers. As shown in the graphic above, McKinsey portrays their “spectrum of public policy interventions, from a hands-off approach limited to creating the necessary market institutions to being a central operator in a sector.” It is not one-size-fits-all, and requires careful thought to make effective decisions for how to be a valuable partner to the private industry.



ONLINE RESOURCE: A Sector Guide to Policy - McKinsey Global Institute

Logistics

Federal Legislation – Transportation and Logistics

At a national level, there is quite a bit of legislative activity directly related to transportation and logistics. Three top areas of focus include renewal and redesign of the Federal Transportation Bill; High-Speed Rail Planning; and logistics related distribution of “Stimulus funds”. This section will provide a high level overview of the important details of these three areas of activity.

FEDERAL TRANSPORTATION BILL

BACKGROUND: The current national transportation program is known as “Safe, Accountable, Flexible, and Efficient Transportation Equity Act: Legacy for Users” otherwise known as SAFETEA-LU or P.L. 109-059.

SAFETEA-LU expired on September 30, 2009. Since that time, funding for surface transportation maintenance, development, and construction has been continued through multiple continuing short-term resolutions or extensions. This program, financed in large part by the Highway Trust Fund, guides the expenditure of federal money for surface transportation investments and services across the country. Not only does the national transportation program directly influence how states, regions and cities invest in transportation but to a significant degree how these economic centers grow, develop and prosper.

- SAFETEA-LU outlined freight-oriented infrastructure investments
- Financed freight projects under the Transportation Infrastructure Finance and Innovation Act
- Extended the State Infrastructure Bank Program
- Encouraged investment in freight facilities through private activity bonds
- SAFETEA-LU funded freight planning capacity building
- Supported freight analysis through the surface transportation congestion relief solutions research initiative
- Established the National Cooperative Freight Research Program (NCFRP), and Hazardous Materials Cooperative Research Program (HMCRP).

STEP #1: A new bill was proposed as a 775 page working draft highway bill by Representative James Oberstar, Chairman of the House Transportation and Infrastructure Committee:

- Oberstar’s new six-year bill incorporates an “intermodalism plan” designed to move goods and people using all forms of transportation.
- Focuses on getting more personal and commercial vehicles off the roads and reducing highway congestion.
- Included the use of Electronic On-board Recorders in all trucks, driver training and new carrier entrant reviews, mandatory driver drug-testing, and other safety related regulations.
- Streamlines 108 categories of formula-based federal transportation spending into four
- Includes dedicated funding for metropolitan area priorities.



- Oberstar's proposed bill is estimated to cost in the area of \$450-\$500 Billion dollars.
- This draft bill has yet to obtain both House and Senate approval.

The original fall 2009 deadline for passage of Oberstar's bill by the House of Representatives has expired. Transportation maintenance, development, and construction has been continued through multiple continuing short-term resolutions:

- In December, 2009 the House passed (by a vote of 217-212) H.R. 2847 – "Jobs for Main Street Act of 2010", which extended SAFETEA-LU through the end of the 2010 fiscal year (September 30, 2010), and adds fixes to the Trust Fund.
- On February 24, 2010, the \$15 billion "Hiring Incentives to Restore Employment" (HIRE) Act was passed by the House. This extends highway and transit programs through the end of 2010, as well as transfers \$20 billion from the United States General Trust Fund to the Highway Trust Fund in interest foregone since 1998.

STEP #2: As of March 3, 2010, the Senate took its first steps towards voting on a new long-term federal transportation bill. Senator Barbara Boxer (D-CA) stated they would use Oberstar's already-introduced version as a framework from which to work.

- Current debate is currently between the major differences between the House and Senate's approaches to transportation funding:
- The Senate bill is an extension of existing law plus accrediting interest to the Highway Trust Fund,
- The House bill provides new funding into the Highway Trust Fund unlike the Senate approach.

The House Transportation and Infrastructure Committee last week cited three differences between the House and Senate's transportation extension bills:

- The House bill allows USDOT to select projects under the Projects of National and Regional Significance and the National Corridor Infrastructure Improvement programs under a competitive basis while the Senate version skews the highway formula to certain states.
- The House bill distributes funds through all of the 13 current state highway formula programs, while the Senate version distributes funds through only six of the 13 programs
- The Senate version cuts more than \$3 million in funding from the Motor Carrier Safety Assistance Program.

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FUNDING NEEDS FOR NATIONAL INFRASTRUCTURE



The American Society of Civil Engineers recently completed an evaluation of the Nation’s critical networks in its most recent [Report Card for American Infrastructure](#), which examined everything from the Nation’s bridges and highways to our transit and water systems. It claims the total cost to bring it all up to a sustainable and competitive level approaches \$1.44 trillion for transportation related infrastructure alone. Regardless of what the next

The total cost to bring the National infrastructure up to a sustainable and competitive level approaches \$1.44 trillion for transportation alone

federal transport bill explicitly states, Congress is still faced with an even larger dilemma as to finding funding solutions. With the current bills in discussion ranging anywhere from \$450-\$500 billion dollars over the next six years, the current lack of sufficient revenues to pay for infrastructure still remains.



ONLINE RESOURCE: [ASCE National Infrastructure Report Card](#)

CATEGORY	5-YEAR NEED	ESTIMATED ACTUAL SPENDING	AMERICAN RECOVERY AND REINVESTMENT ACT FUNDS	FIVE –YEAR INVESTMENT SHORTFALL
AVIATION	\$ 87 Billion	\$ 45 Billion	\$ 1.3 Billion	- \$ 40.7 Billion
INLAND WATERWAYS	\$ 50 Billion	\$ 25 Billion	\$ 4.5 Billion	- \$ 20.5 Billion
RAIL	\$ 63 Billion	\$ 42 Billion	\$ 9.3 Billion	- \$ 11.7 Billion
ROADS AND BRIDGES	\$ 930 Billion	\$ 351.5 Billion	\$ 27.5 Billion	- \$ 549.5 Billion
TRANSIT	\$ 265 Billion	\$ 66.5 Billion	\$ 8.4 Billion	- \$ 190.1 Billion
TOTAL	\$ 1.4 Trillion	\$ 530 Billion	\$ 51 Billion	- \$ 812.5 Billion

* 5 year spending estimate based on the most recent available spending at all levels of government and not indexed for inflation; ** Not adjusted for inflation Source: www.infrastructurereportcard.org

NATIONAL EXPORT INITIATIVE

The National Export Initiative (NEI) was introduced earlier this year when President Barack Obama issued an executive order announcing the program. The NEI was set in motion in order to help *“enhance and coordinate Federal efforts to facilitate the creation of jobs in the United States through the promotion of exports, and ensure the effective use of Federal resources in support of these goals.”*

According to a Dept. of Commerce press release, Commerce Secretary Gary Locke was cited saying that foreign companies *“want to buy high quality U.S. goods and services, and they want more American companies to sell to them. The NEI goal is to rebalance the current trade deficit and double exports over the next five years. This export growth is expected to create and support over two million jobs in America ensuring a return to ‘sustainable economic growth.’”*



According to the Executive Order, this is a top priority for President Obama’s Administration. The President asserts that a *“critical component of stimulating economic growth in the United States is ensuring that U.S. businesses can actively participate in international markets.”*

To meet the goal of doubled exports over the next 5 years, some actions anticipated are the removal of trade barriers abroad, helping firms and small businesses enter new export markets through financing assistance, export advocacy, and other steps. The Export Promotion cabinet has been tasked to provide the President a comprehensive plan on how to execute the NEI within 180 days from the Executive Order.

The NEI executive order details out eight specific areas of action which Commerce Secretary Gary Locke summarized into three main areas that he details out in the press release (link to entire press release at end of this section).

1. Access to Export Financing
2. More Resources for Export Promotion Efforts
3. Improving Access to Foreign Markets

Commerce Secretary Gary Locke shared that the NEI represents the first time the United States will have a government-wide export-promotion strategy with focused attention from the president and his Cabinet.

“The link between increased exports and high-quality jobs is significant enough to demand a smart, concerted effort to maximize this economic opportunity. We aren’t going to leave any jobs on the table,” said United States Trade Representative Ron Kirk. *“The U.S. Trade Representative’s mission is to tear down foreign barriers to American exports and to open up new markets for U.S. goods and services. And with our partners across the government, we’ll work to ensure that job-creating export opportunities are available around the world to American businesses of every size and type.”*



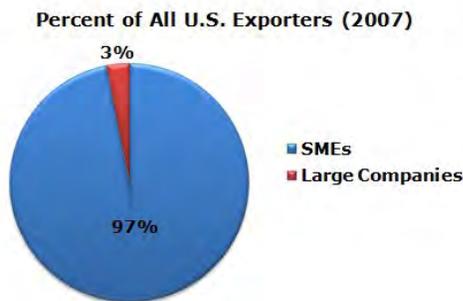
ONLINE RESOURCE: www.commerce.gov

To meet the goal of doubled exports over the next 5 years, some actions anticipated are the removal of trade barriers abroad, helping firms and small businesses enter new export markets through financing assistance, and export advocacy.

“The link between increased exports and high-quality jobs is significant enough to demand a smart, concerted effort to maximize this economic opportunity. We aren’t going to leave any jobs on the table,”



Small and mid-sized businesses (SMB's) accounted for 97% of all U.S. exporters in 2007



Export revenue from SMBs rose over 300% from \$102.8 billion in 1992 to \$312 billion in 2007

Global trade activity is usually associated with large, multi-national companies, but many small and midsize businesses (SMB) are also engaged in global trade. In fact, according to the latest statistics available from the US Dept. of Commerce (although from 2007), small and mid-sized businesses (companies with fewer than 500 employees, as defined by the U.S. Dept. of Commerce) accounted for 97 percent of all U.S. exporters in 2007, and export revenue from SMBs rose over 300% from \$102.8 billion in 1992 to \$312 billion in 2007.

Increasing the export of American products and services to global markets can help revive the fortunes of U.S. companies, spur future economic growth and support jobs here at home

"Increasing the export of American products and services to global markets can help revive the fortunes of U.S. companies, spur future economic growth and support jobs here at home," Locke said. "This initiative will correct an economic blind spot that has allowed other countries to chip away at the United States' international competitiveness."

The Export Promotion Cabinet will work with the Department of Commerce through the Trade Promotion Coordinating Committee (TPCC) to make the NEI a reality.



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ONLINE RESOURCE: www.whitehouse.gov

Federal Funding

AMERICAN RECOVERY AND REINVESTMENT ACT - "STIMULUS"



Title XII of the Recovery Act appropriates \$1.5 billion, available through September 30, 2011, for Supplementary Discretionary Grants for a National Surface Transportation System.

The objectives of the American Recovery and Reinvestment Act of 2009 (aka. The "Recovery Act" or "Stimulus") include preserving and creating jobs and promoting economic recovery, investing in transportation infrastructure that will provide long-term economic benefits, and assisting those most affected by the current economic downturn. Title XII of the Recovery Act appropriates \$1.5 billion, available through September 30, 2011, for Supplementary Discretionary Grants for a National Surface Transportation System.

These grants are to be awarded on a competitive basis for capital investments in surface transportation projects that will have a significant impact on the Nation, a metropolitan area or a region. President Barack Obama's economic rescue plan, billed as a multi-faceted approach to jump-starting the economy, includes creating or protecting 3.5 million jobs nationally.

One year to the day after President Obama signed the historic American Recovery and Reinvestment Act (ARRA) into law, Secretary of Transportation Ray LaHood announced Recovery Act awards to states, tribal governments, cities, counties and transit agencies across the country to fund 51 innovative transportation projects.

TIGER GRANT PROGRAM

The TIGER Discretionary Grant Program was included in the Recovery Act to spur a national competition for innovative, multi-modal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits



The TIGER (Transportation Investment Generating Economic Recovery) Discretionary Grant Program was included in the Recovery Act to spur a national competition for innovative, multi-modal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits to an entire metropolitan area, a region or the nation. Projects funded with the \$1.5 billion allocated in the Recovery Act include improvements to roads, bridges, rail, ports, transit, and intermodal facilities.

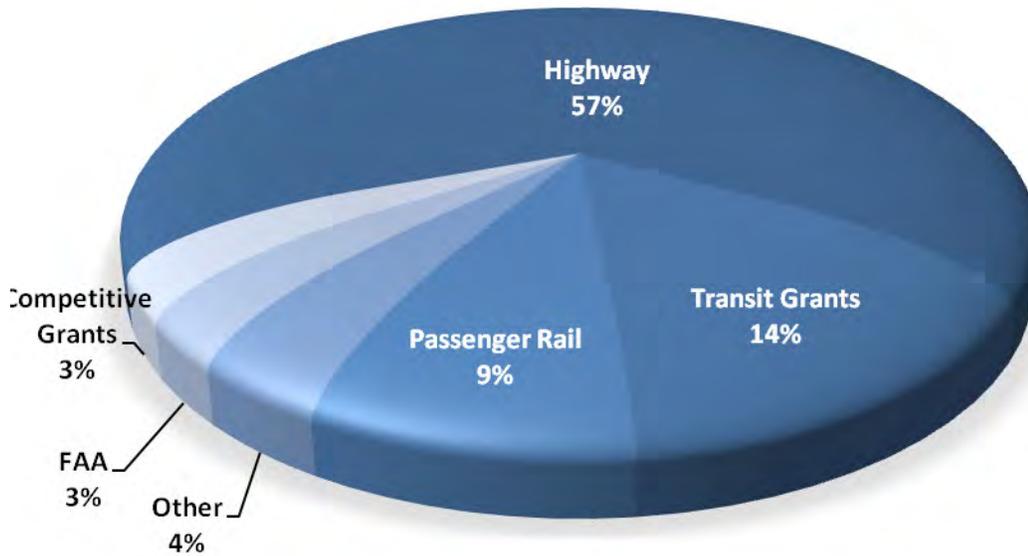
Source: www.dot.gov

As of April 13, 2009, the following statement was announced through the U.S. Secretary of Transportation's official blog, The Fast Lane:

"The DOT has moved more swiftly than people thought possible, to make nearly all of its 48 billion dollars in recovery funds available, empowering every state and territory, wisely and accountably. And because construction bids are coming in lower than expected, our recovery dollars will go further, so even more projects can potentially go out for bid."

Included as part of CSCMP's 20th Annual State of Logistics Report for 2009, was a high level breakdown of what stimulus funding (and TIGER grants) meant for the transportation and logistics industry.

STIMULUS FUNDS BREAKDOWN FOR NATIONAL TRANSPORTATION PROJECTS



57% of Stimulus transportation funds went to fund highway and road projects.

Source: 2009 Stimulus for Transportation - 2009 CSCMP 20th Annual State of Logistics Report

The U.S. Department of Transportation (USDOT) estimates the \$787 billion American Recovery and Reinvestment Act of 2009 translates into roughly 5.6 billion dollars, of which 931.6 million are budgeted for highways and another 143.6 million are budgeted for transit in Georgia. The overall stimulus break out, including all programs, for Georgia and other neighboring states is shown below.

Of the \$5.6 billion dollars in Stimulus for GA, \$931.6 million are budgeted for highways and another \$143.6 million are budgeted for transit in Georgia

State	Budget Balancing	Medicaid	Highways	Clean Water	Transit	Poor Students	Food Stamps	Laid Off Workers	Total \$ (Billions)
FL	\$2,746,322	\$4,390,000	\$1,300,000	\$134,400	\$316,200	\$651,700	\$1,100,000	\$78,400	\$10.7
NC	\$1,434,511	\$2,350,000	\$735,500	\$71,800	\$103,300	\$338,300	\$617,800	\$39,800	\$5.7
GA	\$1,558,863	\$1,730,000	\$931,600	\$67,300	\$143,600	\$420,200	\$739,400	\$41,200	\$5.6
TN	\$961,589	\$1,620,000	\$572,700	\$57,800	\$72,000	\$225,600	\$603,400	\$29,000	\$4.1
AL	\$741,112	\$850,000	\$514,000	\$45,000	\$46,500	\$199,000	\$381,000	\$10,300	\$2.8
SC	\$702,204	\$860,000	\$463,100	\$40,800	\$41,200	\$191,200	\$387,300	\$28,700	\$2.7

As of June 2009, a USDOT map of Recovery Act Projects shows the funds obligated from the ARRA to each of the 50 states and the Commonwealth of Puerto Rico. The amounts shown are from the funds allocated to states now obligated to be spent on approved projects. Leaving a balance of funds per state that have been allocated but not yet 'obligated' or spent. As of that date Georgia was in a top category with over \$264M obligated.

"Implementing these corridor projects and programs will serve as a catalyst to promote economic expansion (including new manufacturing jobs), create new choices for travelers in addition to flying or driving, reduce national dependence on oil, and foster livable urban and rural communities."

Source: www.fra.dot.gov

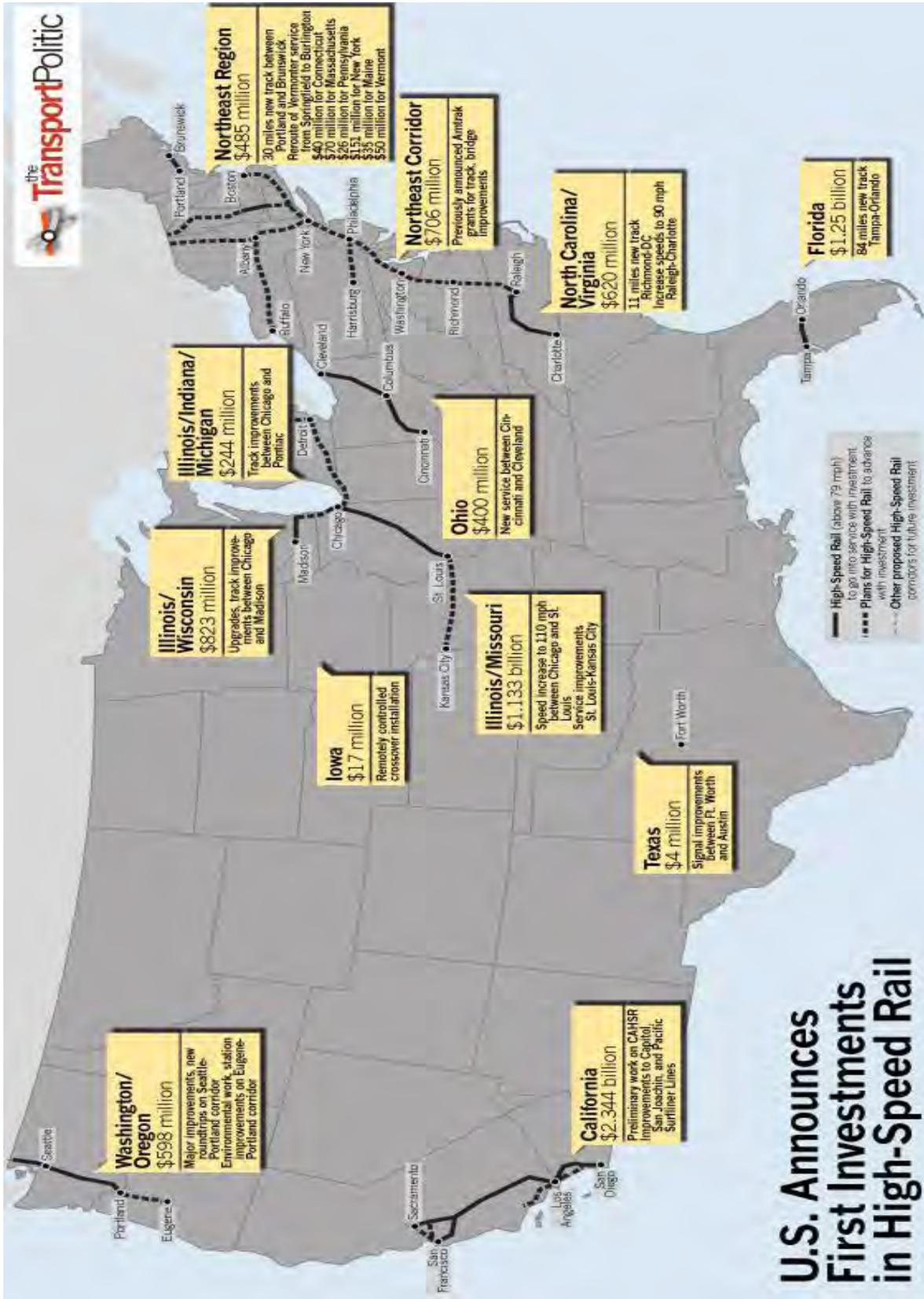
ARRA FUNDED HIGH SPEED RAIL CORRIDORS

The FRA received grant applications from states for stimulus funds and FY 2009 intercity capital funds in August and October of 2009. Over \$57 Billion in requests were filed from 34 states. An announcement of which states received these funds was made on January 28, 2010, with 31 states and 13 rail corridors receiving funding.

The five areas receiving the most funding had originally been designated as high-speed rail corridors in October 1992 following passage of the Intermodal Surface Transportation Efficiency Act of 1991.

ARRA Funded High-Speed Rail Corridors		Grant Received (in millions)
Southeast Corridor	Washington, Richmond, Raleigh, Charlotte, Atlanta, Macon, Columbia, Savannah, Jacksonville	\$620
California Corridor	Bay Area, Sacramento, Los Angeles, San Diego	\$2,342
Pacific Northwest Corridor	Eugene, Portland, Tacoma, Seattle, Vancouver BC	\$598
South Central Corridor	Tulsa, Oklahoma City, Dallas/Fort Worth, Austin, San Antonio, Little Rock	
Gulf Coast Corridor	Houston, New Orleans, Mobile, Birmingham, Atlanta	
Chicago Hub Network	Chicago, Milwaukee, Twin Cities, St. Louis, Kansas City, Detroit, Toledo, Cleveland, Columbus, Cincinnati, Indianapolis, Louisville	\$2,617
Florida Corridor	Orlando, Tampa, Miami	\$1,250
Keystone Corridor	Philadelphia, Harrisburg, Pittsburgh	\$27
Empire Corridor	New York City, Albany, Buffalo	\$152
Northern New England Corridor	Boston, Montreal, Portland, Springfield, New Haven, Albany	\$160

Not only does the national transportation program directly influence how states, regions and cities invest in transportation but to a significant degree how these economic centers grow, develop and prosper.



U.S. Announces First Investments in High-Speed Rail

State	Awards (mill \$)	Projects	State	Awards (mill \$)	Projects
CA	2,344	» \$2.25 b - ROW, construction on CAHSR » \$51 m - Surfliner service improvements » \$23 m - Capitol service improvements » \$20 m - Train improvements	CT	40	» \$40 m - 11 miles of 2nd track between New Haven and Hartford
FL	1250	» \$1.25 b - 84 miles of new track between Tampa and Orlando	MN	35	» \$35 m - 35 miles of track restoration between Portland and Brunswick
IL	1,236	» \$1.102 b - Improvements to Chicago-St. Louis line for 110 mph » \$133 m - Station and line enhancements along Chicago-Detroit line » \$1.3 m - Planning study	MO	31	» \$31 m - Improved grade crossings, bridges on line between St. Louis and Kansas City
WI	822	» \$810 m - New stations, implementation of PTC on 80 miles between Milwaukee and Madison » \$12 m - Minor enhancements between Milwaukee and Chicago	PA	27	» \$26.2 m - Eliminates all grade crossings between Philadelphia and Harrisburg » \$800,000 Planning study on extension of 110 mph service to Pittsburgh » \$17 m - Four remotely controlled powered crossovers on BNSF Ottumwa subdivision » \$1 m - Planning study
WA	590	» \$590 m - Bypass tracks, upgrades for Seattle-Portland line	IA	18	» \$8 m - Improvements to Portland Union St, engineering on Portland-Eugene line
NC	545	» \$520 m - Improvements to increase travel speeds to 90 mph on Raleigh-Charlotte line » \$25 m - Congestion mitigation between Raleigh and Richmond	OR	8	» \$4 m - Signal timing improvements on Austin-Fort Worth line
OH	400	» \$400 m - Upgrades for rail implementation along 3C corridor between Cleveland and Cincinnati	TX	4	» \$4 m - Signal timing improvements on Austin-Fort Worth line
NY	152	» \$148 m - Improved tracks between Albany and Buffalo » \$3 m - Three miles of new track on Albany-Montréal line » \$1 m - Planning study	CO	1.4	» \$1.4 m - Planning study
N.E. Corridor	112	» \$112 m - Engineering work on Balto dwtn tunnel; other work in RI, NJ, MD, and DC	WV	1	» \$1 m - Planning study
VA	75	» \$75 m - Third track along Richmond-DC line between Arkendale and Powell's Creek	GA	0.8	» \$800,000 - Planning studies
IN	71	» \$71 m - Minor rail improvements on Chicago-Detroit line	MN	0.6	» \$600,000 - Planning study for rail improvements to Twin Cities
MA	70	» \$70 m - Relocation of Vermonter service to more direct route	DE	0.5	» \$500,000 - Planning study
VT	51	» \$50 m - Vermonter route improvements » \$500,000 - Planning study	KS	0.3	» \$300,000 - Planning study
MI	40	» \$40 m - Renovations to stations at Troy and Battle Ck; New station in Dearborn	AL	0.2	» \$200,000 - Planning study
			NM	0.1	» \$100,000 - Planning study

Over \$57 Billion in high-speed-rail project funding requests were filed from 34 states.

The five areas receiving the most funding had originally been designated as high-speed rail corridors in October 1992 following passage of the Intermodal Surface Transportation Efficiency Act of 1991.

National High Speed Rail Program Selected Projects



Source: www.dot.gov

GEORGIA HIGH-SPEED-RAIL PLANNING & FUNDING

As indicated in the table above, Georgia did not receive implementation funding under the TIGER grant program. However, the projects and “corridor development” are still quite viable and continue to be pursued. To aid in this effort, Georgia did receive \$800k for planning studies from the Federal government. The following material is extracted from the original GDOT proposals for corridor development submitted to USDOT.

Georgia received \$800K in planning and studies money for high-speed rail.

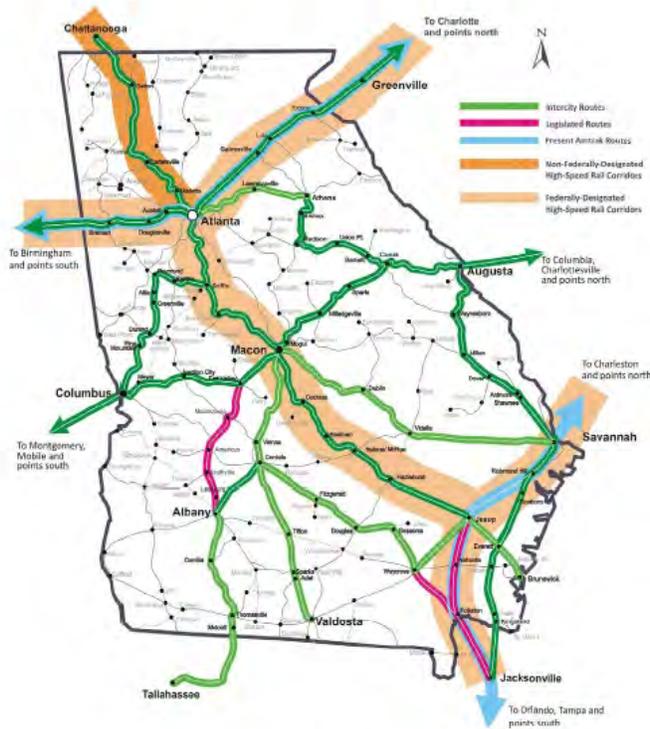


Figure 9. Georgia Intercity/High-Speed Rail Plan

Georgia proposes to begin implementation of passenger rail service on an initial segment of the Southeast High Speed Rail (SEHSR) corridor that is a critical link in the state’s passenger rail network as identified in the State Rail Plan. The implementation of rail service in the Macon-to-Atlanta Corridor is the key infrastructure by which High Speed and intercity rail services will operate in and through the State of Georgia. This line will be the central artery of the state’s planned rail network through which intercity and high speed service will operate. This corridor’s travel growth is projected to be 103% by 2020.

By providing an upgraded rail connection this line will provide connectivity between Atlanta and Macon, and through future expansion, to a majority of the urban centers in the state such as Savannah, Columbus, Albany, Valdosta and Brunswick, to name a few. The immediate impact of passenger service will occur through all areas along the line between Macon and Atlanta with service availability in rural, suburban and urban areas along its length. This investment will also provide critical infrastructure in the most urbanized parts of the state, allowing the state and the host railroad to preserve a corridor for future High Speed Rail service.

Further, improvements will assist in the continued competitiveness of the host railroad, Norfolk Southern Railway. Benefit would be provided by opening service from a subsidiary line and creating redundant capacity for future containerized rail traffic between the ports of Savannah and Brunswick and northern markets, while providing immediate general freight rail service improvement. Freight flow on the line, south of Hapeville, currently consists of local rail traffic only, with no through trains on the line.

If the line was improved so passenger service could be initiated, Norfolk Southern could look to route through traffic over this line and, in so doing, create two very positive outcomes for Georgia: 1) to stimulate the opportunity for freight-oriented economic development along this Atlanta to Macon corridor; and 2) the improved line of rail would increase overall freight capacity which will improve the through-put and distribution opportunities for Atlanta as a major transportation and distribution hub.

The proposed improvements made by this project will include replacement and upgrade of rail, ties and ballast to class four levels allowing 79 mph service and grade crossing improvements, signaling, and other support infrastructure. The project will be consistent with, and provide transitional investment for the South-East High Speed Rail (SEHSR) corridor as development moves toward 200 mph service on new right of way where required.

As part of the overall program for high speed intercity rail, the state of Georgia has submitted applications for three feasible routes of HSR as a part of the proposed planning process for the extension and interconnection of high speed / intercity rail service in the southeastern region.

The State of Georgia in cooperation with its partner states are working to ensure that all the corridors in the South/Southeast region are being implemented in a coordinated and sustainable manner. This application is one component of a three phase submission to provide funding for unified effort to ultimately build and operate three high speed/intercity rail corridors in a feasible manner. As such, the system proposed would provide a modern, valuable, & reliable service at high speeds (200 mph) with the goal of attracting riders and facilitating economic growth throughout the U.S.

A recent survey of trucking companies across the US shows that government regulation has been a growing concern for their businesses.

In 2009, this concern even outweighed fuel prices and road congestion.

Application Program / Project Name
Atlanta to Louisville Feasibility
Atlanta to Birmingham Feasibility
Macon to Jacksonville Feasibility

Also included in this category is the already completed feasibility study of HSR from Macon to Atlanta. The result of the feasibility studies will also assist in the development of a purpose and need statement that will help in the jump starting the environmental review process.

Federal Regulations: Impact on Logistics

U.S. Federal regulations can greatly influence local and global commerce. Being highly developed and a major global trade partner, the country has regulations that require multi-tiered involvement and overseas participation. These regulations not only dictate how the United States does business, but also affect what others must comply with in order to do business with the United States.

A recent survey of trucking companies across the US shows that government regulation has been a growing concern for their businesses. In 2009, this concern even outweighed fuel prices and road congestion.

Top Trucking Industry Issues Survey Results

2009	2008	2007	2006	2005
1. Economy	1. Fuel Costs	1. Hours-of-Service	1. Driver Shortage	1. Fuel Costs
2. Government Regulation	2. Economy	2. Driver Shortage	2. Fuel Issues	2. Driver Shortage
3. Fuel Issues	3. Driver Shortage/Retention	3. Fuel Issues	3. Driver Retention	3. Insurance Costs
4. Congestion/Highway Infrastructure	4. Government Regulation	4. Congestion	4. Hours-of-Service	4. Hours-of-Service
5. Hours-of-Service	5. Hours-of-Service	5. Government Regulation	5. Congestion	5. Tolls/Highway Funding
6. Commercial Driver Issues	6. Congestion	6. Tolls/Highway Funding	6. Government Regulation	6. Tort Reform/Legal Issues
7. Environmental Issues	7. Tolls/ Highway Funding	7. Tort Reform/ Legal Issues	7. Highway Infrastructure	7. Government Regulation
8. Tolls/Highway Funding	8. Environmental Issues	8. Truck Driver Training	8. Tort Reform	8. Congestion
9. Truck Size and Weight	9. Tort Reform	9. Environmental Issues	9. Tolls/Highway Funding	9. Environmental Issues
10. Onboard Truck Technology	10. Onboard Truck Technology	10. Onboard Truck Technology	10. Environmental Issues	10. Truck Security

C-TPAT is a voluntary government-business initiative to build cooperative relationships that strengthen and improve overall international supply chain and U.S. border security.

Listed below are some examples of regulations that were in the news in 2009-2010 and directly relate to the transportation and logistics environment and the secure and safe passage of goods.

CUSTOMS TRADE PARTNERSHIP AGAINST TERRORISM (C-TPAT)



C-TPAT is a voluntary government-business initiative to build cooperative relationships that strengthen and improve overall international supply chain and U.S. border security. C-TPAT recognizes that U.S. Customs and Border Protection (CBP) can provide the

highest level of cargo security only through close cooperation with the ultimate owners of the international supply chain such as importers, carriers, consolidators, licensed customs brokers, and manufacturers. Through this initiative, CBP is asking businesses to ensure the integrity of their security practices and communicate and verify the security guidelines of their business partners within the supply chain.

C-TPAT offers trade-related businesses an opportunity to play an active role in the war against terrorism. By participating in this first worldwide supply chain security initiative, companies will ensure a more secure and expeditious supply chain for their employees, suppliers and customers. Beyond these essential security benefits, CBP will offer benefits to certain certified C-TPAT member categories, including:

Through this initiative, CBP is asking businesses to ensure the integrity of their security practices and communicate and verify the security guidelines of their business partners within the supply chain.

- *A reduced number of CBP inspections (reduced border delay times)*
- *Priority processing for CBP inspections. (Front of the Line processing for inspections when possible.)*
- *Assignment of a C-TPAT Supply Chain Security Specialist (SCSS) who will work with the company to validate and enhance security throughout the company's international supply chain.*
- *Potential eligibility for CBP Importer Self-Assessment program (ISA) with an emphasis on self-policing, not CBP audits.*
- *Eligibility to attend C-TPAT supply chain security training seminars.*

The Customs Reauthorization Bill currently under consideration includes that the CBP better outline the benefits, establish minimum requirements for participation and non-compliance or failure to meet participation criteria would result in the suspension of all or some of the benefits until rectified.



ONLINE RESOURCE: www.cbp.gov

10+2 IMPORTER SECURITY FILING PROGRAM



CBP may issue liquidated damages of \$5,000 per violation for the submission of an inaccurate, incomplete or untimely filing.

On January 26, 2009, the new rule titled Importer Security Filing (ISF) and Additional Carrier Requirements (commonly known as "10+2") went into effect. This new rule applies to import cargo arriving to the United States by vessel. Failure to comply with the new rule could ultimately result in monetary penalties, increased inspections and delay of cargo.

The ISF 10+2 Importer Security Filing Program is to help prevent terrorist weapons from being transported to the United States and to improve CBP's ability to identify high-risk shipments so as to prevent smuggling and ensure cargo safety and security. Importers and Vessel Operating Carriers bringing cargo to the United States will be required to transmit certain information to U.S. Customs and Border Protection (CBP) about the cargo they are transporting prior to lading that cargo at foreign ports of entry.

CBP may issue liquidated damages of \$5,000 per violation for the submission of an inaccurate, incomplete or untimely filing. If goods for which an ISF has not been filed arrive in the U.S., CBP may withhold the release or transfer of the cargo; CBP may refuse to grant a permit to unlade for the merchandise; and if such cargo is unladen without permission, it may be subject to seizure. Additionally, noncompliant cargo could be subject to "do not load" orders at origin or further inspection on arrival.

Bulk and break-bulk cargo: An Importer Security Filing is not required for bulk cargo. For break bulk cargo that is exempt from the 24 hour prior to lading timing requirement for 24 Hour Rule purposes, the Importer Security Filing is required 24 hours prior to arrival.



ONLINE RESOURCE: www.cbp.gov

HOURS-OF-SERVICE REGULATION



The Hours-of-Service regulations (49 CFR Part 395) put limits in place for when and how long commercial motor vehicle (CMV) drivers may drive. These regulations are based on an exhaustive scientific review and are designed to ensure truck drivers get the necessary rest to perform safe operations. FMCSA also reviewed existing fatigue research and worked with organizations like the Transportation Research Board of the National Academies and the National Institute for Occupational Safety in setting these HOS rules.

The regulations are designed to continue the downward trend in truck fatalities and maintain motor carrier operational efficiencies. Although the HOS regulations are found in Part 395 of the Federal Motor Carrier Safety Regulations, many States have identical or similar regulations for intrastate traffic.

HOURS-OF-SERVICE RULES	
Property-Carrying CMV Drivers	Passenger-Carrying CMV Drivers
<p>11-HOUR DRIVING LIMIT May drive a maximum of 11 hours after 10 consecutive hours off duty.</p>	<p>10-HOUR DRIVING LIMIT May drive a maximum of 10 hours after 8 consecutive hours off duty.</p>
<p>14-HOUR LIMIT May not drive beyond the 14th consecutive hour after coming on duty, following 10 consecutive hours off duty. Off-duty time does not extend the 14-hour period.</p>	<p>15-HOUR ON-DUTY LIMIT May not drive after having been on duty for 15 hours, following 8 consecutive hours off duty. Off-duty time is not included in the 15-hour period.</p>
HOURS-OF-SERVICE RULES (cont.)	
<p>60/70-HOUR ON-DUTY LIMIT May not drive after 60/70 hours on duty in 7/8 consecutive days. A driver may restart a 7/8 consecutive day period after taking 34 or more consecutive hours off duty.</p>	<p>60/70-HOUR ON-DUTY LIMIT May not drive after 60/70 hours on duty in 7/8 consecutive days.</p>
<p>SLEEPER BERTH PROVISION Drivers using the sleeper berth provision must take at least 8 consecutive hours in the sleeper berth, plus a separate 2 consecutive hours either in the sleeper berth, off duty, or any combination of the two.</p>	<p>SLEEPER BERTH PROVISION Drivers using a sleeper berth must take at least 8 hours in the sleeper berth, and may split the sleeper-berth time into two periods provided neither is less than 2 hours.</p>

The Hours-of-Service regulations (49 CFR Part 395) put limits in place for when and how long commercial motor vehicle (CMV) drivers may drive.



ONLINE RESOURCE: www.fmcsa.dot.gov

ELECTRONIC ON BOARD RECORDER (EOBR) RULE



The U.S. Federal Motor Carrier Safety Administration (FMCSA) announced in April, 2010 that it will require carriers with a pattern of hours of service violations to install electronic on-board recorders (EOBRs)

The U.S. Federal Motor Carrier Safety Administration (FMCSA) announced in April, 2010 that it will require carriers with a pattern of hours of service violations to install electronic on-board recorders (EOBRs), and the rule could be expanded to include more trucks later this year. The new rule was published on April 2nd and calls for carriers with 10 percent or more HOS violations during a compliance review to install EOBRs in all their vehicles for a minimum of two years. The administration estimates nearly 5,700 interstate carriers will use EOBRs after the final rule's first year of implementation.

The rule will go into effect on June 1, 2012 and is considerably stricter than a previous proposal from the FMCSA. The original option would have required EOBR usage for carriers charged with two serious HOS review violations (with a rate of violation greater than 10 percent), in a two-year period. Under this less strict option, it was estimated about 1,000 carriers would be required to use EOBRs.

That proposal was criticized by the U.S. National Transportation Safety Board as being too soft. "Safety is our highest priority," said FMCSA administrator Anne Ferro. "In addition to requiring EOBRs for carriers that have already demonstrated a pattern of hours-of-service violations, we will initiate a rule making later this year that considers an EOBR mandate for a broader population of commercial motor carriers."

The new EOBR rule was published on April 2nd and calls for carriers with 10 percent or more HOS violations during a compliance review to install EOBRs in all their vehicles for a minimum of two years.

The new rule also provides new technical performance standards for EOBRs installed in commercial motor vehicles, including requirements for recording the date, time and location of a driver's duty status. And EOBRs required under the new rule will have to be installed, meaning tied into the truck's engine. The FMCSA has decided that it will be easier to ensure compliance if EOBRs are tied right into the truck, rather than allowing wireless GPS systems to track a driver's hours.

The EOBR rule will go into effect on June 1, 2012

Another stipulation of the rule is that the EOBR will have to do the official HOS tracking automatically, with drivers being able to add information to the record, but the original information must be kept. Additionally, carriers that voluntarily adopt EOBRs will receive relief from some of FMCSA's requirements to retain HOS supporting documents, such as toll receipts used to check the accuracy of driver logbooks.

Meanwhile, north of the border the Canadian Council of Motor Transport Administrators has begun drafting a related rule on EOBRs. The limited scope of the U.S. rule, even temporarily, could mean that the Canadian Trucking Alliance's wish for a universal mandate for all carriers in Canada would be difficult to pass

SAFE AND EFFICIENT TRANSPORTATION ACT OF 2009 (H.R. 1799)

Allows a state to authorize the operation of a vehicle with a maximum gross weight (including enforcement tolerances) in excess of certain federal weight limitations on Interstate Highway System (IHS) routes in the state if:

1. Vehicle is equipped with at least six axles;
2. Weight of any single axle does not exceed 20,000 pounds;
3. Weight of any tandem axle does not exceed 34,000 pounds;
4. Weight of any group of three or more axles does not exceed 51,000 pounds; and
5. Gross weight of the vehicle does not exceed 97,000 pounds.

Allows a state to authorize the operation of an overweight vehicle on Interstate Highway System routes in the state if they meet certain requirements.

This proposed Act directs the Secretary of Transportation to establish a safe and efficient vehicle bridge infrastructure improvement program, and to apportion amounts from the Safe and Efficient Vehicle Trust Fund to states for eligible bridge replacement or rehabilitation projects.

Finally, it amends the Internal Revenue Code to: (1) impose an overweight vehicle tax on any vehicles that exceed federal weight limitations operating on the IHS; and (2) establish the Safe and Efficient Vehicle Trust Fund.



ONLINE RESOURCE: www.govtrack.us

SECURITY AND ACCOUNTABILITY FOR EVERY PORT ACT OF 2006 - "SAFE PORT ACT"



The Implementing Recommendations of the 9/11 Commission Act (9/11 ACT) requires scanning 100 percent of U.S.-bound cargo containers by 2012. To fulfill these requirements, CBP created the Secure Freight Initiative (SFI) and has initiated a pilot program at seven seaports.

To improve maritime container security, the SAFE Port Act was enacted in October 2006 and requires, among other things, that CBP conduct a pilot program to determine the feasibility of scanning 100 percent of U.S.-bound containers. It also specifies that the pilot should test integrated scanning systems that combine the use of radiation portal monitors and NII equipment, building upon CSI and the Megaports Initiative. To fulfill this and other requirements of the SAFE Port Act, CBP and DOE jointly announced the formation of SFI in December 2006. The first phase of SFI is the International Container Security projects – commonly known as the SFI pilot program.

The Safe-Port-Act calls for testing the feasibility of scanning 100 percent of U.S.-bound cargo containers, and implementation by 2012

The final regulations (termed the "Final Rule") were finalized and released November 12, 2008, and came into effect on January 19, 2009, the day before the Obama administration took office. Compliance was not required until December 1, 2009 in order to give the "non-exempt participants" an opportunity to implement the necessary safeguards and procedures.



ONLINE RESOURCE: www.govtrack.us

SUSTAINABILITY



There are many regulations both from the federal and state level that have sustainability in mind and are aimed at reducing various forms of pollution such as noise and air or the consumption of fossil fuels. At the moment, many of these regulations are imposed at a state or local level.

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The Good Haul, Innovations That Improve Freight Transportation and Improve the Environment, a report sponsored by the Environmental Defense Fund asserts that “the United States needs national programs and policies to make our freight system more effective now and in the future. [The] report provides examples of real-world freight transportation innovations that can help the economy, create and support good jobs, and reduce environmental impacts.”

The Freight System Must Modernize to Meet Demand and Reduce Pollution.

Freight is growing fast. By 2020, 90.1 million tons per day are expected to move throughout the United States, a 70% increase from 2002. Our domestic trucking sector loses an estimated \$8 billion per year as a result of clogged roads. To meet growing demand, reduce congestion, and improve reliability, the U.S. freight system needs to modernize. This drive to modernize presents a valuable opportunity to also improve freight’s environmental and health performance in communities across the country.



In December 2000, EPA announced its plan to mandate ultra-low sulfur diesel (ULSD) fuel. In 2007, EPA also began a slow phase-in of ULSD for non-road vehicles.

In addition to the ULSD requirements, EPA enacted heavy-duty highway engine regulations in 2001, which were phased in from 2007 to 2010. The rules place stricter regulations on particulate matter, nitrogen oxides and non-methane hydrocarbons and are intended to reduce emissions by 95%. In March 2008, EPA adopted strong emissions limits for locomotive and marine engines.

The regulation follows three strategies: it sets more stringent emissions standards for remanufactured locomotive and marine engines; creates standards, phased-in starting in 2009, for newly rebuilt locomotive and marine engines; and sets standards for new marine and locomotives diesel engines beginning in 2014 and 2015, respectively. The new engine standards are based on advanced engine technology that requires ULSD fuel, which will be available nationwide by 2012 for off-road engines. *Source: extracted from www.edf.org*

Examples of ongoing sustainability efforts were recently highlighted in the EDF report “The Good Haul”:

- **IN CHICAGO**, the CREATE program aims to reduce congestion and improve air quality by streamlining four major rail lines. Chicago handles 30% of rail freight revenue and expects to see an 89% increase in rail traffic over the next 30 years. The program will result in \$1.12 billion in health care savings from improved air quality and will generate economic activity valued at more than \$525 million. The program expects to create 2,700 annual jobs.
- **IN SOUTHERN CALIFORNIA**, the Ports of Los Angeles and Long Beach launched the Clean Air Action Plan in 2006, which cleans up all areas of port activity: ships, trucks, cargo handling equipment, locomotives—

even tug boats. The plan has already taken 2,000 dirty diesel trucks off the road and has created more than 3,000 jobs at the Port of LA, alone.

- **IN SEATTLE**, BNSF Railway installed four electric wide-span, rail-mounted gantry cranes at the Seattle International Gateway (SIG) intermodal facility. The cranes' wide footprints allow them to span three tracks, stack containers and load and unload both trucks and railcars. The cranes produce zero onsite emissions and have increased throughput by 30% at the facility.
- **IN THE EAST**, the Port of Virginia's Green Goat hybrid yard switcher, a rail locomotive that moves short distances within a rail yard, provides fuel savings between 40-60% and is predicted to reduce nitrogen oxide and particulate matter emissions between 80-90% annually.
- **ALONG THE GULF**, Sea Bridge freight, a coastal shipping service between Port Manatee, Florida and Brownsville, Texas avoids an average of 1,386 miles of congested highways. Compared to trucking, one Sea Bridge barge has the capacity to remove 400,000 truck highway miles on a single one-way voyage.
- **INTERNATIONALLY**, Germany has instituted Toll Collect, a distance-based GPS truck tolling system, with a category for engine emissions. This has encouraged a shift to cleaner engines. The cleanest Euro V truck engines have increased from <1% in 2005 to 51% in 2008, and since 2007, Toll Collection has seen revenues of 3.4 billion euros.



ONLINE RESOURCE: "The Good Haul" Report

State Legislation - Transportation & Logistics



A list of 2010 "crossover" Georgia legislative activity can be found in the following section. This report was prepared during the active legislative session, so the final outcome of the bills listed (and others) is not reflected here.

This update will be compiled in a later follow-on addendum to this report, available at www.georgialogistics.org.

TRANSPORTATION INVESTMENT ACT OF 2010. HB 1218 (REP. JIM COLE)

Proposes a one-percent regional sales and use tax to fund all modes of transportation for a period of eight years. The bill establishes 12 special tax districts based on existing regional commission boundaries. Counties must pass a resolution to participate in the regional vote. HB 1218 proposes a regional 1% sales tax and removes the 50/50 restriction on MARTA revenues. Favorably reported; This Act shall become effective upon its approval by the Governor or upon its becoming law without such approval.

THE GEORGIA 2020 TRANSPORTATION ACT. HB 277 (REP. VANCE SMITH-R)

To create Georgia 2020 Transportation Trust Fund Oversight Committee, to provide for allocation of funds from trust fund and to implement an additional 1% special transportation sales and use tax.

MULTI-YEAR GDOT CONTRACTS. HB 1135 (REP. JAY ROBERTS-R)

So as to authorize the GDoT to enter into multiyear contracts subject to certain terms and conditions; to provide that any such contract shall terminate at the close of each fiscal year and may be renewed only by positive action of the department.

REGULATION OF OVERSIZE AND OVERWEIGHT LOADS. HB 1174 (REP. JON BURNS-R)

Relating to regulation of maintenance and use of public roads, so as to provide for regulation of oversize and overweight loads on streets or highways

CONSTITUTIONAL AMENDMENT FOR TRANSPORTATION FUNDING. HR 206 (REP. VANCE SMITH-R)

Proposing an amendment to the Constitution to provide for the creation of a Transportation Trust Fund and to provide for a levy of a 1% sales and use tax for deposit in the Trust Fund for transportation projects.

TRANSPORTATION FUNDING. SB 39 (SEN. JEFF MULLIS-R)

To provide for a 1% sales tax to be used to fund transportation projects in special transportation districts; to provide for creation of such districts with counties being able to opt out and to provide for the district to pass a resolution calling for a referendum within the district.

DESIGN-BUILD METHOD IMPLEMENTATION. SB 305 (SEN. JEFF MULLIS-R)

Relating to use of the design-build method of implementation of transportation projects.

CONSTITUTIONAL AMENDMENT FOR TRANSPORTATION FUNDING. SR 44 (SEN. JEFF MULLIS-R)

Proposing an amendment to the Constitution to provide for a 1% regional local option sales and use tax to fund transportation projects.

PROVIDE FOR AN INTERMODAL DIVISION WITHIN THE GDOT. SB 520 (SEN. JEFF MULLIS-R)

To amend code to provide for an Intermodal Division within the Department; to provide for related matters; to provide for an effective date; to repeal conflicting laws.

NOTE:

This report was prepared during the active legislative session, so the final outcome of the bills listed (and others) is not reflected here. This update will be compiled in a later follow-on addendum to this report, available at www.georgialogistics.org.

Georgia's Incentives



For start-ups and Fortune 500 companies alike, Georgia's available incentives – reward the establishment, expansion or relocation of a company's headquarters or operations to the state, for locating in a geographical area being targeted for development, or for contributing to the growth of a specific strategic industry cluster.

Small companies thrive in Georgia by the help of programs designed specifically to meet their unique needs for becoming fiscally competitive. Many programs come from the Georgia Department of Economic Development's regional offices and are

developed in conjunction with the University of Georgia, Georgia Tech and other business-support institutions. Economic success is the common goal for all businesses, and pro-commerce incentives, training programs and customized resources will continue the momentum of Georgia's thriving business climate.

Source: [Georgia Department of Economic Development](#)

Collected here is a summary of many of the incentives and tools Georgia has to offer to private industry to help fuel competitiveness. For more information on incentives or to explore relocating or expanding your business in Georgia, please visit: www.georgia.org

Georgia continues to attract successful companies due to a pro-business environment, a talented workforce, world-class infrastructure and unparalleled access to the world market. We offer a performance-based package of business assistance designed to foster success for companies and the Georgia communities they call home. In combination with inducements available from many local municipalities and counties, we can help your new or expanding venture get the good start it needs and continue to be successful in the future.

Georgia continues to attract successful companies due to a pro-business environment, a talented workforce, world-class infrastructure and unparalleled access to the world market.

Georgia offers a range of corporate tax credits that enable companies to minimize or completely eliminate state corporate income taxes which, at six percent, are already among the lowest in the nation.

GEORGIA TAXES

SINGLE FACTOR APPORTIONMENT

In 2005, Georgia became the first state in the Southeast to adopt a "Single Factor Gross Receipts" apportionment formula. As indicated by its name, the new "Single Factor Gross Receipts" formula will treat a company's Gross Receipts, or sales factor, as the only relevant factor in determining the portion of that company's income that is subject to Georgia income tax.

Previously, Georgia used a three-factor apportionment formula, but for the 2008 tax year and thereafter, Georgia property and payroll will not factor into the calculation of a company's corporate income tax. This new single sales factor apportionment formula significantly reduces the effective rate of Georgia income taxation of Georgia-based manufacturing, distribution and service companies with substantial sales to customers outside Georgia.

EXAMPLE: Assume that, for the 2009 tax year, In-State Manufacturing Co., Inc. has the following total overall taxable income and gross receipt sales in Georgia as compared to total gross receipt sales: **TAXABLE INCOME:** \$10 million Percent of Gross Receipts in Georgia: 13%

Accordingly, in 2009, only \$1.3 million (.13 x \$10 million) of In-State Manufacturing Co., Inc.'s income would be subject to Georgia's 6% corporate income tax under the new Single Factor Gross Receipts formula. If the sales in Georgia compared to total sales were less than 13%, then the amount subject to Georgia's income taxes would also be less. In addition, Georgia does not use the so-called "Throw Back Rule," under which many states tax income from sales of goods or services to out of state customers if the customer's state does not already tax that income.

