Capstone Project Assignment – Freight Bottlenecks

Scenario:

You are the freight unit of your state’s department of transportation. Your duties include capital investments in public infrastructure, regulation and enforcement, operation of some facilities, working with the economic development agency to retain and attract businesses, and interfacing with several independent transportation agencies that are specifically tasked with running the port, airport and the one of the major highways.

Your state is home to a large international port, an airport with domestic and international service, several major distribution center clusters, and a number of key manufacturing plants (including an auto production facility). Agricultural production continues, though farm land is under increasing pressure to be developed for other purposes. There are three major urban areas (one of which also contains the port and airport), along with a mix of suburban and rural areas. The population is growing, and new suburban residential, retail, and office developments continue to spring up further and further from the core cities, along major highways and arterials. Communities of newly migrated and underemployed individuals exist, primarily in the urban areas.

Your state has two national Class I railroads and several short line railroads, along with unused but available rail rights of way. New passenger rail service is under consideration for some of the existing rail freight lines, along with at least one of the available rail rights of way. Some coastal sites are in use or available for barge and other maritime movements. Transit service exists throughout most of the urban areas, with rail and bus service to some of the suburban communities.

Highway congestion is growing at an unprecedented rate, causing serious concern for residents and shippers alike. There are two major highways where the problem is particularly difficult, with traffic backed up for a total of 8 hours per day. Both highways are critical transportation spines in your State. Congestion is affecting the competitiveness of the port, as well as increasing the amount of time necessary to move goods between the port and major distribution centers and manufacturing clusters. The highway congestion, along with older bridges and tunnels in the more urbanized areas, has also affected the movement of goods to these areas.

Rail freight service also faces hurdles – one major route is already over capacity and other routes have multiple at grade rail crossings, some in residential communities.

Recently a group of residents has become increasingly vocal about the increase of truck traffic coming through their neighborhoods, as the trucks try to avoid the highway congestion. The residents cite noise, air quality, and safety for their children as their main concerns. They are well organized, and have found some friends in the state legislature willing to champion their cause.

Another group has formed to voice concern about increasing rail traffic. Their concerns include the at grade rail crossings, noise, and the movement of solid waste and hazardous materials. They do not want to see rail freight traffic increased in their residential areas.

The owners of the two largest distribution centers in your state and the auto production facility have also started to complain to your team. They have told you that the highway congestion is severely comprising their business, and making it nearly impossible to meet their delivery time...
and goals. The owners have implied that they are looking for opportunities in nearby states for relocation opportunities. They have informed the Governor’s office of their intent and the negative implications of losing these major tax and employment bases has become a priority concern.

Fiscal conditions are tight. The state has a deficit, traditional funding mechanisms are stretched, and the amount of federal funding anticipated in the near term is unknown.

Your Assignment:

The DOT commissioner has turned to your team to develop a plan for resolving these issues, with both short- and long-term actions. She has asked that you create a plan that details the actions, and is looking for a longer term policy that, if adopted, could reduce the opportunities for this type of situation to occur again. You must involve the other transportation agencies in your plan. Your proposal needs to answer the following questions:

• How will you reach out to and engage the private sector and the public? Who will you include in this conversation and how?

• How will you work with other public agencies?

• What background information will you collect to paint the picture of the current situation? Where will you get this data? How will you present it?

• What will you propose to the commissioner and other decision makers as a solution that will solve the immediate problem for all parties involved?

• What actions could be proposed and how will you arrive at them?

• How will you address the funding needed for the recommended actions?

• What policy recommendations will you make that could alleviate similar situations in the long-term?

Product:

Be prepared to present your recommendations and answer questions on it at the Annual Meeting of the I-95 Corridor Coalition. Each capstone group will give a 30 minute PowerPoint presentation. The group of presentations will be followed by 90 minutes of group Q&A and discussion with an outside panel of public and private sector representatives. You are also required to compile your findings and recommendations into a final report (about 10 pages in length), due at the time of presentation. The report should be prepared as an executive briefing document that would be given to the DOT Commissioner and Governor’s Office.