FRANCHISE OR CORPORATE NET WORTH TAX

The annual tax based on net worth (capital stock + retained earnings) is called a license or occupational tax in Georgia. Most states refer to the tax on net worth either as a franchise or privilege tax. Domestic corporations are taxed on 100 percent of net worth. Foreign (out-of-state) corporations are taxed only on net worth apportioned to Georgia. This tax is capped in Georgia at a maximum amount of \$5,000 annually.

CORPORATE TAX CREDITS

Georgia offers a range of corporate tax credits that enable companies to minimize or completely eliminate state corporate income taxes which, at six percent, are already among the lowest in the nation. For some of the credits, the amounts are dependent on the "tier status" of the community. Tier status refers to an annual four-tier ranking of the economic vitality of Georgia's counties. The highest credits are offered in the counties with the greatest need (Tier 1 and 2 counties), while the most prosperous counties (Tier 3 and 4 counties) offer lesser amounts.

JOB TAX CREDIT

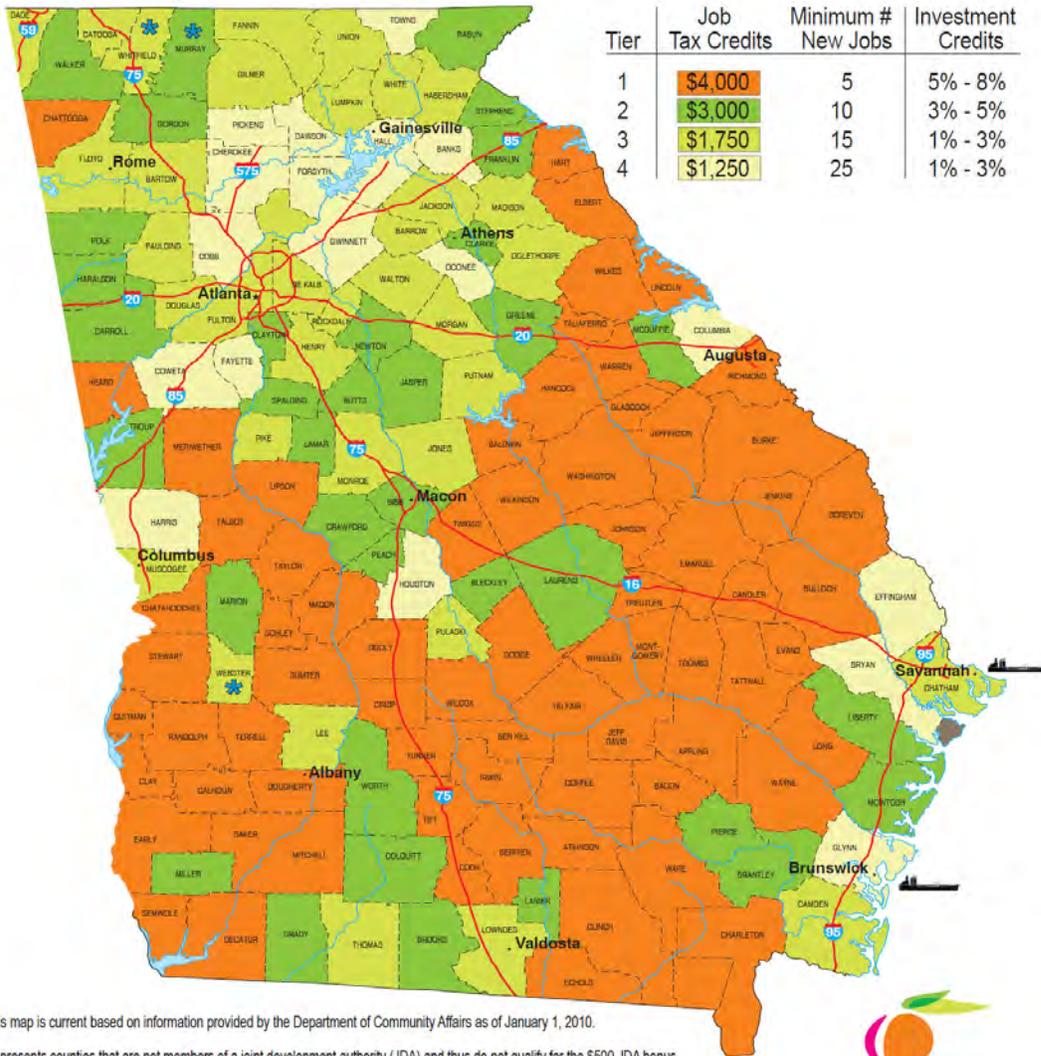
Strategic industries such as distribution, technology, manufacturing, telecom, processing companies and their headquarters qualify for Georgia's Job Tax Credit. Depending on the community's tier, companies must create between five and 25 net new jobs per year to qualify. For each year (up to five years) the jobs are maintained, qualified companies can claim a tax credit with a value of \$750 – \$3,500 per job, per year.

JDA JOB TAX CREDIT BONUS

An additional \$500 credit is offered in counties that participate in a multi-county joint development authority. Unused job tax credits may be carried forward ten years. Increased job tax credits, equal to Tier 1 credits, are also allowed for companies that create jobs in less developed pockets of metro areas, regardless of the county's tier. Georgia has 40 counties that offer job tax credits to retail and business operations other than those listed here.

Strategic industries such as distribution, technology, manufacturing, telecom, processing companies and their headquarters qualify for Georgia's Job Tax Credit.

2010 Job Tax Credits Tier Map



Small companies thrive in Georgia by the help of programs designed specifically to meet their unique needs for becoming fiscally competitive

This map is current based on information provided by the Department of Community Affairs as of January 1, 2010.

* Represents counties that are not members of a joint development authority (JDA) and thus do not qualify for the \$500 JDA bonus. Job tax credit amounts for these counties are \$500 less than indicated on the chart above.



Tier	Job Tax Credits	Minimum # New Jobs	Investment Credits
1	\$4,000	5	5% - 8%
2	\$3,000	10	3% - 5%
3	\$1,750	15	1% - 3%
4	\$1,250	25	1% - 3%

In Tier 1 and 2 counties, credits may be taken against 100 percent of corporate income tax liability, 50 percent in Tiers 3 and 4. Excess credits may be carried forward for ten years. Additionally, in Tier 1 counties, these excess credits may be credited to Georgia payroll withholding taxes (with a limitation of \$3,500 per job per year). Jobs can count toward either the Job Tax Credit or the Quality Jobs Tax Credit (if applicable).

Tier	Job Tax Credit \$	Jobs	Use of Credits	Carry Forward
1	\$3,500 - \$4,000*	5	100% of tax liability	10 years – excess to withholding tax up to \$3,500
2	\$2500- \$3000*	10	100% of tax liability	10 years
3	\$1,250 - \$1,750*	15	50% of tax liability	10 years
4	\$750 - \$1,250*	25	50% of tax liability	10 years

* includes \$500 bonus for Joint Development Authority. Georgia counties can form partnerships which benefit companies with this \$500 Job Tax Credit bonus.

Example: Taxpayer creates 50 jobs in a Tier 1 county offering a \$4,000 credit, receives \$1 million in tax credits over five years to reduce or eliminate Georgia income tax [50 jobs x \$4,000 x 5 years = \$1 million].

PORT TAX CREDIT BONUS

Available to taxpayers who increase imports or exports through a Georgia port by 10 percent over the previous year. The port tax credit bonus can be used with either the Job or the Investment Tax Credit program. Unused credits may be carried forward 10 years.

PORT JOB TAX CREDIT BONUS FOR JOB TAX CREDITS

The port tax credit is a \$1,250 per job bonus for taxpayers with qualified increases in shipments through a Georgia port. The \$1,250 is added to the job tax credit.

PORT TAX CREDIT BONUS

Available to taxpayers who increase imports or exports through a Georgia port by 10 percent over the previous year.

Example: Taxpayer that creates 50 jobs in a Tier 1 county is eligible to receive the port bonus, adding \$1,250 to \$4,000 job tax credit for total credit of \$5,250 for each job. Taxpayer is eligible for \$1,312,500 in tax credits spread over five years to reduce or eliminate Georgia income tax: [50 jobs x \$5,250 x 5 years = \$1,312,500].

PORT TAX CREDIT BONUS FOR INVESTMENT TAX CREDIT

The port bonus increases the investment tax credit to the equivalent of a Tier 1 location regardless of the tier level. The port bonus would therefore be equal to 5 percent of the qualified investment in expenses directly related to manufacturing or providing telecommunications services with the credit increasing to 8 percent for recycling, pollution control and defense conversion. The port bonus is limited to 50 percent of income tax liability.

Example: Taxpayer qualifies for a port bonus in a Tier 4 county, invests \$100 million in a manufacturing plant plus \$25 million in recycling equipment. Taxpayer is eligible for a \$7 million investment tax credit to reduce or eliminate Georgia income tax: [\$100 million x 5%] + [\$25 million x 8%] = \$7 million.

QUALITY JOBS TAX CREDIT

Companies that create at least 50 jobs in a 12 month period that each pay wages at least 110% of the county average are eligible to receive a tax credit of \$2500-\$5000 per job, per year, for up to five years, based on the scaled system below. New quality jobs created within seven years of

the first taxable year in which the taxpayer first becomes eligible for the tax credit can qualify. Credits may be used to offset the company’s payroll withholding once all other tax liability has been exhausted, and may be carried forward for ten years. New jobs may count toward either the Jobs Tax Credit or the Quality Jobs Tax Credit (if applicable).

Average Wage Requirement (% of county average)	Credit Value per New Quality Job
≥110% and <120%	\$2500
≥120% and <150%	\$3000
≥150% and <175%	\$4000

Companies that create at least 50 jobs in a 12 month period that each pay wages at least 110% of the county average are eligible to receive a tax credit of \$2500-\$5000 per job,

MEGA PROJECT TAX CREDIT

Companies that employ at least 1,800 net new employees, and either invest a minimum of \$450 million or have an minimum annual payroll of \$150 million may claim a \$5,250 per job per year tax credit for the first 5 years of each net new job position. Credits are first applied to state corporate income tax with excess credits eligible for use against payroll withholding. Credits may be carried forward for 10 years.

RE-TRAINING TAX CREDITS

A company’s direct investment in training can be claimed as a tax credit – 50 percent of the employer’s direct cost up to \$500 per, per approved training program. The total amount of credit cannot exceed \$1250 per employee per year. Training programs must be approved by the Technical College System of Georgia. This tax credit can be used to offset up to 50 percent of a company’s state corporate income tax liability. The credit is available to all Georgia businesses that file a Georgia income tax return. The retraining program must be for quality and productivity enhancements and certain software technologies. Unused credits can be carried forward 10 years. These credits can be combined with other tax credits.

TAX EXEMPTIONS

SALES AND USE TAX EXEMPTION

Qualified equipment purchases or leases are exempt from sales tax when the equipment purchased is used in the manufacturing process. Under certain conditions, primary material handling equipment (in warehouses and distribution centers); computer equipment; Class 100 (or less) clean room machinery, equipment and materials; and electricity used directly as a raw material in the manufacturing process can also be exempted.

INVENTORY TAX EXEMPTION

Many Georgia counties exempt from property tax up to 100 percent of qualified raw material, work-in-process and finished goods inventory under Georgia’s local-option “Freeport” law. In most of these counties, distribution center and warehouse inventories are exempt if the inventory is destined to be shipped out of state.

OPTIONAL INVESTMENT TAX CREDITS

The optional investment tax credit can be taken in lieu of the investment tax credit. The credits range from 10 percent to 6 percent of qualified capital investment. This credit is available to taxpayers that qualify for investment tax credits, with the minimum investment ranging from \$5 million to \$20 million. A taxpayer can use the tax credits up to the calculated amount for a given year. The credit may be claimed up to 10 years after the year the property was first placed in service, provided the property remains in service. The optional investment tax credit is a calculated risk. Without large increases each year in income tax liability, the usable tax credit could be very small and possibly zero.

Georgia offers a R&D Tax Credit to new business entities performing qualified research and development in Georgia.

R&D TAX CREDIT

Georgia offers a R&D Tax Credit to new business entities performing qualified research and development in Georgia. New business entities may claim a 10% tax credit of increased R&D expenses subject to a base year calculation, and the credit may be claimed for five years. In the first year, the base calculation is 30% of the qualified R&D expense. The credit is determined by taking 10% of qualified R&D expenses less the base year. The R&D credit is applied to 50% of the company's net Georgia income tax liability after all other credits have been applied. In the first five years of a newly formed business entity in Georgia, any excess R&D credit can then be applied to the company's state payroll withholding. Any unused credits can be carried forward for up to 10 years from the close of the taxable year in which the qualified research expenses were made.

Georgia provides a number of Centers of Innovation across the state, each supporting a different strategic industry sector, where innovative companies can accelerate their growth by tapping university-sponsored research, university and private sector talent and other state and private sector resources...

EXISTING INDUSTRY JOB TAX CREDIT BONUS

Companies that have been doing business in Georgia for at least three years can claim a one-time additional \$500 tax credit for every net new job they add between 2006 and 2011.

SMALL BUSINESS TAX RELIEF

Georgia now allows small businesses making capital investments of less than \$410,000 to write off up to \$102,000 of those expenses in the current year. For capital investments greater than \$410,000, the tax write-off is reduced dollar for dollar.

Specifically, the Center of Innovation for Logistics.

ADDITIONAL ASSISTANCE FOR GEORGIA BUSINESS

CENTERS OF INNOVATION

Georgia provides a number of Centers of Innovation across the state, each supporting a different strategic industry sector, where innovative companies can accelerate their growth by tapping university-sponsored research, university and private sector talent and other state and private sector resources. Specifically, the Center of Innovation for Logistics. www.georgialogistics.org

STRATEGIC INDUSTRIES LOAN FUND

Companies that have operations in one of Georgia's strategic industries and demonstrate one or more of the following criteria are eligible to receive loans to finance fixed assets:

- high potential for commercialization
- the creation of quality jobs that demonstrate full benefits (including health insurance and retirement) and pay above average wages for the subject county
- successful experience in a Georgia incubator or Center of Innovation or
- existence of a unique partnership with one of the Georgia's research universities and state colleges.

Identified strategic industry sectors in Georgia include but are not limited to: aerospace, agribusiness, energy and environmental, healthcare, eldercare, life sciences, logistics and transportation. In addition, supporting industry clusters may include, but are not limited to advanced telecommunications, business and financial services, homeland security, multimedia and software development. Loans will finance fixed assets only – such as lab equipment, build-out of lab space, and leasehold improvements. Loans will typically be no more than 20% of the company's fixed-asset needs in the company's Georgia location. However loans are not limited in amount.

GEORGIA TECH FACILITECH

Georgia Tech can partner with Georgia companies to offer access to world-class talent and an array of services to help with issues related to process productivity, quality and international standards, energy and environmental management, lean enterprise transformation, trade adjustment assistance, new product design and development, and information technology strategies.

ENTREPRENEUR AND SMALL BUSINESS (ESB) LOAN GUARANTEE PROGRAM

In partnership with the OneGeorgia Authority, the state can provide loan guarantees to spur entrepreneurial growth in specified rural communities throughout Georgia. The guarantee amounts can range between \$35,000 and \$250,000, can be used for hard assets.

Georgia provides a number of Centers of Innovation across the state, each supporting a different strategic industry sector, where innovative companies can accelerate their growth by tapping university-sponsored research, university and private sector talent and other state and private sector resources...

Specifically, the Center of Innovation for Logistics.

Identified strategic industry sectors in Georgia include but are not limited to:

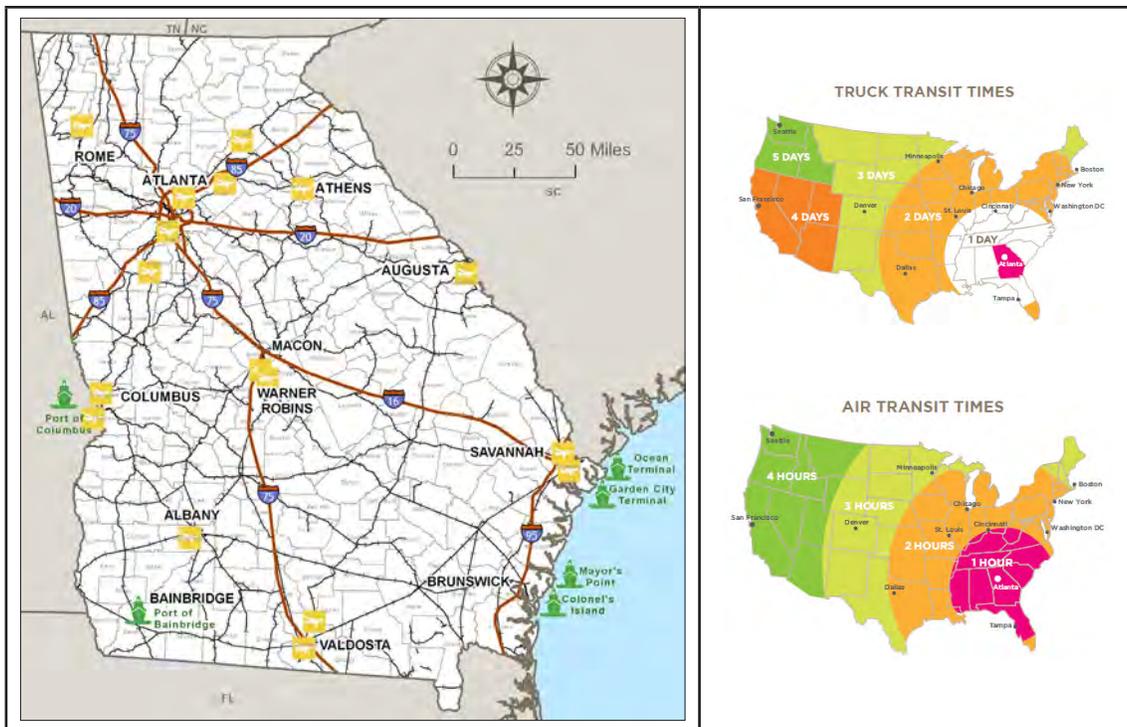
- aerospace
- agribusiness
- energy and environmental
- healthcare and eldercare
- life sciences
- **logistics and transportation**

FACTOR #2: INFRASTRUCTURE

Whether freight is moving on the roads, rail, air or sea - Georgia has the infrastructure to make sure it gets to its final destination efficiently and reliably. This reliance on infrastructure has been noted by Site Selection Magazine as one of the top considerations companies explore when looking relocate or expand their business. This section will outline many of these assets, and some factors impacting their current and future role in freight movement.

Georgia is home to six of the top fifty cargo carriers, including the world's number one carrier, ups.

Cargo is within two or fewer days by truck from 80 percent of the U.S. industrial and commercial markets.



LEGEND

Logistics Infrastructure

- Ports
- Airports with Cargo
- Railroads
- Interstates

SOUTHEAST POPULATION GROWTH – MEGA REGIONS

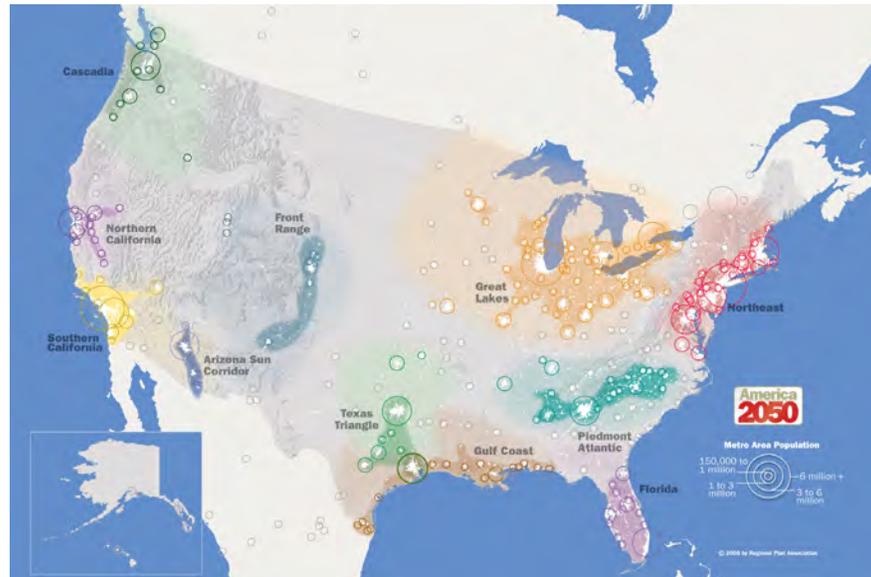


According to many studies, the Southeastern US is going to continue its strong growth in population for many years to come. This continued growth will place more burden on the infrastructure used not only to transport the growing numbers of people, but also to support the increased delivery of goods and commerce that this larger population will consume. A

transportation advocacy group - America2050 - has identified what they call “Mega Regions” throughout the Country and examines them with regards to transportation infrastructure, energy, water and environmental conditions. Georgia is predominantly located in what they call the Piedmont Mega Region, but also strongly influenced by the Mega Region of Florida.

The low cost of living and high quality of life in the Southeast are two reasons for the Piedmont mega-region’s booming population.

**PROJECTED GROWTH
BY 2025:
38%**



Piedmont Atlantic Mega Region	
	Principal Cities: Atlanta, Birmingham, Raleigh-Durham, Charlotte
	Population 2000: 14,855,052
	Percent of U.S. Population: 5%
	Population: 2025: 20,505,381
	<i>Projected Growth: 38%</i>
	2005 GDP: \$485,753,000,000
Percent of US GDP: 4%	

The low cost of living and high quality of life in the Southeast are two reasons for the Piedmont mega-region’s booming population. This region is firmly anchored by Atlanta but stretches east to Raleigh, North Carolina and west to Birmingham, Alabama. The region is facing challenges associated with its growing population, such as increased traffic congestion, fast-paced land consumption, and inadequate infrastructure, which it hopes to address with sustainable solutions.



ONLINE RESOURCE: www.america2050.org

Logistics

LOGISTICS PERFORMANCE

Logistics performance largely impacts economic competitiveness overall, one example of this is tracked through the Logistics Performance Index (LPI) published by the World Bank. They cite increased competition in logistics and trade related services such as trucking, freight forwarding and railways as ways of improving overall economic performance.

Based on 2010's LPI, the United States ranked 15th out of 155 countries with Germany ranking 1st. The export port/airport and land supply chain costs even with increased distance covered in Germany showed to have significantly lower costs than the United States.

Logistics Performance Index currently ranks the United States 15th out of 155 countries with Germany ranking 1st

Logistics Performance Index (LPI) - 2010			
COUNTRY	RANK	SCORE	% OF HIGHEST PERFORMER
Germany	1	4.11	100
Singapore	2	4.09	99.2
Netherlands	4	4.07	98.5
Luxembourg	5	3.98	95.7
Switzerland	6	3.97	95.5
Japan	7	3.97	95.2
United Kingdom	8	3.95	94.9
Belgium	9	3.94	94.5
Norway	10	3.93	94.2
Ireland	11	3.89	92.9
Finland	12	3.89	92.6
Hong Kong, China	13	3.88	92.4
Canada	14	3.87	92.3
United States	15	3.86	91.7

Of the high-income countries, the LPI report shows factors of time and cost to largely impede competitiveness. These factors were identified primarily as a result of policy, border clearance, pricing of shipments, and quality of infrastructure.

Georgia is home to nearly 11,000 providers of logistics services, from core transportation and facilities, to third party logistics and software providers

Logistics Industry Ecosystem

Georgia is home to nearly 11,000 providers of logistics services, from core transportation and facilities, to third party logistics and software providers, and ranks as the 5th largest overall logistics employer in the nation. Companies like Delta Airlines, UPS, SAIA, and Manhattan Associates are headquartered here along with major players in logistics such as Home Depot, Coca-Cola and Gulfstream. In total, close to 33,000 logistics users critically rely on the efficient flow of freight to operate their business. Additionally, every sector of logistics is supported by active trade associations in Georgia is a popular location for many major logistics industry events.

The ecosystem is comprised of two primary groups - LOGISTICS USERS and LOGISTICS PROVIDERS

In the introduction to this report an overview of this "logistics ecosystem" was explored in greater detail. However, these categories are used multiple times throughout this report, so to summarize briefly again, the ecosystem is comprised of two primary groups - LOGISTICS USERS and LOGISTICS PROVIDERS.

LOGISTICS PROVIDER DEFINITIONS

CORE INDUSTRIES

Organizations involved with the direct movement of cargo and freight and whose primary business creates and/or connects major nodes in the global supply chain. Core industries are broken into two sub-groups:

- Facilities (warehouses, ports...)
- Transportation (truck, rail, air...)

RELATED INDUSTRIES

Consists of two categories: enabling, which helps move goods faster and more efficiently through the supply chain typically through technology improvements or offerings; and traditional, which provides goods and services directly to the infrastructure (core industry) of the supply chain.

- Enabling (logistics software, engineers...)
- Traditional (cargo container manufacturers, third-party providers...)

SUPPORT INDUSTRIES

This group of companies provides services to both the core and related industries but does not physically touch the cargo. Support industries include labor organizations such as associations and unions, as well as professional services such as accounting, legal and consulting.

PROVIDER CATEGORIES

CORE FACILITIES

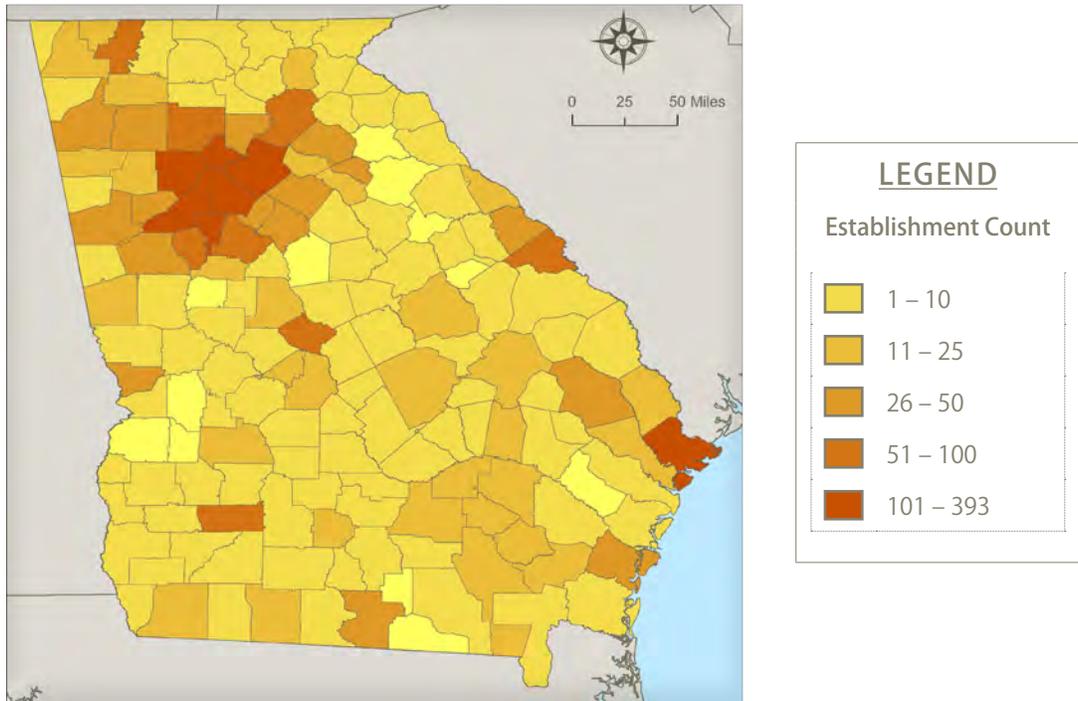
CORE TRANSPORTATION

RELATED TRADITIONAL

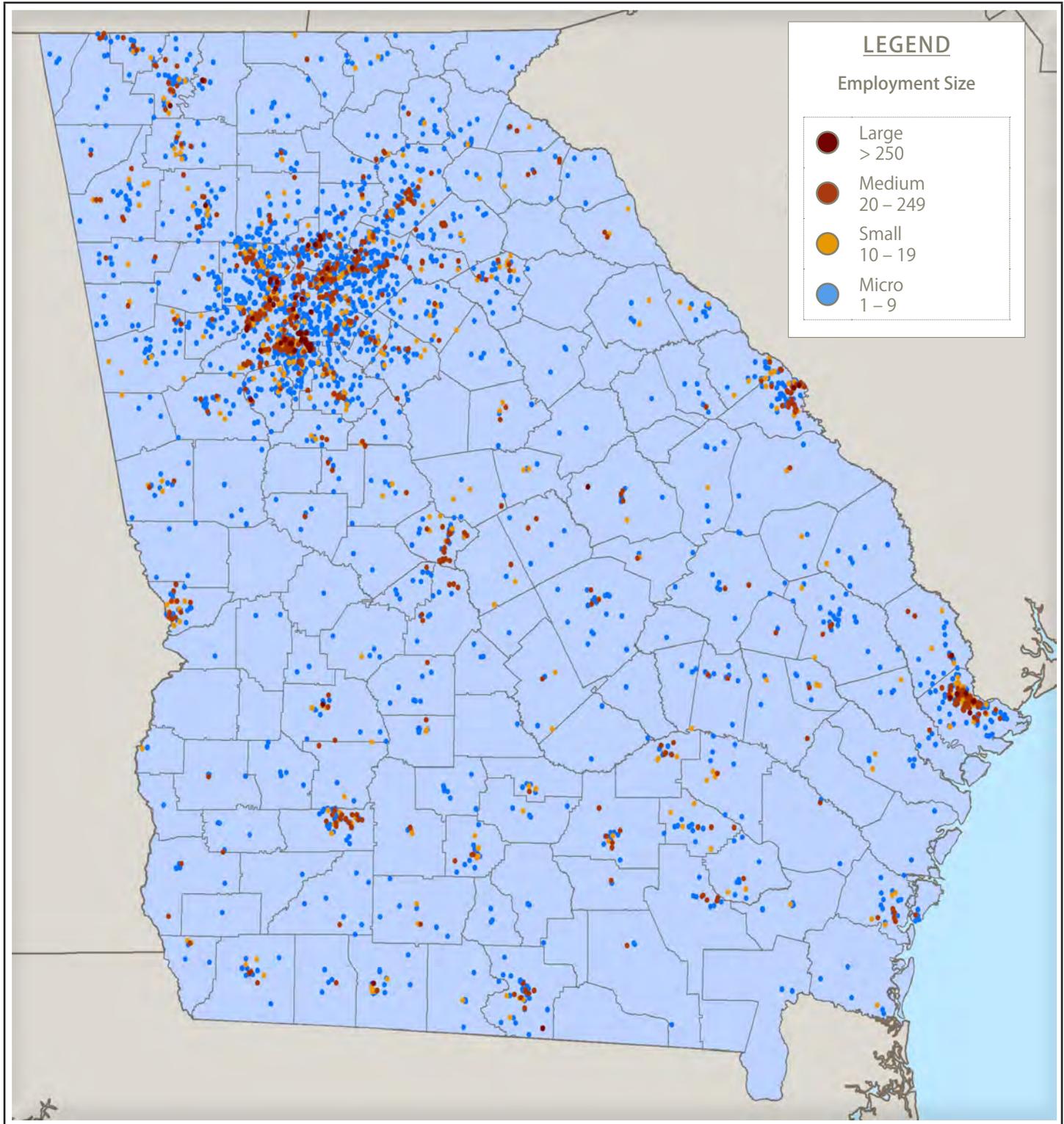
RELATED ENABLING

SUPPORT

LOGISTICS PROVIDER DISTRIBUTION BY COUNTY



LOCATION OF PROVIDERS (BY EMPLOYMENT SIZE)



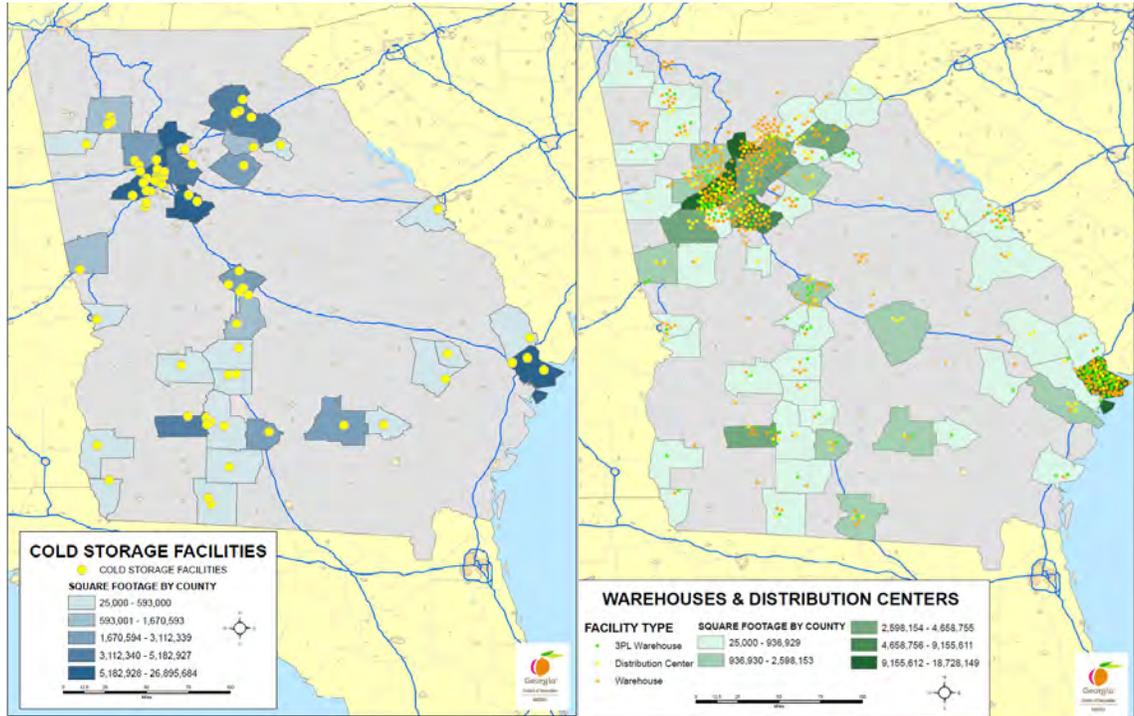
WAREHOUSING AND DISTRIBUTION

Freight is not always on the move, a critical component in overall logistics competitiveness is having the right storage capabilities, in the right places for when that cargo needs to come to rest. Georgia is home to nearly 700 warehouse and distribution facilities (including both user and provider locations) and 10% of which (or 70 facilities) have cold and/or frozen storage capabilities.

Georgia is home to nearly 700 warehouse and distribution facilities

70 facilities have cold and/or frozen storage capabilities.

Logistics Users are best described as the customers of the Logistics Providers.



LOGISTICS USER DEFINITIONS

The logistics users are best described as the customers of the logistics providers. This group is much larger than the providers and is broadly divided into three sub-categories:

RAW MATERIALS PRODUCTION

Establishments engaged in producing unprocessed natural products that will be used in manufacturing. These include both durable and non-durable materials.

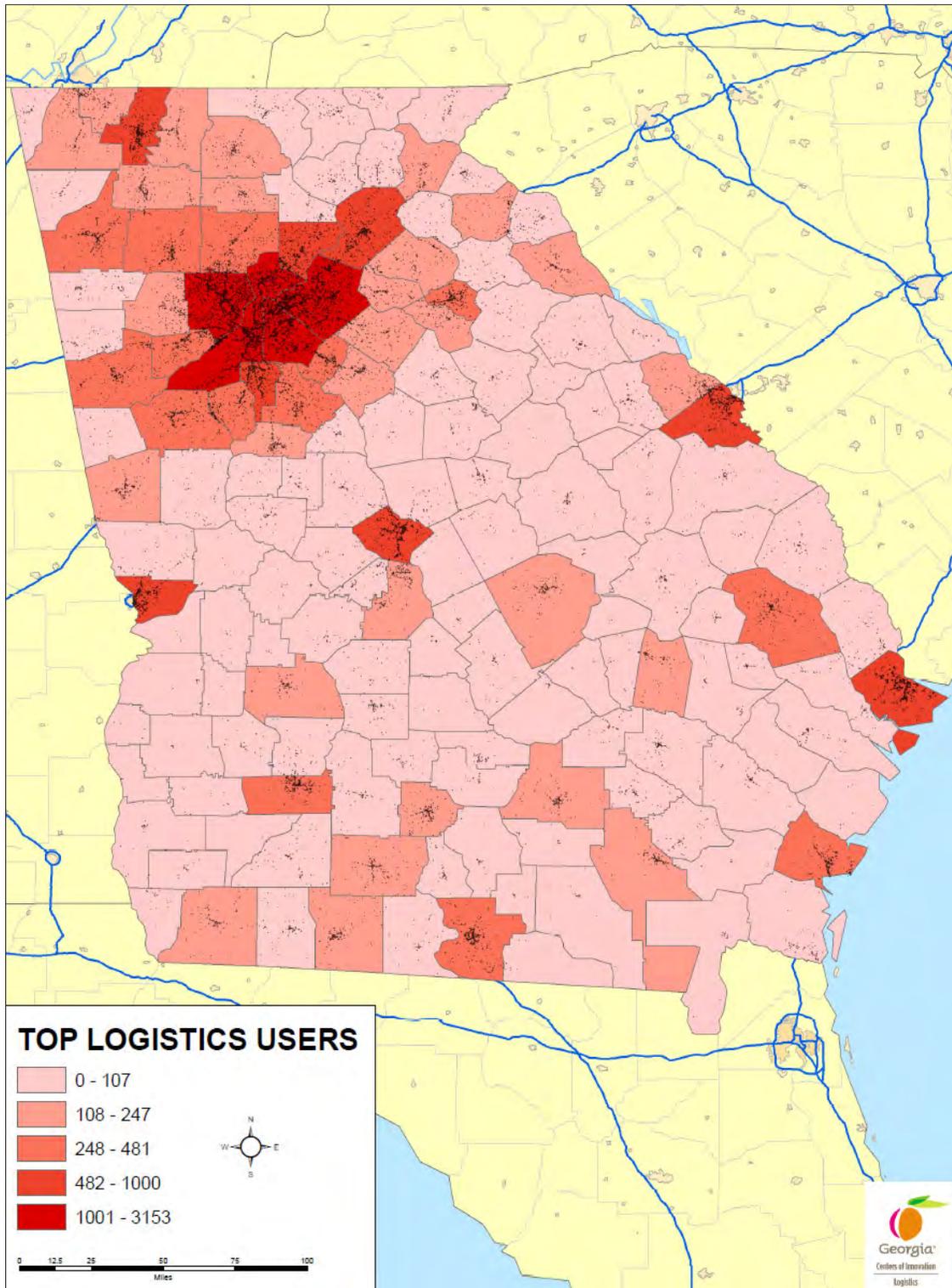
MANUFACTURING

Establishments engaged in the mechanical or chemical transformation of materials or substances into new products, which may be finished in the sense that they are ready for utilization or consumption, or may be semi-finished to become a raw material for an establishment engaged in further manufacturing

WHOLESALE DISTRIBUTION

Establishments engaged in selling merchandise to retailers; to industrial, commercial, institutional, farm, construction contractors; to professional business users or to other wholesalers.

These location of these establishments are shown in the map below where both the concentration is shown by shaded county as well as the “dot location” of each company. It is clear to see that while, like the providers, there are some clusters of users located primarily around infrastructure assets, the users of logistics are everywhere.



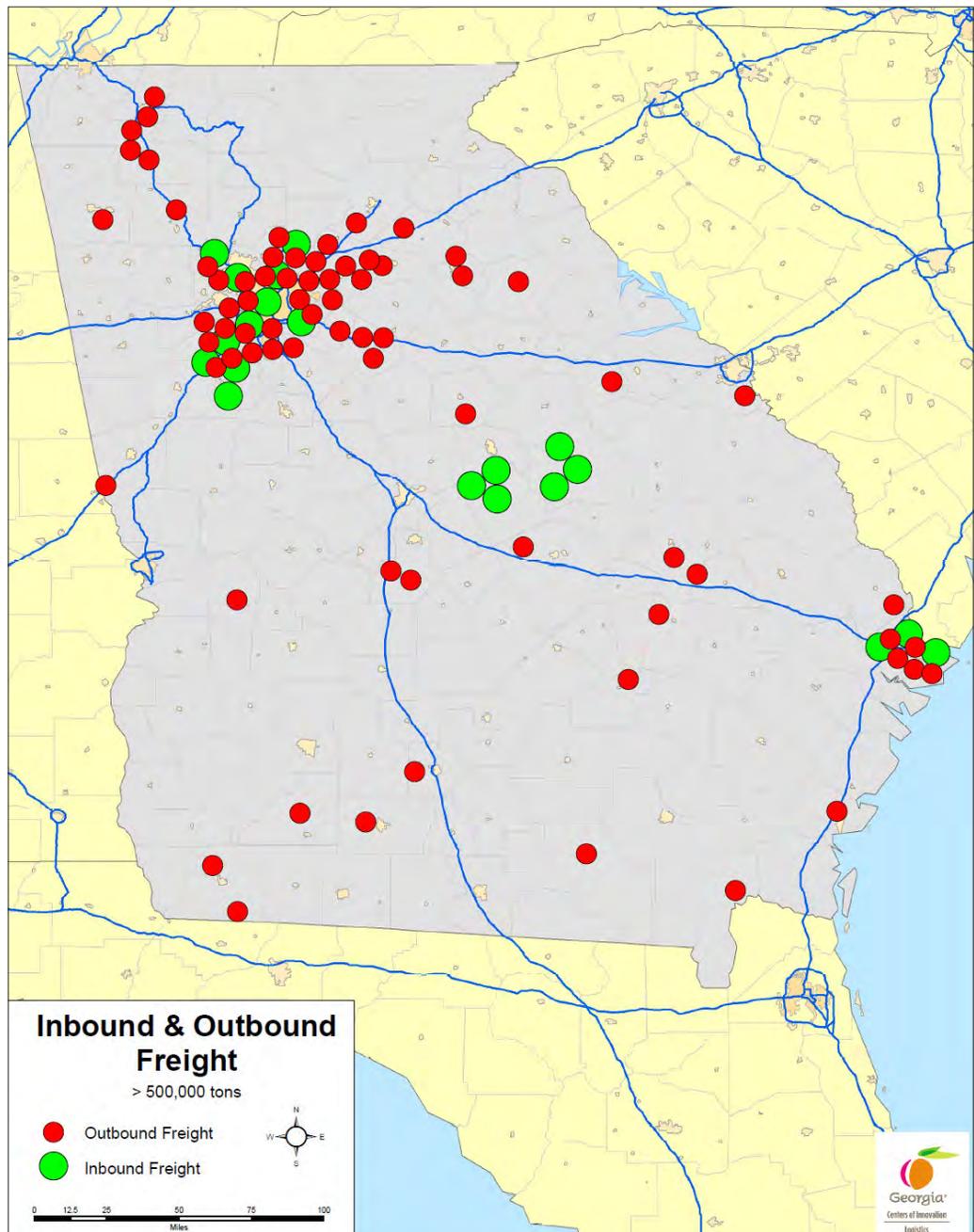
There are some clusters of users located primarily around infrastructure assets, however the users of logistics are everywhere in Georgia

TOP FREIGHT GENERATORS

If a closer look is given to these users, obviously some would stand out more than others - specifically with regards to amount of freight moved - these can be thought of as “top freight generators”. Below is a mapping of these freight-generators that ship and/or receive through their Georgia facilities more than 500k tons of cargo per year.

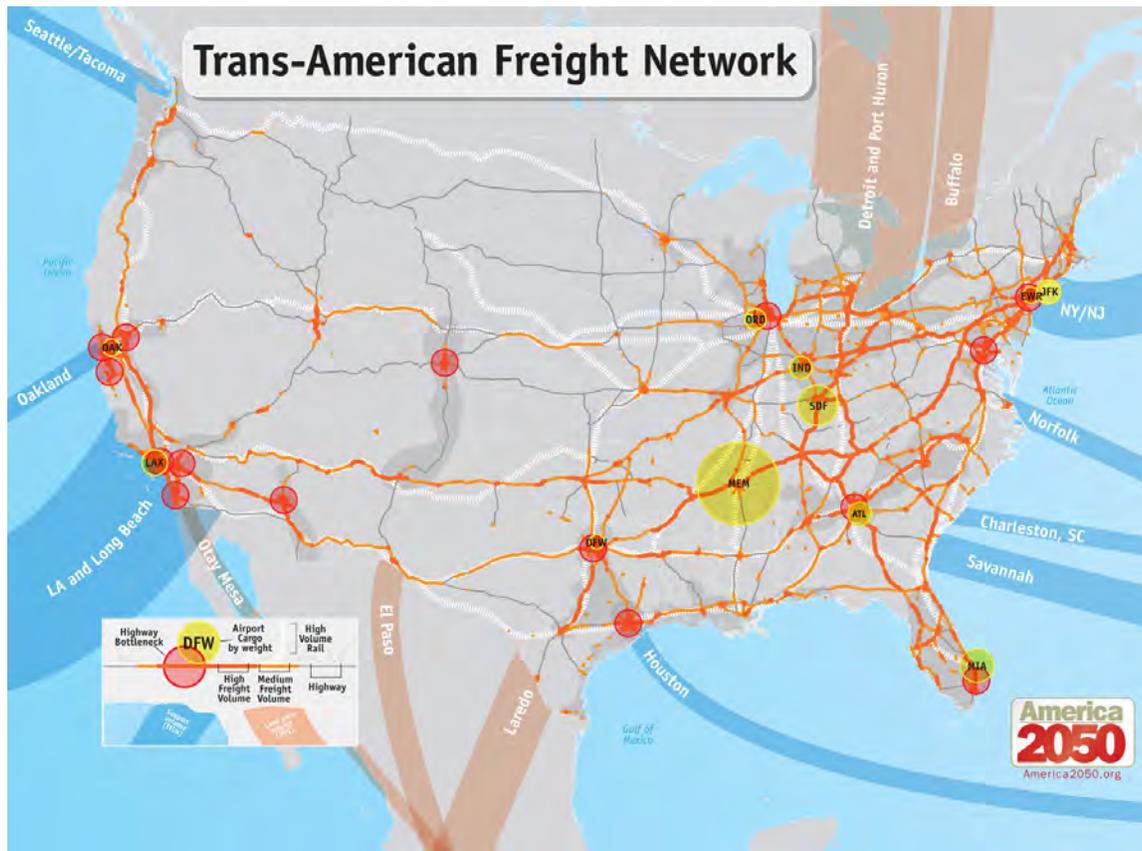
These top freight-generators ship and/or receive through their Georgia facilities more than 500k tons of cargo per year.

This next section goes into more detail on the flow of commerce these users and providers are both generating and managing every day.



National Infrastructure Connections

GLOBAL COMMERCE



Source: America2050.org

There are a wide range of studies on the market that show the flow of global commerce. One of these is shown above from the group America2050 that uniquely shows many different modes as well as bottlenecks in the system. Another group that performs a wide range of freight related research, specifically with regards to Latin America is the Institute for Trade and Transportation Studies.

INSTITUTE FOR TRADE AND TRANSPORTATION STUDIES (ITTS)

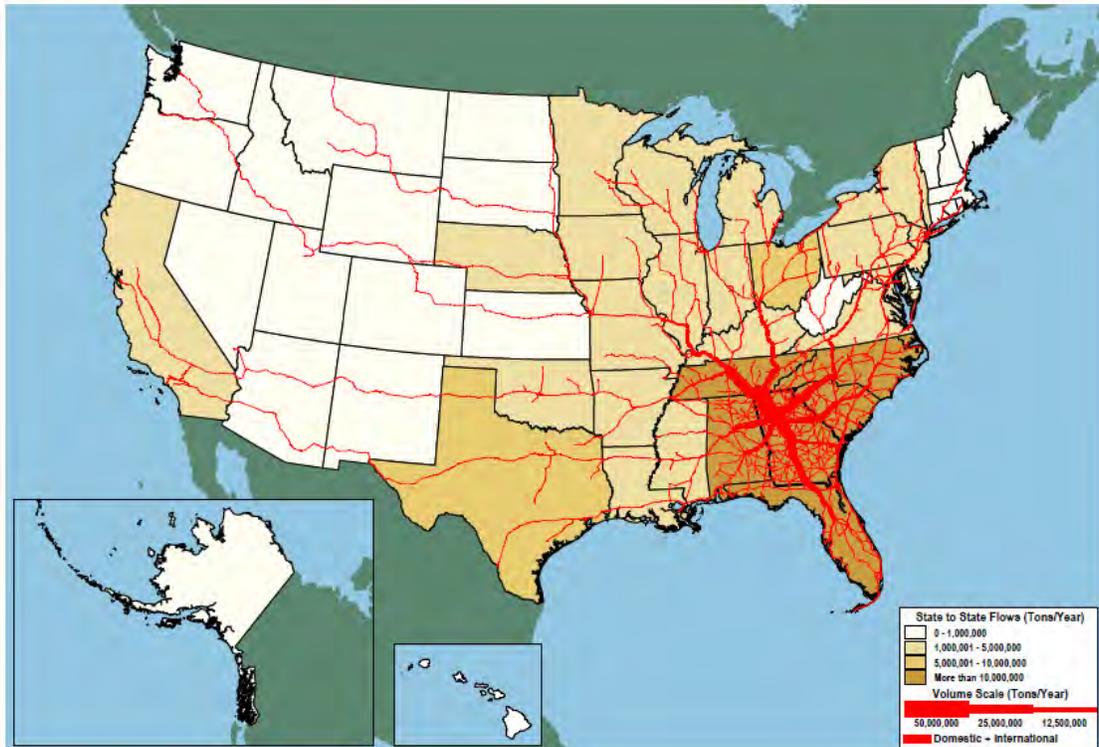
The Institute for Trade and Transportation Studies, based in New Orleans provides research data and expert opinions to its Members (primarily Southeast States) concerning the effects of commercial freight movements on domestic and international activities, with reference to infrastructure and transportation needs, and safety implications.

ITTS evolved from the Latin American Trade and Transportation Studies, funded by the member State Departments of Transportation and the Federal Government. The web site contains information on both the LATTs projects and the current work of ITTS.

This web site contains the outputs from the initial work on Latin America, entitled the “Latin American Trade and Transportation Study” (LATTS I) and the second phase, LATTS 2. The web site also includes links to regional freight and economic information, and current research undertaken by ITTS.

ITTS Recently they compiled two very interesting new data sets that show off the national importance and connectivity of Georgia to all of North America. First is a freight flow map created using the free tool from the USDOT Federal Highway Administration, called the “Freight Analysis Framework” or FAF. This demonstrates even in the base year of 2002, between one and five million tons per year was moving between Georgia and California, for example.

Even in the base year of 2002, between one and five million tons per year was moving between Georgia and California



Source: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework



ONLINE RESOURCE: [Georgia Research Section of ITTS](#)

Shipments by Weight: 2002 and 2035 (Millions of Tons)

	2002						2035					
	Within State		From State		To State		Within State		From State		To State	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	341.3	100	151.1	100	223.9	100	637.1	100	359.1	100	424.4	100
Truck	319.2	94	96.0	64	107.1	48	597.9	94	246.2	69	220.2	52
Rail	7.4	2	19.7	13	72.5	32	11.8	2	51.1	14	134.0	32
Water	0.4	<1	0.1	<1	0.1	<1	0.7	<1	0.1	<1	<0.1	<1
Air, air & truck	<0.1	<1	<0.1	<1	<0.1	<1	<0.1	<1	0.1	<1	0.2	<1
Truck & rail	<0.1	<1	0.9	<1	1.2	<1	<0.1	<1	1.4	<1	2.2	<1
Other intermodal¹	0.1	<1	0.6	<1	0.6	<1	0.4	<1	1.5	<1	1.4	<1
Pipeline & unknown²	14.3	4	33.8	22	42.4	19	26.4	4	58.6	16	66.3	16

Source: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework

NOTE #1: Other intermodal includes U.S. Postal Service and courier shipments and all intermodal combinations except air and truck; NOTE #2: Pipeline and unknown shipments are combined because data on region-to-region flows by pipeline are statistically uncertain.



As the notes above allude to, this FAF data includes “freight” from pipelines and the US Postal Service. These are indeed important elements but are not included in all other freight flow studies performed. However, looking at these numbers proposes an increase of more than 100% of tonnage in most categories over the next 20 years or so. This is in keeping with research and trends presented by the Center of Innovation for Logistics and others.



ONLINE RESOURCE: [USDOT Freight Analysis Framework Data](#)

EXPORT DESTINATIONS

The following charts show in a bit more detail that cargo is indeed flowing through a wide range of hubs, ports and depots to reach the end customer. Shippers and manufacturers alike have at times very complex decisions to make with regards to how to manage their supply chains. One of these decisions, even for companies located in Georgia is to determine the path their goods need to flow.