This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.
Analysis of Freight Bottlenecks (#2)
Multimodal Freight Strategy

Freight Division Analysis Team:
Russ Bond
Brenda Cruz
Jeannie Fazio
Caryn Gunter
Thomas McQueen
Jakub Rowinski

Submitted: April 29, 2009

This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.
Table of Contents

Table of Contents .................................................................................................. ii
Executive Summary ............................................................................................. iii
1.0 Scope of Project ........................................................................................... 1
2.0 Description of System ................................................................................... 1
   2.1 Freight Railroads Serving the Area .................................................... 1
   2.2 Major Interstates and State Highways .............................................. 1
   2.3 Port and Maritime Terminals ............................................................. 2
   2.4 Air Cargo Services .......................................................................... 2
   2.5 Warehouse and Distribution Centers .............................................. 2
   2.6 Transit ............................................................................................... 3
3.0 Problem Identification ................................................................................... 3
4.0 Workshops with Sector Stakeholders ........................................................... 4
5.0 Government Action Plan ............................................................................... 6
   5.1 Short-Term Action Plan ................................................................. 7
   5.2 Long-Term / On Going Action Plan ................................................. 7
6.0 Funding Initiatives ......................................................................................... 8
   6.1 Federal Funding ............................................................................... 8
   6.2 State Funding ................................................................................. 9
   6.3 Local Funding ............................................................................... 9
   6.4 Private Funding ............................................................................. 10
   6.5 Future Funding .......................................................................... 10
Appendix: Data Sources for Further Analysis ..................................................... 12
   Freight Railroads ................................................................................ 12
   Major Interstates and State Highways .............................................. 13
   Port and Maritime Terminals ............................................................. 14
   Air Cargo Services .......................................................................... 14
   Warehouse and Distribution Centers .............................................. 15
   Transit ............................................................................................... 16
   Funding Initiatives ........................................................................... 16

This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.
Executive Summary

The freight sector is a very significant economic engine with great potential for continued growth but it depends greatly on the quality of the transportation system. The residents’ quality of life is also a critical issue that has been raised recently with respect to the increases in the movement of goods on the State’s roadways and rail lines. As such, the Freight Division has been tasked by the Commissioner with the critical task of developing a statewide freight strategy, both short and long-term, to address the concerns from the State, private sector, as well as the general public. The following document presents a vision for a multimodal transportation system that will meet the future needs of all users.

The State is made up of a dynamic multimodal transportation system that moves freight and passengers in and through the region. Within the State there are two Class 1 railroads and several short line railroads, two major highways, a large international port, a major airport, numerous distribution and manufacturing centers, and transit service established in most of the urban areas as well as to/from some of the suburban communities.

The State is in a relatively good position when it comes to the freight industry and the transportation system that supports it. However, highway congestion is growing at an unprecedented rate and now affecting operations at distribution centers as well as quality of life for residents; rail freight service is over capacity and limited by height and weight restrictions; residents are also concerned by at grade rail crossings; transit service exists but has the potential to expand; and fiscal considerations are tight.

The Freight Division developed a comprehensive transportation Government Action Plan that addresses concerns from the State, private sector, as well as the general public. The Action Plan recognizes the need for all levels of government and the private sector to develop funding, policy, regulatory, and service initiatives to meet the transportation needs of individuals and industry in both the short and long-term.

- The Short-Term Action Plan developed by the Freight Division includes: working with the port community to start a pilot program of after hours gates; developing separate truck routes; evaluating truck exclusions, off hour incentives and noise abatement opportunities in affected neighborhoods; partnering with the railroad to work on non-peak delivery and evaluating grade crossings that might be able to be closed; utilizing decision-making tools designed to maximize investments in the State’s transportation infrastructure; applying Intelligent Transportation Systems (ITS) technology to improve traffic flow and safety; establishing designated truck routes that can be targeted for long range infrastructure improvements; working with all modes to incorporate and enhance 511 traveler information services.
The Long-Term and On Going Action Plan developed by the Freight Division includes: embracing Intelligent Transportation Systems (ITS) technology; piloting new technology where benefits exist for the State and/or industry; reviewing truck weight/length on designated truck routes; increasing rail weight; developing and liberalizing short sea shipping; identifying strategic railroad and highway corridors; participating in various programs to optimize freight movement using 511; expanding mass transit (by train or bus); eliminating bridge height and weight restrictions on all designated railroads and strategic highway corridors; designating rest areas for truckers that provide real time travel time and congestion information; and establishing a better working relationship with county and State economic development agencies to attract and keep businesses.