This data represents cargo leaving Georgia (exports) heading to another Country but whose final US destination included a “port” outside the State. This is fairly straightforward with regards to air and sea cargo. The all-modes chart, combines these air and sea destinations but also primarily includes truck and rail cargo going into Mexico or Canada.

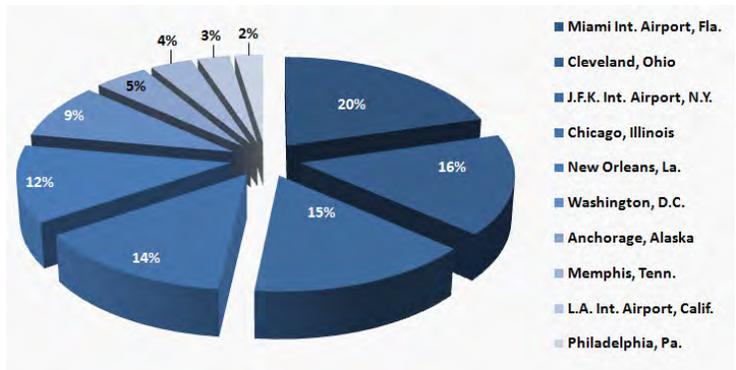
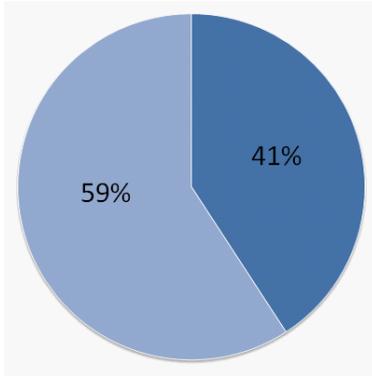
This data represents cargo leaving Georgia (exports) heading to another Country but whose final US destination included a “port” outside the State

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Georgia's Exports - Final Domestic Destinations

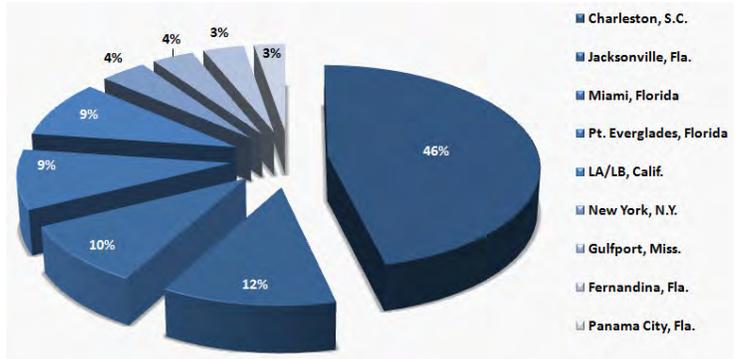
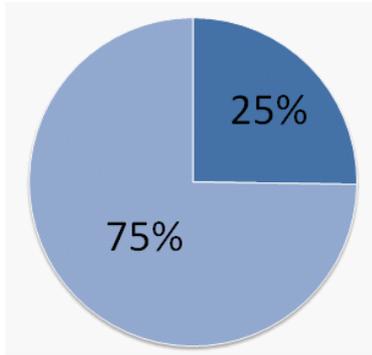
AIR CARGO

This data represents cargo leaving Georgia (exports) heading to another Country but whose final US destination included a "port" outside the State

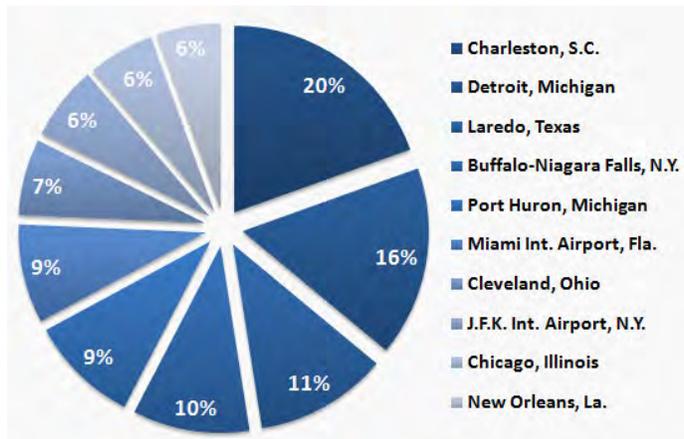
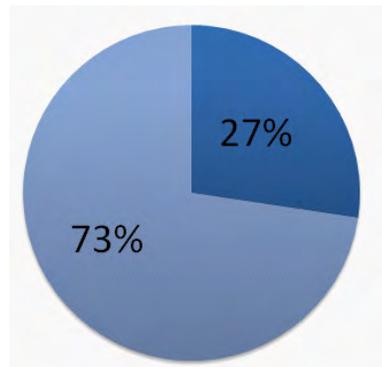


OCEAN CARGO

The all-modes chart, combines these air and sea destinations but also primarily includes truck and rail cargo going into Mexico or Canada.



ALL MODES COMBINED (AIR, SEA, TRUCK, RAIL & PIPELINE)



Source: ITTS, WiserTrade Data, U.S. Bureau of Transportation Statistics

Georgia's Freight Flow

DOMESTIC TRUCK TONNAGE

This section explores the movement of freight throughout the nation via truck. Note that the data discussed does not include movements from Canada nor Mexico, and begins with 2007.

GEORGIA DOMESTIC TRUCK TONNAGE OVERVIEW

2007	Truck Tons	Cargo Value	Truck Loads
Import	106,380,868	\$385,193,742,854	8,851,234
Export	118,071,185	\$336,804,786,682	9,348,563
Intra-GA	226,021,926	\$349,311,341,291	23,563,784
Through	190,325,118	\$790,803,808,072	10,734,611
Total	640,799,096	\$1,862,113,678,898	52,498,193

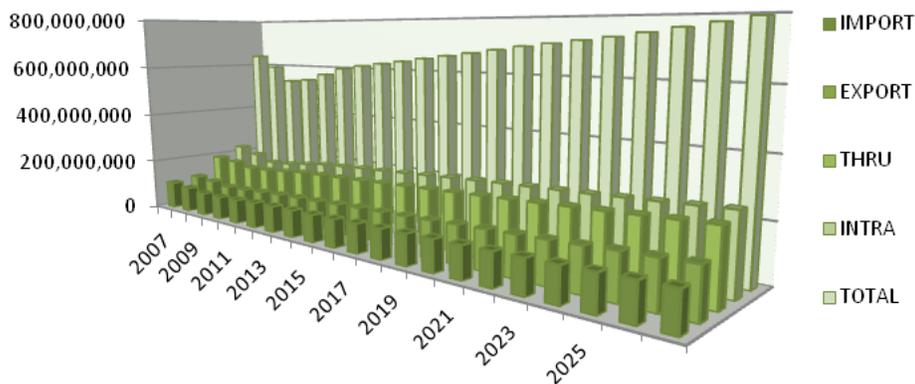
There were nearly twice as many movements from origins and destination pairs inside Georgia than any other scenario

SOURCE: IHS-GLOBAL INSIGHT INC.

As seen above, there were nearly twice as many movements from origins and destination pairs inside Georgia than any other scenario, followed closely by cargo that was flowing directly through Georgia and destined for another location. It is also interesting to note the almost double value difference between intrastate flow and that flowing through the state. This is primarily due to commodity type and their declared value.

These projections suggest a nearly 18.2 percent drop in truck tonnage between 2007 and 2009

2007 - 2027 Truck Tonnage Projections



Between 2010 and 2027 these current projections also show a growth of close to 50 percent or a 260 million ton increase, yielding the flow of nearly 800 million tons per year by 2027

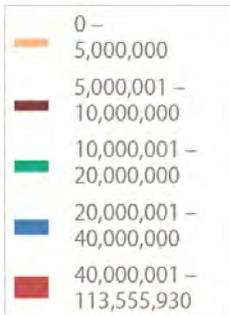
SOURCE: IHS-GLOBAL INSIGHT INC.

These projections suggest a nearly 18.2 percent drop in tonnage between 2007 and 2009, when the volumes will begin to slowly rebound. Overall, between 2010 and 2027 these current projections also show a growth of close to 50 percent or a 260 million ton increase, yielding the flow of nearly 800 million tons per year by 2027.

These projections suggest a nearly 18.2 percent drop in tonnage between 2007 and 2009, when the volumes will begin to slowly rebound. Overall, between 2010 and 2027 these current projections also show a growth of close to 50 percent or a 260 million ton increase, yielding the flow of nearly 800 million tons per year by 2027.

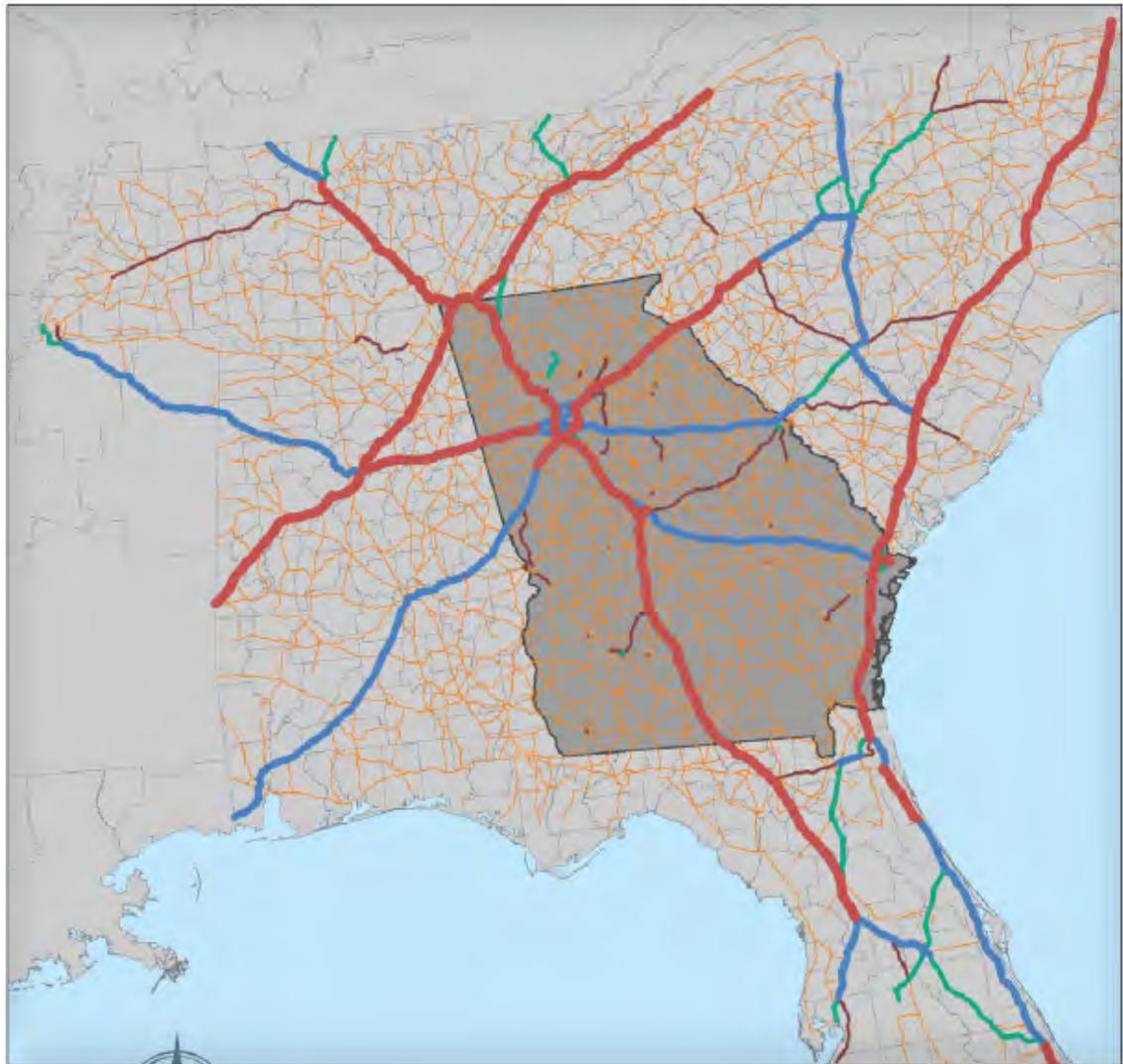
LEGEND

Tons



SOURCE:
IHS-GLOBAL INSIGHT INC.

TOTAL TRUCK TONNAGE FLOW PATTERNS



DOMESTIC RAIL TONNAGE

Similar to truck flow, the combination of import and export flow tonnages roughly compare to the total of cargo flowing through our State. It is also apparent that only approximately 7 percent of the rail tonnage is solely an internal Georgia move, and thus, a majority of the tonnage is either coming, going or passing through our State.

GEORGIA DOMESTIC TRUCK TONNAGE OVERVIEW

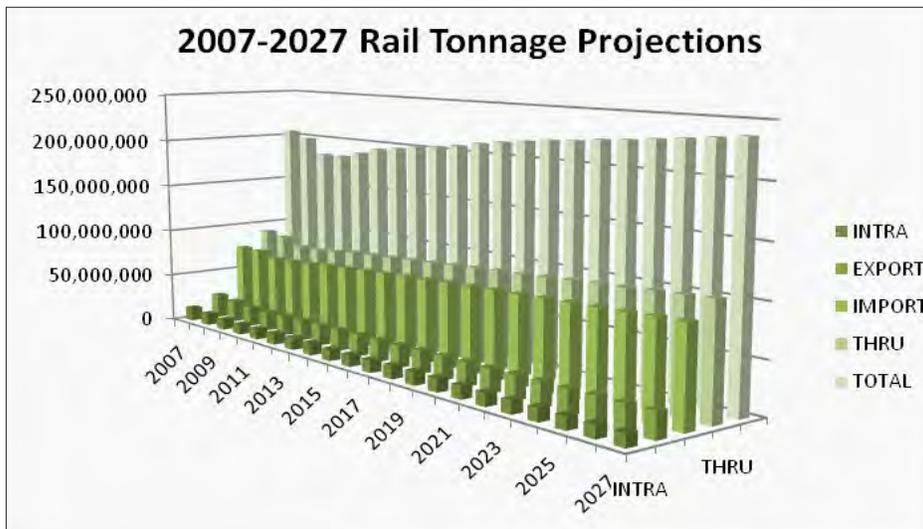
<i>2007</i>	Total Tons	Total Value	Total Units
Import	75,476,799	\$50,120,112,527	1,207,260
Export	24,346,137	\$26,736,299,258	619,019
Intra	13,820,339	\$6,358,407,280	244,161
Through	91,161,909	\$125,810,308,452	1,702,449
Total	204,805,184	\$209,025,127,518	3,772,889

SOURCE: IHS-GLOBAL INSIGHT INC.

Only approximately 7 percent of the rail tonnage is solely an internal Georgia move, and thus, a majority of the tonnage is either coming, going or passing through our State.

The data reflects the same current downturn as found in other modes of transport and other sectors of the nation's economy. Tonnage is projected to decline roughly 11 percent from 2007 through 2009, and then begin a slight recovery in 2010. Following the recovery, tonnage is projected to grow by 30 percent through 2027.

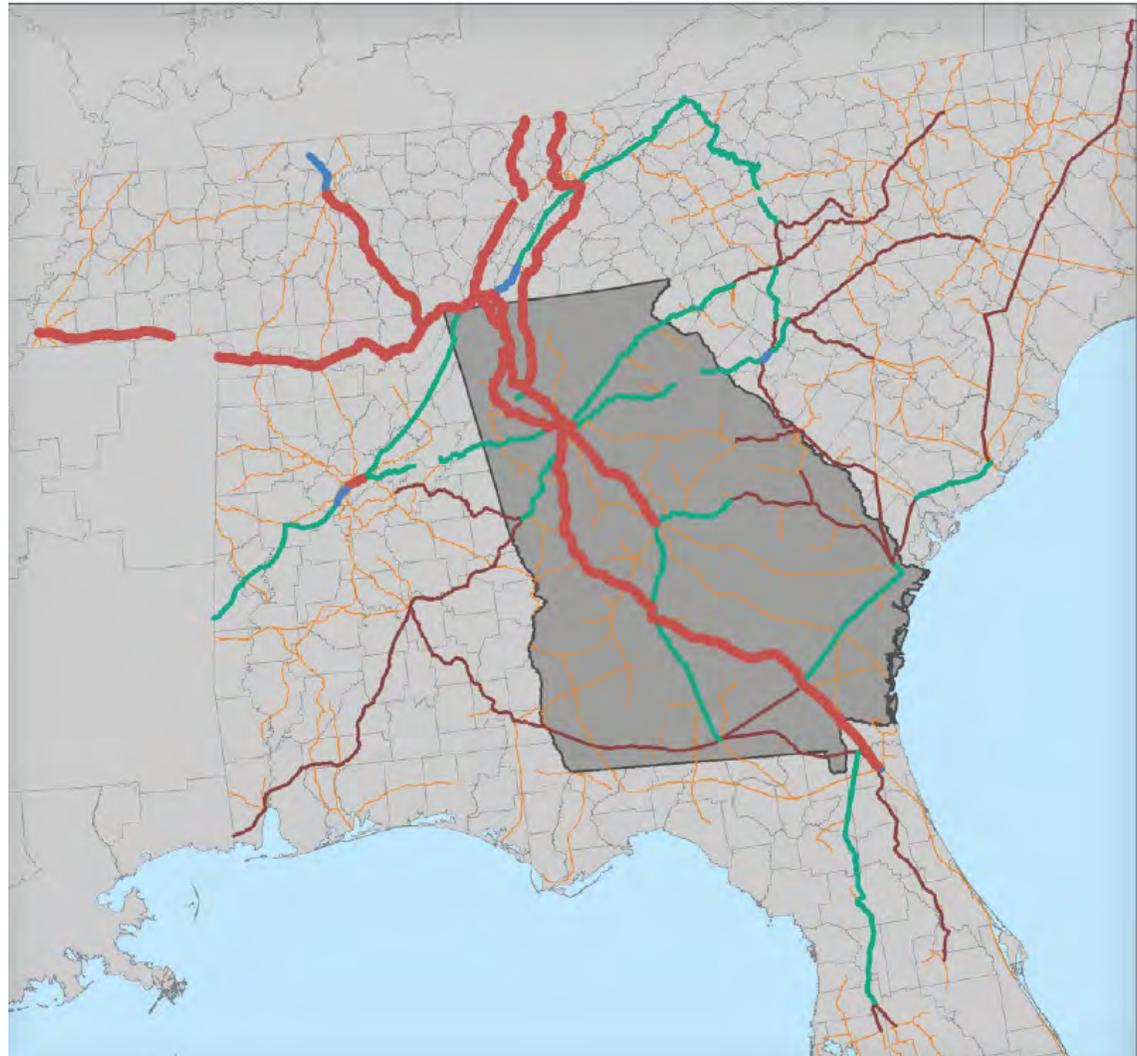
Rail tonnage is projected to decline roughly 11 percent from 2007 through 2009, and then begin a slight recovery in 2010.



SOURCE: IHS-GLOBAL INSIGHT INC.

Following the recovery, tonnage is projected to grow by 30 percent through 2027.

TOTAL RAIL TONNAGE FLOW PATTERNS



SOURCE:
IHS-GLOBAL INSIGHT INC.

To learn more details about freight flow in, out, thru, and inside of Georgia, please download and read last years report, "2009 Georgia Logistics Report: a Focus on Providers". It includes much more detail about commodity types, trading partners and other freight flow statistics.



ONLINE RESOURCE: www.GeorgiaLogistics.org

International Freight Hubs – Sea Ports

The seaports in Georgia include the Georgia Ports Authority's Savannah based container terminal. Garden City Terminal is the largest single-operator container facility in North America, and also holds the title of fastest growing and fourth largest in total volumes. It serves over 40 lines of steamships, has convenient intermodal connections, state-of-the-art cargo handling equipment and value-added services. Savannah is also responsible for moving 20% of the East Coast's overseas container cargo and is one of the few ports in the U.S. with two class-1 intermodal railroad facilities on-terminal. The Port of Brunswick is the 6th largest automobile processing port in the nation - and growing - and is the second largest grain facility on the East Coast.

GEORGIA'S CONTAINER PORT - GARDEN CITY TERMINAL



A secured, dedicated container terminal owned and operated by the Georgia Ports Authority (GPA) and supported by the port industry's only Client Relations Center, Garden City Terminal is the fourth-largest container port in the United States and the largest single-terminal operation in North America.

The facility's single-terminal design allows the port to operate in an environment of maximum efficiency and

flexibility, as well as increased security, due to the concentration of all manpower, technology and equipment in one massive container operation. Add to this a pro-business, pro-port state versed in the unique requirements of international trade and investment, as well as an experienced labor force from one of the top-six fastest growing populations in the nation, and the opportunities offered by Garden City Terminal are unequalled among U.S. ports.

Two Class-I rail providers serve the Garden City Terminal location, which also offers immediate interstate access to the more than 100 trucking companies that service the Savannah area. And with land available for future development, the facility has strategic plans in place for its expansion.

Immediate interstate access is available via Interstates 95 (North/ South) within 5.6 miles and 16 (East/ West) within 6.3 miles. Combine this with the rail efficiencies noted above and Savannah's ports puts more than 70% of U.S. consumer within fast, easy reach.

Garden City Terminal is a strategic gateway to rail and road distribution networks that offer the most efficient and reliable intermodal access to markets across the U.S. Southeast and Midwest

GPA's Garden City container terminal is:

- The fastest growing (since 2001)
- The 4th largest by TEU volume in the US
- One of the most efficient in the country
- The largest single owner facility in the US

The facility's single-terminal design allows the port to operate in an environment of maximum efficiency and flexibility

Two Class-I rail providers serve the Garden City Terminal location, which also offers immediate interstate access to the more than 100 trucking companies that service the Savannah area.

including those with the fastest-growing populations and capital investments. Served by Class I rail service -- Norfolk Southern Railroad and CSX Transportation -- the facility's on-terminal ICTF provides unrestricted double-stack service offering two- to three-day transit times to major hubs throughout the Midwest, Gulf Coast and Southeast, including overnight service to Atlanta, the fastest of any North American port.

With Savannah's earned recognition as "the retail port" 17 high-volume retail import distribution centers in the Savannah area are taking advantage of the port's intermodal strength, as well as depth in ocean carrier services, to satisfy just-in-time inventory requirements. Together, Savannah-area distribution centers combine to cover over 14 million square feet and generate in excess of 500,000 TEUs annually. *Source: Georgia Ports Authority*

Savannah's earned the recognition as "the retail port" 17 high-volume retail import distribution centers in the Savannah area are taking advantage of the port's intermodal strength, as well as depth in ocean carrier services, to satisfy just-in-time inventory requirements



Also owned and operated by the GPA in Savannah is Ocean Terminal, a multi-purpose breakbulk and RoRo facility that handles a range of shipments including forest and solid wood products, steel, industrial and farm equipment, automobiles, project shipments and heavy-lift cargoes. This facility totals 200-acres, has 9-berths with 5,768 linear feet of deepwater berthing, 1.4 million square feet of covered storage, and 73 acres of open storage.

FUTURE CONTAINER TERMINAL EXPANSION

Business continues to grow, and Garden City Terminal remains ahead of the curve. Anticipating the changing pace of trade not only in the Southeast and Midwest but in overseas markets, the Georgia Ports Authority will invest \$1.2 billion in expansion projects over the next decade to accommodate the projected growth in global trade.

Over the next 10 years, Garden City Terminal is scheduled to add on average two high-speed super-post-panamax container cranes every 18 months for a total of 25 cranes, as well as 86 rubber-tired gantry (RTG) cranes as part of long-term developments for a full RTG conversion at the facility, further improving terminal efficiencies. To accommodate the larger traffic necessary to keep up with demand, the Georgia Ports Authority is in the process of increasing the depth of the Savannah River Navigation Channel from 42 to 48 feet MLW.

These expansion projects, together with numerous others identified under the GPA's long-term strategic development plan, will increase throughput capacity from the current 2.62 million TEUs to 6 million TEUs in 2018.

PORT OF SAVANNAH BUSINESS COMMUNITY

In addition to containerized cargo handled at Garden City terminal, there are a host of other companies that make up the greater "Port of Savannah", more than 30 in all. These companies range from manufacturers to service providers to bulk cargo terminal operators. In addition to these industrial businesses there are a variety of more traditional companies that share the river, such as Savannah Port Tours; the International Trade and Convention Center; and hotels like Marriott and Hyatt.

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Southern LNG	Tronox	Conoco Phillips	Nu-Start Energy / Valero	Moran Towing
Standard Concrete	Georgia Pacific Gypsum	East Coast Terminals	Liberty Terminals	Savannah Cement
Vopak Terminal	Savannah Marine Services	Bottom Line Echo	Crescent Towing	Georgia Kaolin Terminals
GPA Ocean Terminal	Georgia Responder	Colonial Oil	Southeast Ship Terminals	Martin Marietta Materials
International Paper	NuStar Asphalt	MetroPorts	GAF Materials	Savannah River Pilots
GPA Container Terminal	Georgia Pacific Chemicals	River Street Riverboat Company	Hutchinson Island Marine Terminals	

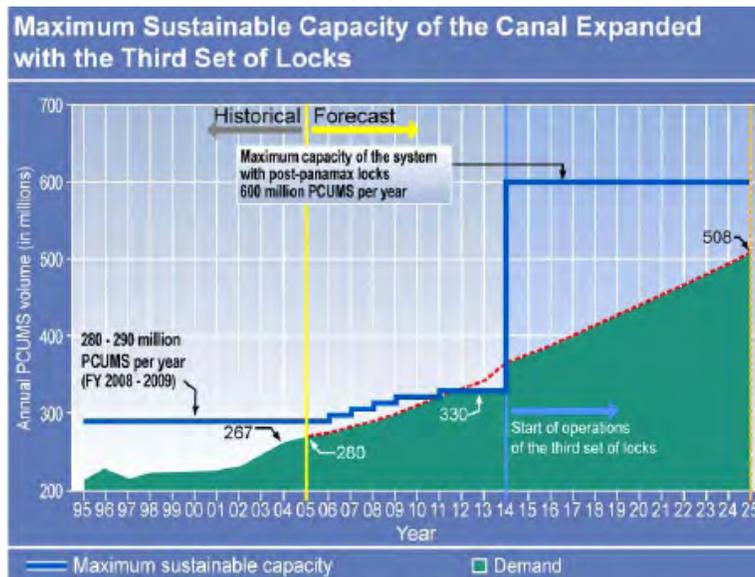
The Panama canal will reach its maximum sustainable capacity between the years 2009 and 2012.

PANAMA CANAL EXPANSION – EFFECTS ON GEORGIA

The capacity of the Panama Canal is determined by a number of factors, of which the most important is the size of the locks that raise and lower ships as they pass through the canal. The smallest dimensions of the locks are 110 ft wide, 1,050 ft long and 85 ft deep. Because of clearance issues, the usable sizes are somewhat smaller. The maximum size of ships that can pass through the canal are known as Panamax size vessels.

According to the ACP, the canal will reach its maximum sustainable capacity between the years 2009 and 2012. When it reaches this capacity it will not be able to continue to handle demand growth, resulting in a reduction in the competitiveness of the Panama maritime route.

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Source: www.pancanal.com

Total throughput of the Port of Savannah via the Panama Canal was 72% of total containers in the last two fiscal years (FY08 and FY09).

Total throughput of the Port of Savannah via the Panama Canal was 72% of total containers in the last two fiscal years (FY08 and FY09). This means that of the 1,634 containerized vessel calls at the Port of Savannah in 2008, 1,123 of those vessels utilized the Panama Canal.

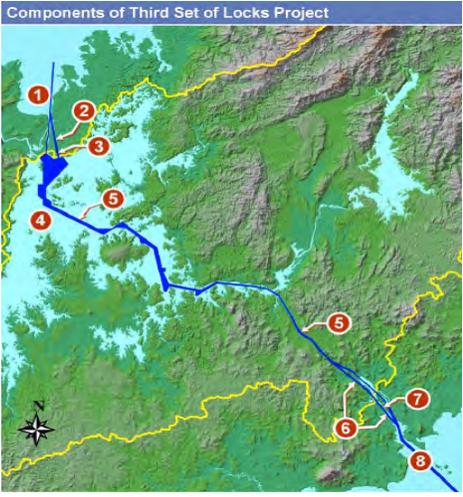
	Services via Panama Canal		Port of Savannah Total Services		Panama Canal Services % of Total	
	FY2008	FY2009	FY2008	FY2009	FY2008	FY2009
TEU'S						
Imports	911,040	825,480	1,254,286	1,121,060	73%	74%
Exports	1,005,863	902,670	1,423,984	1,280,536	71%	70%
Total Throughput	1,916,903	1,728,149	2,678,270	2,401,596	72%	72%

Source: [Georgia Ports Authority](#)

The new locks will send ships to Savannah that are as much as three times the capacity of ships currently able to transit the Canal.

These ships and the jobs created will only come if Savannah's harbor is also deepened.

Components of the Expansion

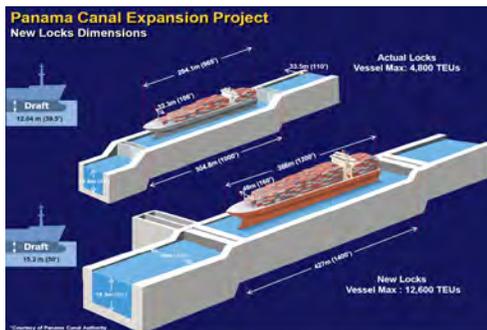


Components of Third Set of Locks Project

- 1) Deepening and widening the Atlantic entrance channel
- 2) New approach channel for the Atlantic Post-Panamax locks
- 3) Atlantic Post-Panamax locks with three water saving basins per chamber
- 4) Raise maximum Gatun lake operating water level
- 5) Widening and deepening of the navigational channel of the Gatun lake and the Culebra Cut
- 6) New approach channel for the Pacific Post-Panamax locks
- 7) Pacific Post-Panamax locks with three water saving basins per chamber
- 8) Deepening and widening the Pacific entrance channel

Source: www.pancanal.com

THE SAVANNAH HARBOR EXPANSION PROJECT (SHEP)



In order to meet the demands of shippers wanting to use the more cost efficient all water routes through the expanded Panama Canal to the East Coast of the US in 2014, the Port of Savannah is working to have its harbor also deepened from its current 42 foot depth to as much as 48 feet.

The new locks will send ships to Savannah that are as much as three times the capacity of ships currently able to transit the Canal. These ships and the jobs created will only come if Savannah's harbor is also deepened.

With final project approval in 2010, construction can begin in federal fiscal year 2011. This timing is critical to having the deeper channel available for traffic by 2014 when the expansion of the Panama Canal is complete. Since the environmental and economic studies for this project began in 1997, over \$38 million of state and federal funds have been spent on the effort. Based on the most recent estimates and construction schedules, \$105 million in federal funding for FY2011 is required to keep the project on schedule.



PORT OF BRUNSWICK

About seventy-five miles south of the Port of Savannah, the coast of Georgia is an inward curve with the Port of Brunswick located in the apex of this “Georgia Bight.” (A bight is a bend in a coast forming an open bay). The Port of Brunswick was recognized as an official port of entry in 1789, by the Fifth Act of Congress. Signed by President George Washington, this act authorized New York, Boston, Philadelphia, Charleston, Savannah, and Brunswick among others as seaports.

Much like the Port of Savannah, the Port of Brunswick is home to significant operations and terminals of the Georgia Ports Authority (GPA) as well as a variety of other maritime industry businesses. Many of these businesses are located on Colonel’s Island:

The Port of Brunswick is the 6th largest automobile port in the US.

Colonel’s Island Industrial Neighbors	Automobile Manufacturers on Colonel’s Island	Automobile Trucking Offices on Colonel’s Island
• Allied Universal	• Glovis America, Inc.	• ATC Logistics
• Atlantic Vehicle Processors, Inc.	• Jaguar Cars	• Blue Thunder Auto Transport
• GPA Grain Distribution Facility	• Land Rover North America	• Fleet Car Carriers
• Amports	• Porsche Cars of North America, Inc.	• Hansen & Atkins
• International Auto Processing, Inc.	• SAAB Cars USA, Inc.	• The Waggoners Trucking
• BMW of North America, LLC	• Volkswagen of America, Inc.	
• Mercedes Benz USA	• BMW North America, LLC	
	• Volvo Cars of North America, Inc.	
	• Mercedes Benz USA	

In addition to these listed, there are many other companies and supporting businesses that are closely connected to the maritime and port industry in and around the Brunswick area.

In Brunswick, the GPA owns and operates two facilities (RoRo and Agri-bulk) on Colonel’s Island, the Mayors Point Terminal, and leases Marine Point terminal to Logistec. Each of these facilities is briefly highlighted here (descriptions courtesy of the GPA).

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COLONEL’S ISLAND TERMINAL – RORO FACILITY



Operated by the Georgia Ports Authority, Colonel’s Island Terminal ranks not only among the nation’s largest auto facilities, it’s also one of the most environmentally clean and pristine operations in the country. As a dedicated RoRo facility, the terminal offers three modern RoRo berths and three on-terminal auto processors.

This focus has resulted in a customer base of more than a dozen automotive manufacturers, as well as a number of industrial and agricultural equipment manufacturers. The Colonel’s Island Terminal location is served by two Class-I rail providers and offers nearby interstate access, putting several auto plants, many major commerce centers, and their dealerships within easy reach.

COLONEL’S ISLAND TERMINAL – AGRI-BULK FACILITY

Colonel’s Island Terminal is among the largest deepwater agri-bulk operations in the U.S. South Atlantic. Offering a turnkey service for U.S. Midwest and Southeastern agribusiness, the facility features a dedicated agri-bulk berth and is capable of accommodating a diverse group of agri-product in combined flat and vertical storage. Operating in a temperate climate, the Port of Brunswick is afforded the numerous advantages of year-round accessibility. The terminal is served by two Class-I rail providers and offers access to nearby Interstate 95.



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MAYOR’S POINT TERMINAL

Mayor’s Point Terminal specializes as a distribution center for a variety of forest and solid wood products such as wood-pulp, linerboard, plywood and paper products. With 22 acres, 1,750 linear feet of berthing, 355,000 square feet of transit shed space and 7.9 acres of open storage, the facility has the capacity to handle the largest cargo shipments quickly and efficiently.



The Mayor’s Point Terminal location is served by two Class-I rail providers, with 2,000 feet of track available for cross-dock operation, and offers nearby interstate access, putting all major commerce centers within easy reach. And with room to grow and projections

bright for the port’s future, construction is under way to deepen the Brunswick Harbor to a depth of 36 feet MLW.

MARINE PORT TERMINALS



Owned by the Georgia Ports Authority and leased to Logistec U.S.A., Marine Port Terminals is a secured, deepwater facility specializing in the handling of a diverse mix of break-bulk and bulk commodities. The 145-acre facility features 2,415 linear feet of berthing and 491,000 square feet of covered storage.

Marine Port Terminals is ideally situated with easy access to Interstate 95 (North/South). On-terminal interchange and line-haul services are provided by two Class-I rail providers, CSX Transportation and

Norfolk Southern Railroad.

International Freight Hub - Air Ports

Home to the world's busiest passenger airport (90 million passengers per year) and world's largest carrier Delta Airlines, Atlanta's Hartsfield-Jackson International Airport (HJIA) is also recognized as a leading air cargo hub in the US, and just this year dropped off the list of the World's Top 30. HJIA hosts 12 cargo-only carriers and has more than 1.5 million square feet of cargo handling space. HJIA also serves six continents and allows business travelers to reach 80 percent of the U.S. market within two hours of flight time and any major North American city within four hours. Finally, through Georgia's network of 144 public and private airports, companies can easily access locations statewide (www.georgiaairports.com)

HJIA also serves six continents and allows business travelers to reach 80 percent of the U.S. market within two hours of flight time and any major North American city within four hours.

WORLD'S TOP 30 CARGO AIRPORTS - 2009

Rank	Airport	Total Cargo (Metric Tons)	Rank Change	% Change
1.	 Memphis International Airport	3,697,185	—	▲ 0.4%
2.	 Hong Kong International Airport	3,384,765	—	▼ 7.5%
3.	 Shanghai Pudong International Airport	2,539,284	—	▼ 2.3%
4.	 Incheon International Airport	2,313,001	—	▼ 5.2%
5.	 Anchorage International Airport	1,990,061	—	▼ 14.9%
6.	 Louisville International Airport	1,949,130	▲ 3	▼ 1.3%
7.	 Dubai International Airport	1,927,510	▲ 4	▲ 5.6%
8.	 Frankfurt Airport	1,887,718	▼ 1	▼ 10.6%
9.	 Narita International Airport	1,851,972	▼ 1	▼ 11.8%
10.	 Paris-Charles de Gaulle Airport	1,818,503	▼ 4	▼ 10.8%
11.	 Singapore Changi Airport	1,660,851	▼ 1	▼ 11.8%
12.	 Miami International Airport	1,557,401	—	▼ 13.8%
13.	 Los Angeles International Airport	1,506,295	—	▼ 7.6%
14.	 Beijing Capital International Airport	1,420,997	▲ 4	▲ 4.0%
15.	 Taiwan Taoyuan International Airport	1,358,304	—	▼ 9.0%
16.	 London Heathrow Airport	1,349,574	—	▼ 9.2%
17.	 Amsterdam Schiphol Airport	1,314,938	▼ 3	▼ 17.9%
18.	 O'Hare International Airport	1,150,027	▲ 1	▼ 14.1%
19.	 John F. Kennedy International Airport	1,135,043	▼ 2	▼ 21.8%
20.	 Suvarnabhumi Airport	1,045,194	—	▼ 10.9%
21.	 Guangzhou Baiyun International Airport	955,271	▲ 5	▲ 39.3%
22.	 Indianapolis International Airport	900,583	▼ 1	▼ 9.0%
23.	 Tokyo International Airport	779,103	—	▼ 8.3%
24.	 Newark Liberty International Airport	767,668	▼ 2	▼ 13.5%
25.	 Luxembourg-Findel Airport	628,641	—	▼ 20.2%
26.	 Kansai International Airport	608,871	▼ 2	▼ 28.0%
27.	 Shenzhen Bao'an International Airport	606,013	▲ ?	▲ 1.3%
28.	 Dallas-Fort Worth International Airport	601,780	—	▼ 8.6%
29.	 Kuala Lumpur International Airport	601,409	▼ 2	▼ 9.7%
30.	 Chhatrapati Shivaji International Airport	568,007	▲ ?	▲ 1.6%

Georgia has 144 airports ranging for commercial to public, private and many also can handle cargo

Source: Airports Council International. 2010-03-15



In addition to Atlanta's Hartsfield Jackson International Airport, Georgia has 15 other cargo airports moving varying amounts of cargo all over the US and the World. These freight tonnages shown do not include postal cargo which is often counted, and represent only a fraction of a year for 2009.

SELECT OUTGOING AIR CARGO (ENPLANEMENT), 2007-2009

Airport			2007	2008	Jan.-Oct. 2009
ATL	Atlanta	Hartsfield-Jackson	749,688,823	684,407,903	506,872,200
ABY	Albany	Albany Dougherty County	29,722,808	27,745,431	19,984,254
SAV	Savannah	Savannah / Hilton Head International	6,768,617	2,624,720	2,913,985
SVN	Savannah	Hunter Army Air Field	1,106,208	504,496	30,800
LSF	Columbus	Lawson Army Air Field	533,123	-	-
CSG	Columbus	Columbus Metropolitan	288,796	243,833	231,318
WRB	Macon	Robins Air Force Base	226,966	142,904	241,153
LZU	Lawrenceville	Gwinnett County	32,044	7,548	3,441
AHN	Athens	Athens Municipal	28,008	10,313	-
AGS	Augusta	Bush Field	2,704	18,260	3,622

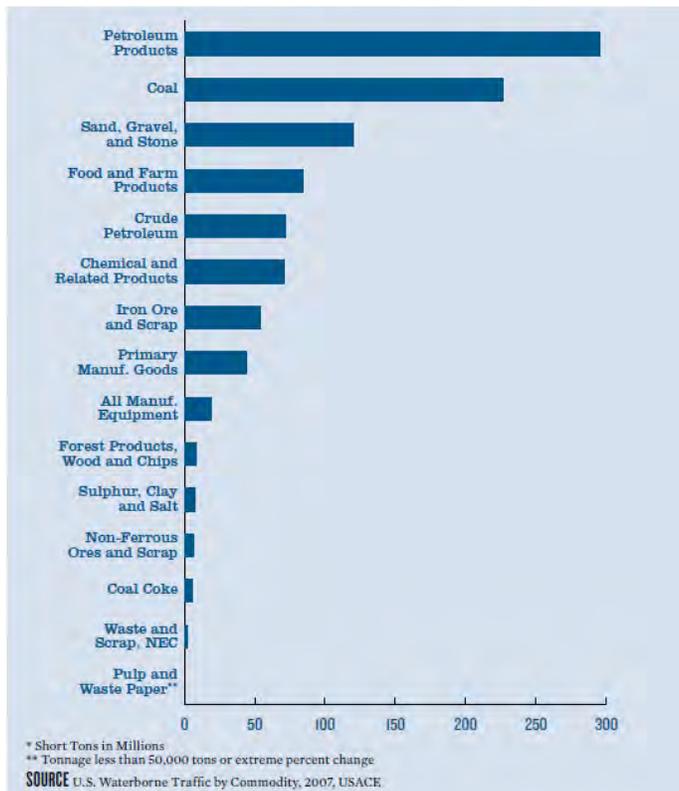
SELECT INCOMING AIR CARGO (DEPLANEMENT), 2007-2009

Airport			2007	2008	Jan.-Oct. 2009
ATL	Atlanta	Hartsfield-Jackson	918,985,148	797,919,151	578,987,279
ABY	Albany	Albany Dougherty County	35,200,425	32,474,020	23,540,767
SAV	Savannah	Savannah / Hilton Head International	9,664,801	8,735,997	6,319,747
CSG	Columbus	Columbus Metropolitan	289,507	80,694	77,125
VAD	Valdosta	Moody Air Force Base	101,200	-	-
AGS	Augusta	Bush Field	68,195	51,175	35,339
RMG	Rome	Richard B Russell	26,984	-	-
LZU	Lawrenceville	Gwinnett County	12,928	16,244	-
GVL	Gainesville	Gainesville Municipal	10,880	-	-
PDK	Atlanta	DeKalb Peachtree	950	1,925	-
MCN	Macon	Lewis B Wilson International	348	33,308	-
SVN	Savannah	Hunter Army Air Field	-	195,704	74,800
WRB	Macon	Robins Air Force Base	-	147,141	40,519
LSF	Columbus	Lawson Army Air Field	-	-	6,450

Georgia's Inland Ports

WATERWAY BASED - BAINBRIDGE & COLUMBUS

Commodities Shipped via Inland Waterway (by tons*)



Forty-one states, including all states east of the Mississippi River and 16 state capitals, are served by commercially navigable waterways.

The U.S. inland waterway system consists of 12,000 miles of navigable waterways in four systems—the Mississippi River, the Ohio River Basin, the Gulf Intercoastal Waterway, and the Pacific Coast systems

Because of their potential ability to move large amounts of cargo, the nation's inland waterways are a strategic economic and military resource. A recent analysis by the U.S. Army War College concluded that *"the strategic contributions of these inland waterways are not well understood. The lack of adequate understanding impacts decisions contributing to efficient management, adequate funding, and effective integration with other modes of transportation at the national level. Recommendations demonstrate that leveraging the strategic value of U.S. inland waterways will contribute to building an effective and reliable national transportation network for the 21st century."*

Forty-one states, including all states east of the Mississippi River and 16 state capitals, are served by commercially navigable waterways. The U.S. inland waterway system consists of 12,000 miles of navigable waterways in four systems—the Mississippi River, the Ohio River Basin, the Gulf Intercoastal Waterway, and the Pacific Coast systems—that connect with most states in the U.S.

S

ource: [2009 Report Card for America's Infrastructure](#)

Primary cargoes transiting Bainbridge include: nitrogen solution, gypsum, ammonium sulfate, urea, cotton seed and cypress bark mulch.

Top US Inland Ports	Domestic tons	% Increase	Foreign Tons	% Increase	Total Tons	% Increase
Huntington-Tristate, WV	76.5	-0.9	0	0	76.5	-0.9
Duluth-Superior, MN & WI	31.4	-3.5	15.1	4.7	46.5	-1.0
Pittsburgh, PA	38.1	-9.3	0	0	38.1	-9.3
St. Louis, MO & IL	32.1	2.6	0	0	32.1	2.6
Chicago, IL	21.1	-6.3	3.4	6	24.5	-4.8
Memphis, TN	18.8	-1.4	0	0	18.8	-1.4
Indiana Harbor, IN	14.5	-7.5	0.5	6	15	-7.0
Detroit, MI	11.4	-12	3.5	-19.4	14.9	-13.9
Two Harbors, MN	13.1	-2.2	0.6	942.7	13.7	1.9
Cincinnati, OH	13.2	-0.9	0	0	13.2	-0.9
Cleveland, OH	10.4	-9.5	2.4	-35	12.8	-15.8
Toledo, OH	4.5	95.3	8	-9.9	12.5	11.7
Presque Isle, MI	7	0.8	1.8	-15.7	8.8	-3.1
Gary, IN	7.9	-6.4	0.2	-73.6	8.1	-11.5
Louisville, KY	7.8	6.4	0	0	7.8	6.4

* Tons are in Millions ** Percent Increases are from 2006–2007

PORT BAINBRIDGE



Owned and operated by the Georgia Ports Authority, Port Bainbridge is conveniently located on the Apalachicola-Chattahoochee-Flint Waterway, or Tri-Rivers System. The multifaceted 107-acre (43.3-hectare) facility is equipped to handle a variety of bulk cargoes via barge traffic, providing port users with an economic alternative to other transport. Long- and short-term storage is made available to customers via 93,000 square feet (9,292 square meters) of covered storage.

Primary cargoes transiting Bainbridge include: nitrogen solution, gypsum, ammonium sulfate, urea, cotton seed and cypress bark mulch. Port Bainbridge is ideally located within close proximity to two interstates. CSX Transportation provides Class I rail service.

PORT COLUMBUS



Owned by the Georgia Ports Authority and leased to a private terminal operator, S.T. Services, Port Columbus is located on the Chattahoochee River with convenient access to the U.S. Gulf via the Tri-Rivers System (Apalachicola-Chattahoochee-Flint Waterway).

The dedicated liquid bulk facility totals 14 acres (5.7 hectares) and is equipped to handle a variety of liquid bulk cargoes via barge traffic, providing port-users with an economic alternative to other transport. North/South and East/West interstate access is available via three interstates. Norfolk Southern Railroad provides Class I rail service.

INTERMODAL HUBS – THE PORT OF ATLANTA & OTHER “INLAND PORTS”



areas (described later in this section).

The term Inland Port is also becoming more widely used in the logistics industry to describe facilities that provide a consolidated point for truck and rail based cargo transfer, but are also not fed by any water transported cargo. Often the origin or destination or the cargo would be a seaport, but this is often not the case. This exchange is currently referred to as intermodal; giving these types of facilities yet another name – “intermodal hubs”. Georgia has six Class-I rail intermodal hubs in the Savannah and Atlanta

“An Inland Port is a physical site located away from traditional land, air and coastal borders with the vision to facilitate and process international trade through strategic investment in multi-modal transportation assets and by promoting value-added services as goods move through the supply chain”

This definition includes having containerized freight loaded and unloaded at the seaport and transferred directly between ship and road vehicle or ship and train. The container would then be transported to the Inland Port where it is transferred again between road and rail to travel to its final destination.

The Center for Transportation Research at the University of Texas provides a definition of Inland Ports that also includes value-added services, a very important component, and one that should be a foundational element for successful creation of these types of Inland Ports:

“An Inland Port is a physical site located away from traditional land, air and coastal borders with the vision to facilitate and process international trade through strategic investment in multi-modal transportation assets and by promoting value-added services as goods move through the supply chain”

Shipping containers allow some functions traditionally carried out at a seaport to be moved elsewhere. Examples are the functions of receiving, processing through customs, inspecting, sorting, and consolidating containers going to the same overseas port. Container transfer at the seaport can be speeded up and container handling space can be reduced by transferring functions to an inland site away from the port and coast. Value-added services that are very commodity specific can also be explored and offered at an Inland Port site. Examples include sub-manufacturing, re-packaging, and other finish work for a wide range of products. Without adding any extra-value into the supply chain, an inland port basically serves as another transfer point. While transfer may be necessary at certain points, it limits the opportunity and cost effectiveness of using such a facility, and certainly does not take full advantage of all the possibilities.

The phrase Inland Port could also be equally used to describe a similar model of a site linked to an airport or land border crossing rather than a seaport.

This definition of an Inland Port could also be equally used to describe a similar model of a site linked to an airport or land border crossing rather than a seaport.

EVALUATION AND LIFECYCLE OF INLAND PORTS



There are many questions to be answered and much information to be gathered and explored before considering an Inland Port project. The University of Texas Center for Transportation Research (TX-CTR) and the Texas DOT have put together a widely referenced “evaluation guide”, that while primarily focuses on the interaction and role of TXDOT in the project process, also provides valuable insight into the business side of the process.

It describes a logical phased approach they refer to as the “life-cycle” of an Inland Port type project. As the site naturally progresses from the exploratory “preparation stage” into the more development stages, there are different activities to consider and explore. The TX-CTR describes this life-cycle using the five stages shown in the graphic to the left.

Source: [Center for Transportation Research - University of Texas](#)

This phased development may also help reveal and develop other measures of success, such as employment, profit, or an enhanced tax base. This framework can also be viewed both as a planning tool for inland port proponents and an evaluation tool for transportation planners. The TX-CTR suggests that in their consideration of inland ports, transportation planners work at each stage to support the site proposals (as appropriate) and ensure that the correct attention and is being given. This also allows both planners and industry supporters to see early in the process if the project makes sense and its likelihood and/or barriers for success.

The following table lists a sample of the key elements that should be considered in each stage. This is obviously not a comprehensive list, nor are the five stages described in great detail. The full report is available for free download from the TX-CTR web site and is worth further review.



ONLINE RESOURCE: [Inland Port Lifecycle & Evaluation Guide](#)

This framework can be viewed both as a planning tool for inland port proponents and an evaluation tool for transportation planners.

Lifecycle Stages of Inland Port Evaluation & Development

STAGE #1: PREPARATION

- Marketing and Implementation Plan
- Market analysis (demand forecasts, commodity-origin-destinations)
- Location advantage (identify anchor tenants, access to markets)
- International trade facilitation (Free Trade Zone, tax incentives)
- Funding (capital, marketing operations, mechanisms: public/private partnerships)
- Multimodal transportation (identify transport facilities needed)
- Community outreach
- Planning horizons (modes, investors)
- Identify future constraints

STAGE #2: ESTABLISHMENT

- Foreign Trade Zone classification
- Economic incentives
- Anchor tenants arrive
- Modal analysis
- Attract multimodal investments (specify needs, traffic forecasted)
- Telecommunications and Infrastructure (information technologies)

STAGE #3: EXPANSION

- Revised business and implementation plan
- Planned modal investment materializes
- Preferential relationships
- Diversify tenants
- Cluster theory materializes

STAGE #4: STABILIZATION

- Companies invest in expansion of current facilities
- Slow down in new arrivals (sectors)
- Federal inspection agencies (e.g. U.S. Customs)
- Evaluate modal investments (given traffic needs and forecasts)

STAGE #5: DECLINE/INNOVATION

- New private-sector trends force change in operations
- Revised business plan
- Non-trade services (housing established)
- Companies begin to leave for better options elsewhere

Stage #5 is dually listed as innovation/decline because in the natural lifecycle of the port, it will require constant innovation to identify new way to keep the facility relevant and cost effective.

If innovation is not part of the process, the facility will certainly see decline and then closure.

INTERMODAL HUB DEVELOPMENT

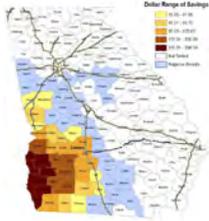
There are quite a few activities taking place in Georgia regarding this type of Intermodal Hub development. All of these projects are in the "Preparation Stage" as described by the University of Texas above. Each effort faces different aspects of this stage with varying degrees of complexity and uniqueness. One such example can be seen in Southwest Georgia and the development of the Cordele Intermodal Center (CIC).

The stated vision of the CIC is "To improve shipping services to and from firms in southwest Georgia, Alabama, Mississippi, & the panhandle of Florida, an intermodal center or inland port has



been proposed for Cordele and linked to the Savannah port by rail using the Heart of Georgia and Georgia Central railroads.” The effort is driven by a collection of community and industry participants in and around the Crisp County area, and has gathered support from a wide range of stakeholders. The “CIC team” has mapped out the footprint of the facility, routes, and secured funding for a few needed infrastructure upgrades on the route between the CIC and the Port of Savannah.

Atlanta has a long history as a trade crossroads and its growth has been linked to its role as a transportation and distribution center



The CIC team also engaged the Georgia Institute of Technology to complete a feasibility and market study to help answer questions about their project, identify the future potential, and outline any associated cost-benefit improvements for future users of the CIC.

Other related intermodal development efforts are also being explored – again, at various stages of “preparation” – in such Georgia areas as Macon, West Point, Columbus, Camilla, and Thomaston, to name just a few.

For example, Macon’s city council just recently voted 12-0 to more formally enter the “preparation” phase and pursue development of an intermodal hub or “inland port” designation.

CLASS-I INTERMODAL FREIGHT RAIL HUBS

Described as the largest inland port in the world, Atlanta has a long history as a trade crossroads and its growth has been linked to its role as a transportation and distribution center. As a hub for container and bulk distribution, Atlanta has doubled its intermodal capabilities over the last several years. CSX and Norfolk Southern are the Class 1 railroad freight carriers serving Georgia. With the 1988 federal designation of the General Purpose Foreign Trade Zone #26 in Atlanta, containers can travel inbound from the coast to the U.S. Customs office in Atlanta. Each line operates significant intermodal facilities in Atlanta. *Source: LogisticsAtlanta.com*

CSX and Norfolk Southern are the Class-1 railroad freight carriers serving Georgia.

CSX

From the Atlanta metro area, CSX Intermodal provides transportation service access to the entire United States via the CSX rail network.

- *Hulsey Intermodal Terminal* – Atlanta’s Hulsey Yard ranks 7th in terms of freight volume for CSX. Hulsey handles more than 500 trucks and 16 trains per day while accommodating 180 flatcars at a time.
- *Fairburn Intermodal Terminal* – Opened in 1999, Fairburn is a 24-hour terminal located in Atlanta that ranks as CSX’s 9th largest terminal in terms of lift volume.
- *Chatham Intermodal Container Terminal Facility (ICTF)* – The Chatham ICTF is located on-terminal in the Garden City Container Terminal in Savannah, and includes 3 working tracks totaling over 6,400 feet, and an additional 12,500 feet of storage track. This facility provides unrestricted double-stack service and two- to three-day transit times to major hubs throughout the Midwest, Gulf Coast and Southeast, including overnight service to Atlanta.

NORFOLK SOUTHERN

Years ago Southern Railway selected Atlanta as its operations center and since the 1982 creation of Norfolk Southern (NS), the city has continued in that role. Today, Atlanta is a regional headquarters for NS where key operating departments perform a variety of critical functions.

- *Inman Intermodal Yard* – Located in Atlanta, Inman Yard is the largest of the company’s 33 intermodal yards and was the nation’s first intermodal facility.
- *Whitaker Intermodal Terminal* – The Whitaker Terminal holds the rank of the largest intermodal facility east of the Mississippi River, serves as the southeastern hub of the Norfolk Southern hub-and-spoke intermodal network
- *Mason Intermodal Container Terminal Facility (ICTF)* – The Mason ICTF is a 25 acre yard located on-terminal at the Garden City Container Terminal in Savannah, and includes 5 working tracks totaling over 12,500 feet, and an additional 3 storage tracks of 7,500 feet. This facility also provides unrestricted double-stack service and two- to three-day transit times to major hubs throughout the Midwest, Gulf Coast and Southeast, including overnight service to Atlanta.

With nearly 5,000 miles of railroad track and the largest intermodal facility on the east coast, Georgia originates 24 million and terminates over 75 million rail-tons of cargo every year.

Ground Transportation Connectivity

RAIL

With nearly 5,000 miles of railroad track and the largest intermodal facility on the east coast, Georgia originates 24 million and terminates over 75 million rail-tons of cargo every year. Georgia has the seventh most total rail miles; fifth most rail tons terminating in a state, and is ranked thirteenth for the number of railroads in a state.

A freight train can be three times as fuel efficient as a truck, and traveling by passenger rail uses 20% less energy per mile than traveling by car. However, growth and changes in demand create bottlenecks that constrain traffic in critical areas. Freight and passenger rail generally share the same network, and a significant potential increase in passenger rail demand will add to freight railroad capacity challenges. More than \$200 billion is needed through 2035 to accommodate anticipated growth in the U.S.

Approximately 42% of all intercity freight in the United States travels via rail, including 70% of domestically manufactured automobiles and 70% of coal delivered to power plants.

Approximately 42% of all intercity freight in the United States travels via rail, including 70% of domestically manufactured automobiles and 70% of coal delivered to power plants. As of 2006, Class I railroads owned and operated 140,249 miles of track. However, most traffic travels on approximately one-third of the total network, which totals 52,340 miles.

After years of shedding excess capacity, railroads have been increasing infrastructure investment and spending in recent years. In 2006, overall spending on rail infrastructure was \$8 billion, a 21% increase from 2005. More specifically, spending on construction of new roadway and structures increased from \$1.5 billion in 2005 to \$1.9 billion in 2007. Increased spending on maintenance of railroad networks and systems has become necessary as investments are made in more costly signaling technology, heavier rail, and the improved substructure necessary to accommodate heavier trains.

Demand for freight transportation is projected to nearly double by 2035 - from 19.3 billion tons in 2007 to 37.2 billion tons in 2035. If current market shares are maintained, railroads will be expected to handle an 88% increase in tonnage by 2035.4 However, as many look to rail as a more efficient and environmentally friendly freight shipper, rail's market share could increase and lead to additional increases in freight rail tonnage.

An estimated \$148 billion in improvements will be needed to accommodate the projected rail freight demand in 2035. Class I freight railroads' share of this cost is estimated at \$135 billion. Through productivity and efficiency gains, railroads hope to reduce the required investment from \$148 billion to \$121 billion over the period 2007 through 2035.

Source: [Plunkett Research, Ltd.](#)

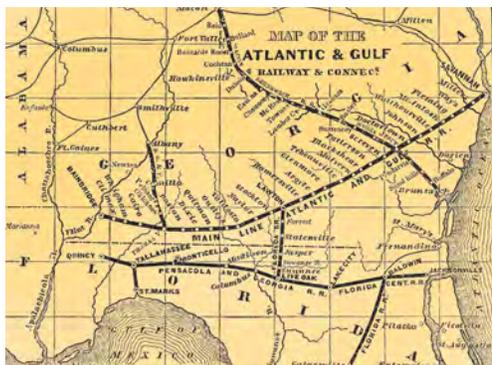
“BORN OF A RAILROAD” – ATLANTA’S RAIL INFRASTRUCTURE

Railroads have been central to the development of Atlanta, as Margaret Mitchell wrote in *Gone with the Wind* – “Born of a railroad, Atlanta grew as its railroads grew.” Atlanta was the birthplace in 1836 of the Western and Atlantic line. The W&A is now one of the most important and busiest lines on CSX, carrying freight between Atlanta and Chattanooga and serving as one of CSX seven mainlines that converge in Atlanta.

Today, Atlanta is the rail center of the South and has become one of the five most important distribution centers in North America. It possesses a critical combination of transportation infrastructure and geography that makes this city highly attractive for business and commerce. When combined with the powerful transportation elements of interstate highways and unequalled air service at Hartsfield-Jackson Atlanta International Airport, the metro Atlanta region undoubtedly lives up to its reputation as one of America’s greatest inland ports. According to the Association of American Railroads, Georgia has two Class 1 railroads, 16 local and 1 switching and terminal railroad. The 4,900-mile network of main and branch lines running throughout the state connect in Atlanta. In addition to the intermodal hubs described earlier, Atlanta is also home to CSX’s Tilford and Howells Yard, and Norfolk Southern’s Doraville Yard & Industry Yard which are all significant nodes in the rail network for the nation.

Source: [LogisticsAtlanta.com](#)

GEORGIA SHORT-LINE RAILROADS



In addition to the two Class-I railroads servicing Georgia, the state is also connected with 25 short-line railroad operators. A short line is an independent railroad company that operates over a relatively short distance. Short lines generally exist for one of three primary reasons: 1) to link two industries requiring rail freight together; 2) to interchange traffic with another, usually larger railroads; or 3) to operate a tourist passenger train service. Often, short lines exist for all three of these reasons.

Railroads have been central to the development of Atlanta, as Margaret Mitchell wrote in *Gone with the Wind* – “Born of a railroad, Atlanta grew as its railroads grew.” Atlanta was the birthplace in 1836 of the Western and Atlantic line.

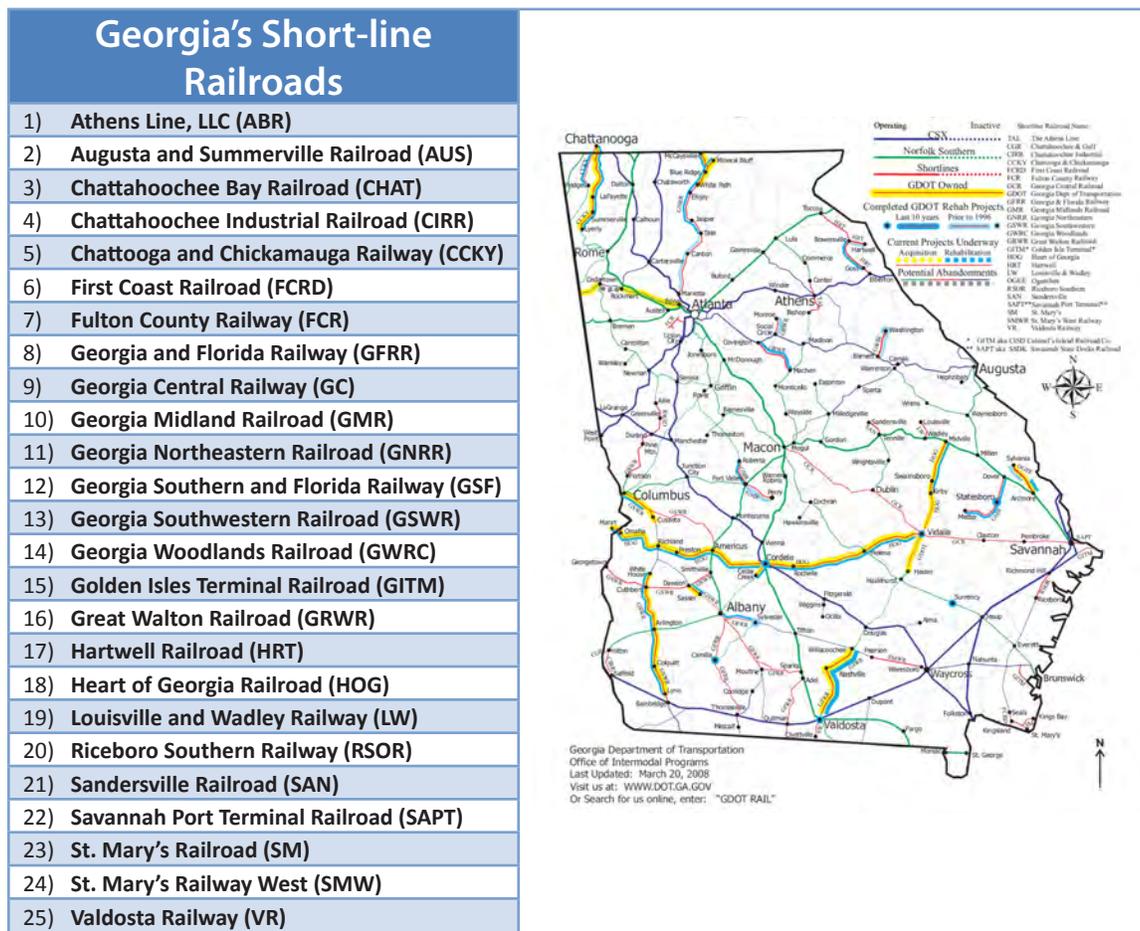
The US Surface Transportation Board defines a short-line as a railroad with annual revenue of less than \$20 million. Many short-line railroads were once branch lines of Class-I railroads that were spun off.

It was reported in late 2009 that short-line railroads employ about 20,000 people in the country, own more than 30% of nation's railroad tracks, and touch (even if for a brief time) 25% of all US freight.

Source: wikipedia.org/wiki/Shortline

“Georgia’s rail history began in the 1830’s as America was just beginning to build a network of tracks. By 1850 Georgia had the most rail miles of any southern state. More than a century and a half later, it continues to be a railroad leader.” The website of www.railga.com is a great resource to learn more about the history and status of rail infrastructure in the State.

Georgia’s rail history began in the 1830’s as America was just beginning to build a network of tracks. By 1850 Georgia had the most rail miles of any southern state.



The State is home to over 25 shortline railroads and a very active association in the Georgia Railroad Association



ONLINE RESOURCE: 2008 State Rail Map

ROADS

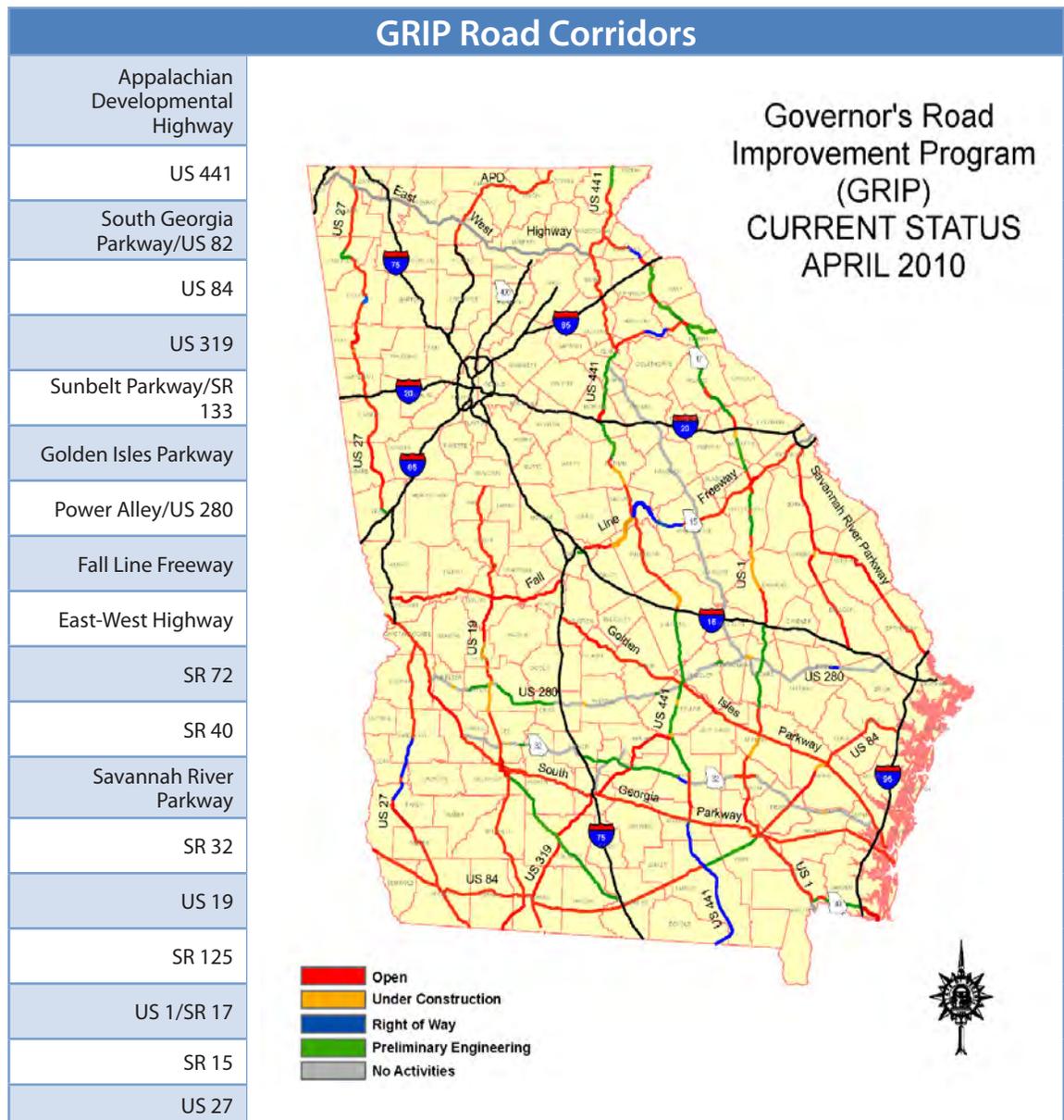
Each week a combined 12 million tons moves on Georgia's 1,200 miles of interstate highways and 20,000 miles of federal and state highways. Georgia is home to six of the top fifty cargo carriers, including the world's number one carrier, UPS. Ranked ninth nationally with nearly 450,000 commercially licensed Georgia truck drivers; cargo is within two or fewer days from 80 percent of the U.S. industrial and commercial markets.

GOVERNOR'S ROAD IMPROVEMENT PROGRAM – GRIP

GRIP was initiated in 1989 by a resolution of the state legislature and the Governor to connect 95 percent of our state's cities (with a population of 2,500 or more) to the Interstate System. The GRIP system will ensure that 98 percent of all areas within the state will be within 20 miles of a four-lane road.

Each week a combined 12 million tons moves on Georgia's 1,200 miles of interstate highways and 20,000 miles of federal and state highways

The GRIP system will ensure that 98 percent of all areas within the state will be within 20 miles of a four-lane road.



GRIP was initiated in 1989 and originally consisted of 12 corridors with 2,845 miles of roadway, including 113 miles of truck access routes. During the 2001 and 2005 Legislative sessions, the General Assembly added new routes, including three truck access routes. The current length of the GRIP system has grown to 3,309 miles. The total length will continue to vary as alignments, including bypasses and shifts, are determined through the engineering process.

Source: [Georgia Dept. of Transportation](#)

The SSTP includes a series of specific goals and objectives tied directly to changing customer needs and the competitive landscape.

Georgia Infrastructure Planning

At a state level, there are various legislative activities related to the collaborative planning and funding of statewide transportation infrastructure, transit, and freight needs. While these needs have much overlap and the goals in many ways are the same, they each have very unique attributes that require attention. Similar to the federal legislative discussions, which revolve around the development of a broad "Federal Transportation Policy", Georgia's efforts concentrate heavily around the formation of the Statewide Strategic Transportation Plan (SSTP). Closely connected to this overarching SSTP, but critical enough to warrant their own strategies are the topics of freight and rail development. To this end, Georgia is also working on the creation of the Statewide Freight & Logistics Plan, and the Statewide Rail Plan.

GEORGIA STATEWIDE STRATEGIC TRANSPORTATION PLAN (SSTP)



The Georgia Statewide Strategic Transportation Plan or (SSTP) is the state's approach to strategic transportation planning. The strategic plan outlines a framework for MPOs and local governments. The SSTP includes a series of specific goals and objectives tied directly to changing customer needs and the competitive landscape. Lastly, the SSTP explores a range of cost-effective strategies for achieving performance via utilization of existing infrastructure to new capacity investments as well as investments in aviation, airports, and rail.

This plan will explore ways to take full advantage of current assets, managing their preservation scientifically and maximizing their operational efficiency. At the same time, it must help guide ways to create new capacity, new modes of travel, and new supply-chain capabilities for efficiently moving freight.

Final Statewide Strategic Transportation Plan Released – 04/09/2010

Senate Bill 200, officially OCGA 32-2-41.1, required the Georgia Department of Transportation's Director of Planning to prepare a final Statewide Strategic Transportation Plan (SSTP) by April 10, 2010.



ONLINE RESOURCE: [Final Statewide Strategic Transportation Plan](#)

The initial draft document delivered on December 31, 2009 to members of the General Assembly was used as the basis for the final document, and incorporated relevant feedback and input from a variety of sources, including our partners in transportation across the State. The process

4-09-2010

**Final
Statewide
Strategic
Transportation
Plan Released**

took months to complete, but the result is a comprehensive document examining a wide variety of transportation options and solutions for Georgia and its citizens. The final SSTP document evaluates the return on investment from funding any available transportation method. The end result shows that although there is not one clear best transportation mode, a strategic level of investment in many types of initiatives will provide Georgians with the optimum benefits and results for the future.

The SSTP was developed in accordance with each of the investment policies required under Senate Bill 200, as passed during the 2009 legislative session. Per SB 200, the final SSTP must be approved by the Governor and the State Transportation Board.

EXECUTIVE SUMMARY

- Over the past few decades, Georgia’s population and economy grew rapidly, and our unique world-class transportation assets were critical to that success.
- However, rather than investing to preserve and extend our competitive advantage in transportation, Georgia has been under-investing and coasting on past success.
- At current funding levels, performance will continue to deteriorate, threatening our ability to compete for jobs and growth in the future.

SETTING A NEW COURSE

Alternatively, a new investment strategy supported by additional resources could transform our transportation network and create over \$480 billion in GDP growth for Georgia over the next 30 years and generate up to 425,000 new jobs. These new resources should be invested across three broad categories:

1. *Statewide freight and logistics*

By investing \$15 billion over the next 20 years in new limited-access bypasses, rail capability improvements, GRIP corridors that align with high-volume freight routes and improvements that address the worst bottlenecks and connectivity gaps on the network.

The state could generate \$100-115 billion in additional GDP growth and 90,000 new jobs.

2. *People mobility in metro Atlanta*

In metro Atlanta, the formula for reducing congestion costs, improving trip reliability, and addressing shrinking talent pools for employers has three equally important components: demand management; supply expansion focused on employment centers and reliable modes; and better matching the supply and demand by coordinating transportation investment with future development patterns. The investment required in new capacity is ~\$29-36 billion, with ~\$8-11 billion coming from tolls and other user fees (e.g., parking fees).

The benefit is up to ~250,000 jobs and \$170 billion in GDP growth.

3. *People mobility in rest of state*

People mobility in rural areas and medium-sized cities is well supported by the current network, though continued investment to fund the long-range plans is critical. New capacity and safety needs are estimated at ~\$14 billion over the next 20 years.

These investments result in 89,000 additional new jobs and \$49 billion in GDP.

a new investment strategy supported by additional resources could transform our transportation network and create over \$480 billion in GDP growth for Georgia over the next 30 years and generate up to 425,000 new jobs.

Resources should be invested across three broad categories:

- 1) Freight & Logistics
- 2) People Mobility in Atlanta
- 3) People mobility outside of Atlanta

MEASURING THE IMPACT

The impact of each program was assessed by calculating the potential travel-time savings that investments might generate, the volume of freight that would travel over those facilities, and the value of the time saved based on “total supply-chain costs” for typical commercial shippers. Total supply-chain costs include the direct cost of transportation (fuel, driver time, and vehicle depreciation), the direct “carrying” cost of the cargo, and the depreciation in value of the inventory for every hour that it is delayed. [The diagram] below shows the relative impact of each program on total supply-chain costs, given the affected freight volumes and the value of time saved. To make it easy to compare programs that have different levels of investment, all benefits were factored by the investment cost.

The SSTP essentially serves as the “business case” for this opportunity. This business case is an investment strategy developed by following a strategic-planning process that is outcome-driven, return-on-investment oriented, and based on best practices from both the public and private sector.

COST-EFFECTIVENESS OF FREIGHT INVESTMENT PROGRAMS



* Benefits based on improved supply-chain connectivity (reduced inventory, obsolescence, and transportation/congestion costs) through 2030; one hour of improved connectivity valued at \$50-75. Benefits from bypasses and other limited-access facilities exclude potential GDP benefit.

** Benefit-cost ratio shown reflects rail grade separations; Investment cost represents larger investment allocation for a broader set of rail capability improvements.

*** Benefit of new rail lines estimates based on effect of highway widening along same corridors.

**** Investment cost includes capital cost and operating cost from estimated year of opening to 2030.

Source: Transearch 2007; Kimley-Horn, “Value of Time for Commercial Vehicles in Minnesota,” 2005; “Value Analysis of Truck Toll Lanes in California,” 2007; “Perceived Value of Time for Truck Operators,” 2000; team analysis

GEORGIA’S APPROACH TO STRATEGIC TRANSPORTATION PLANNING



Again, by wisely investing in transportation improvements, Georgia has an opportunity to create up to 425,000 jobs over the next 20 years and \$480 billion in GDP growth over the next 30 years. The SSTP essentially serves as the “business case” for this opportunity. This business case is an investment strategy developed by following a strategic-planning process that is outcome-driven, return-on-investment oriented, and based on best practices from both the public and private sector. This strategic methodology is distinctly different from past approaches that revolve

around a “call for projects” to spend transportation dollars within predetermined categories.

This re-oriented process is known as “Investing in Tomorrow’s Transportation Today” (or IT3) and under the guidance of the consulting firm McKinsey & Co. began in the fall of 2008 with the identification of these five key steps:

Seizing this opportunity is critical to ensuring that Georgia does not cede any more competitive ground.

FIVE KEY STEPS TO A STRATEGY-DRIVEN APPROACH	
1.	Set goals and objectives based on what is important to our “customers” (The citizens and businesses that use and depend on Georgia’s transportation network)
2.	Identify how customer needs will change in the future and how Georgia’s competitors will respond.
3.	Design an investment strategy that meets these needs, stays ahead of competitors, and delivers the highest return to taxpayers.
4.	Financially constrain the strategy, to align it with available funds.
5.	Relax the constraint and define the minimum funding required for competitiveness.

This SSTP lays out a path for Georgia to create defined economic benefits over the next 20-30 years only if three conditions hold.

First, Georgia must create effective ways to invest more resources in transportation infrastructure than it does today. Current resources invested are well below the levels Georgia historically invested in transportation. If left to decline, there will be limited ability to invest in freight/GRIP corridors, resulting in congestion costs more than doubling across the state.

Second, the state will need the true partnership with regional and local governments in the five areas described above, focused on the goals and objectives outlined in the SSTP.

Finally, the current draft version of the SSTP will hopefully inform and then guide the overall dialogue away from the input-based methods of spending government funds to a new paradigm of results-based investments in public infrastructure to support economic growth.

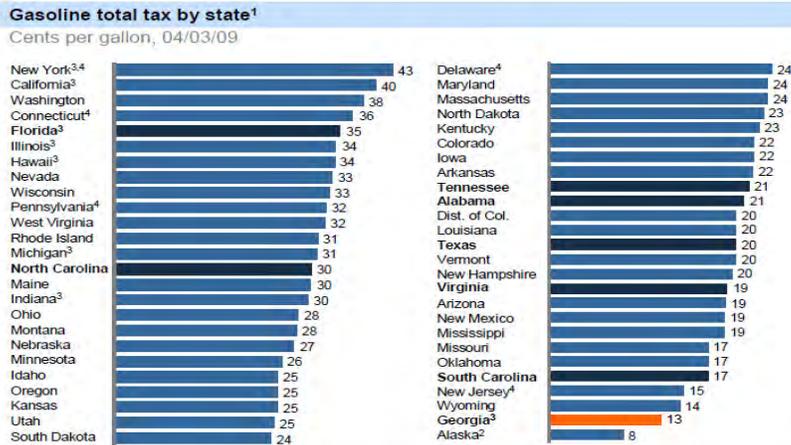
Seizing this opportunity is critical to ensuring that Georgia does not cede any more competitive ground.

INVESTMENT NEEDED

Georgia’s “peers” including Texas, North Carolina, Virginia, Florida and other competitor states did not under invest or “harvest” in the last 20 years. Instead, they increased revenues for transportation and are maintaining that commitment looking ahead. By 2006, state and local governments in Georgia combined invested only \$380 per person (excluding bonds) in transportation. This was about half the national average and far less than what Texas (\$730 per person), Florida (\$730 per person), Virginia (\$630 per person), and North Carolina (\$500) have been investing. Across the whole United States, only Tennessee invests fewer dollars per capita (\$354) than Georgia.

The way other states generate this revenue is straightforward. They draw on more sources by employing expansive toll programs, toll credits, and sales taxes and license and tag fees dedicated to transportation. By contrast, Georgia really only uses motor-fuel taxes, and other states even collect significantly more from motor-fuel taxes than does Georgia.

GEORGIA MOTOR-FUEL TAX COLLECTION VS. PEER STATES



On January 1, 2010, the motor-fuel tax dedicated to transportation in Georgia is 14.5 cents per gallon

- 1 Totals inclusive of all excise taxes, various petroleum-business taxes, sales taxes specifically on gasoline/diesel, Underground Storage Tank (UST) taxes, inspection fees, environmental assurance fees, etc. Does not include federal 18.4 cpg excise tax on gasoline.
- 2 Alaska's 8 cpg state gas tax was suspended through 8/31/09.
- 3 Eight states charge sales taxes on fuel: California, Florida, Georgia, Hawaii, Illinois, Indiana, Michigan, and New York; price per gallon calculated based on AAA average prices as of 4/3/09 as compiled by the American Petroleum Institute. Georgia figures updated in fall of 2009 by Georgia DOT.
- 4 Five states have a gross-receipts tax or oil-franchise tax on gasoline and diesel: Connecticut, Delaware, New Jersey, New York, and Pennsylvania.

Source: American Petroleum Institute; Citibank

The chart above shows Georgia gasoline-tax collections relative to other states as of spring 2009. At that time, only Alaska ranked lower in 2009, and they funded much of their transportation from their general fund. Georgia's motor-fuel tax collection varies every six months. On January 1, 2010, the motor-fuel tax dedicated to transportation in Georgia is 14.5 cents per gallon.

Source: [Georgia DOT and SSTP](#)

GEORGIA STRATEGIC FREIGHT & LOGISTICS PLAN



This comprehensive plan will address Georgia's logistics needs through the year 2050, guiding the strategic execution of logistics activities and projects to improve the flow of goods into, within and out of the state. The plan will be developed over the next 12 months, and calls for guidance in development and resulting implementation by an external advisory committee with participation from a wide range of public and private industry experts.

The plan will provide research and analysis of the current and future state of Georgia's freight and transportation network along with demand forecasts identifying constraints and the economic impacts for Georgia and provide actionable recommendations to include policies, funding, and other mechanisms making them executable. When complete, this plan will be a critical element used in guiding the strategic execution of activities and projects that will improve the flow of commerce.

The statewide Freight & Logistics plan will be a comprehensive plan will address Georgia's logistics needs through the year 2050, guiding the strategic execution of logistics activities and projects to improve the flow of goods into, within and out of the state.

The development of the plan has five broad deliverable areas to be included:

- | |
|---|
| 1. Strategic freight and logistics framework definition, evaluation and identification. |
| 2. Documenting existing and future freight transportation systems conditions. |
| 3. Economic evaluation and projections |
| 4. Freight and logistics recommendations and project evaluations |
| 5. Plan development and execution advisory committee |

Like all aspects of the freight and logistics industry, this strategic plan will explore and include many different factors. In addition to being multi-modal, some additional general factors include:

1. Perspective from both the supply and demand sides of the freight and logistics industry
2. Last-mile connectivity to strategic Georgia freight and logistics assets, corridors and hubs
3. The south-east's fast growing population and related increasing volumes on origin-destination freight flow pairings and the current and future strategic freight corridors utilized
4. Current and future capacity constraints due to military "mission-growth", a large and fast growing seaport, airport and other related challenges of positive industry growth.

While still in development, the plan is well underway and is expected to be completed in one year or mid-2011.

"This new plan, while obviously important for infrastructure and transportation planning, will also serve as a unique economic development tool that we will use to help market Georgia, and attract and grow jobs and investment to our state. We are very pleased to have our Center of Innovation for Logistics involved both in leading the CNG task-force and collaborating to help move the plan's creation forward."

- Commissioner Ken Stewart, Georgia Department of Economic Development

"This new plan, while obviously important for infrastructure and transportation planning, will also serve as a unique economic development tool that we will use to help market Georgia, and attract and grow jobs and investment to our state."

GEORGIA STATEWIDE RAIL PLAN



The 2009 Georgia Statewide Rail Plan (SRP) has been prepared by the Georgia Department of Transportation (GDOT), Intermodal Programs Division. The 2009 SRP is an effort to combine the state's planning for freight (Class I and short-line railroads) and passenger rail into one single coordinated effort and is broader in its scope than previous plans.

This 2009 SRP is based on and complies with the requirements of the current federal guidelines established in The Passenger Rail Investment and Improvement Act (PRIIA) of 2008.

Following is a brief summary of the economic benefits of rail programs with a national perspective as well as the state's recently completed study on Investments in Tomorrow's Transportation Today (IT3). The benefits of high-speed rail specifically related to the southeast high speed corridor are also discussed in this plan.

The vision for rail transportation in Georgia is to have a network and plan that:

- Serves Georgians well for both passenger & freight services
- Provides a preferred choice for intra-state travelers & shippers
- Offers seamless & energy-efficient intermodal connections from origin to destination
- Supports economic growth and development
- Accommodates existing traffic safely and efficiently
- Handles increased use of high axle load cars
- Has the ability to return track structure to a state of good repair
- Maintains load bearing capacity on existing bridges
- Provides a competitive mode choice for shippers

This 2009 SRP is based on and complies with the requirements of the current federal guidelines established in The Passenger Rail Investment and Improvement Act (PRIIA) of 2008.



ONLINE RESOURCE: 2009 State Rail Plan

FACTOR # 3: OPERATIONS

Donald Sull, a professor at the London Business School defines basic operational competitiveness as *“an organization’s ability to exploit both revenue-enhancing and cost-cutting opportunities within its core business more quickly, effectively, and consistently than rivals do.”*

This also holds true for logistics providers and also for companies heavily dependent on logistics (users). For logistics companies, the value provided to logistics users can impact to a certain extent what they are willing to pay for those services. Since profitability and productivity represent a greater operational competitiveness, businesses must also maximize the areas that they can be more efficient and save in costs.

McKinsey Global Institute (MGI) defines competitiveness as a *“capacity to sustain growth through either increasing productivity or expanding employment”*. A competitive sector is one in which companies improve their performance by increasing productivity through managerial and technological innovations, and offer better quality or lower-priced goods and services, expanding demand for their products.

FRAMEWORK OF THE FACTOR

This Factor explores the impact of multiple areas of operations and their impact on competitiveness in the logistics ecosystem. More specifically, this includes how businesses compete on basic cost and rates, market share, and innovations.



basics, a company must then begin to explore and add on ways to grow and increase revenues. This includes exploring new markets, both domestic and international, and possibly pursuing niche cargo handling opportunities. Finally to top off the pyramid, is incorporating “operational innovation” into the overall business.

“Operational competitiveness” can be arranged as a pyramid:

- 1) Basics: Cost & Rates
- 2) Growth: New markets
- 3) Innovation

A competitive sector is one in which companies improve their performance by increasing productivity through managerial and technological innovations, and offer better quality or lower-priced goods and services

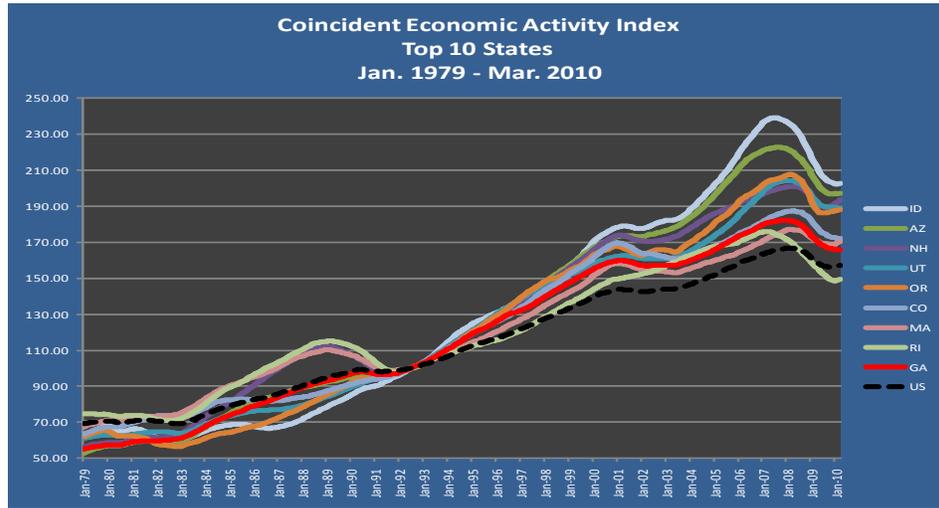
For discussion purposes, these components of “operational competitiveness” can be arranged as a pyramid. The basics of understanding current rates and costs and are a critical component to any business, and serve as a foundation for this pyramid. On top of these foundational

Operational innovations go beyond incremental improvements, and instead help to drive and/ or create completely new ways to operate.

Georgia's Economy - Outlooks & Indices

COINCIDENT ECONOMIC ACTIVITY INDEX

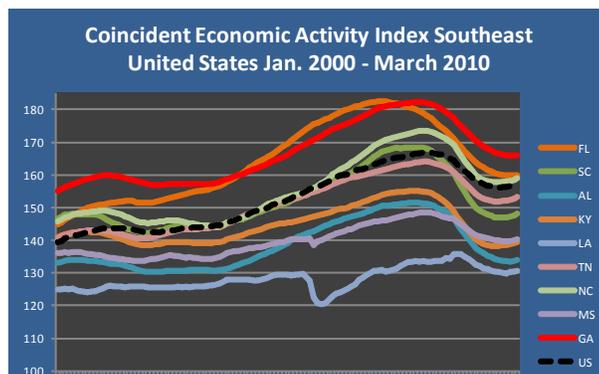
Georgia has been a top-performing state in the country for quite some time (tracked back to 1979), and currently leads the Southeast.



The coincident economic activity index is a single summary statistic that tracks the current state of the economy. The index is computed from a number of data series that move systematically with overall economic conditions. A rise in the index indicates an expansion of economic activity and a decline in the index indicates a contraction in economic activity. Each of the regional indexes is computed using data on employment, real earnings, the unemployment rate and average weekly hours worked in manufacturing. Each index is then re-trended so its long-term growth rate matches the corresponding growth rate of real earnings.

The chart above shows that Georgia has been a top-performing state in the country for quite some time (tracked back to 1979), and currently leads the Southeast in this well respected economic indicator.

Job growth between 1990 and 2006 was for example about 64% higher than the U.S. average or any of its neighboring states



Compared to its 1992 index of coincident indicators, Georgia has shown much stronger improvement than the U.S. average or any of its neighboring states. Job growth between 1990 and 2006 was for example about 64% higher than the U.S. average or any of its neighboring states (Bureau of Economic Analysis).

In the charts above you can see Georgia currently is not only one of the top states in the country, but also currently first in the Southeast with regards to this activity index.

GEORGIA ECONOMY OUTLOOK: UGA'S 2010 ECONOMIC OUTLOOK



The University of Georgia's Terry College of Business provides insight every year into the national and state economy in their annual Economic Outlook report. Brief excerpts of this report are provided in the following section along with a quick look at a national index of economic activity.

When net hiring resumes in the second quarter of 2010, job growth initially will be very unbalanced and quite weak. That's primarily because longer workweeks and productivity gains will allow many businesses to postpone hiring more personnel until Georgia's economic recovery is well entrenched.

By mid-2010, transportation and logistics firms, education, retailers, wholesalers, and the hospitality and entertainment industries will be adding to their staffs. By late 2010, the financial industry will be on the upswing, but heavy job losses will continue in construction and manufacturing. The overall pace of job creation therefore will not accelerate too much until 2011, which is when construction employment will begin to recover and job losses in manufacturing will slow to a trickle.

Many of the positive forces underlying the forecast for the continuing recoveries of both the Georgia and U.S. economies are the same:

- Housing activity will increase
- Businesses will begin to hire and spend
- Global economy will expand moderately
- Dollar will weaken slightly
- Consumer price inflation will increase
- Oil prices will be flat to slightly higher (but remain volatile)

Georgia's substantially above average population growth will be an important driver of the economy... The newcomers will span the age spectrum to include an influx of relatively well-heeled retirees to young, single, college educated people – a mix that ensures both an adequate supply of talented young workers as well as a growing retiree population that is slightly less exposed to the ups and downs of the business cycle.

Georgia's ports should recover vigorously by tapping directly into the economic growth that is taking place overseas, by diversifying the services that call on Georgia's ports, and by taking market shares from other U.S. ports.

Market conditions will continue to improve for banks and the prospects for stockholders and financial planners also should improve slightly. Transportation has a sector summary citing the industry to have a direction with slight increase and a performance grade of average. In the coming year, cargo volumes will grow slightly faster than state GDP, and shippers will continue to have the upper hand. Rate competition in even the strongest sectors will remain intense in 2010... :

By mid-2010, transportation and logistics firms, education, retailers, wholesalers, and the hospitality and entertainment industries will be adding to their staffs.

Georgia's ports should recover vigorously by tapping directly into the economic growth that is taking place overseas, by diversifying the services that call on Georgia's ports, and by taking market shares from other U.S. ports.

TRUCKING:

Truckers will not be able to raise rates sufficiently to fully offset higher costs. Several factors will push trucking companies to get bigger:

1. More outsourcing of products from overseas, especially China.
2. Large retailers often prefer to deal with select trucking firms that offer the broadest range of services.
3. Large trucking companies can achieve economies of scale in distribution, especially when it comes to managing global supply chains.
4. Larger companies will find it easier to cope with the driver shortage than will smaller companies.

RAIL:

Despite the limited prospects for fast paced GDP growth, business conditions favor the railroads. Georgia's rail network is largest in the Southeast. Demand growth will exceed capacity growth, but the growth rates will be low, so barring substantially higher fuel prices, rates will remain stable in 2010.

SEAPORTS:

The success of Georgia's ports will be a big plus for railroads and trucking. Inter-modal shipping of consumer goods and light industrial products will grow, and there will be more shipments of industrial and communications equipment.

Georgia's deepwater ports industry will thrive by tapping directly into the growth that is taking place overseas, by diversifying services, and by taking market shares from other U.S. Ports. In May of 2009 the world's fifth largest ocean carrier—China Ocean Shipping Group Company – added Savannah to its vessel rotation, which means that vessels of all the world's Top 20 carriers now include Savannah on their ports of call.

The Ports Authority's top priority is to deepen the Savannah Harbor to accommodate the mega-cargo ships en route to and from the Panama Canal. Also on the fast track are four last-mile projects dubbed "The Cargo Beltway" that must be completed to keep cargo moving along the last miles to and from the waterfront." Georgia's deepwater ports create substantial economic impacts, one job out of fourteen depends on them some way.

AIRLINES:

Airlines' fuel costs, security costs, debt service costs, and federal tax burdens continue to rise. Major carriers unable to lower costs to more closely match those of the low-fare carriers are unlikely to survive. Fuel and labor are the largest component of costs. The industry's capacity is fairly tight, which suggests that their pricing power will be on the increase. One positive factor is that international deregulation of the industry will encourage more international travel and the lower valued dollar will encourage more foreign travelers to come here in 2010.

Rail demand growth will exceed capacity growth, but the growth rates will be low, so barring substantially higher fuel prices, rates will remain stable in 2010

International deregulation of the industry will encourage more international travel and the lower valued dollar will encourage more foreign travelers to come here in 2010

Operational innovations go beyond incremental improvements, and instead help to drive and/or create completely new ways to operate.

OPERATIONS AND THE ECONOMY



There are various operational factors that are important to a firm's competitiveness. When viewed from the perspective of logistics and supply chain management, the aim is to manage these operations in a way to best continually reduce costs and add value to the customer. Arguably, this also holds true for any business of any size or type.

"By working together with collaborative efforts, the industry can counter these downward trends and continue to meet the changing needs of our consumers around the world."

In a 2008 report from the Economist, consultants from PRTM identified a new breed of high-performing companies whom they identified as "operational innovators". The report explains that these companies *"seek out new ways of operating, without waiting for pressure from external forces. Top performers move early, and they expect to keep on moving."*

Even with an economic upswing on the horizon (or closer), the focus on doing more with less won't and shouldn't fade away. In fact, some say the paradigm of productivity has changed. Smart companies are moving beyond the basics — empowering top talent to implement creative solutions and finding innovative ways to free up cash and lift operating performance.

"As the economy begins to recover, more and more companies are moving out of a survival mind set and back into growth mode. The only question is how to achieve it. Is it best to look for new and innovative ways to get an edge on the competition? Or should you apply the proven methods that worked well in the past? The answer, of course, is both." – from Deloitte Insights

Operational innovators are companies that "seek out new ways of operating, without waiting for pressure from external forces. Top performers move early, and they expect to keep on moving."



Logistics

ONLINE RESOURCE: [Deloitte Insights Report](#)

Global Commerce Initiative's (CGI) 2018 report takes an optimistic approach of the future while the current 'mood of the market' may not be as upbeat as in 2006; they encourage companies to not let today's pressures prevent our industry from thriving. *"By working together with collaborative efforts, the industry can counter these downward trends and continue to meet the changing needs of our consumers around the world."* CGI held various workshops and studied eight trends that all indicated the need to improve through collaborative actions. These eight trends included:

1. ***The declining economy;***
2. ***Social structures changing;***
3. ***Cost and availability of raw materials;***
4. ***Growing awareness of sustainability;***
5. ***Mass adoption of consumer technologies;***
6. ***Changing business models;***
7. ***Criticalness of information in the supply chain;***
8. ***Concern of product safety***



ONLINE RESOURCE: CGI's full report

When Omar Aguilar, principal Deloitte Consulting LLP was asked how cost management and efficiency strategies change as businesses transition from recession to recovery mode in 2010, his response provided two primary areas of guidance:

“Transportation is one of the world’s largest industries. Its sectors range from taxis to trucks to airplanes, trains, ships, barges, pipelines, warehouses and logistics services.

“Due to the prolonged recovery, companies are now faced with making structural cost reduction changes that are more sustainable and scalable, so the focus now for many companies should actually be on cost.”

“Companies with good competitive position, or in a recovery mode, should start focusing on targeted growth, and an emphasis on human capital factors such as talent and rewards ...”



ONLINE RESOURCE: Omar Aguilar’s 2010 Outlook

The Basics - Cost

OVERVIEW

According to Plunkett’s Research firm, “Transportation is one of the world’s largest industries. Its sectors range from taxis to trucks to airplanes, trains, ships, barges, pipelines, warehouses and logistics services. In total, during 2009, the U.S. transportation industry (in both for-hire and not for-hire sectors, including support and repair) had revenues of about \$1.6 trillion.”

Even with the size and complexity of transportation, this is still just one of many cost components that go into a total logistics cost. These costs also include inventory, order entry, administration, and warehousing; and each of these costs break down even further. However, as a starting point for any business and a critical one for companies striving to compete, these costs are the foundation from which all else is based.

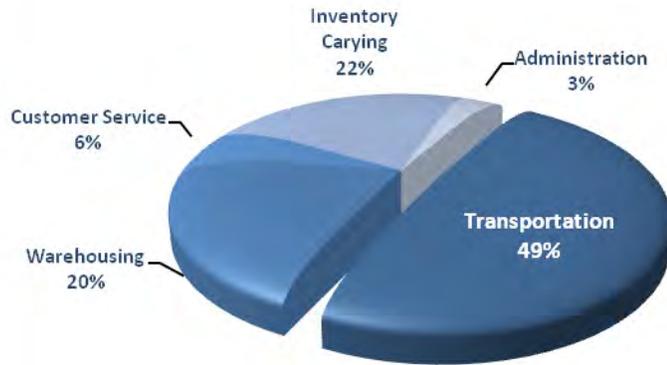
The chart below from Establish Inc. shows how these costs break down as a percentage of total sales revenue of a typical business. Or in other words, for every \$100 in total sales revenue, \$8.48 goes to pay for the total logistics cost to sell a product, and of that about half (49%) goes to transportation costs.

Average Company Costs Breakdown – 2009 Database		
	% of Total Sales	% of Logistics Cost
Transportation	4.12%	49%
Warehousing	1.73%	20%
Customer Service	0.54%	6%
Administration	0.26%	3%
Inventory Carrying	1.83%	22%
<i>Total Logistics Costs</i>	<i>8.48%</i>	<i>100%</i>

Source: www.establishinc.com

In total, during 2009, the U.S. transportation industry (in both for-hire and not for-hire sectors, including support and repair) had revenues of about \$1.6 trillion.”

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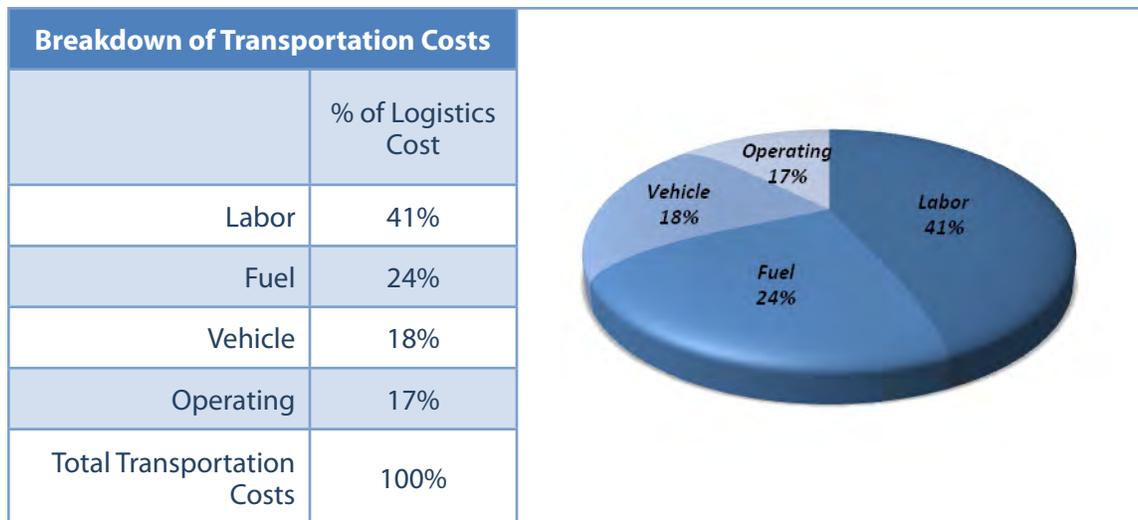


Transportation and warehousing portion alone equaled almost 70% of total logistics cost.

Source: www.establishinc.com

According to this research, the transportation and warehousing portion alone equaled almost 70% of this total logistics cost. It is understandable why transportation and logistics costs are so highly scrutinized and can drastically impact a company's competitiveness very quickly. Understanding these costs and knowing both current and forecasted rates can help businesses identify where they rank and help both themselves and their customers with informed planning and decision making.

Labor and Fuel comprise 65% of total transportation costs



Understanding these costs and knowing both current and forecasted rates can help businesses identify where they rank and help both themselves and their customers with informed planning and decision making.

Source: www.establishinc.com

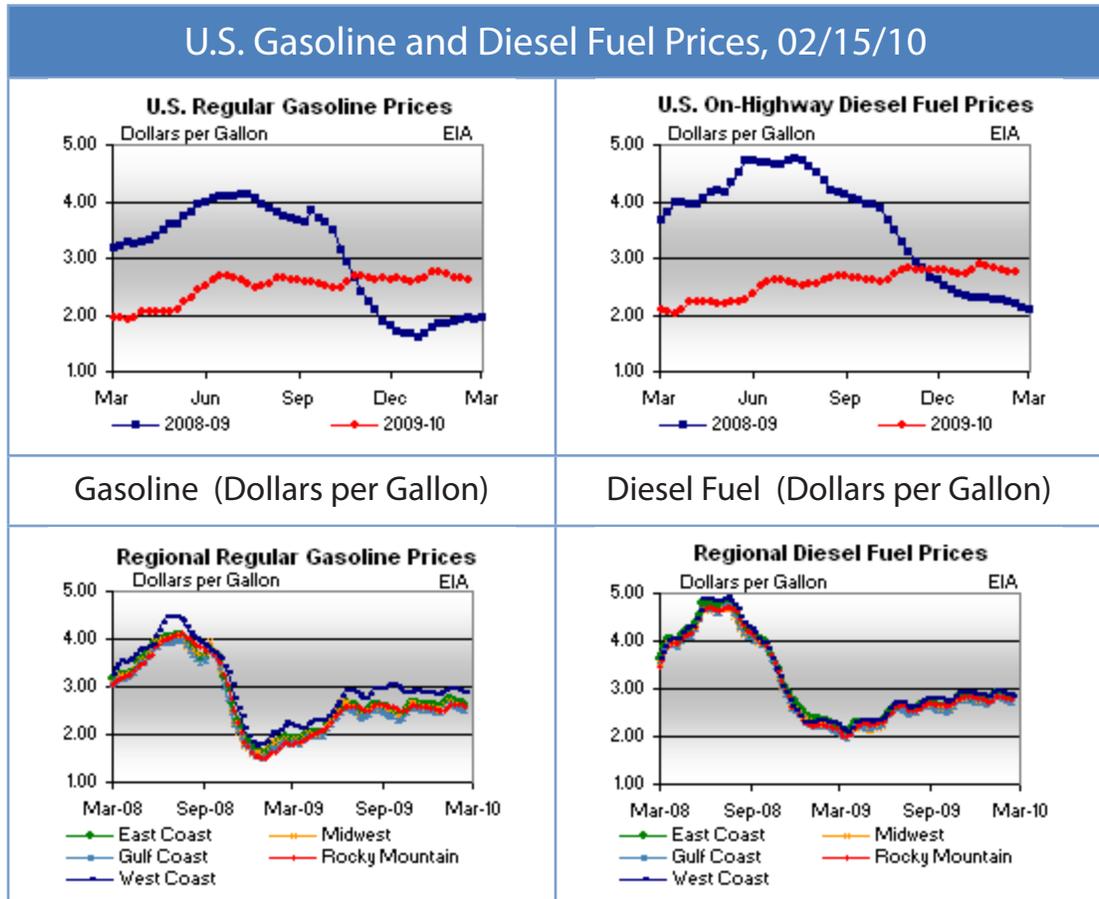
Looking specifically at transportation costs in a bit more details shows that labor and fuel are the two highest costs for companies with vehicle costs coming in at a close third. To cut costs and increase profit margins companies must understand how their costs are being allocated. The fuel portion was a hot-topic in 2009 and will continue to be on the minds of everyone into and through 2010. Labor is explored in greater detail in Factor #5 – Workforce of this report; however the chart below from SMC3's survey of their member companies briefly shows the many elements that are both labor and non-labor related expenses.

FUEL COSTS

Unlike 2008 where gasoline and diesel prices reached four and five dollars per gallon respectively, 2009 showed to be much more stable, steadily rising from two to three dollars per gallon.

Fuel costs, the second largest transportation cost factor for logistics providers has been on a decreasing trend over 2009, but entering into 2010 has begun to steadily climb again with experts predictions that are all over the map. Volatility and uncertainty in this market has resulted in the emergence of a freight derivatives market. In the derivatives market, shippers and carriers forecast what the fuel rate will be on a future date and negotiate a rate for a future dated shipment.

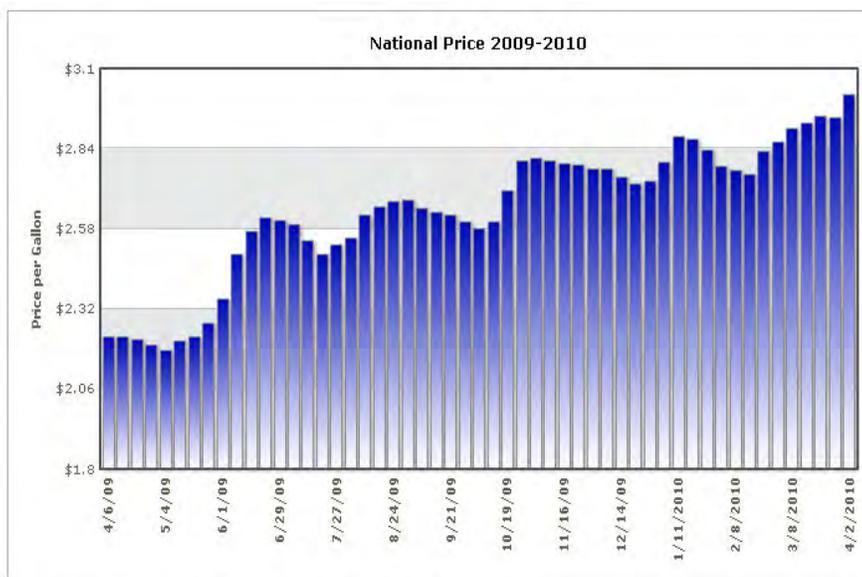
Fuel costs, the second largest transportation cost factor for logistics providers has been on a decreasing trend over 2009, but entering into 2010 has begun to steadily climb again



LABOR EXPENSES	NON-LABOR EXPENSES
<i>Approximately 67% of overall operating expenses</i>	<i>Approximately 33% of overall operating expenses</i>
Salaries: officers and supervisors	Oil, lube and coolants
Drivers and helpers	Vehicle parts, maintenance, outside repair
Owner operator drivers	Tires and tubes
Vehicle repair and service	Other operating supplies/expenses
Cargo handlers	General supplies and expenses
Clerical and administrative	Operating tax and licenses
Other Labor	Property Loss (PL) and Property Damage (PD) insurance
Pension and retirement commitments	Cargo loss and damage
Health, welfare and pension	Other insurance
Other fringe benefits	Utilities
	Building / structure depreciation
	Revenue equipment depreciation
	Other equipment / property depreciation
	Amortization
	Vehicle rentals
	Purchased transportation, other carriers
	Equipment rentals /credit
	Building and office equipment rentals
	Disposition of operating assets (net)
	Miscellaneous expenses

Labor Expenses account for 67% of total operating costs

Source: SMC3 survey of U.S. motor carriers annual reports



Source: U.S. Department of Energy, Energy Information Administration, www.doe.eia.gov

Many businesses, tainted by the volatility and spikes in fuel costs are looking at any and all possible ways to reduce or offset their transportation fuel costs. It has become almost unanimous for logistics service providers to pass along some of this fuel cost on to their customer by way of a “fuel surcharge”.

RECENT FUEL SURCHARGE RATES

During 2007 the fuel surcharge rate for LTL shipments ranged from 15.0% to 25.3%.

National LTL Fuel Surcharge History		
4/07/2010	21.0%	2010 peak
2/17/2010	18.4%	2010 low
10/28/2009	18.9%	2009 peak
3/18/2009	11.0%	2009 low
12/31/2008	14.1%	2008 low
07/16/2008	38.5%	2008 peak
11/28/2007	25.3%	2007 peak
01/31/2007	15.0%	2007 low

During 2007 the fuel surcharge rate for LTL shipments ranged from 15.0% to 25.3%. The fuel surcharge rate for LTL shipments started 2008 at 24.3%, rose to 38.5% on July 16th and then decreased to 14.1% at the year’s end. From the start of 2009 the fuel surcharge rate continue to decline until mid-March at which point the fuel surcharge was at the lowest point during the past 2 years. Since mid-March 2009 the fuel surcharge has steadily increased with small (sharp) peaks every few weeks.

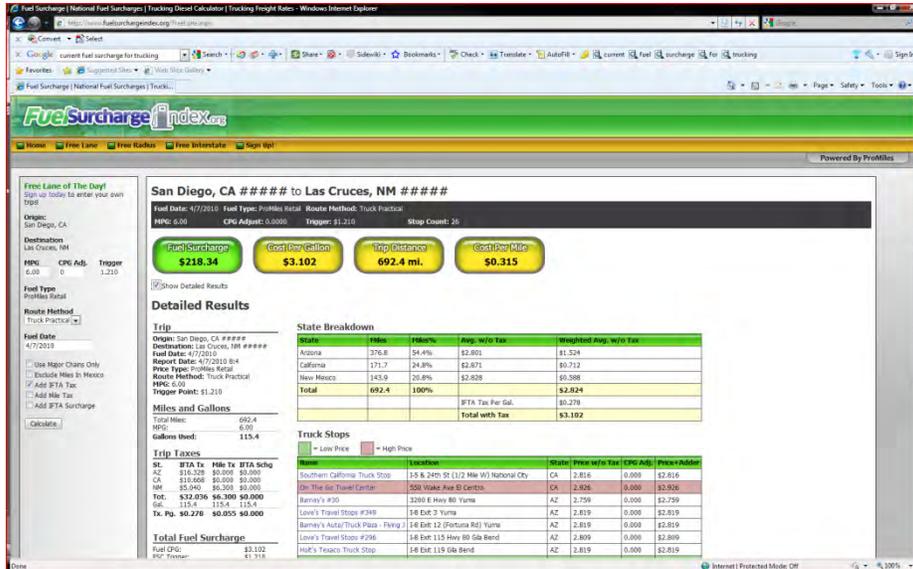
These necessary fuel surcharges are handled, passed along, and calculated in a host of different ways. Georgia headquartered company, and the worlds #1 shipper – UPS, uses an indexed percentage based surcharge calculated from National diesel prices. UPS must calculate these charges both for ground and air transportation and they vary independently.

In April of 2010, fuel surcharges for LTL industry averaged 21%

National U.S. Average On-highway Diesel Fuel Price (\$/Gallon)		
At Least:	But Less Than:	UPS Indexed Surcharge:
\$0	\$1.75	0.00%
\$1.75	\$1.87	1.00%
\$1.87	\$1.99	1.50%
\$1.99	\$2.11	2.00%
\$2.11	\$2.23	2.50%
\$2.23	\$2.35	3.00%
\$2.35	\$2.47	3.50%
\$2.47	\$2.59	4.00%
\$2.59	\$2.71	4.50%
\$2.71	\$2.83	5.00%
\$2.83	\$2.95	5.50%
\$2.95	\$3.07	6.00%
\$3.07	\$3.19	6.50%
\$3.19	\$3.31	7.00%
\$3.31	\$3.43	7.50%
\$3.43	\$3.55	8.00%
\$3.55	\$3.67	8.50%
\$3.67	\$3.79	9.00%
\$3.79	\$3.91	9.50%

Source: http://www.ups.com/content/us/en/fuel_surcharge.html

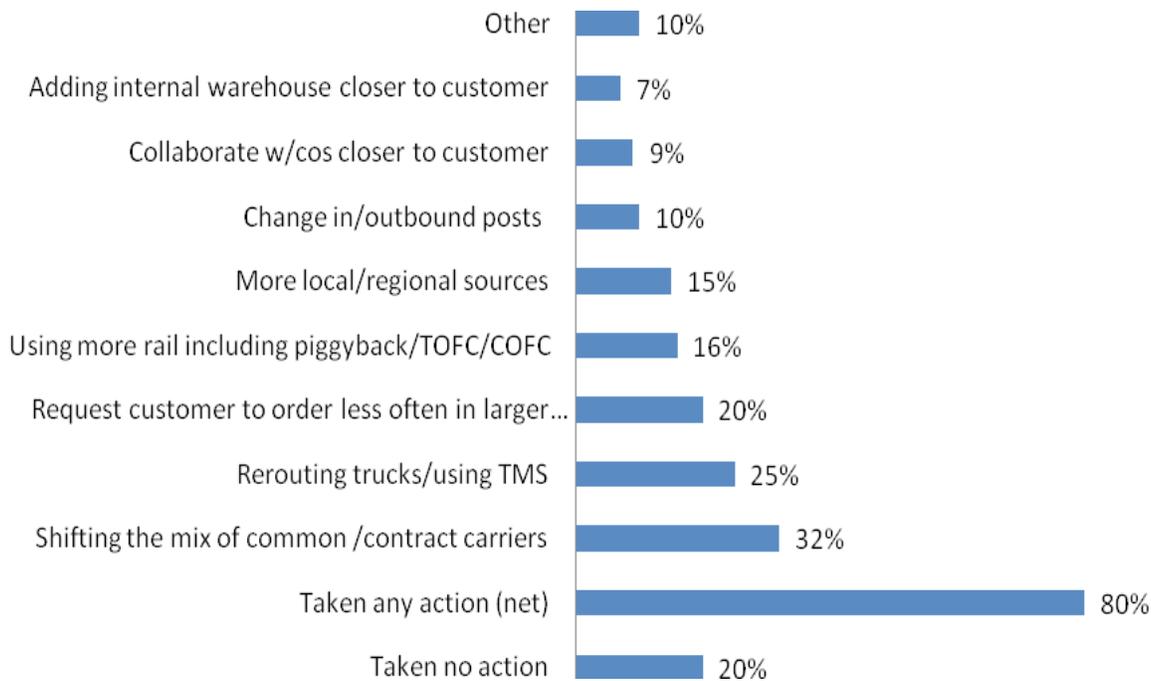
The attention to fuel costs has also led to the internet community to respond with fee based tools like www.fuelsurchargeindex.com (shown below). Here, a trucking company (or shipper) can enter a variety of parameters and determine the total added fuel surcharge needed for the shipment. This allows for daily or even per-trip calculations of the surcharge, vice an indexed approach like that used by UPS and others.



Other than passing the cost along, competitive companies must also find ways to control and reduce these costs wherever possible.

Other than passing the cost along, competitive companies must also find ways to control and reduce these costs wherever possible. Logistics Management’s 2009 Operations Survey, shows a wide range of action items possible to help mitigate total fuel costs:

Actions taken to offset increased transportation/fuel costs



20% of the companies surveyed are not taking ANY actions at all to mitigate fuel costs

Source: LM’s 2009 Warehouse/DC Operations Survey

Interestingly, while this shows the wide range of possibilities a company can explore to reduce fuel costs, it also reveals 20% of the companies surveyed are not taking ANY actions at all. Why?

The US Department of Energy (DOE) upped their forecasts for trucking and anticipates their main fuel to average \$2.84 per gallon. The DOE also forecasts the 2010 price per barrel of crude to be around \$72.42 which is significantly lower than last year where we averaged \$99.57. With large increases in the month of March alone exceeding the DOE forecast, with crude oil prices reaching over \$80 per barrel, the volatility still leaves some uncertainty on the horizon. On March 31st, President Obama proposed to expand offshore oil drilling in efforts as a part of a comprehensive energy plan.

The DOE forecasts the 2010 price per barrel of crude to be around \$72.42 which is significantly lower than last year where we averaged \$99.57

The Basics - Rates & Volumes

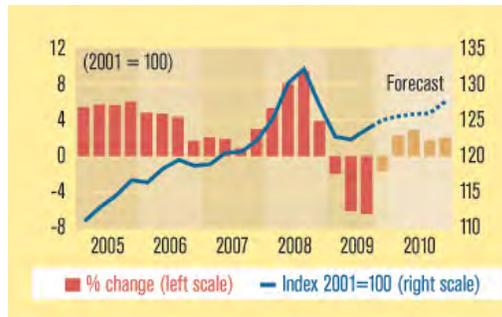
In today's environment, excess capacity in most sectors results in drastic price reductions. These price drops create the potential for an un-sustainable pricing environment. This reduced demand creates a "shipper's market", and some carriers are looking to volume or cost incentives in hopes to capture a larger share of the market's volume.

With unprecedented declines in demand and volumes in 2009, supplier and carrier contracts were renegotiated in efforts to retune strategies for weathering the recession. Elizabeth Baatz of Thinking Cap Solutions puts together a monthly snapshot and some thoughts on industry rates by mode, this material is then published in Logistics Management Magazine.

TRUCKING RATES

Quarterly trends, indicate LTL prices held steady in both Q2 and Q3 of 2009. That left LTL tags 4.1% below its 2008 peak. TL tags, meanwhile, increased 1.4% in Q3, but remained 9.5% below its peak. After plunging 6.9% in 2009 we forecast TL tags to increase 1.9% in 2010. Following a 2% annual price cut in last year, TL prices will pick up 2.5% in 2010.

Reduced demand creates a "shipper's market", and some carriers are looking to volume or cost incentives in hopes to capture a larger share of the market's volume



% Change of Price vs.	1 month ago	6 mos. ago	1 yr. ago
General freight – local	-0.2	0.5	-0.1
Truckload	-0.1	0.5	-2.8
Less-than-truckload	-2.5	-3.8	0.1
Tanker & other specialized freight	0.3	1.4	-0.6

Source: Pricing Across the Transportation Modes -- Logistics Management Magazine
Elizabeth Baatz, Thinking Cap Solutions.

Trucking Industry Volume Growth



■ ATA Truck Index — Baird Freight Index

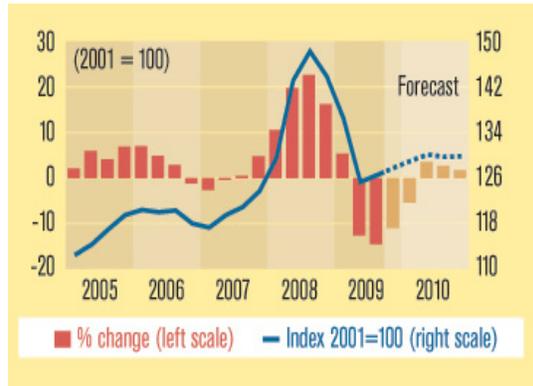
Source: [American Trucking Association](#)

Both the Baird Freight Index and ATA Truck Index show promise of trucking volume growth having returned to the positive.

The trucking Industry experienced a sharp decline throughout 2009, both the Baird Freight Index and ATA Truck Index show promise of trucking volume growth having returned to the positive.

AIR CARGO RATES

Despite the recession, U.S. airlines have hiked prices in interesting ways. Shippers who flew cargo (excluding mail) on scheduled flights faced a 3.1% price hike from November to December. Nonscheduled air freight chartering on domestic flights, meanwhile, cost shippers 2% more than a year ago, while on international flights, prices plunged 23.2%. Prices charged by U.S. airlines flying cargo on scheduled flights fell 12% from their fuel-surcharge-infused price peak set in Q3 of 2008 to Q4 of 2009. By the end of 2010, those prices will regain only 3.6%

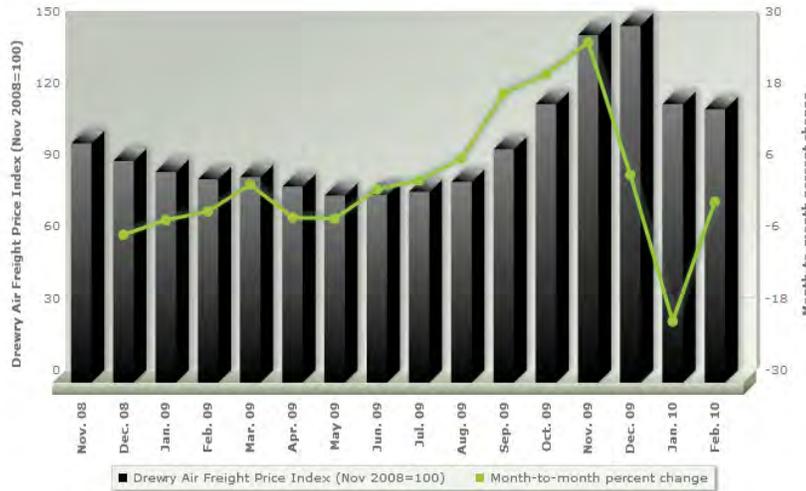


% Change of price vs.	1 month ago	6 mos. ago	1 yr. ago
Scheduled air freight	2.9	3.3	-7.2
Chartered air freight & passenger	-0.1	6.1	-6.8
Domestic air courier	2.3	5.8	3.9
International air courier	2.3	2.5	1.3

Source: *Pricing Across the Transportation Modes -- Logistics Management Magazine*
 Elizabeth Baatz, *Thinking Cap Solutions*.

The Drewry Air Freight Price Index was launched in November 2008, and peaked in December 2009 at 149.1 with an average \$6.03 per kg. rate and a 61.2 percent year-over-year price spike. In February, the index slipped 1.9 percent sequentially to 114.2 and settled at an average \$4.61 per kg.- a dime less than the January average, but averaging 34% higher year-over-year.

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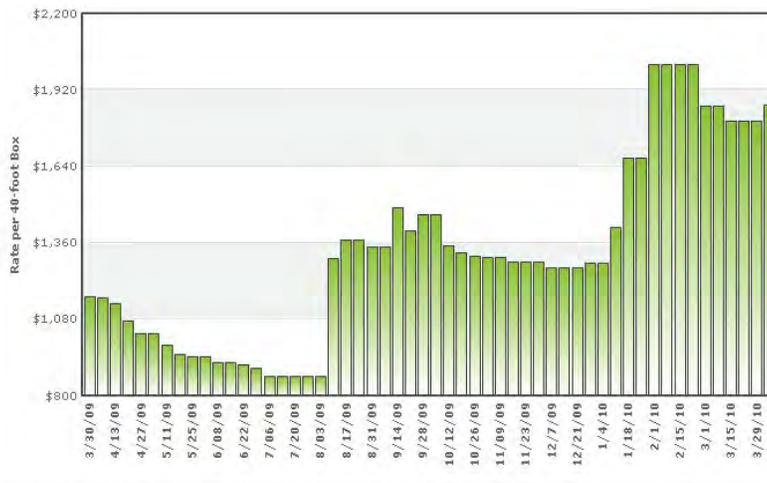


Source: Drewry Shipping Consultants

The most current measure of ocean container rates is from April 5th and averaged spot market freight increases of \$57 from the week before to a total of \$1,864 per forty-foot-equivalent-unit (FEU).

OCEAN CONTAINER FREIGHT RATES

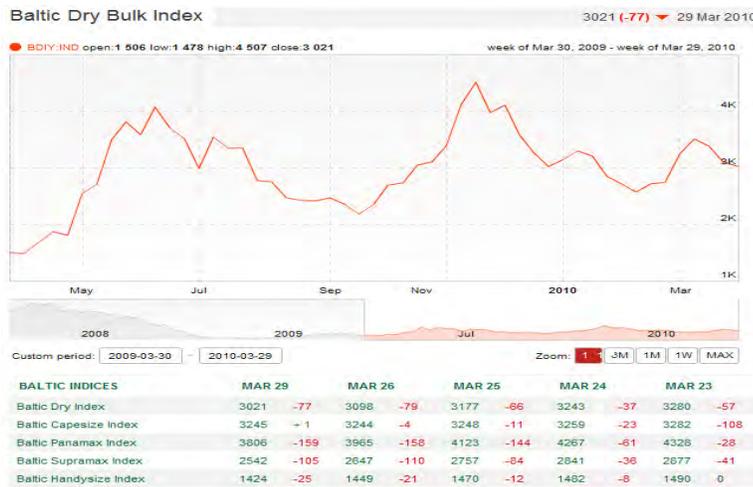
Drewry Shipping Consultants' has formulated a well respected rate benchmark derived primarily from NVOCCs shipping from ports in Hong Kong to Los Angeles. This is measured in dollars and is for a full 40-foot container load. The volatility of the container rate market over the past year is like none the industry has ever seen. The most current measure is from April 5th and averaged spot market freight increases of \$57 from the week before to a total of \$1,864 per forty-foot-equivalent-unit (FEU). The current rate is \$379 above the 2009 record high of \$1,486 per FEU and \$704 more than a year ago. Even over the past three plus months, rate increases have totaled \$581.



Source: Drewry Shipping Consultants London, www.drewry.co.uk, +44 20 7538 0191

Another excerpt from Drewry stated spot rates for shipping an FEU hit \$2,012 in February compared to only \$1,669 a couple weeks prior at the end of January. Much of the steep increase in rates were a result of the Transpacific Stabilization Agreement (TSA) calling for a mid-contract emergency rate increase on January 15th of \$400 per FEU shipped via the Asia to West Coast trade lanes. This, combined with scarce vessel space almost doubled the spot rates as shippers struggled to get inventory on-order before the Chinese New Year.

OCEAN BULK FREIGHT RATES



In addition to containerized cargo, there is still quite a market for bulk and break-bulk cargo flowing all over the world. The rates for shipping of commodities in this way, while linked and impacted by container rates, is quite different. The Baltic Dry Index (BDI) is one commonly used index for gauging the activity and rate base for this mode.

With slow rises in demand for goods, the Baltic Dry Index has remained fairly steady with only minimal spikes remaining in the area of 2,000-3,000.

This index measures shipping prices for bulk cargoes and is updated daily on the Baltic Exchange. Because dry bulk primarily consists of materials that function as raw material inputs to the production of intermediate or finished goods, such as concrete, electricity, steel and food, the BDI is also seen as an efficient leading economic indicator of future economic growth and production.

The BDI is back to a decline at the end of March sitting at just over the 3000 mark; up from last year. If there are more ships than cargoes, the rates go down; if there are more cargoes than ships, the rates go up. 2008 largely focused on inventory reductions lowering rates significantly and remained fairly steady as inventories remained lean. As peak seasons hit though, inventories were consumed - more than anticipated for some - which created spikes in ordering and resulted in spikes in the BDI with fourth quarter 2009 breaking 4000.

With slow rises in demand for goods, the BDI has remained fairly steady with only minimal spikes remaining in the area of 2,000-3,000.



ONLINE RESOURCE: www.balticexchange.com

Logistics

RAILROAD RATES

	Q1 - Price Change	Q2 - Price Change	Q3 - Price Change	Q4 - Price Change
Intermodal	-8.8 %	-15.2 %	-15.1 %	-5.7 %

Intermodal rail saw price declines throughout 2009 at a pace of approximately 11.4%

The Rail industry like other transportation industries were greatly impacted by the recession suffering four quarters of price cuts. Intermodal rail saw price declines throughout 2009 at a pace of approximately 11.4%; where Carload rail carriers also suffered but at a much lesser annual rate of 5% for 2009. Thinking Cap's prediction's... *"Looking forward, we cautiously predict average rail industry transaction prices will rebound, though slowly, ending 2010 with annual price hikes for intermodal and carload of 4.0% and 3.2%, respectively."*

JEFF BERMAN, GROUP NEWS EDITOR -- LOGISTICS MANAGEMENT, 3/25/2010
ACCORDING TO DATA RELEASED BY THE ASSOCIATION OF AMERICAN RAILROADS (AAR)

Railroad volume growth in recent weeks ostensibly could lead to a positive remainder of 2010, according to industry analysts. *"Recent Class I commentaries describe a robust first quarter and paint a bright 2010 industry picture,"* wrote Jason Seidl, Dahlman Rose research director in a report. Seidl also noted that railroads appear to be well-positioned to maintain a low cost structure as volumes continue to return through things like a better strategic approach to cost-cutting, ongoing investments in infrastructure upgrades, maintenance, and new projects, which will improve their networks to avoid future recovery-related congestion, and access to locomotives and cars in storage, which can be used at lower incremental costs as traffic improves.

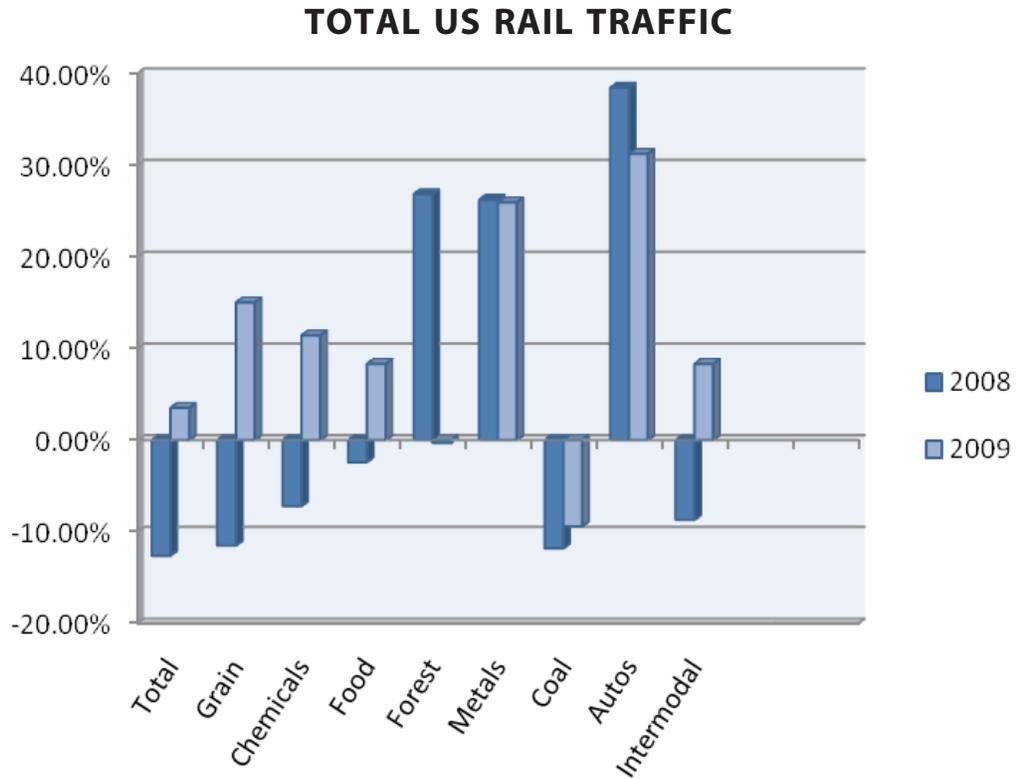
"The strong sequential growth in recent weekly railroad volumes serves as conformation of previous so-called 'green shoots' that railroad volumes were rebounding," according to Anthony B. Hatch, principal of New York-based ABH Consulting, in a recent interview. *"Clearly we are seeing easy comparisons now, but we are also seeing some real strength in certain areas like domestic intermodal, chemicals, and some other industrial products, and even coal,"* said Hatch. *"Everything is ranging from good to a little better."*

"Looking forward, we cautiously predict average rail industry transaction prices will rebound, though slowly, ending 2010 with annual price hikes for intermodal and carload of 4.0% and 3.2%, respectively."

Rail has made significant investments in infrastructure and technologies to increase their performance over the last two decades increasing their productivity significantly where a continued positive increase of the number of railcars utilized year over year show that the rail industry is still experiencing strong growth.

"Since 1980, rail productivity is up 144 percent while inflation-adjusted rail rates have dropped by nearly half. ...freight railroads have leveraged what opportunities there are during this recession to improve efficiency and cost structure. We are retooling our networks, using the most fuel efficient locomotives and modern railcars – and yes, we continue to reinvest in our networks." – Ed Hamberger, President and CEO, American Association of Railroads

“Since 1980, rail productivity is up 144 percent while inflation-adjusted rail rates have dropped by nearly half ... freight railroads have leveraged what opportunities there are during this recession to improve efficiency and cost structure....”



Source: <http://railfax.transmatch.com>

Freight volumes have seen some volatility in the 4th Quarter 2009, but volumes are back up and appear to be stabilizing. This is a good sign as rail carries most of the basic raw inland goods across the nation and is indicative of both bulk commodity consumption by businesses and consumers.

Overall, 2009 has been promising for rail as intermodal movements have increased as well as food, chemicals and grain leading to an overall total increase in rail traffic as compared to 2008.

MANUFACTURING ACTIVITY – ANOTHER DRIVER FOR INCREASED VOLUMES

Demand dissipated through 2008 and into 2009 and caused significant inventory surpluses across almost all commodities. Late 2009 showed promise as those inventory levels lowered as the world slowly began to consume again. Institute for Supply Management’s (ISM) Purchasing Managers Index (PMI) is a national index measuring economic activity in the manufacturing sector.

ISM reported for 2009 six consecutive months of growth, and the overall economy grew for the ninth consecutive month, say the nation’s supply executives in the latest Manufacturing ISM Report On Business. With the slow but steady growth in imports, exports, and manufacturing, economist and strategist agree that the overall economy is improving and a slow recovery is in the horizon. Some businesses are even anticipating business growth by 3rd Qtr 2010.

ISM reported for 2009 six consecutive months of growth, and the overall economy grew for the ninth consecutive month

PMI - THE LAST 12 MONTHS			
Month	PMI	Month	PMI
Feb 2010	56.5	Aug 2009	52.8
Jan 2010	58.4	Jul 2009	49.1
Dec 2009	54.9	Jun 2009	45.3
Nov 2009	53.7	May 2009	43.2
Oct 2009	55.2	Apr 2009	40.4
Sep 2009	52.4	Mar 2009	36.4
Average for 12 months – 49.9			
High – 58.4			
Low – 36.4			

Source: ISM Report On Business

This index indicates the seventh consecutive month of growth in the manufacturing sector, and the highest reading for the Index since August 2004 when it registered 58.5 percent. Prior to this recent growth trend, the PMI declined for 13 consecutive months. A reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting. This is not just good news for the manufacturing sectors, but for all other industries as well.

Operating in the global marketplace can be lucrative, but also opens up a new world of considerations, potential vulnerabilities, and new international guidelines, policies and regulations

Growth - New Markets

4,170 international businesses from 57 different countries have facilities located in GA, many of which operate in the transportation, distribution, or warehousing sectors.

These foreign owned businesses represent over 290,000 jobs in Georgia

Competitiveness focused on cost and price is a double edged sword. Clearly, companies must understand and continuously adjust these “fundamental” components to be competitive in the marketplace. However, a company cannot compete on price and costs alone, and usually requires a company to either exit the market or consistently find new growth opportunities. Expanding targeted markets and growing the customer base is a common relatively straightforward way of increasing competitiveness. Larger and more diverse markets increase the potential volume of revenue opportunities sometimes with only minimal increases in costs.

There are various ways to either grow existing markets or enter new ones. Most common expansion methods for logistics companies include looking at opportunities internationally, expanding capability to handle special cargo and/or commodities, or through partnerships/alliances/collaboration.

INTERNATIONAL MARKETS

For some types of logistics companies exploring opportunities internationally might not seem to fit with the services offered, or be immediately clear on the potential opportunity. However, expansion into international markets can occur through and a host of avenues, such as import-export opportunities, transportation needs, or a variety of value-added services. Operating in the global marketplace can be lucrative, but also opens up a new world of considerations, potential vulnerabilities, and new international guidelines, policies and regulations. International trade rules and regulations can affect taxation, quotas, and supply chain security as well as even determining who is allowed to participate as trade partners to US based companies.

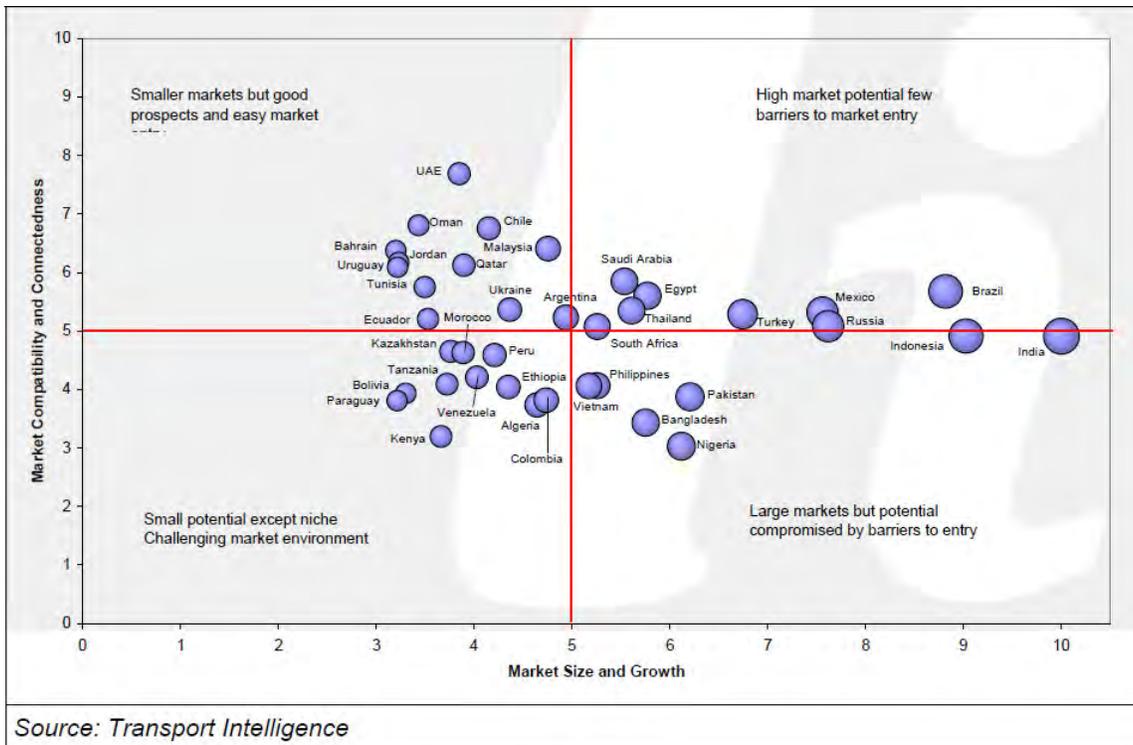
“A competitive network of global logistics is the backbone of international trade.” - World Bank

World trade is moved between countries by a network of increasingly global logistics operators. The ease with which traders can use this network to connect with international markets depends in large part on country-specific factors such as trade procedures, transport and telecommunications infrastructure, and the domestic market for support services.

Current research by Logistics Today cited the Central and Eastern European market to be an estimated \$2 Trillion market encompassing countries with tremendous diversity in size, industries and culture with many commonalities. Policy and planning in the last five years has made this area much more accessible for businesses.

“The region’s growing middle-class is spending its new disposable income on long deferred consumer goods. This, coupled with low-cost access to the huge European Union (EU) market makes the region an attractive base for serving EU-wide clients” - Logistics Today

Transport Intelligence Ltd. (TI) recently began annually tracking these international markets and measuring them in what they call their “Emerging Markets Logistics Index”. This index arranges countries into four quadrants, with each section measured both by “Market Compatibility and Connectedness” and “Market Size and Growth”, with the size of the bubble representing the size of the opportunity.



Companies must understand and continuously adjust these “fundamental” components to be competitive in the marketplace. However, a company cannot compete on price and costs alone, and usually requires a company to either exit the market or consistently find new growth opportunities.

“A competitive network of global logistics is the backbone of international trade.”

Countries in the top right quadrant are those which represent both the biggest targets for logistics investment as well as the easiest markets in which to operate; they already have good compatibility and connections. The top left quadrant shows those countries both with smaller market opportunities, but are also more easily penetrated such as the UAE.

The bottom half of the chart includes countries where there are significant barriers to market entry and multiple difficulties in operating or getting connected. As these economies become more mature, de-regulated and better connected with the global markets, they will move towards the upper quartiles.

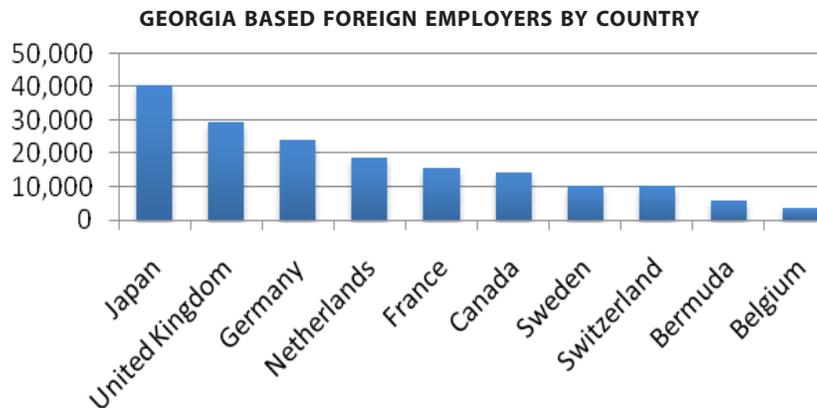
GLOBAL GEORGIA

According to www.georgiafacts.net, 4,170 international businesses from 57 different countries have facilities located in GA, many of which operate in the transportation, distribution, or warehousing sectors. These foreign owned businesses represent over 290,000 jobs. The top ten by employment are shown below.



ONLINE RESOURCE: www.GeorgiaFacts.net

Georgia's export shipments of merchandise in 2009 totaled \$23.8 billion which ranks Georgia 12th among the 50 states in terms of total 2009 export value.



Source: GeorgiaFacts.net

GEORGIA INTERNATIONAL EXPORTS

Georgia's export shipments of merchandise in 2009 totaled \$23.8 billion which ranks Georgia 12th among the 50 states in terms of total 2009 export value.

The state's largest export market, by far, was Canada. Georgia posted exports of \$4.1 billion to Canada in 2009, which was nearly one-fifth (or 17%) of the total for that year. Canada was followed by China (\$1.8 billion), Mexico (\$1.4 billion), the United Kingdom (\$1.2 billion) and Japan (\$1.1 billion). Georgia consistently makes up about 2% of the U.S. Total Exports

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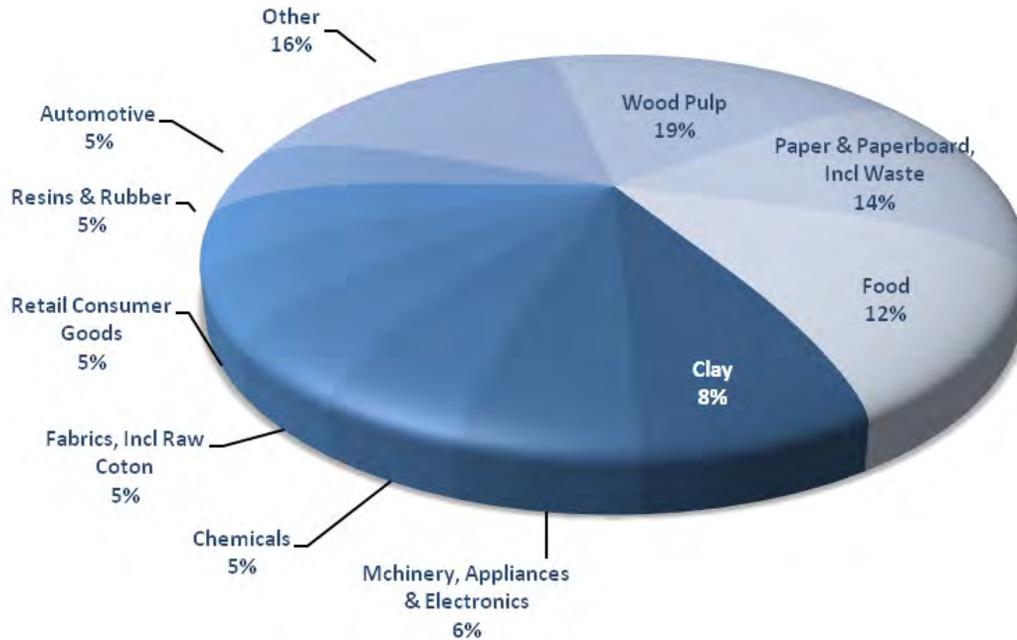
	2007	2008	2009	YTD 2010
US TOTAL	1.16 Trillion	1.3 Trillion	1.06 Trillion	.92 Trillion
GEORGIA	23.3 billion	27.5 billion	23.8 billion	2 billion

Source: www.census.gov

Exports of All Merchandise from Georgia in thousands (\$ USD)			
	2007	2008	2009
Georgia To World Total	23,365,865	27,513,962	23,868,218
Canada	4,407,755	4,800,212	4,108,538
China	1,599,694	2,002,011	1,772,968
Mexico	1,227,762	1,634,171	1,360,080
United Kingdom	1,247,559	1,326,934	1,216,463
Japan	1,160,409	1,393,735	1,091,160
Germany	1,113,832	1,281,380	1,015,150
Netherlands	980,894	940,231	662,089
Singapore	815,507	805,969	617,953
Hong Kong	357,611	368,519	613,750
Brazil	494,861	799,175	588,171

Source: Revised Origin of Movement State Export Series, Bureau of the Census, Foreign Trade Division.

COMMODITIES EXPORTED FROM THE PORT OF SAVANNAH - 2009



Source: Georgia Ports Authority

Georgia has a very uniquely balanced ocean trade with 50/50 percent split between imports and exports. There are very few other seaports in the world that can make that claim.

GEORGIA PORTS – INDIA CONNECTION



The Georgia Ports Authority (GPA) has a dedicated web site for the Indian subcontinent region. A valuable resource developed by GPA to enhance and facilitate trade, this site was designed: to meet the American consumer's growing needs for quality, affordable Indian goods, while also promoting export opportunities for American products and raw materials, the Georgia Ports Authority has established this web site to better the Indian shipper's knowledge of the Port of Savannah's

container operations. In addition to gaining insight to Savannah-area distribution center activity, ocean carrier services, and hinterland access, by simply registering you're given direct access to the most up-to-date import / export data for the India / U.S. South Atlantic market, as well as the ability to navigate an extensive inventory of downloadable files you'll find useful for enhancing your company's logistics strategy. This powerful database, combined with an even more impressive inventory of facts on India-Savannah trade, firmly establishes the Port of Savannah as India's U.S. East Coast port of choice.



Logistics

ONLINE RESOURCE: www.india.gaports.com

GEORGIA PORTS – CHINA CONNECTION



Georgia has established 10 trade offices located throughout Europe, the Middle East, Asia and the Americas, each staffed with a team of experienced business professionals.

Georgia Ports Authority also has a dedicated website for the China subcontinent. Similar to the India website, this China site was designed as a resource: To meet the American consumer's growing needs for quality, affordable Chinese goods, while also promoting export opportunities for American products and raw materials, the Georgia Ports Authority has established this website to better the Chinese shipper's knowledge of the Port of Savannah's

container operations. In addition to gaining insight to Savannah-area distribution center activity, ocean carrier services, and hinterland access, by simply registering you're given direct access to the most up-to-date import / export data for the China / U.S. South Atlantic market, as well as the ability to navigate an extensive inventory of downloadable files you'll find useful for enhancing your company's logistics strategy. This powerful database, combined with an even more impressive inventory of facts on China-Savannah trade, firmly establishes the Port of Savannah as China's U.S. East Coast port of choice.



Logistics

ONLINE RESOURCE: www.china.gaports.com

GEORGIA INTERNATIONAL MARKET RESOURCES

To help companies start the exploration into international markets, Georgia has established 10 trade offices located throughout Europe, the Middle East, Asia and the Americas, each staffed with a team of experienced business professionals. The primary purpose of these offices is to help Georgia companies make whatever connections might be needed to access these global markets. Trade representatives assist Georgia companies with:

- Creating market assessments and entry strategies
- Locating and pre-qualifying appropriate partners and customers
- Providing advice on current issues and local business practices
- Arranging business appointments for overseas trips



**To see a full list of these offices, along with contact information for each visit:
[Georgia's International Trade Website](#)**

Closer to home, there are many organizations and companies established in Georgia with the sole focus to foster connectivity into international trade, and collaboration with fellow international companies. All these groups work closely with the State's international offices. Listed here are a few sample organizations and links (click the organizations name) to find out more details:

There are many organizations and companies established in Georgia with the sole focus to foster connectivity into international trade, and collaboration with fellow international companies

Georgia Dept. of Economic Development (GDEcD): The Georgia Department of Economic Development (GDEcD) is the state's sales and marketing arm and lead agency for attracting new business investment, encouraging the expansion of existing industry and small businesses, developing new domestic and international markets, attracting tourists to Georgia, and promoting the state as a location for film, video, music and digital entertainment projects, as well as planning and mobilizing state resources for economic development.

- GDEcD Logistics Recruitment: Tom Croteau, Director – tcroteau@georgia.org | 404.962.4013
- GDEcD International Trade: Kathe Falls, Director - kfalls@georgia.org | 404.962.4120
- GDEcD International Investment: Mark Lytle, Director – mlytle@georgia.org | 404.962.4025
- GDEcD International Business Liaison: Nico Wijnberg – nwijnberg@georgia.org | 404.962.4834
- GDEcD Chief of Protocol: Chris Young, cyoung@georgia.org | 404.962.4130
- Center of Innovation for Logistics: Page Siplon, Director - psiplon@georgia.org | 912.966.7867

Georgia Ports Authority: International trade demands cost-effective gateways for transport. Georgia's statewide network of deepwater ports and inland barge operations offers that and more. And the Trade Development division of the Georgia Ports Authority (GPA) ensures this message gets through loud and clear all around the world. The division globally markets, promotes and sells the efficiencies, services and capabilities that have made the state's ports and barge operations among the fastest growing in the world.

To effectively address the requirements of our customer base, the GPA has divided Trade Development into five specialized areas that have the cumulative effect of aggressively maintaining, servicing and building the business of the Authority. *These departments include Domestic & International Sales, a Client Relations Center, Economic & Industrial Development, and Marketing & Business Development.*

- GPA Economic Development: John Petrino, Director – jpetrino@gaports.com | 912.964.3879
- GPA Economic Development: Stacy Watson, Manager – swatson@gaports.com | 912.964.3879

Georgia Consulate Offices: Over 25 foreign governments have operations in Georgia to promote trade between their countries and the state. In some cases, the trade promotion work is handled from within the countries' consular offices while others maintain independent trade offices. These offices safeguard the interests of their native country and its citizens traveling or residing in their consular district. Additionally, they issue and renew passports and other official documents, help travelers in distress, sign death certificates, legalize or deliver official documents, and assist travelers who have trouble with local law enforcement or immigration authorities.

Niche markets or “special cargo” are those commodities that require unique or premium services in order to move from point A to B.

Bi-National Chambers of Commerce: There are currently 42 bi-national chambers of commerce actively involved in Georgia’s international business community. These organizations work to assist their members develop business contacts, and they foster, promote and develop commercial relations and exchanges between Georgia and their countries.

U.S. Export Assistance Centers: The mission of SBA’s Office of International Trade is to enhance the ability of small businesses to compete in the global marketplace; facilitate access to capital to support international trade; ensure that the interests of small business are considered and reflected in trade negotiations; and support and contribute to the U.S. Government’s international agenda.

Federal Reserve Bank - Atlanta: The Atlanta Fed and the other Reserve Banks play an important part in all three of the Fed’s functions: monetary policy, bank supervision and regulation, and the operation of a nationwide payment system.

U.S. Department of Commerce: The U.S. Department of Commerce has a broad mandate to advance economic growth and jobs and opportunities for the American people. It has cross cutting responsibilities in the areas of trade, technology, entrepreneurship, economic development, environmental stewardship and statistical research and analysis.

U.S. Commercial Services: The U.S. Commercial Service helps U.S. companies find new international business partners in worldwide markets.

Georgia Country Connections: This is a collection of valuable information and data about just about every region/country in the world and its connections to Georgia. Click on the region or country of interest and get vital information on the many business ties we have with these partners that include: Government & Commerce, Trade Relationship, Capital Investment, Transportation and Community Education.

Specialty Cargo & Niche Markets

Niche markets or “special cargo” are those commodities that require unique or premium services in order to move from point A to B. For example, logistics providers may need to be licensed and trained in order to service these markets or might require specialized equipment. Specialized freight trucking provides over-the-road transportation of freight, which, because of size, weight, shape, or other inherent characteristics, requires specialized equipment, such as flatbeds, tankers, or refrigerated trailers. In the US, specialized freight trucking sectors contained 47,600 establishments in 2008, according to the US Bureau of Labor and Statistics (www.bls.gov).

These niche markets are often highly sensitive to changing regulations governed by various federal and international agencies dictating handling and transport requirements. Just to name a few, these include names and descriptions like: cold-chain, pharmaceutical, hazmat, bulk, military, and customs bonded cargoes. While these examples all require certain training or authorizations, special equipment needs may include such items as tri-axle chassis for overweight containers, or a refrigerated storage and transportation assets for cold-chain items; other special needs may relate to (permits, licenses, signage, procedural, etc.). Through additional training and some added or modified equipment, businesses can possibly tap into these new markets and be positioned to serve a whole new set of customers.

GROWING MARKET - COLD STORAGE & TRANSPORTATION

One of the more prevalent and dominating examples of “special cargo” is that of the U.S. Food Industry. Food is just one of the cold-chain industries that have seen significant growth despite the recession. According to Plunkett Research LTD, the U.S. retail food industry, including restaurants, is about a \$1.61 trillion industry. Most cold storage goods are food items, so they are less impacted by a decline in consumer confidence and appetites. *“The cold storage industry is continuing to grow rapidly around the world,”* notes International Association of Refrigerated Warehouses (IARW) President and CEO Bill Hudson. *“Additionally, we are seeing more and more companies choose to rely on the expertise of the third party logistics industry to meet their storage and distribution needs.”*

“The cold storage industry is continuing to grow rapidly around the world ... we are seeing more and more companies choose to rely on the expertise of the third party logistics industry to meet their storage and distribution needs.”

Public Refrigerated Warehousing (PRW), another specialized industry services the food and beverage, pharmaceutical, and cosmetics industry just to name a few. The North American Top 25 operate 2.4 billion cubic feet. In 2009 PRW’s globally were a \$5.7 billion dollar industry which is up from \$2.5 billion in 2000. Of the top 10 North American PRW’s by total Cubic Feet, 5 have locations in GA.

IARW North American Top 10 List		
Company	Cubic Feet	# of Georgia Facilities
1. AmeriCold Logistics LLC	591,600,000	10
2. VersaCold	404,281,473	5
3. Millard Refrigerated Services	275,000,000	-
4. United States Cold Storage, Inc.	184,529,374	-
5. Preferred Freezer Services	170,250,625	1
6. Castle & Cooke Cold Storage	85,084,129	-
7. Burris Refrigerated Logistics	72,396,960	1
8. Interstate Warehousing, Inc.	68,402,968	-
9. Nordic Cold Storage, LLC	59,529,000	4
10. Columbia Colstor, Inc.	50,150,000	-

Source: <http://www.iarw.org>

GPA has more than doubled its refrigerated cargo volume in last six years with an increase of 120%. In the past two years alone, volume has increased 19.8%.

“The growth in our industry during a challenging economic downturn is a testament to the longevity and strength of this industry,” said Hudson. *“The demand for the food products and commodities that PRW’s typically handle remains fairly consistent. The industry expansion has come primarily from customers looking to use PRWs to streamline operations and cut costs.”*

The Georgia Ports Authority (GPA) is also making changes to its massive 1,300 acre facility to accommodate and better handle this influx and growth of refrigerated cargo. In March of 2010, GPA announced a new set of electrified refrigerated container racks (or reefer racks) were completed and came online in Container Berth Five (CB-5) last week. With these ten new racks, Garden City Terminal now has a total of 44 racks, which can accommodate 1,056 containers.

As the leading U.S. East Coast port for refrigerated containerized export cargo, the GPA has more than doubled its refrigerated cargo volume in last six years with an increase of 120%. In the past two years alone, volume has increased 19.8%.

“The completion of these refrigerated container racks reduces diesel consumption and increases our capacity for cold-storage exports,” said GPA’s Executive Director Curtis Foltz. “We’ve continued to expand our export capacity, while reducing emissions.”



Before electrified refrigerated container racks were brought online in 2008, diesel generators were used to power refrigerated containers in tandem with wheeled parking spots with electrical hookups. Now, for every ten racks placed into service, the GPA saves about 540,000 gallons of diesel fuel annually, which would have been used to power diesel generators. With a total of 44 racks online, the GPA avoids using more than 2.376 million gallons annually.

This is just one of many “special cargo” and niche markets out there providing many opportunities to grow logistics businesses and along with it, competitiveness.

EMERGING & INTERNATIONAL MARKET - BIOFUEL PELLETS

A strong global market for wood pellets has developed over the first half of the past decade as the European Union (EU) and Japan increased their use of pellets to produce energy as part of their efforts to achieve renewable energy targets. The close proximity of the Port’s of Savannah and Brunswick to Georgia’s potential and growing pellet market makes it a natural gateway of choice for these exporters. It is estimated there is currently 300,000 tons of potential demand from Georgia alone, growing to possibly 1 million tons over the next three years. Experts say that the cost per ton of raw wood material need to create bio-fuel wood pellets currently runs about \$30/ton. Shown below is a current snapshot from the European Energy Derivatives Exchange (ENDEX) showing the current and projected rates



of the wood pellet finished product selling in the E.U. In US dollars, this equates to an April 2010 settled rate of \$169/ton.

... For every ten racks placed into service, the GPA saves about 540,000 gallons of diesel fuel annually, which would have been used to power diesel generators. With a total of 44 racks online, the GPA avoids using more than 2.376 million gallons annually.

Industrial Wood Pellets (€/MT)						
As of: Thu, 25 Mar 2010 16:22						
CIF Rotterdam	Bid		Ask		Sett	
Apr-10	121.79	↗	130.23	↗	126.01	↗
May-10	120.95	↗	129.91	↗	125.43	↗
Jun-10	120.30	↗	130.00	↗	125.15	↗
Q2-10	120.71	↗	130.42	↗	125.57	↗
Q3-10	122.94	↗	132.98	↗	127.96	↗
Q4-10	124.52	↗	134.41	↗	129.46	↗
Cal-11	126.11	↗	135.91	↗	131.01	↗

SOURCE: [European Energy Derivatives Exchange](#)

This demand again mostly driven by EU government requirements to increase the use of renewable energy sources have resulted in strong growth in private investment into Georgia's wood pellet production capacity.

The port in Brunswick represents an advantageous geographic location with close proximity to key reserves in the Georgia counties of Baxley, Blackshear, and Sterling which are the top three counties in terms of wood sawmill capacity. However, private terminals in the Port of Savannah are already handling bulk pellets today, and the deeper draft of water available at these facilities is also an attractive quality.

Overall, the logistics required to move wood pellets from their production plant to an export facility on the coast is significant and creates opportunities for forward thinking providers. Hopefully, this pellet market will also someday become prevalent in the US and will then create a whole new range of logistics opportunities for domestic transportation.

Overall, the logistics required to move wood pellets from their production plant to an export facility on the coast is significant and creates opportunities for forward thinking providers.

THE GLOBAL PELLET MARKET

The wood pellet market is still immature and the reliability of data on trade, prices, production capacity and actual production varies considerably between countries and locations. A study from international consulting firm Pöyry (www.poyry.com) presents a detailed overview of the global wood pellet market and provides data and analysis which can be used for strategic decision-making by existing or prospective market participants. Here are a few interesting excerpts of their report entitled "Wood Pellets – The Bio-energy Feedstock Solution? Global market, players and trade to 2015":

"The global wood pellet market is and will continue to be a growth area. The current and future demand for wood pellets is strongly driven by the world's need to develop renewable forms of energy and reduce greenhouse gas emissions. Global demand for wood pellets reached nearly 12 million tons in 2008 and is worth approximately EUR 2 billion. Europe and North America accounted for 97% of global demand. The market has grown rapidly (CAGR 27% in Europe and 17% in North America from 2005 to 2008). However, these growth rates will slow as markets mature. Pöyry predicts that by 2015, global pellet demand will almost double, reaching approximately 24 million tons (CAGR of 10.5%)."

Development of the European wood pellet market has been largely driven by political targets to increase renewable energy usage. Such policy will continue to play a crucial role in the development of pellet markets in EU countries, and is expected to become a similarly important driver in North America. There are two main end-use segments: residential and industrial. The residential pellet business is local with regional trade, while industrial pellets are traded globally. Future trade flows will include industrial pellet shipments from Australia, South America and South Africa.

Increasing demand for pellets in Europe and this year's decrease in ocean freight costs has created new opportunities for producers to export pellets from the US South East and recently Australia. However, prices for industrial pellets (which are considerably lower than residential pellets) have not risen greatly, and margins for many producers are under pressure because

Global demand for wood pellets reached nearly 12 million tons in 2008 and is worth approximately EUR 2 billion. Europe and North America accounted for 97% of global demand.

their raw material costs (sawdust, wood chips or in some cases logs) have risen. Logistical costs remain a threat, and are one reason for the recent closure of Dixie Pellets in the US (550,000 tons per annum capacity). An interesting development to watch will be torrefied pellets, which deliver significant logistical benefits compared to conventional wood pellets.”



ONLINE RESOURCE: www.worldofbioenergy.com

accessing new markets
does not necessarily
mean a company has to
attack them alone.

Collaboration

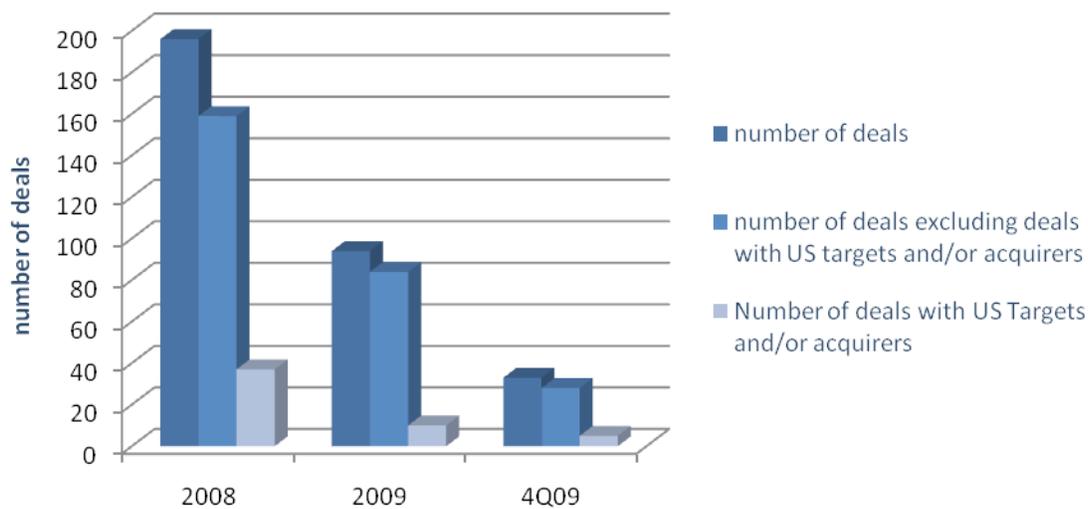
It's been established and mentioned throughout this report that the logistics ecosystem by its very nature is very fragmented. Because of this, accessing new markets does not necessarily mean a company has to attack them alone. It may be through collaboration or by adding a partner businesses can quickly expand their scope and scale of services with potentially smaller investments. Partnerships can bring the benefit of "economy of scale" with the sharing of both responsibility and funding requirements. Some of the benefits of partnerships include the immediate growth of resources and funding through the sharing of start-up costs, responsibilities, business risks, and expense. These added resources and contributions also add to the flexibility of an organization.

Cooperation between competing businesses in various business processes can be a means to cut costs and achieve competitive advantages. Competitors should increasingly look to partner in order to provide some aspects of logistics services more effectively (e.g. warehousing and/or transport of products).

MERGERS AND ACQUISITIONS

Mergers and acquisitions or commonly known as M&A's are a form of partnership and are becoming more and more prevalent in the logistics and transportation industry every year. The increased M&A activity specifically in the transportation and logistics industry has prompted the large professional services firm PriceWaterhouseCoopers (PwC) to produce a quarterly analysis of activity just for this sector. This report is entitled "*Intersections: Fourth-quarter 2009 global transportation and logistics industry mergers and acquisitions analysis*".

Deal activity by number of deals
Measured by number of announced deals worth \$50 million or more



2009 fourth quarter deal value at \$48.5 billion was 83 percent ahead of the third quarter's \$8.1 billion. PwC noted that this figure was due to a large degree to the \$36.7 billion acquisition of Class I rail carrier BNSF Railway by Berkshire Hathaway.

Source: PwC's 2009 4th Quarter "Intersections Report"

Jeff Berman, Editor for Logistics Management Magazine recently published this overview of this latest PwC report:

"In its quarterly report - Intersections: Fourth-quarter 2009 global transportation and logistics industry mergers and acquisitions analysis - PwC stated that fourth quarter deal value at \$48.5 billion was 83 percent ahead of the third quarter's \$8.1 billion. PwC noted that this figure was due to a large degree to the \$36.7 billion acquisition of Class I rail carrier BNSF Railway by Berkshire Hathaway.

PwC said there were 33 announced fourth quarter deals, with 28 excluding deals with U.S. targets and/or acquirers and five with U.S. targets and acquirers. Average deal value for deals \$50 million or more-at \$1.5 billion-dwarfed the third quarter's \$308 million. This was due largely to the BNSF deal, as well as the British Airways \$2.9 billion acquisition of Iberia Lineas Aereas de Espana and Global Infrastructure Partners' leveraged buyout of London Gatwick Airport from BAA Ltd. for \$2.5 billion.

"Companies are getting healthier and more secure; we are getting past the trough earnings period we were in," said Tom Connolly, managing director of EVE Partners, an Atlanta-based transportation and logistics M&A firm. "Strategic investors are looking for opportunities to grow, and private equity companies are slowly getting back into the market as financing is becoming more accessible, which is helping drive deal volumes ... although it is not close to the level it was a few years ago. But at the same time, there is more activity and more people looking to do something compared to not that long ago, when people were afraid to do anything."

Connolly also noted that the easing of credit and available financing is giving private equity buyers more opportunities to consider more deals as well.

While the fourth quarter showed some promise on the deal-making front, PwC's Evans observed that overall activity in 2010 could still be somewhat rocky. The reason being, he said, "... is that most large companies have forecasted very cautious activity for 2010, coupled with a lack of near-term supply-demand balance. But many transportation and logistics service providers, he said, are hoping volumes firm, with pricing picking up."

This PwC report also uniquely defined and explored the role and importance of innovation in both the M&A process and in the overall competitiveness of logistics companies.

INNOVATION'S ROLE IN M&A

Innovation plays a significant role in the acceleration of the mergers and acquisitions (M&A) process. Companies with a high level of technology infrastructure are better able to integrate customer, product, and business data into an acquiring or acquired company. A company's technological innovations also potentially render it more attractive as a target. If acquired by a global company, that target company gains an opportunity to market its innovations to a broader customer base and possibly to a wider geographical area.

M&A also plays a significant role in the acceleration of innovation. Because innovation is expensive, difficult, and requires specific skill sets, companies often find it easier, cheaper, faster, and more profitable to buy innovation through the M&A process.

NAVIGATING THE RIGHT PATH TO INNOVATION

For some organizations, acquiring competitors is a way to open up new markets, acquire new technology, accelerate international growth, or improve distribution networks. And as the economy continues to improve, companies that act quickly on acquisition opportunities will secure the most attractive deals in terms of valuation with the most potential to stimulate growth. With the world emerging from the global recession, Transportation & Logistics (T&L) companies that embrace and execute on the decades-old concepts of digital transformation and IT innovation will be those that are able to change their game and succeed. The concepts are the same as they were 10 years ago, but because of the economic crisis and an evolving regulatory environment, the touch points have changed for where those concepts can be applied.

Stanford economist Paul Rome famously said, "A crisis is a terrible thing to waste." For a T&L industry hit hard by the global recession, innovation will be critical to reaping profits through advances in reduction of carbon emissions, supply chain management, and use of advanced distribution and logistics solutions.

Companies with a high level of technology infrastructure are better able to integrate customer, product, and business data into an acquiring or acquired company.

... Innovation will be critical to reaping profits through advances in reduction of carbon emissions, supply chain management, and use of advanced distribution and logistics solutions.



Logistics

ONLINE RESOURCE: [PwC Global Transportation and Logistics M&A Analysis](#)

Operational Innovation & Sustainability

Mark Dec, director of the international consulting firm PRTM, defines operational innovations as *“changing one or more aspects of the way a company operates in order to achieve superior business results. Like other forms of innovation, it can be incremental, new to the company, or new to the world.”* According to PRTM consultants there are at least three different kinds of operational innovation:

- 1. OPERATIONAL INNOVATION THAT TAKES PLACE AT THE LEVEL OF THE ENTIRE BUSINESS.**
- 2. OPERATIONAL INNOVATION THAT TAKES PLACE AT THE LEVEL OF A PRODUCT LINE OR SERVICE OFFERING.**
- 3. OPERATIONAL INNOVATION THAT TAKES PLACE BETWEEN COMPANIES.**

When a company is doing well and succeeding, it is the best time to take yet another look at how to improve and grow even more.

To this point, this Factor has covered the two base levels needed to fuel the “operational competitiveness” of logistics companies – 1) costs, 2) growth. However, while these are critical, in order to sustain these opportunities companies must not stop here. In fact, it has been said that “success is the greatest barrier to future growth and innovation”. When a company is doing well and succeeding, it is the best time to take yet another look at how to improve and grow even more. In the context of this Factor, this set of ideas is referred to as “operational innovation” and briefly outlined here.

With globalization, the competitive climate has since changed and the management of the supply chain with global partners is not a simple feat. Quality and price of products and services are no longer enough on which to compete and much emphasis is placed on doing more with less.

Others have explored truly innovative avenues to drive competitiveness by creating strategies that are truly ‘outside the box’. These more advanced forms of competition allow businesses to potentially change the markets they compete in and with whom they compete. By working together, coordinating across enterprises, and most importantly sharing as shown in the below graphic will help businesses find ways to improve business performance and growth.

“Changing one or more aspects of the way a company operates in order to achieve superior business results. Like other forms of innovation, it can be incremental, new to the company, or new to the world.”

While economists and industry leaders are positive about the future outlook, all agree that the road ahead will still be challenging. Since the slowdown of economic activity, many companies have had idle time to re-think their operations, mostly to find ways to cut costs to survive the economic recession. Those that were also able to re-evaluate and improve upon their strategy and operations are in a better position to handle the slow recovery that is already well under way.

OPERATIONAL COMPETITOR - WAL-MART

Truly competitive companies such as Wal-Mart show characteristics of all three of these operational innovations. Users, providers, and academia alike share the opinion that customer requirements and demands are increasing. They want more for less. While not everyone strives to be a Wal-Mart, that service expectation is growing in a multitude of industries. The retail giant has been setting the bar for competitiveness and innovations for decades.



Truly competitive companies such as Wal-Mart show characteristics of all three of these operational innovations.

With volumes in the area of 720,000 TEU's in 2008, whatever Wal-Mart decides to do, a nation of suppliers and carriers quickly reorganize to comply. This has led to a number of industry innovations from vendor relationships and network design to integrated technologies and shorter lead-times.

Due to Wal-Mart's scale, scope, and reputation of being the competitive trendsetter, they've become the case study for business and business schools alike. Wal-Mart's innovations have been transformational to the logistics industry. Mastering the model to maximize return from scale and scope efficiencies has truly led Wal-Mart in being a true end-to-end supply chain management company.

Wal-Mart changed how retailers competed when they created the one stop shop in every neighborhood. They bought in large scale and scope delivering to their large scale of operations just what the store needed when the customer bought it maximizing the use of their floor space in stores and the use of their facilities and fleets. These 'just right' requirements went all the way up stream to delivering cost optimal amounts of inventory and leaning heavily on the economies of scale and scope by filtering in consolidation and de-consolidation operations throughout to most efficiently spread those benefits.

That translated into vendor management with stringent contracts that required the vendors to provide information in sync with Wal-Mart's POS data and to make just enough all the time and while improving operations to provide future cost discounts. This trickling of customer demands and goals with the need to have 'smart' partners integrated together should sound familiar. This is not much different from the current competitive environment logistics providers and users are operating in, now only even smarter.

Now with site-to-store in combination with a larger scope of products at smaller scale in the store, Wal-Mart was just cited in February's Journal of Commerce article of implementing "Must-Arrive-By-Dates" (MABD), or else. This again will in turn require all their partners to take a hard look at their operations in order to ensure they can meet these new requirements.

These increased delivery expectations are resulting in tighter carrier and vendor relationships as they must work together in order to meet the deadlines. Wal-Mart's demand for a delivery guarantee is not a totally new concept. Deliver guarantees have been implemented in the premium freight categories of small package and air cargo for years. Taking full truck and container loads at the Wal-Mart's scale is definitely a game changer for logistics providers and users making this yet another operational innovation.

With volumes in the area of 720,000 TEU's in 2008, whatever Wal-Mart decides to do, a nation of suppliers and carriers quickly reorganize to comply.

This has led to a number of industry innovations from vendor relationships and network design to integrated technologies and shorter lead-times.

OPERATING SUSTAINABLE SUPPLY CHAINS



The greatest competitive growth in the strategy category of "Mix: Be all things to all people" while all other areas of cost leadership, customer service, and product market innovation has decreased

Optimization

Profitability

Adaptability

Velocity

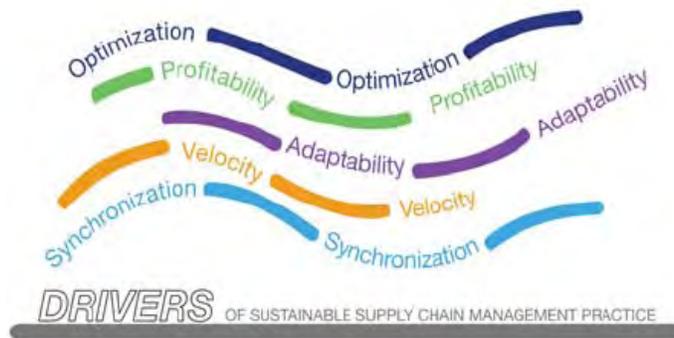
Synchronization

Source: 2009 Drivers of Sustainable Supply Chain Management Practice report

The 18th Annual Trends and Issues in Transportation Study - 2009 Drivers of Sustainable Supply Chain Management Practice report – is a valuable survey and analysis of logistics companies thoughts on how they are running their companies.

There are many aspects covered in the full report, but over all the results show the greatest competitive growth in the strategy category of "Mix: Be all things to all people" while all other areas of cost leadership, customer service, and product market innovation has decreased. In order to be "sustainably competitive" in this area, they suggest companies revisit their strategies

with a focus on what they identify as the “drivers of sustainable supply chains”, these include:



Source: [2009 Drivers of Sustainable Supply Chain Management Practice report](#)

OPTIMIZATION:

“... is the alignment of global supply chain resources – tangible and intangible, owned or outsourced – to facilitate the success of supply chain members.”

PROFITABILITY:

“The result of creating value through supply chain activities. Asset performance, working capital, returns on investment for infrastructure, technology, and people, are some of the critical parts that create value in a global environment.”

ADAPTABILITY:

“The degree to which respective supply chain members can change practices, processes and/or structures of systems and networks in response to unexpected events, their effects or impacts.”

VELOCITY:

“The speed at which end-to-end flows occur in the supply chain.”

SYNCHRONIZATION:

“The ability to coordinate, organize and manage end-to-end supply chain flows – products, services, information, and financials – in such a way that the supply chain functions as a single entity.”

READ THE REST OF THE REPORT AND THE DETAILS ON ITS FINDINGS, AND THOUGHTS ON HOW THEY MAY APPLY TO YOUR BUSINESS. THE REPORT IS AVAILABLE FOR FREE:



ONLINE RESOURCE: [2009 Supply Chain Management Report](#)



FACTOR #4: TECHNOLOGY

Motivation and the Cost of Technology

Technology is an important factor affecting the competitiveness of all businesses, and is becoming more important every day. Technology, when applied correctly and appropriately can not only increase productivity but can also broaden a company's capabilities, services offered, and customers reached. It was discussed earlier and throughout this report that logistics is an ecosystem made up of many moving parts and players connected together to move goods.

This natural fragmentation has created many opportunities for technology to play a role in improving this connectivity. The most recent 2010 Eyefortransport Logistics Technology Report, showed that even in these challenging economic times over 90% of companies are looking to invest in technology to improve operational efficiency, and more than half are looking to reduce costs, and improve data quality.

SHARING THE COST

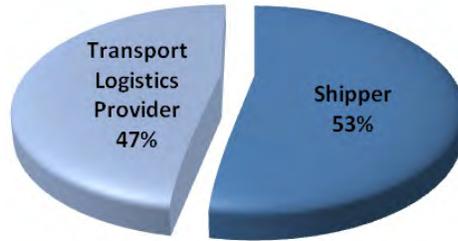
With an extraordinary 2009 behind us and a slow recovery anticipated the outlook for 2010 is very promising. In this year's Eyefortransport technology report 100% of respondents expect their business to grow this next year with 67% seeing technology solutions or IT as a way to reduce their overall supply chain costs. Budgets have still been cut and only 33% planning on having more to spend than last year with still a majority having less to spend.

When asked what factors motivate the spending for IT or Technology, a strong 93% of respondents said improving efficiencies, followed by reducing costs, improving service, visibility, and security respectively. The respondents were 19% shippers, 41% Transportation Logistics Providers or Ports, and 40% made up of consultants, IT or Technology providers and others.

Even in these challenging economic times over 90% of companies are looking to invest in technology to improve operational efficiency...

Who Should Cover the Cost of IT/Technology Upgrades?

Shipper's Opinion



Logistics Provider's Opinion



Source: 2009-2010 Eyefortransport Logistics Technology Report

Interestingly, when the transportation logistics providers were asked who should cover the costs of technology or upgrades, it was a clear message with 86% mentioning the transportation logistics provider and only 14% mentioning the shipper. This seems to reflect that providers see that they need to be able to provide more technology based, and value added services for their customers, the shipper. However, when the shippers were asked the same question, 53% felt that they should be responsible and 47% felt that the transportation logistics provider should be responsible. This shows both parties realize the importance of technology investments and are willing to invest, with a larger responsibility leaning towards transportation logistics providers overall.

MOTIVATION

TOP FACTORS FOR UPGRADING OR ENHANCING SUPPLY CHAIN TECHNOLOGY CAPABILITIES



Source: 2009-2010 Eyefortransport Logistics Technology Report

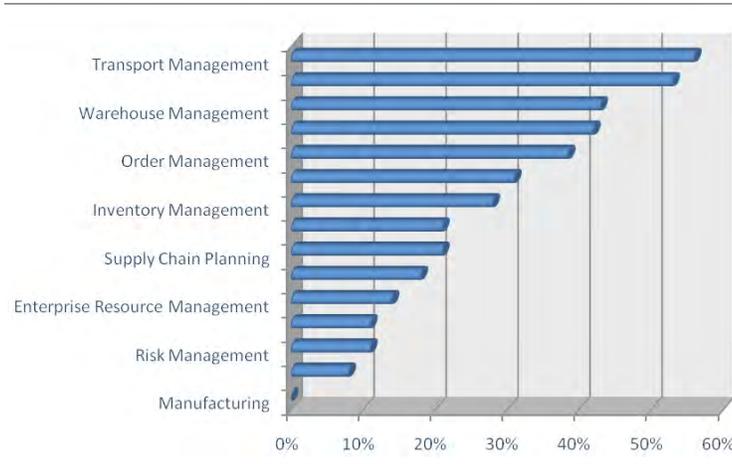
Logistics technology can be an integral part in providing companies with visibility, optimized operations, and closer integration with their partners. However, just as there are many parts of the logistics ecosystem, there are just as many uses of technology amongst them. With standardized operational processes in place, companies can find technological solutions to fit their operational strategy.

When asked...
53% of Shippers felt they should be responsible for the costs of supply-chain technology

86% of service providers felt they should bear the cost

Many companies still rely only on e-mail (86%) and fax (77%) to exchange supply-chain data and information with their suppliers

SUPPLY CHAIN AREAS WITH BEST IT AND TECHNOLOGY ROI



Source: 2009-2010 Eyefortransport Logistics Technology Report

Transportation Management Systems (TMS) top the list for best ROI

Many companies that invested in some form of technology usually noted it was a direct or indirect result of customer request/demand. As these customers needs continue to grow, logistics providers will still be expected to add value and reduce costs. Technology will play an important factor in meeting these needs, or in other words, can be the enabling factor to do more with less.

"In a global, dynamic, and competitive market, companies must constantly evaluate and effectively utilize the best tools and technologies available to optimize their operations. Software tools need to be capable of providing increasingly complex supply chain solutions in addition to assisting with firm-level decision making." - The 2009 Drivers of Sustainable Supply Chain Management Practice

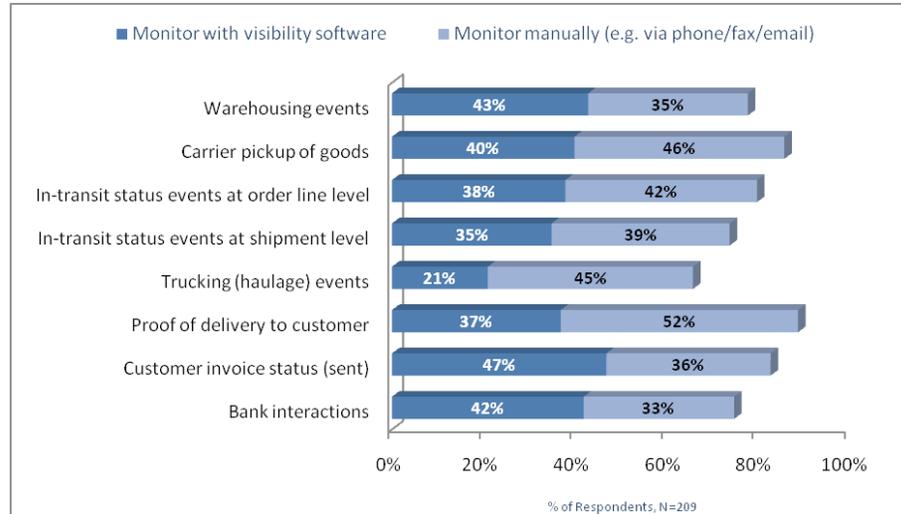
Companies must constantly evaluate and effectively utilize the best tools and technologies available to optimize their operations

This section will begin by exploring technology factors that affect the entire logistics ecosystem and their role in fueling logistics competitiveness. Next, some examples of "top performing" technologies affecting the logistics industry as a whole, followed by applications for each logistics sector. Finally, the section will close with a look into some "outside the box" ideas and research for the future.

LOGISTICS ECOSYSTEM TECHNOLOGY - SUPPLY CHAIN VISIBILITY

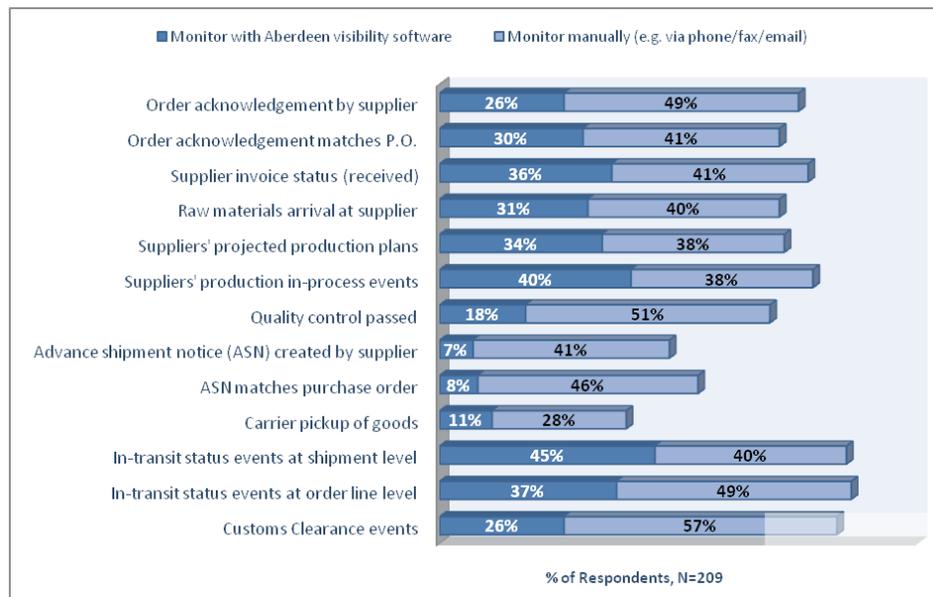
According to research and industry surveys conducted by the Aberdeen Group Inc. (www.aberdeen.com), many companies still rely only on e-mail (86%) and fax (77%) to exchange supply-chain data and information with their suppliers, while 57% of those surveyed listed Supply Chain Visibility as a high priority for needing improvement and another 28% listing this as a medium priority. The phrase "supply chain visibility" can encompass many activities and depending on the services offered or operational structure of the company can mean many different things. The tables below show both a sample of the complexity of what visibility can entail as well as how much it is still being handled manually.

OUTBOUND / DEMAND SIDE MILESTONE TRACKING



Source: 2009-2010 Eyefortransport Logistics Technology Report

INBOUND / SUPPLY SIDE MILESTONE TRACKING

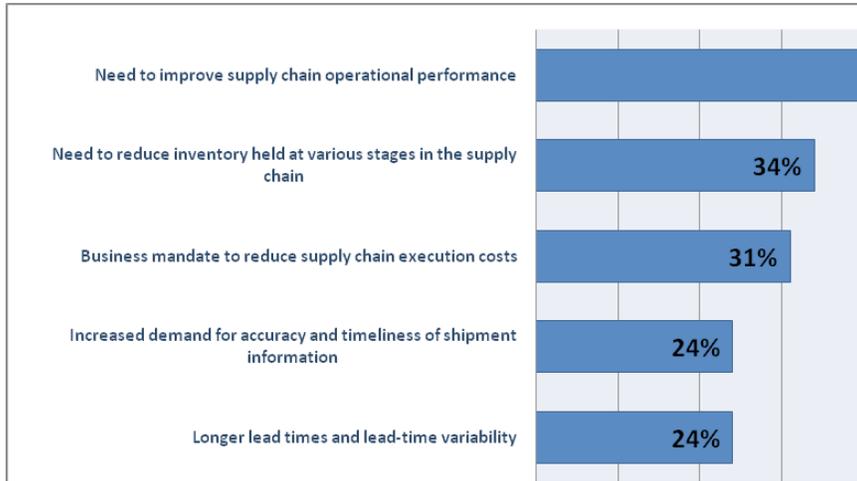


Source: 2009-2010 Eyefortransport Logistics Technology Report

Of those companies looking to improve their supply chain visibility - which should be 100% - pressures to do so come from a set of closely related drivers. The top of these include the desire to improve operational performance and reduce inventory costs.

Supply chain visibility must be considered from both the inbound and outbound sides of an operation

TOP PRESSURES TO IMPROVE SUPPLY CHAIN VISIBILITY



Source: 2009-2010 Eyefortransport Logistics Technology Report

- Best-in-class
- Average
- Laggard

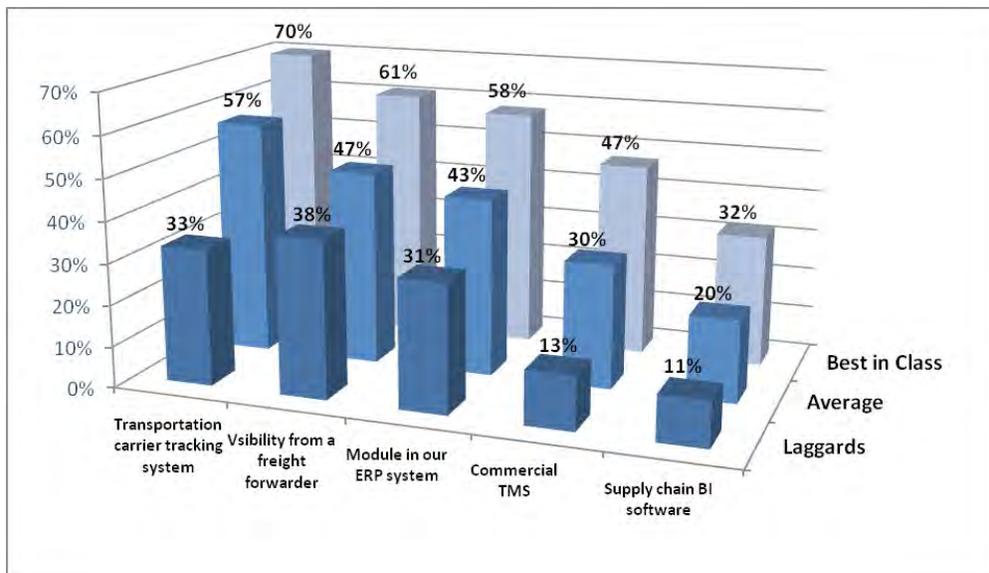
... When these groups of companies were asked about the types of supply chain visibility technologies or solutions they have in place it showed a clear correlation between overall performance level and the usage of technology.

Technology integration into business operations can be an important indicator of a company's ability to compete and if successful, then sustain that competitiveness. This can be seen in the results of the same survey referenced above and performed by Aberdeen Group. The research firm setup three benchmarks utilizing multiple aspects of logistics and supply-chain performance to classify participating companies.

These "classifications" included the groupings: Best-in-class, Average, and Laggard levels of performance. When these groups of companies were asked about the types of supply chain visibility technologies or solutions they have in place it showed a clear correlation between overall performance level and the usage of technology. It is also clear that best-in-class performers utilize more than just one visibility tool in their operations.

Reducing inventory to the "right size" and improving operational performance are the top reasons to improving supply chain visibility

TECHNOLOGY FOCUS OF BEST PERFORMERS



Source: 2009-2010 Eyefortransport Logistics Technology Report

While some of the reasons are seemingly obvious, there are possibly many other reasons to concentrate and improve overall supply chain visibility. Here are a few examples:

- **Competitive advantage and differentiator**
- **Lower inventory to “correct levels”**
- **Improved reaction time to “turbulence” (ie. weather, labor disruptions, disasters, ...)**
- **Enhanced flexibility to customer product demands**
- **Better sourcing usage and reliability of low-cost suppliers**
- **More efficient reverse-logistics (for both designed and unexpected situations)**
- **More comprehensive and complete customer service**

In order for a company to get started exploring the ways how supply chain visibility might improve their competitiveness, they need to have a starting point. In some operations, this might be easier than in others. The following is a compiled collection of expert opinions and thoughts, and represents nine potential steps to take to begin to look at supply chain visibility.

GETTING STARTED

IMPROVING SUPPLY CHAIN VISIBILITY - 9 STEPS TO GET STARTED

- 1) **Take a phased approach**
 - a. Start with the most critical chain first
 - b. Then, select a portion of the activities for that chain (inbound, outbound, etc...)
- 2) **Make sure the information and system is designed to be collaborative**
 - a. It must interact and integrate with your partners to be most effective
 - b. Ask your customers, what they would like to see
- 3) **There are MANY vendors out there**
 - a. They are not one size fits all, most are good at a few key parts
 - b. Again, ask your customers and trading-partners what and who they use
- 4) **Map the current process for just one link-in-the-chain out on paper**
 - a. Start simple, just begin with what you think is Step 1.
 - b. This will likely be wrong, and/or not the full picture, this is ok...
 - c. Include as many view-points as feasible (this will help remedy the previous item)
- 5) **Identify shortfalls in the process**
 - a. Explore why these are shortfalls and how to best address them
 - b. Consider worst-case scenarios as well as best-case and everyday situations
 - c. Think-outside the box for other if not all possible “what-if” situations
- 6) **Re-map the process to better address shortfalls**
- 7) **Identify how (or if) data is currently being collected**
- 8) **Identify how (or if) your customers, trading-partners, suppliers, etc. are collecting data**
 - a. Ask why they are collecting such data, if they do.
- 9) **Select a technology solution that integrates smoothly into current operations and is scalable**
 - a. This is where most should/will need to engage outside help
 - b. Again, talk with your supply-chain partners to see how they approached this.

In order for a company to get started exploring the ways how supply chain visibility might improve their competitiveness, they need to have a starting point.

This is harder than it sounds...

These steps, and the resulting benefits and improvements hold true for all companies, but at the same time the applications may vary greatly. For example, the Federal Government can be thought of as a very large logistics company, facilitating the movement of goods and people (primarily through infrastructure) from one place to another.

To this end, the Federal Highway Administration (FHWA) has a particular interpretation and vision for what solutions and technologies constitute and contribute to supply chain visibility, these include:

FHWA Vision on Intelligent Freight Technologies	
Asset Tracking	<ul style="list-style-type: none"> • Tractor and Truck Tracking • Chassis and Trailer Tracking • Container Tracking • Shipment/Cargo Tracking • Route Adherence Monitoring
On-Board Status Monitoring	<ul style="list-style-type: none"> • Vehicle Operating Parameters • Cargo and Freight Condition • Intrusion and Tamper Detection • Remote Locking and Unlocking • Automated Haz-mat Placarding • Driver Emergency Call Buttons
Gateway Facilitation	<ul style="list-style-type: none"> • Driver Identification and Verification • Non-Intrusive Inspections • Compliance Facilitation • Weigh-in-Motion • Electronic Toll Payment
Freight Status Information	<ul style="list-style-type: none"> • Web-based Freight Portals • Intermodal Data Exchange and Data Standards • Web Services Software • Standard Electronic Freight Information Transfer
Network Status Information	<ul style="list-style-type: none"> • Congestion Alerts and Avoidance • Carrier Scheduling Support • First Responder Support

Source: [Federal Highway Administration](#)

VISIBILITY SOLUTIONS - 10 MAJOR TYPES

It is likely a logistics provider (or user) realizes at least one if not all of these challenges and sees many of the above opportunities in their own business. With the many technology offerings, platforms and companies in the market today; which one is best for a particular application, service offering, or business model? This question has many answers and when the question of “build or buy” is considered, the possibilities grow even more.

The Aberdeen Group has created an insightful and simple way of beginning to look at how supply chain visibility solutions can be categorized. Essentially, supply chain technology is available and obtainable three ways: 1) *Developed in-house*; 2) *Provided by a logistics partner or portal*; or 3) *Purchased by a technology vendor*. Each one of these options is quite viable, yet carry certain constraints and capabilities that a company should be familiar with and consider fully before getting started.

INTERNALLY DEVELOPED VISIBILITY TECHNOLOGY

HOMEGROWN VISIBILITY SYSTEM

System built internally or custom developed by your enterprise. This is best for companies needing basic tracking and having sufficient IT and logistics resources to build and maintain solution; building more complex visibility systems in-house has often led to large cost overruns and delays.

VISIBILITY SYSTEM FROM A LOGISTICS PROVIDER OR PORTAL

CARRIER OR FORWARDER TRACKING SYSTEM

Web browser access to “where’s my freight” using shipment tracking numbers (i.e. UPS). More advanced solutions support tracking by other reference numbers (e.g., PO#, SKU#) and alerts. This is best for companies seeking a low-cost (often free) system to track shipment events (vs. supplier in-process milestones or network inventories); Also requires that companies don’t mind having users go to multiple carrier sites to track goods.

CARGO PORTAL

This solution is a hub that provides booking and tracking across multiple ocean carriers; status for shipments booked with member carriers are typically free. This is potentially best for companies that rely on multiple carriers for international shipments and seek a single, low-cost system to track shipment events.

VISIBILITY SYSTEM FROM 3PL

Visibility system implementation and maintenance is handled by the third-party logistics (3PL) provider. Can deliver a functionally rich solution that provides similar features to commercial visibility solutions. This brings the added benefit of on-ground logistics and vendor management capabilities. Some 3PL’s have built their own systems while others “white label” a commercial solution. This is good for companies with significant logistics outsourcing to a single 3PL vendor and who are willing to be more tightly tied to that provider.

Supply chain technology is basically available three ways:

1) Developed in-house;

2) Provided by a logistics partner or portal; or

3) Purchased by a technology vendor.

VISIBILITY SYSTEM FROM COMMERCIAL TECHNOLOGY VENDOR

ON-PREMISE COMMERCIAL VISIBILITY SYSTEM

Visibility application installed/implemented at your company. System typically contains flexible line item tracking, alerts, escalation workflow, role-based dashboards, and analytics. Best for companies seeking comprehensive visibility into order, shipment, and inventory statuses across all aspects of their business and that wish to move up the value curve around shipment resolution and supply chain improvement. Requires companies to have sufficient internal IT resources in order properly maintain system once up and running.

ON-DEMAND COMMERCIAL VISIBILITY SYSTEM

Visibility application hosted by a software vendor and typically paid for on a subscription basis. This is sometimes part of a larger management suite and often comes with pre-connections to carriers to speed implementation time or programs to connect directly with suppliers. The system typically contains flexible line item tracking, alerts, escalation workflow, role-based dashboards, and analytics. Best for companies wishing to leverage the vendor's IT resources and carrier and supplier experts for faster implementation, easier ongoing maintenance, and lower up-front costs. Good for companies seeking comprehensive visibility into order, shipment, and inventory statuses across all aspects of their business and that wish to include shipment resolution and supply chain improvement.

COMMERCIAL TRANSPORTATION MANAGEMENT SYSTEM (TMS)

Tracking capabilities that are an extension of a TMS. Typically this only supports transportation-related resolution workflow however a TMS can also support the tracking of logistics assets. Some systems also support tracking of shipments not managed via the TMS (e.g., inbound from supplier). On-demand TMS's may come with carrier enabling and pre-connection services. This solution is good for companies seeking to leverage their TMS to track shipment events (vs. supplier in-process milestones or network inventories), trigger routing changes, and analyze shipment lead times, lead time variability, and on-time performance. May need to work with TMS vendor to build out role-based views or use web based services to distribute information to other departments.

VISIBILITY SYSTEM FROM ELECTRONIC MESSAGING VENDOR (E.G., EDI VAN)

Electronic messaging uses existing messaging connections with trading partners to feed relevant data into an on-demand or on-premise visibility system provided by the messaging vendor. This is best for companies with significant purchase order and status message volume being handled by a single messaging vendor.

AVL/GPS SYSTEM FOR FLEETS

Automatic vehicle location (AVL) system with GPS tracks the location of vehicles and displays them as "breadcrumb trails" on a digital map. Typically includes reporting capabilities and can be a stand-alone system or part of a fleet routing application. Best for companies with private/dedicated fleet operations.

1. **HOMEGROWN**
2. **CARRIER SYSTEM**
3. **PORTAL**
4. **3PL SYSTEM**
5. **ON-PREMISE**
6. **ON-DEMAND**
7. **TMS**
8. **EDI-VAN**
9. **AVL / GPS**
10. **SUPPLIER PORTAL**

SUPPLIER COLLABORATION PORTAL OR HUB

Inbound orders, advance shipment notices, and inventory status are tracked via a supplier portal or B2B collaboration hub. Good for businesses that typically have strong supplier in-process monitoring and resolution functionality, but limited in-transit monitoring and analysis capabilities. Best for companies whose major tracking and reliability problems are supplier-related versus logistics-related.

Source: [Aberdeen Group](#)

SAP generates about 15% of total revenue from SCE solutions, Oracle about 18%

LOGISTICS SOFTWARE PROVIDERS

Once the decision is made on WHAT needs to be done and the best approach for HOW a company can best accomplish improved supply chain visibility, the question is WHO is the right choice? Modern Material Handling Management Magazine puts together a yearly Top-20 list (based on total revenue) of the companies involved in the Supply Chain Execution (SCE) arena. There are obviously also a host of other, smaller companies that might also be a great fit for the needs of your company.

A few acronyms that are used in the chart (and fairly common in the industry as well):

SCP: Supply chain planning, **WMS:** Warehouse management system, **MES/MRP:** Manufacturing execution system/manufacturing resource planning, **TMS:** Transportation management system

Over 50% of companies surveyed reported making a change in their WMS solution in 2009.

Manhattan Assoc. is headquartered in Atlanta, GA

Rank	Supplier	2008 TOTAL Revenue*	Web site	S C P	W M S	M E S	T M S
1	SAP	\$942	www.sap.com	*	*	*	*
2	Oracle	\$715	www.oracle.com	*	*	*	*
3	JDA Software	\$390	www.jda.com	*			*
4	Manhattan Associates	\$337	www.manh.com	*	*		*
5	RedPrairie	\$293	www.redprairie.com		*	*	*
6	i2 Technologies	\$255	www.i2.com	*			*
7	Infor	\$177	www.infor.com	*	*	*	*
8	ILOG	\$175	www.ilog.com	*			
9	IBS	\$171	www.ibsus.com	*	*	*	*
10	Epicor	\$138	www.epicor.com	*	*		*
11	Swisslog	\$122	www.swisslog.com	*	*		*
12	Sterling Commerce	\$115	www.sterlingcommerce.com		*		*
13	Aldata	\$108	www.aldata-solution.com	*	*		*
14	Microsoft	\$92	www.microsoft.com	*		*	
15	HighJump	\$85	www.highjumpsoftware.com		*	*	*
16	Applied Materials	\$70	www.appliedmaterials.com			*	
17	CDC Software	\$66	www.cdcsupplychain.com	*	*	*	*
18	ClickCommerce	\$65	www.clickcommerce.com		*		*
19	QAD	\$57	www.qad.com	*	*	*	*
20	IFS	\$49	www.ifsworld.com/us	*		*	

* revenues based on company reports of industry estimates

Source: Modern Materials Handling Management Magazine, July, 2009

Many of these companies - including some of the largest - provide other non-logistics related solutions and the revenue from this is included in their totals. It is interesting to see how these companies rank if they are sorted by just SCE related revenue.

For example, the largest of the group above, SAP, generates about 15% of total revenue from SCE solutions, Oracle about 18%, however Manhattan Assoc. and RedPrairie are complete SCE solution providers where they generate 100% of their revenue.

Rank	Supplier	Web site	2008 SCE ONLY Revenues
1	Manhattan Associates	www.manh.com	\$337 million
2	RedPrairie	www.redprairie.com	\$293 million
3	SAP	www.SAP.com	\$137 million
4	Oracle	www.oracle.com	\$132 million
5	Aldata	www.aldata-solution.com	\$108 million

Source: Modern Materials Handling Management Magazine, July, 2009

SCE:
Supply Chain Execution

SCP:
Supply chain planning

WMS:
Warehouse management system

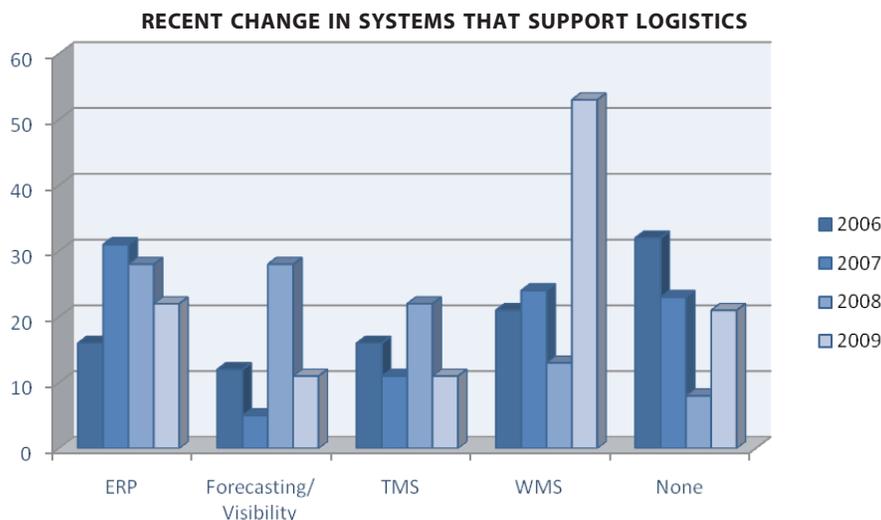
MES:
Manufacturing execution system/

MRP:
Manufacturing resource planning,

TMS:
Transportation management system

Supply Chain Execution Systems

Technologies grouped in the category of Supply Chain Execution (SCE) software come in a variety of applications, all of which provide an enhanced degree of visibility. There are stand alone systems used for transportation management (TMS), warehouse management (WMS), yard management (YMS), or for forecasting/visibility. There are also enterprise wide tools that can integrate one or more stand-alone components functionality (e.g. WMS, TMS, demand planning, HR, and payroll) and are known as Enterprise Resource Planning (ERP) solutions. These ERP systems have been around for many years, are widely used, and offer a wide array of capabilities and benefits for companies, usually of larger size and scope.



Source: Establish Inc.

In a recent study conducted by Establish Inc., there was an interesting mix in the reported activity for deployment of these various systems as companies are looking for ways to positively impact their bottom-line, while likely still managing their recovery from a very challenging economy. The results of most companies reporting a change in WMS solutions is likely associated with a desire to better manage inventory levels more accurately. The second most common response, “no change” is also not terribly surprising given the economy. Each of these solutions has many unique attributes and will be explored in greater detail.

TRANSPORTATION MANAGEMENT SYSTEMS (TMS)

Transportation Management Systems (TMS) can simplify and better coordinate the transportation function of goods in the supply chain. A TMS determines the most efficient and most cost-effective way to execute the movement of product(s) through optimization, automation, and more. A TMS can be a standalone technology or a fully integrated module of an ERP system and in either situation includes various tiers of capabilities which can provide different levels of return. Examples of some functions of a TMS along with their relative potential savings are shown here:

TMS operation/capability	Relative savings potential
Route and mode optimization	\$\$\$\$
More competitive delivery options	\$\$\$
Reduced network inventory levels	\$\$\$
Electronic communications with supply chain partners	\$\$
Carrier assignment optimization	\$\$
Rate negotiations and compliance	\$\$
Continuous moves and dedicated fleets	\$\$
More efficient and automated operations	\$

Source: [AMR Research](#)

There are still a lot of opportunities for logistics companies to gain efficiencies through the addition of a TMS system, particularly for smaller companies who report less than \$5 Million in revenues, with only 40 percent of these companies utilizing a TMS of any sort.

“A lot of shippers are still using the spreadsheet, fax machine, and telephone route to manage the transportation component,” says Adrian Gonzalez, director of ARC Advisory’s Logistics Executive Council.

“With an annual 11 percent growth of companies using a TMS, it shows more and more companies are investing.” Adds AMR’s George Aimi, *“fuel volatility, fuel surcharges, and a challenging economy have shippers looking for ways to work smarter, better, and faster. In return for those TMS investments, shippers are seeing freight budget cost reductions, more competitive delivery reliability,*

Transportation Management Systems (TMS) can simplify and better coordinate the transportation function of goods in the supply chain.

Improved route planning, flexibility and reduced inventory costs are some of the biggest benefits of a TMS

“A lot of shippers are still using the spreadsheet, fax machine, and telephone route to manage the transportation component”

improved customer service, and inventory reduction.”

“In a completely manual environment, a logistics planner can handle 10 to 12 loads per day,” says Aimi “With automation, that same person can handle anywhere from 100 to 120 loads per day, with most of that person’s effort focused on handling the exceptions, while the TMS takes care of the work.”

WAREHOUSE MANAGEMENT SYSTEMS (WMS)

Like the TMS systems, Warehouse Management Systems (WMS) can be standalone or a part of an Enterprise Resource Planning (ERP) system. WMS systems have been available since the earliest computer systems. Early warehouse management systems only provided simple storage location functionality and since have advanced to include more complex solutions; some incorporate RFID and voice recognition adding automation and increasing productivity. Warehouse systems provide information to allow the efficient control of the movement of materials in the warehouse.

Reference for Business’s encyclopedia considers warehousing a mature industry seeking methods to maximize profits and striving to add services to compete for customers. According to a Warehousing Management survey, competition in warehousing has become extremely tight because businesses seek warehouse firms with extremely thin margins. Companies are succeeding by remaining flexible and investing in technology. The main issues or trends in warehousing include radio frequency identification (RFID), transportation management systems, pick-to-light technology, and voice-activated receiving and packaging. WMS incorporates the use of scanners, handheld devices, or web interfaces to create a more efficient and/or automated way to input warehouse activity data causing increased productivity.

By providing automation, reporting, and accessibility to information, WMS systems can provide benefits such as:

- ***Faster inventory turns***
- ***More efficient use of available warehouse space***
- ***Reduction of inventory paperwork***
- ***Improved cycle-counting***
- ***Reduced dependency on warehouse personnel (transferable knowledge)***
- ***Enhanced customer service***
- ***Improved labor productivity***

WMS solutions can assist managers in tracking products throughout the entire storage and distribution process. These systems span from simple computer automation systems to high-end, feature-rich management programs that improve order picking, facilitate better dock logistics, and monitor inventory management.

“Fuel volatility, fuel surcharges, and a challenging economy have shippers looking for ways to work smarter, better, and faster.”

WMS systems have been available since the earliest computer systems.

Competition in Warehousing has become extremely tight...

“Companies are succeeding by remaining flexible and investing in technology.”



Logistics

ONLINE RESOURCE: www.bestwms.com

ENTERPRISE RESOURCE PLANNING (ERP)

The Institute for Supply Management dates ERP systems back to the 1960's as an evolution of MRP systems that were originally developed by IBM and J I Case a U.S. tractor maker. The original ERP systems were developed for inventory control, but as a common database in the 1990's to integrate disparate systems that singly supported various business functions.

ERP:
"An accounting-oriented information system for identifying and planning the enterprise-wide resources needed to take, make, ship, and account for customer orders."

"Enterprise resource planning (ERP) systems started as a means for inventory control and grew to replace islands of information by integrating traditional management functions, such as financials, payroll, and human resources, with other functions including manufacturing and distribution."

- Adapted from Enterprise Applications – The Genesis and Future Series, by PJ Jakovljevic

"APICS defines an ERP as: Enterprise resource planning: An accounting-oriented information system for identifying and planning the enterprise-wide resources needed to take, make, ship, and account for customer orders." –APICS Dictionary, 10th edition

Very simply, ERP's are business management systems that integrate all facets of the business integrating planning, manufacturing, sales, and marketing into one single computer system to serve each department's needs. ERP's have been known to standardize business processes throughout an organization, but have also been faulted for their rigid structure. According to ERPwire.com, *"ERP systems are better suited for larger organizations. ERP software integrates business processes across departments onto a single enterprise-wide information system. Taking the many disconnected parts of a business and connecting them; improving coordination across functional departments and increased efficiencies of doing business through reduced operating costs of managing or controlling inventory, production, marketing, and other support functions."*

"To get the most from the software, you have to get people inside your company to adopt the work methods outlined in the software. ..."

Some general benefits of implementing an ERP system include:

- ***Increased productivity due to streamlining of operations***
- ***Auditable transactions for liability purposes***
- ***High-level reporting for corporate reviews***
- ***Customer loyalty through improved quality of service***
- ***Eliminate excessive data-entry/paperwork***
- ***Reduce unnecessary inventory planning and counting with advanced inventory functionality***
- ***EDI (Electronic Data Interface) expedites purchasing procedures***
- ***Coordinate your purchasing with your orders to ensure an efficient supply chain***

CIO magazine supports ERP's by stating they are a set of best practices; without user buy-in implementation of any change will ultimately result in failure. *"To get the most from the software, you have to get people inside your company to adopt the work methods outlined in the software. [If not] political fights break out over how—or even whether—the software will be installed. IT gets bogged down in long, expensive customized efforts to modify the ERP software to fit with powerful business barons' wishes. Customizations make the software more unstable and harder to maintain*

when it finally does come to life. The horror stories you hear in the press about ERP can usually be traced to the changes the company made in the core ERP software to fit its own work methods. Because ERP covers so much of what a business does, a failure in the software can bring a company to a halt, literally."

An ERP can have all the benefits of each standalone system for a company, but also the collaborative benefits and ability to operate as one unit. With today's extended supply chains, integration of tools occurs at all points in the supply chain which lend us to make-shift ERP's with the aim of operating as efficiently and effectively as possible as one entity. *"At the core of ERP is a well managed centralized data repository which acquires information from and supply information into the fragmented applications operating on a universal computing platform."*

Source: www.topbits.com

By definition, a competitive advantage must be unique to the organization.

From a slightly biased perspective, Derek Curtis of HlghJump Software (a non-ERP solution provider) says *"If your organization views distribution as a source of competitive advantage, then ERP-based WMS could be problematic. By definition, a competitive advantage must be unique to the organization. Business processes available in commercial off-the-shelf software packages (like ERP) therefore cannot contain business processes that are sources of competitive advantage."*

Supply chain best practices such as labor management, slotting management, advanced wave planning, and last mile delivery are not traditionally supported with ERP WMS solutions.

A WMS solution typically has a 10 year lifespan. In this lifespan a WMS could be upgraded five times. ERP upgrades are generally more expensive to upgrade because of the interdependencies between modules and re-application of source code customizations. Additionally, corporate IT governance and change management processes often make it difficult to upgrade a single module.

A WMS solution typically has a 10 year lifespan. In this lifespan a WMS could be upgraded five times.

TECHNOLOGY COMPANIES TURNED SOLUTIONS SERVICE PROVIDERS

Technology providers have begun to shift toward offering more accessible solutions by becoming more service oriented with Software as a Service (or more commonly known – SaaS) and on-demand software.

SaaS or Software as a Service as a new technique in the field of software technology. It enables you to use a software application only when there is a requirement. The SaaS enables a centralized control of the business by the service provider. No more re-installs, purchased upgrades, in-house maintenance, or huge EULA expenditures. The information is centrally maintained and access is shared through a user portal accessible by various means. With technology companies turned solutions service providers, software deployments and maintenance burdens are now the responsibility of the technology vendor or service provider.

A recent InformationWeek article asks *"Why is SaaS on such a roll?"* Surprisingly, the No. 1 reason is speed to implementation--37% of SaaS users cite this as a major driver. As companies come out of the recession, with pent-up demand for new capability and often smaller IT staffs, this factor could become even more important. Speed is followed by capital expense savings, cited by 28% of survey respondents, and operational expense savings, cited by 25%.

Source: www.informationweek.com

Logistics providers are being asked to provide immediate real-time access to what the customer wants when the customer wants it. IT solution providers are making this happen by offering their management applications and optimization tools with accessibility via the web or wirelessly to a mobile device. Furthermore SaaS allows the end user access and use of the application through transaction or license fees.

Solution providers are no longer just in the business of providing a technology to manage your information; they can and should be a strategic partner providing business and information management technologies and services.

37% surveyed cite speed of implementation as the top driver for using SaaS based solutions

Feeding the System: Information Gathering Devices



So far, this section has discussed the “platform” or information management system portion of technology and specifically that of supply chain visibility. While this is obviously a critical piece, but without data to feed into the system it will not produce the desired results. While there are many potential information gathering technologies on the market, none have gotten as much attention as Global Positioning Systems (GPS) and Radio Frequency Identification Devices (RFID). These devices are often included into what is called “track and trace” technologies and they do just that for logistics companies as well.

Software deployments and maintenance burdens are now the responsibility of the technology vendor

GLOBAL POSITIONING SYSTEMS (GPS)

GPS, or Global Positioning System is a tracking technology developed for navigation and precise positioning. According to NASA's web site, this technology was developed by the Military in 1973 to assist soldiers and military assets to determine their locations world-wide. Today GPS is found widely in airplanes, cars, trucks, boats, phones, and even outdoor recreational and other handheld devices. In the logistics industry, GPS devices bring companies and individuals the knowledge of location and a variety of routing options. This expands the capabilities of a driver and automates the communication between a driver on the road and their dispatcher in the office.

GPS - BENEFITS TO MARITIME OPERATIONS

“We implemented a GPS based container management system three months ago and have already seen direct benefits to our business. We have documented a 4-8% decrease in costs and a 5-10% increase in efficiency.” - LingSen Xue, General Manager, Tianjin port Container Terminals (TCT), China

- ***Allows access to fast and accurate position, course, and speed information, saving navigators time and fuel through more efficient traffic routing.***
- ***Provides precise navigation information to boaters.***
- ***Improves precision and efficiency of buoy positioning, sweeping, and dredging operations.***
- ***Enhances efficiency and economy for container management in port facilities.***
- ***Increases safety and security for vessels using the AIS.***

GPS - BENEFITS TO TRUCKING OPERATIONS

"The promise of GPS technology for increasing safety and security, reducing congestion, and improving efficiency are limitless. Quite simply, GPS has become the enabling technology for transportation." - Jeffrey N. Shane, Under Secretary for Policy, U.S. DOT

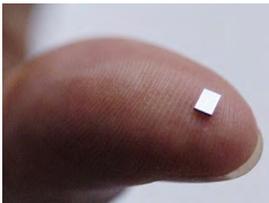
- **Higher levels of safety and mobility for all surface transportation system users.**
- **More accurate position determination to provide greater passenger information**
- **More effective monitoring to ensure schedule adherence, creating a transit system more responsive to transportation users needs.**
- **Better location information with electronic maps to provide in-vehicle navigation systems for both commercial and private users.**
- **Increased efficiencies and reduced costs in surveying roads.**



ONLINE RESOURCE: www.gps.gov

Logistics

RADIO FREQUENCY IDENTIFICATION (RFID)



Radio Frequency Identification (RFID) technology has been around for decades and in fact was first used in World War II to differentiate between enemy and friendly aircraft. These technologies have been used to reduce the amount of time and labor needed to input data manually and to improve data accuracy. RFID tags typically are made up of a microchip attached to a radio antenna mounted to a substrate.

Each tag has a limited amount of data that can be stored on it and utilizes a reader device that emits radio waves to wirelessly connect to the RFID tag and receives signals back from the tag. The data received from the tag then gets sent by the reader to a computer system.

Wide development and application of the technology did not occur until the last four decades where low-frequency systems have been used in the track and trace of cattle to controlled access into buildings. RFID tags have been a true innovation in visibility capability moving beyond labels and barcodes. RFID solutions are 'smart' with the ability to talk to provide the same information from a label or barcode without the need to pass through a scanner.

RFID brings true real-time data to the work environment and eliminates the blindness felt between scan points providing added transparency to operations and improving inventory accuracy. In addition to the life RFID tags bring to a box, added security is also a function of RFID tags and a tag can send alert notifications if the security of the item has been breached.

Radio Frequency Identification (RFID) technology has been around for decades and in fact was first used in World War II to differentiate between enemy and friendly aircraft.

To track goods in open supply chains, ..., ownership for the cost for RFID has been a major obstacle

The Decades of RFID	
Decade	Event
1940- 1950	Radar refined and used, major World War II development, effort. RFID invented in 1948.
1950-1960	Early explorations of RFID technology, laboratory experiments.
1970-1980	Explosion of RFID development. Tests of RFID accelerate. Very early adopter implementations of RFID.
1980-1980	Commercial applications of RFID enter mainstream.
1990-2000	Emergence of standards. RFID widely deployed. RFID becomes a part of everyday life.
2000 -	RFID Explosion continues



ONLINE RESOURCE: autoid.mit.edu

Logistics

RFID Deployments Worldwide



RFID having been in development for a large part of this last century it has been through various generations of trials and tribulations.

One of the major hurdles for the wide spread deployment of RFID tags and systems has been its cost for most companies. To track goods in open supply chains, where RFID tags are put on cases and pallets of products by one company and read by another, responsibility/ownership for the cost has been a major obstacle. With extended supply chains and multiple supply chain partners, the company that

invested in the tag is unlikely to re-touch that same item down the line in order to recover and reuse the tag. Still, there are enormous benefits that can be gained through the implementation of RFID technology.

RFID having been in development for a large part of this last century it has been through various generations of trials and tribulations. According to the RFID Journal, the “discrepancies between readings were huge where the manufacturer would receive a far better reading than at retail stores or DC’s. They might ship 100 cases to a retailer and find that no more than half of the cases were read. In other instances, RFID encryption has come into question where researchers at John Hopkins University and RSA Laboratories have found the RFID used in the SpeedPass and in the keys of some Ford vehicles can be spoofed reasonably easily, some even within only a few hours.”



ONLINE RESOURCE: www.rfidjournal.com

Logistics

Over time, as technology advances, volumes increase and R&D costs have been recovered, RFID systems will become more commonplace. A recent innovation in RFID technology has been the added compatibility with the use of metals or alloy surfaces. There are also advancements to where RFID tags have been developed that no longer use a silicon chip. The most innovative advancement may be the printable RFID tags which will cost only a fraction of the cost allowing RFID to be more directly competitive with the costs of barcodes and labels.

“The pace of developments in RFID continues to accelerate. The future looks very promising for this technology. The full potential also requires advancements in other areas as well such as development of applications software; careful development of privacy policies and consideration of other legal aspects; development of supporting infrastructure to design, install, and maintain RFID systems; and other such activities now that RFID has truly entered the mainstream.”

Source: autoid.mit.edu

In the near term, RFID will serve as a supply chain management tool. It will replace manual processes for tracking supplies in warehouses and at loading docks.

THE FUTURE OF RFID

When searching for what the future of RFID may hold, RSA Security, shared (excerpts from their web site) their vision of RFID as being:

“A ubiquitously RFID-tagged and networked world offers a transformational extension of the World Wide Web. It will become not just a World Wide Web ‘of data,’ but also a World Wide Web ‘of things.’ In the near term, RFID will serve as a supply chain management tool. It will replace manual processes for tracking supplies in warehouses and at loading docks. For businesses and consumers alike, RFID promises cost savings, more rapid delivery of goods, and enhanced quality control.”

The world will be very different once readers and RFID tags are everywhere. In an RFID-enhanced future, the benefits would accrue not just to businesses, but also to consumers. Here are some examples:

Easy Item Returns: You might be able to return RFID-tagged items of apparel without a store receipt. The unique identifier in the tag would reference a database record with the time of purchase and the original price – and even credit card information, if desired. Detailed information about customer returns would help stores refine their inventory selections. If all of the items from a particular lot are returned for defects, for instance, the retailer with an RFID-enabled infrastructure could easily trace the factory of origin.

Smart Appliances: Your washing machine could choose its cycle setting based on tag information in the items to be washed. Your “smart” refrigerator could take inventory automatically, alerting you to expired or recalled foodstuffs, creating shopping lists automatically, and even searching the Internet to find recipes you can prepare with the items in the refrigerator. Your closet could alert you to what clothing it contains and what is out for cleaning – and search the Internet for fashion advice.

Personalization: You might carry an RFID tag that stores (or references) personalization data. When you walk up to a clothing rack in a shop, LEDs might flash on the hangers with items in your size and preferred colors.

For businesses and consumers alike, RFID promises cost savings, more rapid delivery of goods, and enhanced quality control

Easy Shopping: You could purchase or rent items by simply walking out of a shop with them. The RFID payment device in your pocket and the RFID tags in the items you carry would allow payment to be made automatically. But as with many technologies, it is important to keep in mind the large gaps between the vision and the reality. Researchers are looking for ways to address the many and subtle technical challenges that RFID introduces.

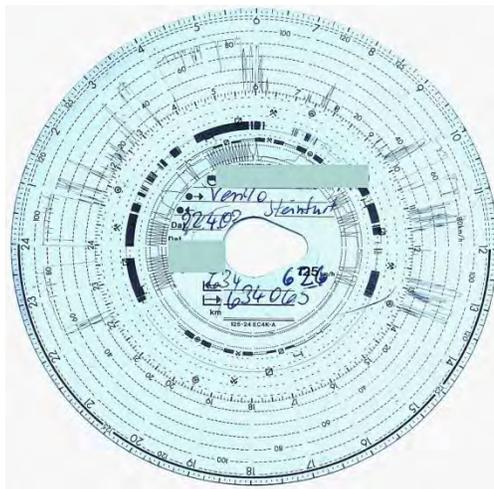


ONLINE RESOURCE: RSA Security - www.rsa.com/rsalabs

On-board Computers as “the child of the tachograph, a mechanical device that proved just how valuable even the most basic operating information could be.

The topic of RFID is explored a bit more in the end of this factor, where research and activities within academia in Georgia are showcased.

ELECTRONIC ON-BOARD RECORDERS (EOBR)



John Bendall of Heavydutytrucking.com referenced On-board Computers as “the child of the tachograph, a mechanical device that proved just how valuable even the most basic operating information could be. Each day, the tachograph (resembling a slow-moving record turntable, shown below) created a virtual map of that day’s operation for a single truck.”

Today’s On-board Computers or Electronic On-board Recorders can be found in various modes of transit most prominently in air, ocean, and in some highway motor vehicles.

A tachograph is a device that combines the functions of a clock and a speedometer. Fitted to a motor vehicle, a tachograph records the vehicle’s speed and whether it is moving or stationary. The mechanical tachograph writes on a round piece of paper which constantly turns throughout the

work day. The marker moves further from the center the faster the vehicle is moving. An entire rotation encompasses 24 hours.

Analogue tachographs record the driver’s periods of duty on a waxed paper disc. However, these are vulnerable to tampering, and so are being replaced by digital tachographs which record data on smart cards.

Today’s On-board Computers or Electronic On-board Recorders can be found in various modes of transit most prominently in air, ocean, and in some highway motor vehicles. On-board recording devices have been in use at least since 1985, according to the Federal Motor Carrier Safety Administration (FMCSA). Onboard computers record, in real-time, vehicular and driver data using various sensors. Data that can be electronically recorded includes engine management information, driving style and abuses (engine idle, over-speed, braking etc), and fuel consumption.

Source: www.refrigeratedtrans.com

Onboard Computers, at times referred to as 'black-boxes' eliminates the pen and paper driver log that is required by safety regulations and brings transparency into the activity of a driver while also providing real-time information and communications between the dispatcher and driver. These black-boxes help keep up with the day to day details of vehicular operations, and also keep an accurate log of activity that enhances operator accountability resulting in increased safety and productivity. Regulations of operator safety and the use of text devices should bring new innovations to this technology as these devices are becoming incorporated as regulation.



Currently the rule only calls for carriers with 10 percent or more HOS violations during a compliance review to install EOBR's in all their vehicles for a minimum of two years.

The U.S. Federal Motor Carrier Safety Administration recently published an EOBR rule that targets carriers with hours of service violations. Logistics Today, shared this update stating this rule could be expanded and become mandated for even more trucks later this year. Currently the rule only calls for carriers with 10 percent or more HOS violations during a compliance review to install EOBR's in all their vehicles for a minimum of two years. It is estimated that nearly 5,700 interstate carriers will use EOBR's after the first year of implementation and the rule goes into effect on June 1, 2012. This U.S. ruling may disrupt trade with our Canadian counterparts as the regulation would apply to those cross-border operation carriers.



ONLINE RESOURCE: logisticstoday.com

Logistics

This growing market, potentially accelerated by the release of federal mandates has many technology companies offering solutions. Some of the companies that offer various Hours-of-Service tracking devices include PeopleNet, @Road, Qualcomm, XATA, and Progressive Data Systems.

Recently, the popular web-portal of www.truckinginfo.com pulled together a panel of experts to comment and discuss how electronic logging technologies or EOBR are and will address current fleet priorities. Here is a selection of those comments:

"With growing in-cab technologies, the increase in tech-savvy drivers and the growing benefits gained through technologies the original resistances of on-board technologies are dwindling. It seems regulators, carriers, suppliers, and yes, even drivers agree there are benefits to electronically tracking driver hours-of-service." Diana Britton, Managing Editor, TruckingInfo.com

"The benefits of on-board technologies go beyond simple efficiencies from the elimination of paper driver logs, the safety and service benefits are creating a better environment for all. Company liability is reduced by having an industry witness there to recall if all the proper actions were taken. All incidents are accurately logged and improved upon; drivers are more accurate and productive with their time with easy one-button access to dispatch rather than fumbling with paper logs, maps, or calls to the office." John Pope, chairman of Cargo Transporters

When the carrier was using paper logs, Cargo Transporters had about 102 violations on its books. In the end it creates a more collaborative environment between the driver and dispatch, results in a happier driver due to less paper work and calculations, and ultimately improves the bottom line. They have not had a driver placed out of service since October 2008 when they switched to electronic logging devices.

Truckinginfo.com recently posted a summary from a February 2010 panel discussion titled “Electronic Logging Technology Addresses Fleet Priorities” citing Allan Lowry of Central Refrigerated who ended up saving \$50,000 a year from the reductions in processing costs. The carrier was also able to cut the needed amount of revenue going to safety down to about only 4.5 percent. Similarly, Cargo Transporters was able to cut expenses in mailing and scanning. The company was also able to eliminate a person in that department because of the reduction in paperwork.

Mr. Semen of Instinct Trucking estimates “the use of on-board computers has improved our fuel efficiency by five percent and that the initial \$100,000 cost of the system was repaid in fuel-cost savings in only six months.”

“Transics On-Board Computer Transforms Fleet Management and Cuts Costs by 30 Per Cent”, a Microsoft case study showed that through the use of these onboard technologies a company returned 10% in fuel savings and 30% in cost reductions by increased communications alone. An onboard computer can help a fleet obtain better fuel economy, increase productivity, reduce maintenance costs and improve safety practices. It has been estimated among the various modes that the payback period for a properly used management information onboard computer is about nine months.



ONLINE RESOURCE: www.microsoft.com/casestudies

Logistics

The use of onboard technologies can return 10% in fuel savings and 30% in cost reductions by increased communications alone.

Area	Benefits
Vehicle Maintenance	Ability to track miles per gallon of equipment based on make, model, and year.
Finance	Eliminates data entry and reduces audit time of mileage for fuel tax reporting.
Operations & Safety	Improved communication with drivers and verification of stop/start times. Company knows when schedules won't get met, and can quickly find a driver's specific location.
Pricing/Costing	Actual data about how long trucks/drivers are performing drive and stop functions is a great value to account cost allocation.

An onboard computer can help a fleet obtain better fuel economy, increase productivity, reduce maintenance costs and improve safety practices.

Source: Pitt Ohio Express

“The in-cab, mounted computer offers a powerful, dynamic device that can support a number of different applications and keep a fleet's operations tied to the truck, the center of its business. However, 80 percent of fleet operators said their drivers use cell phones to communicate with headquarters, according to Driscoll's research on cell phone use.” Clement Driscoll, president of C.J. Driscoll & Associates, which does consulting and market research in GPS fleet management and related areas.

However, 80 percent of fleet operators said their drivers use cell phones to communicate with headquarters ...

THERE'S AN APP FOR THAT...

Technology and devices to keep a driver in touch and on the map doesn't have to cost thousands of dollars, and the growing use of smart or GPS enabled cell phones is increasing most significantly by small trucking companies. The texting technology of in-cab devices or cell phones can greatly increase productivity. This allows dispatchers to send out load assignments to 40 drivers in the time it used to take to talk to one driver. Although, texting bans already in place by many states and self-enforced by many fleets will either lead to better usage practices, technological innovations or both.

"By turning your employees' phones into remote data collection units, management can view the drivers' activities, view bread crumb trails for stops and routes taken, which provide accountability for the driver and reliable arrival time for customers," says David Ellis, trucking industry solutions manager at Sprint.

With growing uses of mobile devices, specifically the i-phone and the multiple portable gadgetry it represents, there have been various 'apps' that go beyond mobile web accessibility developed specifically for the trucking industry downloadable for use on the i-phone.

The first application or "app" was developed by a husband and wife trucking team that developed the *TruckerApp*. According to the review found on www.truckerapp.com, this application is designed to meet the needs of truck drivers by providing information and resources in the areas that are crucial for truck drivers' daily survival, information, comfort, and entertainment.



THE "TRUCKER" APPLICATION FOR I-PHONE INCLUDES THE FOLLOWING FUNCTIONALITY:

• Twitter Button!	• Trucking Songs Videos	• Trucking Videos
• Weather Updates	• Mileage Calculator	• Accurate Driving Directions
• Weigh Scale Locator	• Low Clearance Directory	• Legal Forms
• Traffic Alerts	• Informational PDF Files	• Official U.S. Time Zones
• Truck Wash Locator	• Calendar of Events	• Lowest Fuel Price Locator
• Up-to-Date Crude Oil Price	• Truck Stop Directory	• Repair Services Finder
• Better Truck Driving Job Locator	• Owner Operator Load Board	• Affordable Health Insurance Program
• The DAC REPORT	• Trucking Industry News	• Official Links for the Trucking Industry
• Daily Thought	• AskTheTrucker Blog	• Trucking Sounds
	• Trucking "LIVE"- Blog Talk Radio!	

Source: www.truckerapp.com

More recently Sterling Commerce announced the Sterling TMS Carrier Mobile App also made available at the App Store.

Sterling Commerce released on March 16th, *“New App Accelerates M-Commerce Adoption in the Transportation Industry Supply Chain by Providing Anytime, Anywhere Access to the Industry’s Largest Carrier Network via iPhone.”*

The new Sterling Commerce application was designed to enable shippers and carriers to optimize their relationships by responding to tenders and providing real-time shipment status using iPhone carriers to optimize their relationships by responding to tenders and providing real-time shipment status using iPhone®. Sterling Commerce has a program that works with customers to define their mobile needs as a part of their strategy in providing mobile applications to enable companies to interact at a new level and reap rewards of increased collaboration. The Sterling TMS Carrier Mobile App is the sixth mobile application introduced by the company to date. The Sterling TMS Carrier Mobile App is available for free from the App Store on the iPhone or at: www.itunes.com/appstore.

Sterling TMS Carrier Mobile helps carriers and shippers gain improved speed and accuracy of shipment status updates, enhanced business performance and improved service levels. For carriers, Sterling TMS Carrier Mobile provides the opportunity to win more business by responding to time-sensitive tender requests when away from a computer. It also enables carriers to increase shipper satisfaction by enhancing communication through real-time shipment status updates. Shippers also benefit by being able to plan more effectively based on the carriers more frequent updates, especially for long-haul shipments.

Sterling TMS, part of the Sterling Selling and Fulfillment Suite, enables efficient planning and execution of both inbound and outbound transportation processes. The core strengths of Sterling TMS are shipment, visibility, proactive notification on potential customer service issues, robust cost and service reporting, and better control over the freight management process.

Source: <http://www.sterlingcommerce.com>

Freight matching simply connects freight and carriers headed in the same direction through an information exchange reducing the number of trucks in one lane and the deadhead miles driven.

OPTIMIZATION & LOAD MATCHING

With the growing focus on optimization, there are other innovative tools changing the way goods are moved. These tools are designed to support the removal of unnecessary steps and increase efficiencies. These time and cost savings translate into value to the customer. If logistics providers can find ways to help their customers move goods from point ‘a’ to point ‘b’ faster and cheaper it will only strengthen business operations and relationships. These types of efforts rely on a great deal of trust by the customer to provide visibility into their operations. Some popular areas of optimization are load-matching, load-balancing, consolidation/de-consolidation, and trans-load activities.

Load balancing in particular is a great example of a concept that can improve the efficiency of the supply chain for all involved, but visibility is a critical part of making it work. There are a number of technologies available that can help companies in optimizing their operations through load balancing. You not only add value to your customer, but by developing these capabilities you create efficiencies and remove waste, thus leading to a more sustainable company.

Business Wire announced on March 26th that Getloaded.com one of the big three U.S. – based freight matching services released the iGetloaded app for iPhone™ and iPod® touch.

“As the first major freight matching service to embrace the iPhone phenomenon, Getloaded.com takes a game-changing step towards bringing the convenience of wireless applications to the trucking industry,” said Bryan Jones, president of Getloaded.com. *“With a growing national trend toward the use of touch screen wireless devices, we are poised to serve that market demand.”*

Source: www.businesswire.com

Freight matching simply connects freight and carriers headed in the same direction through an information exchange reducing the number of trucks in one lane and the deadhead miles driven.



Source: http://www.posteverywhere.com/freight_matching.html

This concept has been going on for quite some time, but now with social media and the Internet, connectivity and awareness fo available loads is becoming much easier. In response, many new “exchange” style websites are popping up all the time, a quick Google search for “Freight Matching” returns 369,000 results and below are the first ten boards:

1. [LiveLoads.com Free Freight Matching Load Boards](#)
2. [Load Boards and Truck Loads Search -- 3sixty Freight Match](#)
3. [Internet Truckstop](#)
4. [Find loads truck freight matching load board | 123Loadboard.com](#)
5. [Direct Freight](#)
6. [NetTrans - Freight Matching Load Board for Trucking Companies, 3PL](#)
7. [3sixty™ Freight Match](#)
8. [Freight Matching Load Boards](#)
9. [DAT Freight Matching Services](#)
10. [Trucking Planet Free Freight Matching Load Boards For Shippers](#)

“New App Accelerates M-Commerce Adoption in the Transportation Industry Supply Chain by Providing Anytime, Anywhere Access to the Industry’s Largest Carrier Network via iPhone.”

If logistics providers can find ways to help their customers move goods from point ‘a’ to point ‘b’ faster and cheaper it will only strengthen business operations and relationship.

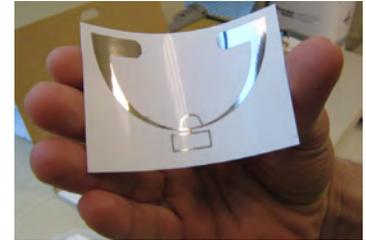
Georgia R&D in Logistics Technology

APPLIED RESEARCH IN GEORGIA

BATTERIES NOT INCLUDED



Professor Manos Tentzeris of Georgia Tech and the ATHENA Research Lab - one of the laboratories of the Georgia Electronic Design Center (GEDC) - have made many accomplishments this past year. The development of the first printable RFID tags and reader-free RFID-enabled sensors to a battery-less RFID sensor that is utilizing “scavenged power” (energy drawn from RF and radiation emitted from other devices – like cell phones) and solar energy technologies, are just a few among the many other advancements made by Professor Tentzeris and his team of researchers.



While there are still challenges limiting the widespread use of RFID technology, there continue to be advancements to eliminate those challenges many of which have been announced just these last few years continuing an optimistic future for RFID.

Other Innovative RFID research and “firsts” from the ATHENA lab include:

- The first battery-less RFID-enabled sensors with ranges in excess of 200m relying on the scavenging of ambient RF power and solar energy
- Inkjet-printed Carbon Nanotube-based gas sensors for security and sensitive material (food, milk) storage
- The first remote-based RFID locating and positioning system for large logistics areas (up to 2x2 sq.miles) with accuracy of better than 50ft and without the need for RFID readers.
- The first liquid antennas for the tracking and monitoring of liquid containers
- The first inkjet-printed quad-band 700MHz/900MHz/2 GHz/2.5GHz WiFi-enabled RFID's on paper or liquid-crystal-displays
- The first temperature/pressure/humidity passive-RFID-based sensors on paper
- The first multiband paper-antennas on paper on metal with extensive ranges (+50m) for container-mounting and global-tracking applications.
- The first generation of “RF-DNA”, an RFID-based anti-counterfeiting system
- The first 3D “Magic-Cube” RFID-based “skin-on-paper” that can enclose sensing, locating and power scavenging modules for “rugged” port, container, structural-health monitoring (e.g.cranes), railway and inventory applications

While there are still challenges limiting the widespread use of RFID technology, there continue to be advancements to eliminate those hurdles...



ONLINE RESOURCE: www.gedcenter.org

RFID CONTAINER SECURITY



The Georgia Tech Research Institute (GTRI) demonstrated two cargo container security systems at a recent event sponsored by the U.S. Department of Homeland Security's Science and Technology (S&T) Directorate.

GTRI was awarded a contract to develop a container security device for the Department of Homeland Security (DHS).



This device can also be used to signal real-time milestones as they are occurring along the container shipment time line such as stuffed, departed, and arrived at port.

The device created much like a residential home door alarm is armed at the stuffing point and sends an alarm if entry is breached prior to disarming the alarm. This device can also be used to signal real-time milestones as they are occurring along the container shipment time line such as stuffed, departed, and arrived at port. **Read the full press release:** www.gtri.gatech.edu/casestudy



The recent and important work with DHS is just however one component of the research going on at GTRI's Electro-Optical Systems Laboratory (EOSL) led by Dr. Giselle Bennett. The lab performs applied research in the growth and application of carbon nanotubes, multifunctional materials, RFID and optical tagging, chem-bio sensors, and has the leading Medical Device Test Center, which examines the interactions between medical devices and security and logistical systems.

EOSL has SIX specially configured research centers:

- Sensors and Sensing Systems Information and Analysis Center (SENSIAC), serving the military sensor community as a repository of information
- LandMARC Research Center, formed to provide solutions for mobile, wireless and performance based tasks
- Environmental Radiation Center performing radiation monitoring
- Environmental Health and Occupational Safety Center for compliance oversight for environmental emergency response, and occupational safety and health issues
- Phosphor Technology Center of Excellence
- The Center for Optimization of Simulated Multiple Objective Systems



ONLINE RESOURCE:



ELECTRO-OPTICAL SYSTEMS
LABORATORY
GEORGIA TECH RESEARCH INSTITUTE

USING TURBULENCE TO PUSH TRUCKS

Graduate students at Georgia Institute of Technology at GTRI are focused on the effects of air drag on tractor trailers. They recently created a system that decreased air drag by as much as 31% by redirecting and converting the turbulence created by trucks to actually propel the vehicle.

The tests showed that the techniques could provide drag coefficient reductions of up to 31 percent, which translates to a fuel efficiency increase of 11 to 12 percent. When the energy required by the air compressor installed on the truck to provide the compressed air for these prototype tests was subtracted from those savings, the tests showed that the low-drag techniques could produce an overall fuel efficiency increase of 8 to 9 percent.

Beyond boosting fuel efficiency, the pneumatic system can also provide a form of aerodynamic braking to assist the mechanical brakes.



Beyond boosting fuel efficiency, the pneumatic system can also provide a form of aerodynamic braking to assist the mechanical brakes. *"The pneumatic systems can turn a low-drag configuration into a high-drag configuration very rapidly, providing a lot more braking power,"* Englar said. *"By turning the trailer into a non-moving pneumatic rudder, blowing can also restore directional stability should the truck be operating in destabilizing high side winds."*

Further energy savings could come using a pulsed pneumatic system, which preliminary wind-tunnel studies show could produce the same aerodynamic efficiency with 40 to 50 percent less energy consumed by the blowing system.

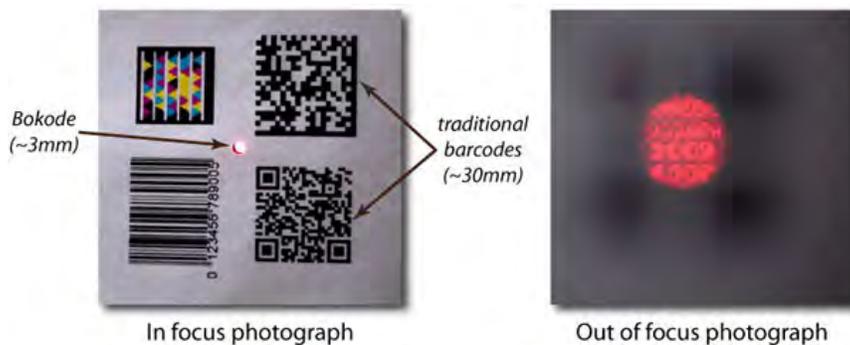
Read more about this research and technology:

- www.gtri.gatech.edu/casestudy/fuel-efficiency-renewed-interest
 - www.ucsusa.org/news/press_release
- www.gtri.gatech.edu/casestudy/flying-low-drag-trucks

What's Next?

This section shows just a very small sample of some innovative concepts and products that are being developed both in the commercial market and in the minds of entrepreneurs all over the world, and all over Georgia...

BOKODES



Bokodes can hold thousands of times more information than barcodes being only a fraction of the size; Bokodes have the potential of replacing barcodes.

MIT recently revealed the Bokode, a development in technology that acts as a highly developed barcode made with an optical design. The leading Camera Culture group at MIT developed this bokeh-code or Bokode with a barcode design and a simple lens-let over the pattern. The MIT group created a wiki that explains the name is a portmanteau of the words bokeh (a photographic term) and barcode. They are much smaller than a barcode, and are circular in shape with a diameter of 3mm. A bokode consists of an LED, covered with a mask and lens. They are readable from different angles and from 4 meters away by a SLR camera.

With the BBC News reporting that Bokodes can hold thousands of times more information than barcodes being only a fraction of the size; Bokodes have the potential of replacing barcodes. Also, with the Bokode only transmitting visually captured information, if covered the Bokode no longer transmits information and doesn't have the RFID end-user privacy troubles that RFID Technology has yielded. Alluding that Bokodes, as MIT Media Lab's Ankit Mohan suggests, are likely to replace RFID systems 'in some near-field communication applications'.

"They [Bokodes] can be read from an angle and at a distance by a cell phone camera, and they can display a wide variety of information. One example given in the BBC report is of library books tagged with Bokodes. A customer could type in the title he wanted to look for, take a picture of the aisle, and the photo will mark the position of the book on the aisle." – **Technology News**

A new holographic film printed Bokode that works by reflecting light is also being reviewed for use for packaging applications. The end-user could use their camera phone to capture the Bokode of two side-by-side items and compare product information immediately. There is also another industry application being researched that utilizes motion capture for robotic applications and another researching automotive Bokode uses.



Logistics

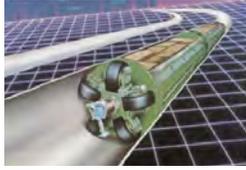
ONLINE RESOURCES: For more on articles that discuss Bokodes see:

- www.readwriteweb.com/archives/rfid_state_of_the_market.php
- www.i4u.com/article26064.html

PIPELINE CONTAINER TRANSPORT

PNEUMATIC CAPSULES

Henry Liu, President, of Freight Pipeline Company, U.S.A. developed a report that studied the Use of Pneumatic Capsule Pipeline for Both Underground Freight Transport and Tunnel Construction. Pneumatic capsule pipeline (PCP) is the use of capsules (i.e., wheeled vehicles) to



transport freight (any cargo that can be carried in capsules) through pipelines or tubes, using air in the pipe to drive or propel the capsules. Two types of PCP have been used successfully in Japan: (1) circular type, and (2) rectangular

type. Figure 1 shows the difference between the two types. A New York study has also been done see if the use of “large PCPs to transport 40-ft-length containers to and from seaports has been examined and found both technically and economically feasible.”



ONLINE RESOURCE: [Henry Liu's full report](#)

Another similar technology was described recently in an entry to the “World Intellectual Property Organization” with a publication date of February 25, 2010

Summary of the Invention:

“A pneumatic container transport system conveys specialized, cylindrical containers between stations within an automated container filling system. Low-pressure, high-velocity air moving through plastic tubing propels the containers through switching gates, air impellers and deceleration devices from one station to another. Annular ridges around the circumference of the containers minimize contact with the inside tube walls and deter scuffing of paper labels which carry machine-readable indicia upon which the container filling system relies for directing the containers.

The air impellers include pressure relief means for adjusting the air pressure and velocity. Actuator-operated gates in the tubing system respond to control signals from management software to direct each container to its next station. At selected stations, decelerators slow the containers upon arrival to cushion their impact upon arrival and to protect the contents from damage due to jarring.”

Source: www.wipo.int

Similar innovative concepts are being used in various countries such as China and Russia in mines, and the below two examples found in Low Tech Magazine occurring in Belgium and Germany.

“... A New York study has also been done see if the use of “large PCPs to transport 40-ft-length containers to and from seaports has been examined and found both technically and economically feasible.”

UNDERGROUND CONVEYOR BELT

In Belgium, the University of Antwerp designed and proposed an underground logistic system that would transport large 40-ft containers from the newly built container dock in the harbor to an existing marshalling yard and a planned inland navigation hub on the other bank of the river.

The project, called “*Underground Container Mover*” would consist of an electric driven conveyor belt of nearly 21 kilo-meters that would transport 5,500 shipping containers each day (and night).

Source: www.informaworld.com

Depending on the prevailing wind conditions, a ship's average annual fuel costs can be reduced by 10 to 35% by using the SkySails-System

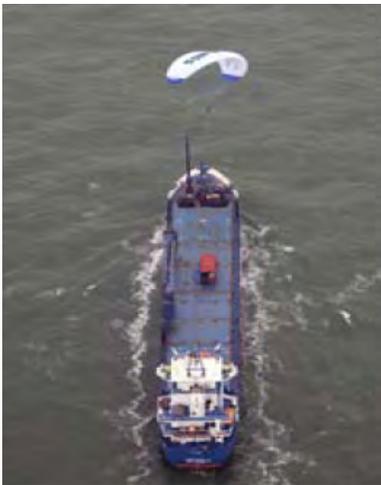
ELECTRIC PIPELINE VEHICLES

In Germany, the Ruhr University of Bochum is working on a rather different concept, called the CargoCap project. The German system is designed for much smaller loads and makes use of unmanned electric vehicles on rails that travel through pipelines with a diameter of only 1.6 metres. Each vehicle, called a ‘Cap’, is designed for the transportation of two European standard pallets.

The German system is designed for use on a regional scale (up to 150 kilometres) in a much more finely woven network. Each vehicle is programmed to follow a certain path to its destination. While the Belgian system is still only on the drawing board, the German engineers are already conducting experiments with a large-scale model.

Source: www.lowtechmagazine.com

SKYSAIL



The SkySail provides an alternate propulsion source for cargo ships. It does not require large scale modification of the ship and it does not occupy large amounts of deck space. It consists of a rather large kite attached to the front of the ship. It can be automatically deployed and retracted.

Depending on the prevailing wind conditions, a ship's average annual fuel costs can be reduced by 10 to 35% by using the SkySails-System. Under optimal wind conditions, fuel consumption can temporarily be cut by up to 50%.

Currently, SkySails is offering towing kite propulsion systems for cargo vessels with an effective load* of between 8 and 32 tons. The planned product program comprises towing kite propulsion systems with an effective load* of up to 130 tons.

An effective active force of 8-tons by a SkySail corresponds to approx. 600 to 1,000 kW installed main engine power - depending on the ship's properties (propeller efficiency degree, resistance, etc.) The SkySails-System is used parallel to and for relief of the main engine, if wind conditions allow. The main engine's propulsion power remains fully available if required.

Source: www.skysails.info

AMERICAN MAGLEV TECHNOLOGY (AMT) – LEVITATING RAIL

High-speed trains and Japanese or German Maglev systems have been reported to cost \$40-80 million/mile.

The AMT technology allows for the construction of transit systems not to exceed \$13-19 million/mile.



American Maglev Technology (AMT) based in Powder Springs Georgia, has designed a zero-emitting, next-generation transportation technology that fulfills the increasing worldwide mega-regional demand for goods movement and passenger service.

AMT develops, manufactures and installs transportation systems that use magnetic forces to lift, guide and propel passenger vehicles on a cushion of magnetic energy or “maglev”. Maglev technology uses no fossil

fuels and leaves a zero carbon footprint. It has numerous advantages over conventional “steel-wheels-on-steel” rail technology because the frictionless suspension system allows for lighter weight vehicles and much higher speeds with lower maintenance and energy costs per transit mile. Not only does AMT technology use clean, renewable energy, but its level of energy usage is significantly less than conventional “steel-wheels-on-steel-rail” and “rubber-wheels-on-concrete” technologies. Opposed to an average conventional transportation energy usage rate of 6 kilowatt hours per kilometer (kwh/km), AMT technology uses approximately 1.8 kwh/km, or 70% net less energy.

Distinct, full-scale operational maglev systems have been built in Germany, China and Japan. These systems employ a high-tech guideway, generating powerful magnetic forces that yield very high speeds and utilizing very sophisticated electronic controls. As such, they are understandably truly technology-focused, but very complex, and extremely expensive (between US \$50 and \$100 million per mile) to build and operate.

AMT has reversed this design concept and, by putting the magnets and controls in a light weight vehicles and developing a much simpler or “dumb” track, has slashed the system cost of construction and operation to levels sharply below even a conventional “steel-wheels-on-steel” light rail alternative — i.e. a “market- focused” approach. AMT considers itself the only market-driven company in the world that is ready to serve the low budgets of the mega-regional transportation sector.

High-speed trains and Japanese or German Maglev systems have been reported to cost \$40-80 million/mile. Public and private studies show that only Maglev technologies costing under \$20 million/mile can be fully self-sufficient. The AMT technology, fundamentally different from its Maglev predecessors, allows for the construction of transit systems not to exceed \$13-19 million/mile.

Source: www.american-maglev.com

ELECTROMAGNETIC CARGO CONVEYOR (ECCO)



A collaborative effort between General Atomics and California State University Long Beach has resulted in the Electromagnetic Cargo Conveyor or (ECCO). This ECCO system proposes to transport containers from the ports to inland distribution centers using electrodynamic levitation which allow the

containers to 'float' above the conveyors by distributing the weight with large area magnets. This new concept would create a zero-emission corridor of container transport drastically reducing the truck traffic on LA/Long Beach's over congested highways and increase throughput.



Texas Transportation Institute's is also researching what they call the "Freight Shuttle" and is a competing technology and to date both continue to receive funding and feasibility studies continue to be conducted.

NANOTUBE WINDSHIELDS OF THE FUTURE



Glass is a very problematic material to use in cars, minivans, SUVs and over the road trucks. Safety glass is a huge improvement from days gone by, but it is time that we make the next leap in glass for trucking to prevent injuries and increase safety. If you have ever been in an accident, ran up to help someone who had or seen a vehicle that had been in an accident afterwards you know the serious nature of glass and

the damage it can cause to flesh and bone mortals.

Glass of course does have many good properties as well; it is transparent, hard and can be easily molded when manufactured. Of course the unfortunate properties include brittleness and jagged edges when it fails. In the future we will not have to worry about injuries caused by glass in traffic accidents, SUV roll overs, falling trees or trucking accidents. Why not you ask?

Because Carbon Nanotube sheets can be made so thin that they will be transparent and you can see through them. They will also be somewhat flexible allowing for impact without major injury. These windshields will be 50 times stronger than steel and harder than glass or iron, but they will not be brittle and will not break.

Additionally carbon nanotube windshields will be light-weight and the average car has up to

Carbon Nanotube sheets can be made so thin that they will be transparent

These windshields will be 50 times stronger than steel and harder than glass or iron, but they will not be brittle and will not break.

400 pounds of glass on it. For all these reasons it will be great to have these windshields and they conduct electricity too, thus frequency de-ice pulse systems can be used to increase visibility and never jeopardize the driver, truck or those around them.

Source: www.worldthinktank.net

By eliminating the diesel engine, the NS 999 emits zero emissions and is also quieter making it a much more worker and environmentally friendly application.

ZERO-EMISSION LOCOMOTIVE

Norfolk Southern recently unveiled the NS 999, a prototype 1,500 horsepower switching locomotive powered with rechargeable lead-acid batteries rather than a diesel engine. The NS 999 locomotive was developed for rail-road switching purposes. Utilizing plug-in technology, regenerative dynamic braking energy, and a battery management system, the NS 999 is capable of operating three shifts off of a full charge before needing to be recharged.

By eliminating the diesel engine, the NS 999 emits zero emissions and is also quieter making it a much more worker and environmentally friendly application. The NS 999 for short haul applications is still currently being tested, but no long-haul considerations have been made.

The NS 999 was developed through collaborative partnerships with Norfolk Southern, the U.S. Department of Energy, the Federal Railroad Administration and Pennsylvania State University with federal funding of approximately 1.3 million dollars.





FACTOR #5: WORKFORCE

WORKFORCE DEFINED

The American Heritage Dictionary of the English Language defines workforce as:

1. ***The workers employed in a specific project or activity.***
2. ***All the people working or available to work, as in a nation, company, industry, or on a project.***

A trained and available workforce is vital for the competitiveness of any industry, and logistics is certainly no exception. The human factor is what brings the tangible assets to life and create intangible value. However, the amount of value created depends greatly on the skill level of the workforce.

INNOVATION AND THE WORKFORCE

“The 21st century economy will be led by those nations with the brainpower and drive to innovate and develop new technologies, new cures and new sources of energy. To continue to lead the world’s innovation economy – and return to economic growth and job creation – the United States must be assured that its workforce has the education and training necessary to compete.” – [Compete America](#)

Highlight from a recent report from The Conference Board entitled “Innovation and U.S. Competitiveness” includes discussion on the relationship between innovation and workforce: *“... innovation is highly dependent on people who have the right framework, environment, and incentives to innovate. By giving people the will, the skill, and the opportunity to think ‘outside the box’ is as important to the U.S. economy’s competitive edge as making sure that the country produces enough graduates with advanced degrees.”*

Strong performing companies rely on a high quality workforce capable of driving productivity. A quality trained or educated workforce is also necessary to spur innovation leading to business and economic growth. As one of the drivers of innovation, The Conference Board stated that *“productivity makes the investments in innovation sustainable and will help free resources to keep the process going.”*

Similarly, the *U.S. News and World Report* recently declared Logistician as one of the 50 best careers of 2010 anticipating a strong growth in this sector over the next decade. Their outlook states that *“Logistics is a relatively narrow field, but with supply and distribution systems growing increasingly complex, job growth is likely to be higher than average. Employment should increase by 20 percent through 2018. As the demands of the industry continue to grow those that work in the logistics industry must also enhance their knowledge base and capabilities. From further reaching*

“The 21st century economy will be led by those nations with the brainpower and drive to innovate and develop new technologies, new cures and new sources of energy.”

“To continue to lead the world’s innovation economy – and return to economic growth and job creation – the United States must be assured that its workforce has the education and training necessary to compete.”

operations and global communications to staying current on evolving technology like RFID tracking systems or new inventory-control software.”

According to the U.S. Bureau of Labor Statistics (BLS), logistics is the second largest employment sector in the United States. BLS also recently reported that the truck transportation and warehousing industry provided 2.1 million wage and salary jobs in 2008.

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Like the majority of industry in the US, most employees in the truck transportation and warehousing industry work in small establishments, more specifically fewer than 5 workers are employed by 62% of trucking and warehousing establishments. Here in Georgia, 81% of the trucking industry has less than 5 employees.



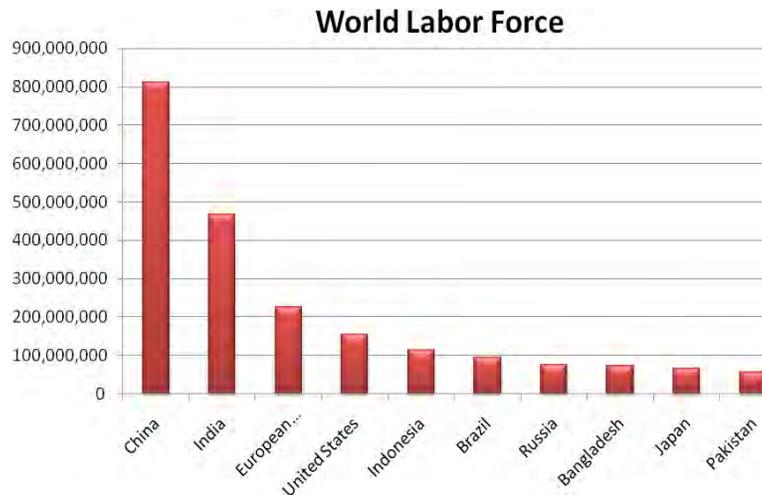
Logistics

ONLINE RESOURCE: www.bls.gov

THE WORLD IS GETTING FLATTER

From the CIA’s World Fact Book, there are an estimated 3.184 billion people making up the world’s labor force. The top ten countries making up approximately 67% of the 3.184 billion world labor force are shown in the chart below. It is the spirit of creativity and innovation that will separate the workforce of tomorrow from the masses.

Logistics is a relatively narrow field, but with supply and distribution systems growing increasingly complex, job growth is likely to be higher than average. Employment should increase by 20 percent through 2018.



Georgia’s Logistics Ecosystem

Equally as complex as the activities in logistics are the businesses that perform them. The Center of Innovation for Logistics has created a set of categories and subcategories by which to classify these businesses.

To begin, the logistics industry has two main categories: logistics providers (companies rendering logistics services) and logistics users (companies consuming logistics services).

LOGISTICS PROVIDER DEFINITIONS

The logistics providers are divided into three sub-categories: core, related and support. These categories are used multiple times throughout this report, so the table below is provided to better illustrate the industries represented in each category.

CORE INDUSTRIES

Organizations involved with the direct movement of cargo and freight and whose primary business creates and/or connects major nodes in the global supply chain. Core industries are broken into two sub-groups:

- Facilities (warehouses, ports...)
- Transportation (truck, rail, air...)

RELATED INDUSTRIES

Consists of two categories: enabling, which helps move goods faster and more efficiently through the supply chain typically through technology improvements or offerings; and traditional, which provides goods and services directly to the infrastructure (core industry) of the supply chain.

- Enabling (logistic software, engineers...)
- Traditional (cargo container manufacturers, third-party providers...)

SUPPORT INDUSTRIES

This group of companies provides services to both the core and related industries but does not physically touch the cargo. Support industries include labor organizations such as associations and unions, as well as professional services such as accounting, legal and consulting.

There are an estimated 3.184 billion people making up the world's labor force

... the top ten countries make up approximately 67%

LOGISTICS USER DEFINITIONS

The logistics users are the customers of the logistics providers. This group is divided into three sub-categories: raw materials production, manufacturing and wholesale distribution.

RAW MATERIALS PRODUCTION

Establishments engaged in producing unprocessed natural products that will be used in manufacturing. These include both

- Durable Materials
- Non-Durable Materials.

MANUFACTURING

Establishments engaged in the mechanical or chemical transformation of materials or substances into new products, which may be finished in the sense that they are ready for utilization or consumption, or may be semi-finished to become a raw material for an establishment engaged in further manufacturing

WHOLESALE/DISTRIBUTION

Establishments engaged in selling merchandise to retailers; to industrial, commercial, institutional, farm, construction contractors; to professional business users or to other wholesalers.

PROVIDER CATEGORIES

 CORE FACILITIES

 CORE TRANSPORTATION

 RELATED TRADITIONAL

 RELATED ENABLING

 SUPPORT

MORE DETAILS ON ECOSYSTEM STRUCTURE

This brief set of definitions is just a partial summary of a larger effort performed in 2009. To learn more detail about the background and rationale of these categories, please look through last year's report: "2009 Georgia Logistics Report - A Focus on Providers". Here, Logistics Users and Providers are defined and explored in greater detail and their impact as a part of Georgia's overall economy are also shown. To read the 2009 report visit:

As the demands of the industry continue to grow those that work in the logistics industry must also enhance their knowledge base and capabilities.



ONLINE RESOURCE: report.georgialogistics.org

From further reaching operations and global communications to staying current on evolving technology like RFID tracking systems or new inventory-control software

The 2010 Numbers

COMPARING THE CATEGORIES

To begin, the chart below demonstrates the estimated totals for 2009-2010 of these logistics provider sub-categories across three "measurement areas": **ESTABLISHMENTS, EMPLOYMENT, AND SALES.**

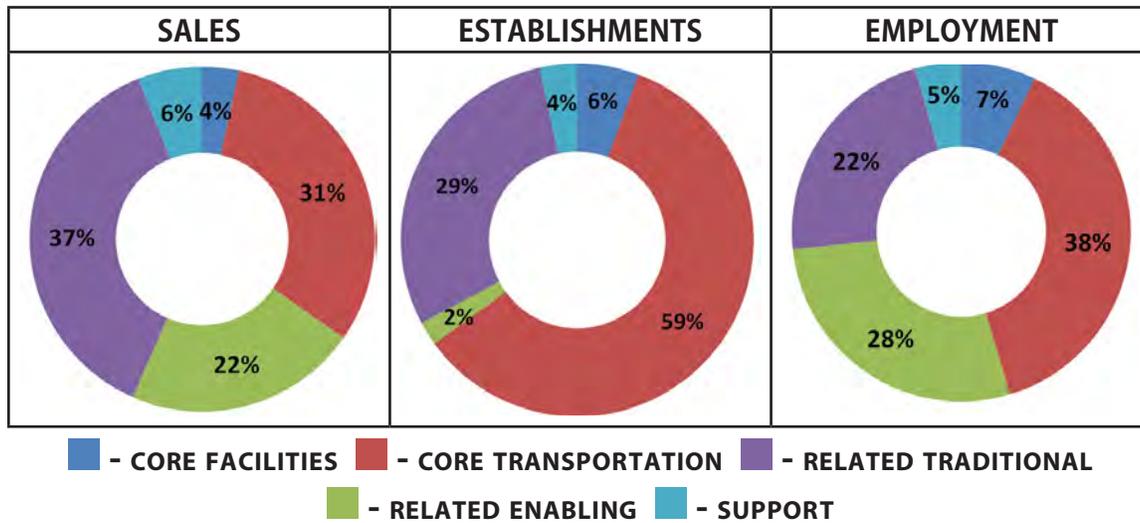
The color of each row heading indicates the reference color used in other graphs throughout this section.

2010 Estimates	Establishments		Employment		Sales	
Core Facilities	573	6%	10,143	7%	\$554,123,431	3%
Core Transportation	6,020	59%	54,425	38%	\$5,024,546,594	31%
Related Enabling	221	2%	39,829	28%	\$3,519,512,000	22%
Related Traditional	2,977	29%	31,720	22%	\$6,008,978,705	37%
Support	349	3%	6,232	4%	\$969,302,433	6%
TOTAL	10,139	-	142,349	-	\$16,076,463,163	-

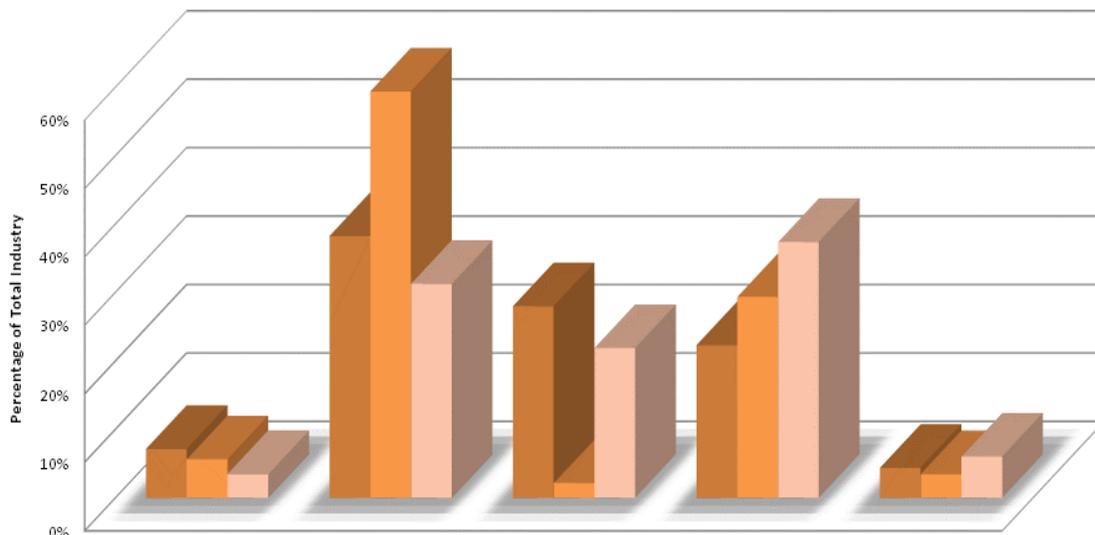
SOURCE: NETS, INFOUSA, CorpTech

When the percentage shares of the three measurements side by side, interesting facts begin to emerge. For example, Core Transportation has the largest portion of establishments, but only half as much of the overall sales share. In contrast, both the Related categories have a greater employment and sales percentage compared to their share of the overall provider industry.

SECTOR CONTRIBUTION TO TOTAL COUNT



The contrast between the size of the sector, its contribution to employment and sales is also clearly seen when each of the three measurements (employment, sales, establishment count) are shown side-by-side for each category of provider.



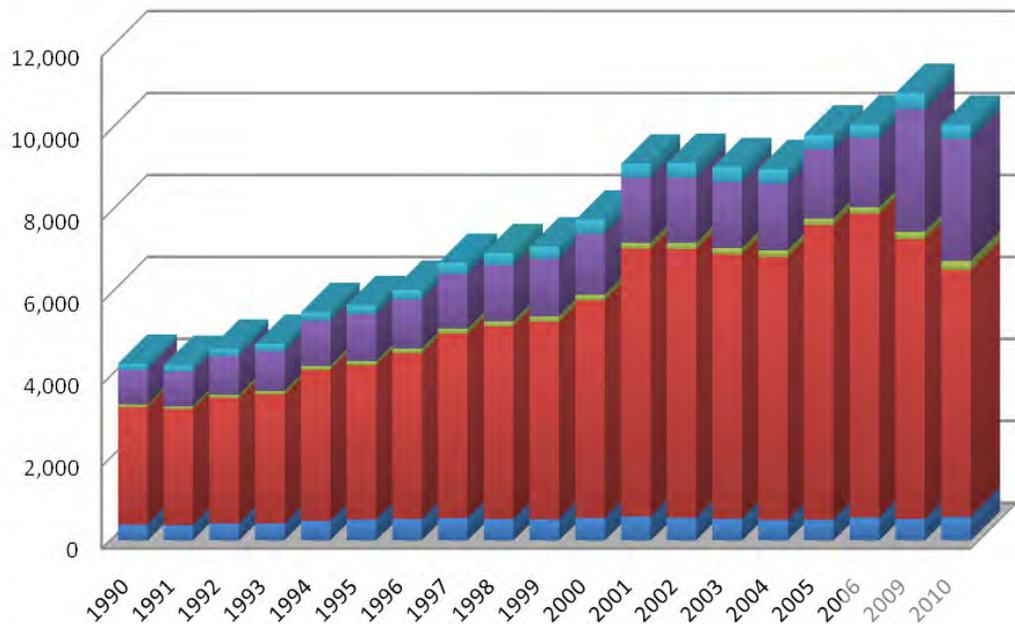
Core Transportation has the largest portion of establishments, but only half as much of the overall sales share.

In contrast, both the Related categories have a greater employment and sales percentage compared to their share of the overall provider industry.

	Core Facilities	Core Transportation	Related Enabling	Related Traditional	Support
Employment	7%	38%	28%	22%	4%
Establishment	6%	59%	2%	29%	3%
Sales	3%	31%	22%	37%	6%

2009-2010 CHANGES - ESTABLISHMENTS

LOGISTICS PROVIDER ESTABLISHMENT TOTALS



Reminder

Data and results for 2010 are carefully calculated projections based on actual company data and the historical trends observed from 1990 through 2009.

Contribution to Total Establishment Count	
Core Facilities	6% 573
Core Transportation	59% 6,020
Related Enabling	2% 221
Related Traditional	29% 2,977
Support	3% 349
Total	10,139

By examining the growth and concentration of establishments over time, it can be seen how the different sectors have weathered the different business cycles. Core Facilities were hardest-hit in the previous recession and have since rebounded; although like almost all sectors have suffered in this most recent downturn. However, the growth in the number of new facilities has not regained the momentum of the previous decade, but shows signs of stabilizing with 10% growth in establishments from 2009-2010. The number of Related Traditional and Support establishments continued to grow throughout the last recession, but that growth rate has since decreased.

2009 - 2010 Changes	Establishments
Core Facilities	10%
Core Transportation	-13%
Related Enabling	19%
Related Traditional	-1%
Support	-13%
TOTAL	-8%

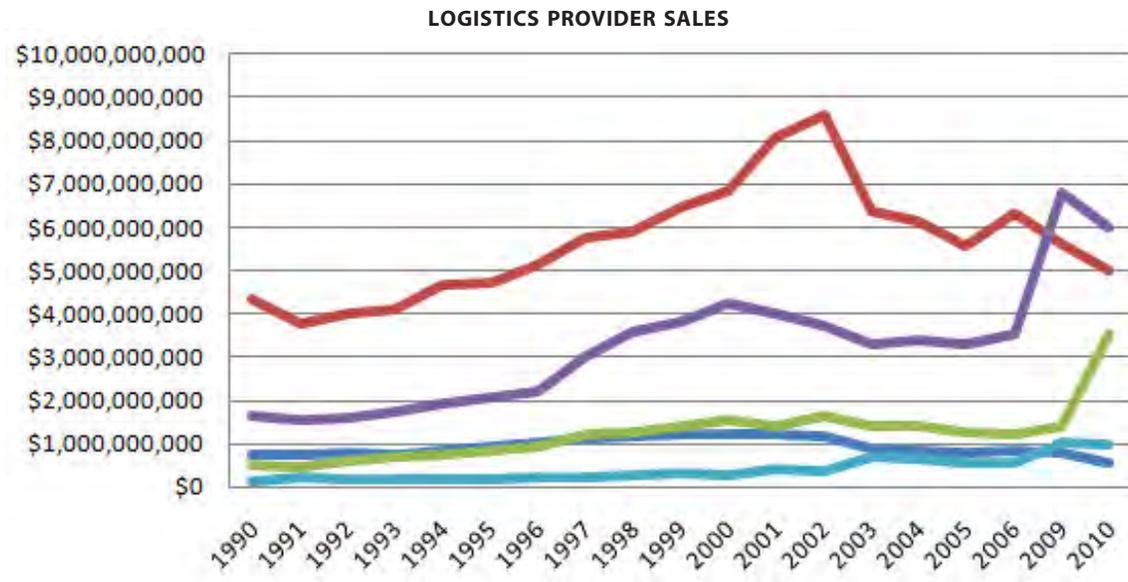
RELATED ENABLING

With regards to the significant changes shown in the Related Enabling category, these numbers seem a bit high especially in the category of employment. It is not surprising that this categories dong better that others, particularly in a recession when companies are looking for every avenue to improve and streamline their operations. The Related Enabling group of providers is who answers this call through a variety of service and technology related offerings. This indicates a potential period of high technology adoption for the logistics industry despite the recession.

However, this emerging category is quite interesting and complicated and will be explored in more fine-tuned detail and the topic of a supplement to this report.

This will soon be found online: report.georgialogistics.org

2009-2010 CHANGES - SALES



Contribution to Total Sales	
Core Facilities	3% \$554,123,431
Core Transportation	31% \$5,024,546,594
Related Enabling	22% \$3,519,512,000
Related Traditional	37% \$6,008,978,705
Support	6% \$969,302,433
Total	\$16,076,463,163

Of the estimated \$16.1 billion in sales, greater than 31% is still attributed to the Core Transportation industries and over 37% is attributed to the Related Traditional industries.

Georgia's logistics providers are expected to generate direct sales of \$16 billion through 2010. It is no surprise that sales were WAY off the mark of years past and more so in the Core industries, where sales were off by as much as 42%. Of this estimated \$16.1 billion in sales, greater than 31% is still attributed to the Core Transportation industries and over 37% to the Related Traditional industries. Since 2004, sales have increased 25 percent, growing at a compound annual rate of almost 5 percent. While Core Facilities and Core Transportation industries decreased in sales between 2004 and 2009 by 7 percent and 9 percent respectively, the decrease remained significantly smaller than the national average.

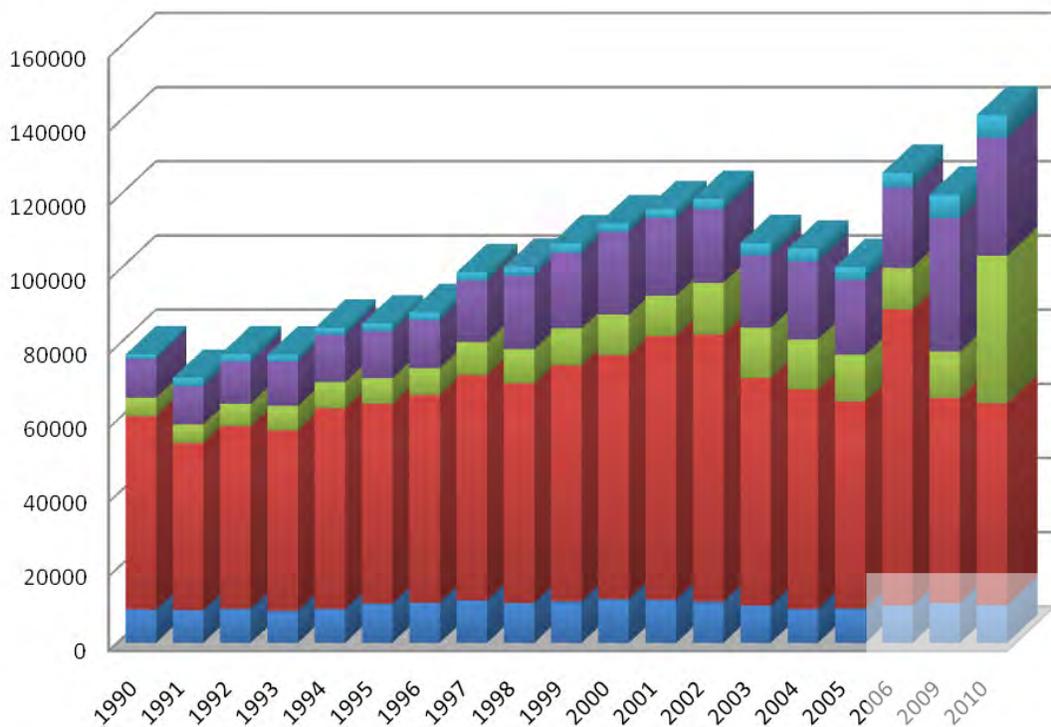
2009 - 2010 Changes		Sales
Core Facilities		-42%
Core Transportation		-12%
Related Enabling		60%
Related Traditional		-13%
Support		-5%
TOTAL		16%

Contribution to Total Employment Count	
Core Facilities	7% 10,143
Core Transportation	38% 54,425
Related Enabling	28% 39,829
Related Traditional	22% 31,720
Support	4% 6,232
Total	142,249

With a greater variable trend line than employment figures, sales data is difficult to forecast. To our knowledge there are no sales forecasts by industry at the state level; however, national projections for 2006–2016 expect inflation-adjusted gdp in the Core and Related Traditional industry categories to grow approximately 3.4 percent annually in the U.S. while overall output is expected to grow only 3 percent.

2009-2010 CHANGES - EMPLOYMENT

PROVIDER EMPLOYMENT



Approximately 81 percent of establishments in the logistics provider sector employ 1–9 workers.

In general, logistics, like nearly all industries, is fueled by small business.

2009 - 2010 Changes	Employment
Core Facilities	-5%
Core Transportation	-2%
Related Enabling	69%
Related Traditional	-13%
Support	-2%
TOTAL	21%

It is likely also not a surprise that across most sectors employment was reduced in 2009-2010 and will only now slowly begin to pick up much of this lost ground as freight begins to move again. Again, some positive growth in the Related Enabling sector was and still is quite expected, however, this will be explored in greater detail in a supplemental “*technology report*” to be released in the coming months.

LOGISTICS ESTABLISHMENTS BY EMPLOYMENT SIZE

GEORGIA ESTIMATES, 2009-2010

Employment Size Range	1-9	10-19	20-99	100-249	250-500	501+	Total
Core Facilities	60%	18%	17%	3%	2%	0%	5%
Core Transportation	86%	7%	6%	1%	<1%	<1%	63%
Related Enabling	34%	20%	24%	15%	4%	3%	2%
Related Traditional	76%	13%	10%	1%	<1%	1%	27%
Support	80%	6%	11%	1%	2%	<1%	4%
TOTAL	81%	9%	8%	1%	0.4%	0.3%	100%

The Transportation and Warehousing Industry in the United States was made up of approximately 256,688 establishments as of 2008, of which Georgia was home to approximately 3% of the industry establishments and 4% of the US workforce.

Source: NETS, InfoUSA, CorpTech

Approximately 81 percent of establishments in the logistics provider sector employ 1–9 workers. This is especially representative of the Core Transportation and Support categories. Related Enabling industries stand out as the most equally distributed between the first three small-to-medium size categories and have almost double the share of large establishments relative to other sectors. In general, logistics, like nearly all industries, is fueled by small business.

National Demand for Logistics Workforce

FEDERAL DEFINITION OF “LOGISTICS”

75% of companies either kept the same or reduced their head count in 2009

The way BLS defines “Transportation & Warehousing” is a point of debate by many, mainly because it include passenger and postal related jobs which are, in many experts opinions, not exactly and solely freight related. The following chart shows the breakdown of their industry definitions as well as the resulting count of establishments and employment over the past few years.

The Transportation and Warehousing Industry in the United States was made up of approximately 256,688 establishments as of 2008, of which Georgia was home to approximately 3% of the industry establishments and 4% of the US workforce. In 2008 as the U.S. labor force saw a reduction of over 26,000 workers or a half a percent decline, Georgia’s labor force actually increased by just over 4% from the year prior.

Transportation and Warehousing Industry Employment Trends				Industries Included in Federal Definition of “Transportation & Warehousing”
Number of Establishments	Year	USA	Georgia	
	2006	241,332	7,157	Air Transportation: NAICS 481
	2007	256,053	7,702	Rail Transportation: NAICS 482
	2008	256,688	7,910	Water Transportation: NAICS 483
Employment	2006	5,303,330	186,206	Truck Transportation: NAICS 484
	2007	5,384,734	190,134	Transit and Ground Passenger Transportation: NAICS 485
	2008	5,357,858	197,898	Pipeline Transportation: NAICS 486
				Scenic and Sightseeing Transportation: NAICS 487
			Support Activities for Transportation: NAICS 488	
			Postal Service: NAICS 491	
			Couriers and Messengers: NAICS 492	
			Warehousing and Storage: NAICS 493	

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages

TRUCKING DEMAND

The economic downturn has obviously caused drastic budget cuts and cost reductions in workforce across the nation. Shown in PayScale.com 2010 Compensation Trends Survey, 75% of companies either kept the same or reduced their head count in 2009. www.bls.gov These reverse actions in workforce due to the economic downturn are made evident in the chart below.



Source: PayScale 2010 Compensation Trends Survey

Some predictions say that the shortage of long-haul truck drivers will increase to 111,000 by 2014 if current demographic trends stay their course and if the overall labor force continues to grow at a slower pace.

Even with the nationwide unemployment rates reaching record highs in some places, the US long-haul trucking transportation industry's labor shortage woes continued. The industry felt some relief as volumes crept to a near standstill across the nation, but as the economy and volumes start to recover the Driver Shortage Report shows the aging labor force combined with the other pre-existing workforce challenges, driver shortages in the heavy-duty trucking industry is going to be a long-term issue.

A recent survey (spanning more than logistics) showed that more than 50% of the companies used on-the-job training for skill development "extensively" and another 25% used it "somewhat."

The US long-haul, heavy-duty truck transportation industry is experiencing a national shortage of 20,000 truck drivers, according to ATA's report, U.S. Truck Driver Shortage Analysis and Forecast. The Forecast, a report on the present and future of the long-haul truck driver pool, predicts the shortage of long-haul truck drivers will increase to 111,000 by 2014 if current demographic trends stay their course and if the overall labor force continues to grow at a slower pace.



ONLINE RESOURCE: U.S. Truck Driver Shortage Analysis and Forecast

Workforce Development

EDUCATION & TRAINING

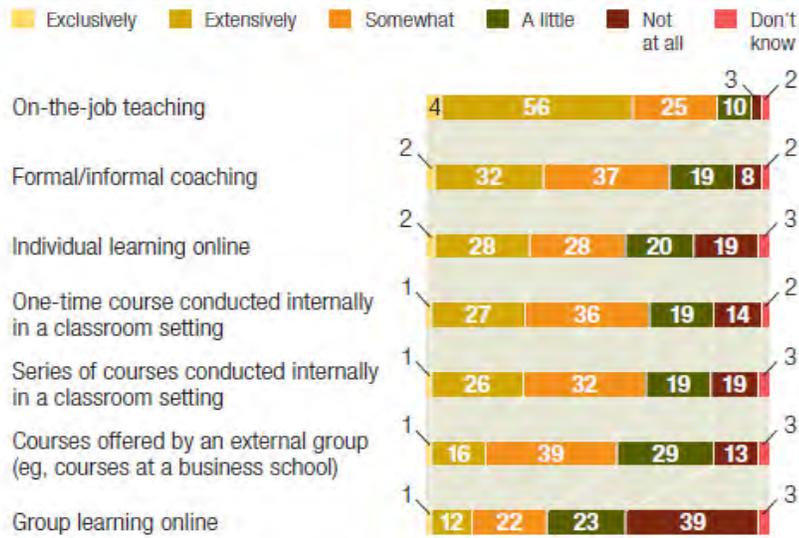
Education and training are important factors in workforce development, and arguably the

foundation of building a competitive workforce. This training and education can be accomplished in a range of ways. A recent survey (spanning more than logistics) conducted by McKinsey & Company with regards to building organizational capabilities showed that more than half used on-the-job training for skill development “extensively” and another 25% used it “somewhat.”

Training methods

% of respondents,¹ n = 1,440

Extent to which company uses given training method for training and skill development



¹Figures may not sum to 100%, because of rounding.

Source: McKinseyQuarterly.com

How skilled and “teachable” a company’s workforce is, can determine how productive and therefore competitive the business will be. Workers with the necessary skills can naturally help lead to increased productivity, flexibility, and innovations.

LOGISTICS EDUCATION RESOURCES - GEORGIA

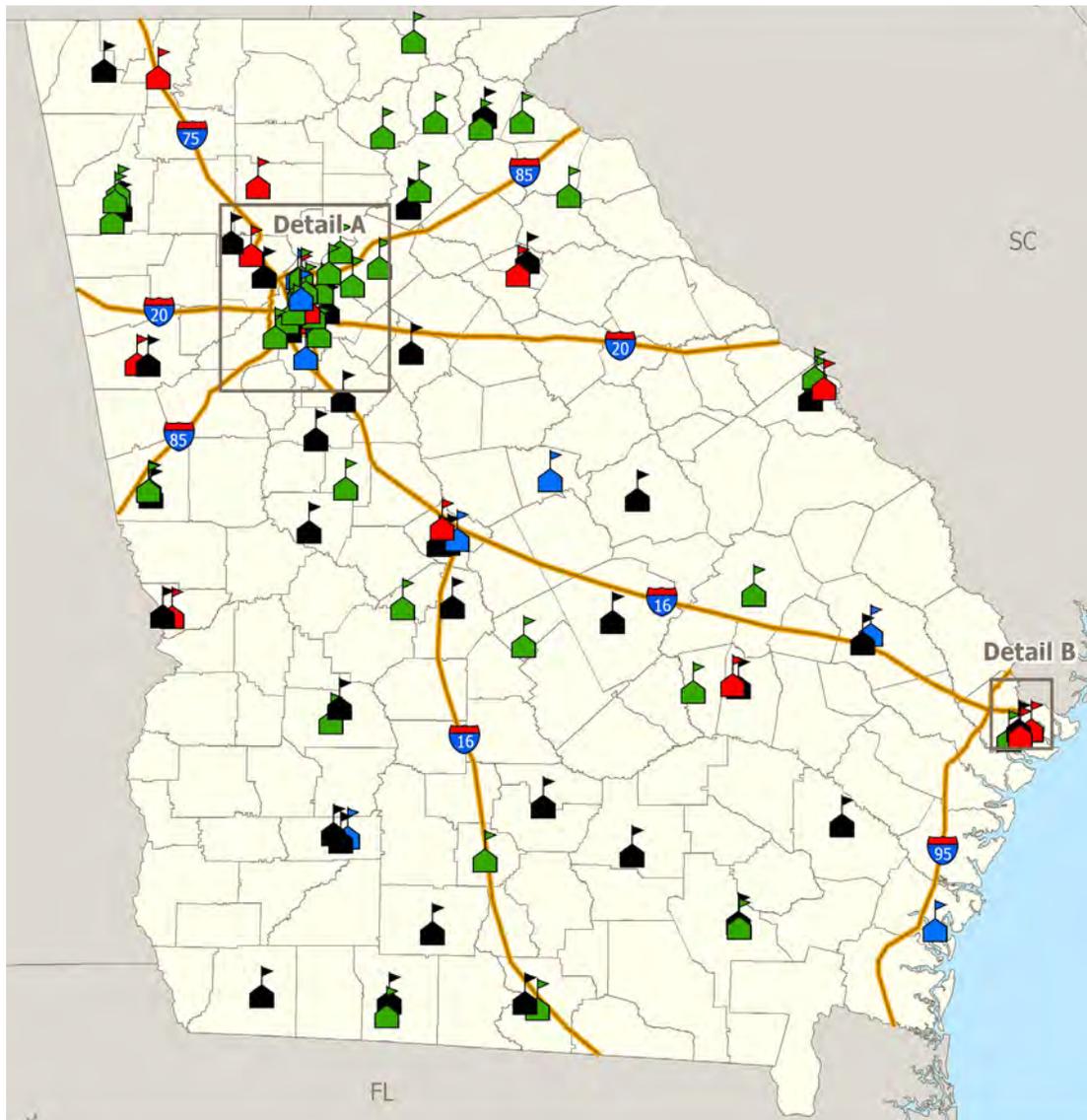
The map and following summary table below show the quantity and location of the many education and training resources available in Georgia. In total Georgia offers more than 100 different “educational offerings” connected to educating our future and existing logistics workforce. These include 39 programs offering a logistics focused certificate; 19 with a stated major or concentration in logistics; 15 programs that offer logistics classes but not a major and 27 offerings of classes with logistics-related topics, but no major. A few of these programs offer both a certificate and a major and three others do not have a physical presence but are offered virtually.

2009 and 2010 have been positive years with regard to new and increased opportunities for logistics education. For example, Georgia Southern University recently received approval to

How skilled and “teachable” a company’s workforce is, can determine how productive and therefore competitive the business will be. Workers with the necessary skills can naturally help lead to increased productivity, flexibility, and innovations.

2009 and 2010 have been positive years with regard to new and increased opportunities for logistics education.

offer a PhD in logistics and both Clayton State and Southern Polytechnic State Universities significantly increased their focus and offerings in logistics.



LEGEND	
	Logistics Certificate
	Logistics Major or Concentration
	Logistics Classes, No Major
	Logistics-Related Classes, No Major

Georgia offers more than 100 different “educational offerings” connected to educating our future and existing logistics workforce.

These include:

39 programs offering a logistics focused certificate;

19 with a stated major or concentration in logistics;

15 programs that offer logistics classes but not a major;

27 offerings of classes with logistics-related topics, but no major.

DETAIL - A DETAIL - B





 LOGISTICS MAJOR OR CONCENTRATION	
Albany State University American InterContinental University - Buckhead American InterContinental University - Dunwoody Clayton State University Coastal Georgia Community College Georgia College & State University Georgia Military College - Robins AFB Georgia Southern University Albany Technical College	Central Georgia Technical College Clark Atlanta University Embry-Riddle Aeronautical Univ Georgia Institute of Technology Georgia Institute of Technology Georgia Virtual Technical College Macon State College Mercer University Southern Polytechnic State University University of Phoenix

 LOGISTICS CERTIFICATE	
Alliance Tractor Trailer Training Center Altamaha Technical College Athens Technical College Atlanta Technical College Augusta Technical College Bainbridge College Columbus Technical College Coosa Valley Technical College Darton College DeKalb Technical College East Central Technical College Flint River Technical College Albany Technical College Central Georgia Technical College Devry University Georgia Embry-Riddle Aeronautical Univ Georgia Virtual Technical College Griffin Technical College Heart of Georgia Technical College Lanier Technical College	Macon State College Middle Georgia Technical College Moultrie Technical College North Georgia Technical College North Metro Technical College Northwestern Technical College Ogeechee Technical College Okefenokee Technical College Sandersville Technical College Savannah Technical College South Georgia College South Georgia Technical College Southeastern Technical College Southern Polytechnic State University Southwest Georgia Technical College University of Phoenix Valdosta Technical College West Central Technical College West Georgia Technical College

 LOGISTICS CLASSES, NO MAJOR	
Argosy University-Atlanta Campus Columbus State University Dalton State College Devry University - Georgia Emory University Georgia State University Kennesaw State University Paine College	Reinhardt College Savannah State University South University Troy University University of Georgia University of West Georgia Wesleyan College



CLASSES WITH LOGISTICS-RELATED TOPICS, NO MAJOR

Abraham Baldwin Agricultural College	Gwinnett College
Agnes Scott College	Herzing College - Atlanta
Armstrong Atlantic State University	ITT Technical Institute
Ashworth University	Lagrange College
Atlanta Christian College	Life University
Atlanta Metropolitan College	Mercer University In Atlanta
Augusta State University	Middle Georgia College
Bauder College	Morehouse College
Berry College	North Georgia College & State University
Brenau University	Oglethorpe University
Brewton-parker College	Piedmont College
Brown Mackie College - Atlanta	Savannah River College
East Georgia College	Shorter College
Emmanuel College	Thomas University
Fort Valley State University	Toccoa Falls College
Gainesville State College	Truett-mcconnell College
Georgia Gwinnett College	Valdosta State University
Georgia Highlands College	Waycross College
Georgia Perimeter College	Westwood College
Georgia Southwestern State University	Young Harris College
Gordon College	

Georgia is active and innovative in how they help bring a competitive advantage through a trained labor pool for companies. To accomplish this, the state supports programs such as Georgia Work Ready, Georgia Works, and the nation's #1 workforce training program in QuickStart, to name a few.

Georgia Workforce Development Programs



Georgia is active and innovative in how they help bring a competitive advantage through a trained labor pool for companies. To accomplish this, the state supports programs such as Georgia Work Ready, Georgia Works, and the nation's #1 workforce training program in QuickStart, to name a few. Other information and resources, and detailed state labor force statistics, trends and data can be found at the GA Department of Labor site:

<http://www.dol.state.ga.us/wp/>.

For more than 40 years, Quick Start has provided customized workforce training free-of-charge to qualified businesses in Georgia.

GEORGIA QUICKSTART



For more than 40 years, Quick Start has provided customized workforce training free-of-charge to qualified businesses in Georgia.

Today, the program is one of the state's key assets for supporting new and expanding industries. Quick Start delivers training in classrooms, mobile labs or directly on the plant floor, wherever it works best for a company. To ensure that all economic development personnel are prepared with the latest skills and strategies for workforce training, Quick Start also administers an ongoing program for professional development, and the Certified Economic Developer Trainer program.

From appliances to lumber to frozen pies, it takes trained warehouse and distribution employees to get products where they're going. Quick Start has completed hundreds of distribution center

projects, and our job-specific training in RF scanner operations, label reading, picking and power equipment like forklifts and turret trucks is customized to your operation.

Quick Start enhances job-specific training with instruction in core skills, collaboration skills, instructor skills and leadership. We deliver a total package to help you shorten the new hire learning curve, increase accuracy and decrease employee turnover.

QuickStart is the Nation's #1 workforce training program

Recognized by such publications as Expansion Management and Fortune, Quick Start has offered services ranging from company orientation to advanced manufacturing technology training to productivity enhancement. From 1967 through 2008, more than 5,600 companies and more than 700,000 Georgia workers have benefited from this no-cost program.



ONLINE RESOURCE: [Georgia Quick Start](#)

GEORGIA WORKS



GeorgiaWorks is a Georgia Department of Labor (GDOL) initiative designed to stimulate job growth in Georgia. Commissioner Thurmond developed this innovative project in response to Georgia's growing job loss. The initiative allows job seekers receiving unemployment insurance benefits to gain workplace training and receive up to \$600 in training stipends (an average of \$100 per week) for expenses such as child care and transportation. Upon successful completion of training, claimants receive certification of job skills acquired and consideration for employment. The opportunity to train through GeorgiaWorks is limited to a maximum of 24 hours per week for up to six weeks.

Through GeorgiaWorks, more than 3,000 participants have been hired upon completion of training and nearly 6,000 different Georgia employers have participated.

BENEFITS TO EMPLOYERS

1. ***Pre-screened qualified individuals***
2. ***Up to six weeks of pre-employment training***
3. ***Trainee stipends covered by GDOL***
4. ***Hiring of trainees at discretion of employers***
5. ***Workers' compensation coverage provided by GDOL***

BENEFITS TO CLAIMANTS

1. ***Job-specific training***
2. ***Opportunity to "get a foot in the door"***
3. ***Demonstration of skills and talents***

GeorgiaWorks allows job seekers receiving unemployment insurance benefits to gain workplace training and receive up to \$600 in training stipends (an average of \$100 per week) for expenses

4. *\$600 maximum training stipend (an average of \$100 per week) in addition to UI benefits*



ONLINE RESOURCE: [Georgia Works](#)

GEORGIA WORK READY



Georgia Work Ready was launched in August 2006 by Governor Sonny Perdue and the Georgia Chamber of Commerce to improve the job training and marketability of Georgia's workforce and drive future economic growth for the state. It is the only initiative of its kind to be conducted through a partnership between state governments and state chamber of commerce, ensuring that companies can more reliably match the right people with the right

By identifying both the needs of business and the available skills of Georgia's workforce, the state can more effectively generate the right talent for the right jobs.

jobs. Work Ready is based on a skills assessment and certification for job seekers and a job profiling system for businesses. By identifying both the needs of business and the available skills of Georgia's workforce, the state can more effectively generate the right talent for the right jobs.

Georgia Work Ready was created to ensure that Georgia's workers have the best skills, easy access to training and world-class job opportunities. The backbone of the initiative is the Work Ready Certificate, which assesses the real world skills of Georgia's workers. Georgians can use their Work Ready Certificate to prove their work readiness to potential employers. Georgia also offers gap training aimed at helping to improve Certificate scores, enabling career growth and continued on-the-job success. This, combined with an innovative job profiling process that accurately identifies the exact skills required for specific jobs is helping create the perfect match between Georgia workers and jobs.

BENEFITS OF WORK READY

Earning a Work Ready Certificate can be your ticket to the job you've always wanted. And it's free and easy to access. The Certificate verifies your work readiness skill level to potential employers and demonstrates your commitment to success. If you want to improve your skills, Georgia also offers free and easy-to-access training programs. All of this adds up to a competitive advantage, better job opportunities and a brighter future.

Georgia Work Ready was created to ensure that Georgia's workers have the best skills, easy access to training and world-class job opportunities.

ADDITIONAL BENEFITS INCLUDE:

- *Confidence that core skills and work habits meet the needs of local employers*
- *Ranking above other job applicants lacking a Work Ready Certificate*
- *Better understanding of employers' requirements for job performance*
- *Determining skill improvements and training opportunities*
- *Realizing opportunities for career advancement and promotions*
- *Demonstrating on your resume an understanding of the skills employers want*

Georgia Work Ready was designed to build the nation's best workforce and ensure Georgia companies have the talent they need to stay ahead of the competition.

Companies implementing Work Ready make an investment of their employees' time to develop strong job profiles. This initial investment can reap great rewards for years to come including:

**Work Ready Region
Focus areas:**

- AEROSPACE**
- ADVANCED COMMUNICATIONS**
- ADVANCED MANUFACTURING**
- BIOSCIENCE**
- ENERGY**
- LOGISTICS**

- Improved hiring procedures
- Reduced turnover
- Reduced training costs
- Increased productivity and profitability
- High employee morale

WORK READY REGIONS



For our fastest-growing industries:

- **AEROSPACE**
- **ADVANCED COMMUNICATIONS**
- **ADVANCED MANUFACTURING**
- **BIOSCIENCE**
- **ENERGY**
- **LOGISTICS**

We have built Georgia's Work Ready Regions, designed to bring together our industry assets with regional leaders to deliver competitive advantages for Georgia companies. Work Ready

Regions are educating the state's emerging workforce - high school students, technical college and college students - for exciting careers in cutting-edge industries.

It is answering the needs of our transitional workforce - those individuals looking for work, looking for a career change and veterans entering the workforce - and helping them leverage the talents they have in preparing for these knowledge-based jobs and career advancement opportunities and for the existing workforce an opportunity to help prepare for advancement and to meet the common training needs across the regional industry.

Current median level salary for the Logistics industry ranges based on position from just at \$40,000 per year to over \$60,000 per year based on the position.



ONLINE RESOURCE: [Georgia Work Ready](#)

Compensation

In January *PayScale* conducted a nation-wide survey of hiring and compensation practices across multiple industries and found that: "Companies do intend to increase hiring; Regardless of company size, companies intend to hire more workers in 2010 rather than have a workforce reduction." The survey had some interesting findings and thoughts/predictions going into 2010:

“Employers are generally optimistic about business in 2010, with over 50% of respondents expecting that the economy will improve next year. Large companies are the most optimistic; 60% believe that the economy will improve.

Despite this reported optimism, most companies plan to keep their salaries flat next year. Few employers expect to spend more on talent. This is a major shift from previous years. Nearly 50% of respondents expected their compensation budget to increase in 2009, but only 17% of respondents in 2009 expect a budget increase in 2010.

Across all industries, companies intend to hire more workers in 2010, rather than have a workforce reduction. Large companies are most likely to hire in response to the improving economy. Smaller companies are the least concerned about employee retention in 2010, with 60% reporting little concern, while only 45% of large companies are not concerned.”

Source: Outlook for Employers In 2010: PayScale Compensation Trends & Best Practices Survey

Across all industries, companies intend to hire more workers in 2010, rather than have a workforce reduction

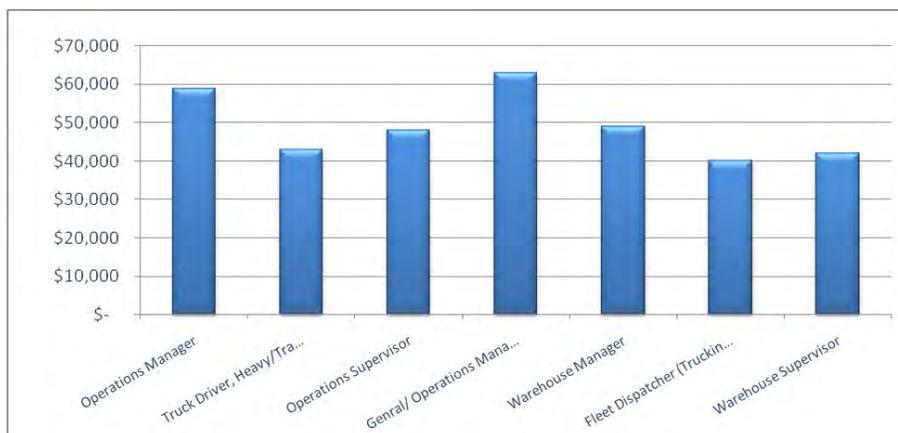
Smaller companies are the least concerned about employee retention in 2010, with 60% reporting little concern, while only 45% of large companies are not concerned.”

Transportation and Warehousing Industry Employment Wages			
	Year	United States	Georgia
Total Payroll Wages	2006	\$228,268,833,061	\$7,949,575,569
	2007	\$240,258,565,790	\$9,737,711,885
	2008	\$240,976,062,115	\$9,163,814,669
Average Annual Wage	2006	\$47,778	\$42,547
	2007	\$49,326	\$46,621
	2008	\$50,176	\$42,403
Average Weekly Wage	2006	\$919	\$818
	2007	\$949	\$897
	2008	\$965	\$815

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages

MEDIAN SALARY BY JOB INDUSTRY

According to an industry salary survey conducted by PayScale, Inc. the current median level salary for the Logistics industry ranges based on position from just at \$40,000 per year to over \$60,000 per year based on the position.



Source: Outlook for Employers In 2010: PayScale Compensation Trends Survey

CSCMP conducted a larger scale snapshot of industry salaries and show a wider range of potential salaries within the logistics industry from entry level to executive levels. CSCMP’s data comes with a caveat that *“exceptional people may earn significantly more money than their peers.”* As the mid-level and executive level compensation data suggests, the SCM profession offers excellent upside salary potential. As you gain experience and show what you can accomplish, your pay will grow.

According to the [Logistics Management Magazine 23rd Annual Salary Survey](#) results, the typical respondent (44 year old, college educated manager with 15.7 years of experience) earns \$80,000 per year. The study concludes: *“As companies continue to outsource and seek productivity and cost improvements, the demand for quality people-and subsequently for solid salaries-is likely to increase in the coming years.”*



ONLINE RESOURCE: [Supply Chain Salary data](#)

Position Type / Title	10 th Percentile	Average	90 th Percentile
Freight Rate Specialist	\$38,600	\$50,000	\$67,600
Warehouse Manager	\$36,200	\$59,900	\$83,200
Customer Order Manager	\$47,300	\$65,400	\$98,800
Outbound Operations Manager	\$49,500	\$72,500	\$93,100
Transportation Manager	\$59,200	\$74,400	\$108,300
Inventory Planning and Control Manager	\$48,600	\$81,100	\$114,700
Supply Chain Manager	\$54,300	\$89,300	\$132,300
Top Logistics Management Executive	\$120,000	\$198,000	\$420,500
*Median total cash compensation includes base salary and annual incentive. Also, note that the data goes to the 90 th percentile. Exceptional people may earn significantly more money than their peers. Top SCM executives command compensation packages exceeding \$500,000.			

“As companies continue to outsource and seek productivity and cost improvements, the demand for quality people-and subsequently for solid salaries-is likely to increase in the coming years.”

Source: *The CSCMP Salary Outlook*



ONLINE RESOURCE: [CSCMP Salary Outlook](#)



INDUSTRY COLLABORATION

GEORGIA CENTER OF INNOVATION FOR LOGISTICS

GEORGIALOGISTICS.ORG

The Center of Innovation for Logistics is fueling Georgia's logistics competitiveness by connecting with all logistics sectors to provide a unique combination of access to technology leaders and University R&D, expert analysis of data and trends, cross-sector collaboration, and a collective industry voice. The result is increased opportunities for industry growth and success.

GEORGIA ALLIES

GEORGIAFACTS.NET

As Atlanta's 1996 Olympic success helped carry the Georgia brand around the world, a true public-private legacy was also born. Created in 1997 to further capitalize on the momentum of the games, Georgia Allies was formed as a partnership between state government and private corporations designed to lead economic development marketing efforts. A collaborative endeavor, Allies leverages the individual initiatives of its members into a larger, targeted program that aggressively promotes the state's business development. This organization serves as a benchmark creating innovative and cutting-edge activities to enhance Georgia's business climate.

Georgia Allies places great priority on growing Georgia based companies and each year hosts a variety of programs targeted at these existing industries. The group also plays a major role in expanding Georgia's brand in global markets by leading trade missions and marketing outreach efforts.

Over 450 qualified leads have been generated by Allies events to date with 43 of those being assigned as projects. On average, an event such as Red Carpet Tour will produce about 1600 jobs each cycle. Last year's Allies event geared towards existing industries in Georgia created 23 expansion projects alone producing 1695 potential jobs and \$196 million investment.

ATLANTA AIR CARGO ASSOCIATION (AACA)

atlantaaircargo.com

The Air Cargo Association is a forum comprised of representatives of several of Atlanta's air cargo firms including Certified Air Carriers, Air Freight Forwarders, iata Agents, Air/Truck Motor Carriers, aci Pickup & Delivery Contractors, Customs Brokers, Warehouse Operators, and Allied Services.





ATLANTA MARITIME ASSOCIATION (AMA)

ATLMARITIME.ORG

The mission of the Atlanta Maritime Association is to serve Atlanta's regional international ocean cargo community by offering industry-specific educational events, networking opportunities, and discussion forums which foster growth and excellence. The ama is a non-profit organization with volunteer leadership. ama members consist of more than 100 firms and organizations - containerized, bulk, and break-bulk ocean cargo carriers, customs house brokers, freight forwarders, motor carriers, nvoccs, port authorities, warehousing operations, consultants, and other allied services.



ASSOCIATION OF OPERATIONS MANAGEMENT (APICS)

APICSATLANTA.ORG

Atlanta APICS has been serving the Atlanta area since 1964 and is one of the largest chapters within APICS. Our chapter serves over 800 members in the Greater Atlanta and North Georgia area. We are a non-profit educational organization addressing operations management and supply chain management issues, and providing professional development opportunities to our members.



ATLANTA & SAVANNAH ROUNDTABLES:

COUNCIL OF SUPPLY CHAIN MANAGEMENT PROFESSIONALS (CSCMP)

ATLANTACSCMP.ORG

The Council of Supply Chain Management Professionals is the preeminent worldwide professional association of supply chain management professionals. The mission of both the Atlanta and Savannah Chapters of cscmp is to provide educational, career development, and networking opportunities to individuals involved in supply chain management.



GEORGIA ECONOMIC DEVELOPER ASSOCIATION (GEDA)

GEDA.ORG

The Georgia Economic Developers Association is a non-profit association of professionals and volunteers who are involved with the economic development of the cities and counties of Georgia. geda was organized to increase the effectiveness of individuals involved in the practice of economic development in Georgia by encouraging cooperation, exchange of information, and upgrading of professional skills.



GEORGIA MOTOR TRUCKING ASSOCIATION (GMTA)

GMTA.ORG

The Georgia Motor Trucking Association is the only organization in the state that provides full-time service and representation for the trucking industry. The Association serves as the "voice" of the trucking industry in Georgia. The mission of the Georgia Motor Trucking Association is to work to make Georgia the best state in the nation in which to base and operate a trucking company.

GEORGIA RAILROAD ASSOCIATION (GRA)

GEORGIA RAILROAD.ORG

The Georgia Railroad Association is a voluntary organization dedicated to delivering the railroad industry message to public officials, to participating in public debate of public policy issues affecting the industry and to providing information to state and public officials. gra supports safe transportation, economic development and private enterprises. gra provides a forum for Georgia railroads to share information and to promote knowledge and understanding of the role of railroads in the safe, efficient and economic freight transportation of goods.



INTERNATIONAL FREIGHT FORWARDERS AND CUSTOMS HOUSE BROKERS ASSOCIATION OF ATLANTA (IFFCHBA)

IFFCHBA.NET

Independent Freight Forwarders and Customs House Brokers Association of Atlanta. The IFFCHBA is an affiliate member of the NCBFAA. The IFFCHBA meets monthly to address the current issues faced by the international transportation industry.



INTERNATIONAL WAREHOUSE AND LOGISTICS ASSOCIATION (IWLA)

IWLA.COM

iwla is a trade association of warehouse logistics providers that helps members run high-quality, profitable businesses. iwla focuses on the warehouse logistics business, providing ideas and information that make it easier for member companies to succeed.



METRO ATLANTA CHAMBER SUPPLY-CHAIN LEADERSHIP COUNCIL

SUPPLYCHAIN.METROATLANTACHAMBER.COM

The Metro Atlanta Chamber's Supply Chain Leadership Council works to position Atlanta as the world's premiere center for supply chain management, operations, talent and innovation; and further establish the region as the global gateway of choice. We mobilize and connect the business community to maximize the region's competitive supply chain advantages to create jobs. In 2009, as part of our continued evolution, we adopted the new vision and mission above and the council's new name - The Supply Chain Leadership Council. For more information or help with site selection please visit our website.



NATIONAL DEFENSE TRANSPORTATION ASSOCIATION (NDTA)

NDTAATLANTA.ORG

The National Defense Transportation Association is an educational, non-profit, global organization providing a common forum to discuss and endorse programs that promote transportation preparedness for economic and security needs. The organization serves as a link between government and industry to obtain the needed cooperation and support necessary for strong, efficient, and effective transportation systems supporting our military. NDTA Chapters around the world are involved in Emergency Planning that assists local, state, and federal governments in planning transportation support for domestic emergencies.





SAVANNAH TRAFFIC CLUB

SAVANNAHTRAFFICCLUB.ORG

The Savannah Traffic Club, a non-profit organization formed in March 1995 is open to all involved with transportation, logistics and associated industries, with current membership representing over 50 companies. STC promotes education in partnership with Georgia Southern University, awarding \$10,000 in scholarships to students seeking a degree in transportation or logistics. The club hosts a quarterly “Lunch and Learn” series with topics that interest our membership and the community as a whole. STC holds various social functions to generate fellowship and networking among its members. STC is a member of Transportation Clubs International, which is a non-profit educational association throughout the United States, Canada and Mexico.



SAVANNAH MARITIME ASSOCIATION (SMA)

SAVANNAHMARITIME.COM

The Savannah Maritime Association is a partnership of maritime-related companies dedicated to the development and safety of our port. The sma strives to foster cooperation and the exchange of information in order to achieve common goals. The sma works for the common benefit of all participants in Georgia’s Ports, Federal, State, City, Commercial and Community organizations. sma identifies and achieves common goals and objectives for the Maritime Community.



SMC³

SMC3.COM

SMC³ is the foremost provider of data, technology and education as an integrated solution to the freight transportation community. SMC³’s core competency is its pricing expertise, which it delivers through data services and technology tools that simplify processes and promote collaboration between buyers and sellers of transportation services. Throughout the year, SMC³ also offers educational programs that focus on key industry issues and advanced learning.



SOUTHEAST WAREHOUSE ASSOCIATION (SWA)

SWAONLINE.ORG

The SWA is an organization of professional logistics warehouse companies and the associate members who provide them with products and services! Established in 1919, the SWA’s primary purpose is to promote the integrity of the warehousing industry as an integral part of our nations global supply chain by providing superior performance and exceptional value! The SWA also believes that it is important to improve the competitive position of our members through professional development by providing forums that enable them to improve their business management skills.

TECHNOLOGY ASSOCIATION OF GEORGIA (TAG)

TAGONLINE.ORG

TAG is an unmatched way to network with peers...to grow professionally, to find a job or hire an employee...and to grow your skills. With 8,900 members, representing 1,600 tech and tech-enabled companies, TAG is a leader in the technology industry. TAG serves as an advocate for positive public policy change that will transform the technology community and will enhance the economic climate of Georgia. Our membership includes thought leaders from technology companies – small and large, executives of FORTUNE 500 companies, investors, service providers, government and civic leaders and entrepreneurs.



TRANSPORTATION CLUB OF ATLANTA

TRANSPORTATIONCLUBOFATLANTA.COM

The Transportation Club of Atlanta has been the leading logistics forum in Atlanta for over 100 years. During this time, the organization has weathered economic depressions, world wars, regulatory reform, and continued to operate while sponsoring quality programs and contributing hundreds of thousands of dollars for college scholarships. The club is comprised primarily of the leading shippers and carriers in Atlanta. Our purpose is to bring together traffic, transportation, and logistics professionals in an ever-increasing dialogue to promote the relationships in today's changing business environment. The Transportation Club of Atlanta is a member of Transportation Clubs International (TCI). TCI is a professional association consisting of transportation clubs, companies and individuals in the United States, Canada and Mexico. TCI member clubs are populated by recognized experts in transportation, logistics and supply chain management involving freight and people.



TRANSPORTATION EDUCATION FOUNDATION OF GEORGIA (TEFGA)

TEFGA.ORG

TEFGA is a statewide nonprofit organization dedicated to promoting careers in transportation with a focus on addressing current and future industry labor requirements. TEFGA's approach consists of integrating industry, educators, and technology through the application of innovative programs delivered through Georgia's public educational institutions. In addition to traditional educational offerings, TEFGA promotes student skill integration through various skills-based competitions, work and informal education programs, and special events.



WAREHOUSING EDUCATION RESEARCH COUNCIL (WERC)

WERC.ORG

Through membership in WERC, seasoned practitioners and those new to the industry stay at the forefront of innovation, master best practices and establish valuable professional relationships. WERC offers resources that help distribution professionals stay at the leading edge including educational events, performance metrics for benchmarking, practical research, expert insights and peer-to-peer knowledge exchange.