In addition to policy/regulatory and service challenges, there are significant funding challenges that affect all modes of transportation. The status and health of the freight transportation network is of critical interest for all levels of government and the private sector. The Freight Division outlined current funding programs available at the Federal, State, Local, and Private level as well as identified potential future funding sources.
1.0 Scope of Project
The freight sector is a very significant economic engine with great potential for continued growth but it depends greatly on the quality of the transportation system. The residents’ quality of life is also a critical issue that has been raised recently with respect to the increases in the movement of goods on our State’s roadways and rail lines. As such, the Freight Division has been tasked by the Commissioner with the critical task of developing a statewide freight strategy, both short and long-term, to address the concerns from the State, private sector, as well as the general public.

2.0 Description of System
The State is made up of a dynamic multimodal transportation system that moves freight and passengers in and through the region. The following section outlines several challenges currently being faced by industry and individuals.

2.1 Freight Railroads Serving the Area
Freight and passenger railroads are an important component of a multimodal system. Within the State there are two Class 1 railroads and several short line railroads. New passenger rail service is under consideration for some of the existing rail freight lines, along with at least one of the available rail rights of way.

Two Class 1 Railroads
- One of the Class 1 routes is over capacity.
- The second route has height & weight issues that do not enable it to handle “doublestack” containerized rail movements or industry-standard weight rail cars.
- Both of the routes have multiple at-grade crossings; residents have clearly voiced concerns regarding delays at at-grade crossings, railroad noise, and safety concerns regarding use of rail to move solid waste and hazardous materials.

Short Line Railroads
- State has several short line railroads, along with unused--but available--rights of way.

2.2 Major Interstates and State Highways
In the State, there are two major highways that are critical spines. Highway congestion is growing at an unprecedented rate, causing serious concern for residents and shipper alike.
• Traffic backed up a total of 8 hours/day and is adversely impacting the business community.
• Congestion is affecting the competitiveness of the Port; and is increasing the amount of time necessary to move goods between the Port & major distribution centers & manufacturing clusters.
• There are numerous old bridges and tunnels in the more urbanized areas which constrains the movement of goods to these areas.
• Truck traffic is increasing though neighborhoods, as trucks take ‘short cuts’ to avoid the highway congestion. These roads are deteriorating quickly, because they were not designed for heavy truck traffic. Citizen complaints are on the rise from concerns of noise and safety from trucks using residential streets.

2.3 Port and Maritime Terminals
The State is the home to a large international port.
• Congestion is affecting the competitiveness of the Port
• Amount of time is increasing to move goods between the Port and major distribution centers and manufacturing cluster
• An opportunity may exist: some coastal sites are in use or available for barge and other maritime movements, which could relieve pressure on the port.

2.4 Air Cargo Services
The State is home to a major airport that has domestic and international service for air cargo movement. This cargo enters the supply chain on trucks coming in and out of the terminal, which accesses the already-congested highway system.

2.5 Warehouse and Distribution Centers
The State is the home to many distribution and manufacturing centers.
• The owners of the two largest distribution centers in the State and an auto production facility have complained about congestion. They are not able to reliably send and receive goods and parts that are part of their ‘just in time’ business model.
• Businesses cannot meet their delivery time goals due to congestion. There is much concern that congestion levels in the State are eroding the business attraction and retention rates, which could mean loss of crucial jobs and tax base.
2.6 Transit
Transit service exists throughout most of the urban areas of the State. This includes rail and bus service to some of the suburban communities.

An opportunity for new passenger rail service is under consideration for some of the existing rail freight lines, along with at least one of the available rail rights of way. Providing additional choices for commuters could ‘free up’ capacity on highways and improve congestion levels.

3.0 Problem Identification
The State functions as a “bridge” for travelers and freight because it has:

- an airport with domestic and international service,
- a large international port,
- two national Class I railroads and several short line railroads, along with unused rail rights of way, and
- major highways.

Some of the other attributes that make the State attractive for travelers, businesses, residents, and freight are:

- Several distribution center clusters,
- a number of key manufacturing plants (including an auto production facility),
- three major urban areas along with a mix of suburban and rural areas,
- agricultural production,
- coastal sites in use and some available,
- transit service throughout most urban areas, with rail and bus service to some suburban communities, and
- consideration of a new passenger rail service.

However, several problems have been identified within the transportation system. Some of them are listed below:

(a) Rail freight service faces difficulties due to overcapacity on a major route.
(b) Another rail route has weight and height issues that do not enable it to “double stack” containerized rail movements or standard weight rail cars.
(c) A group of residents are voicing concern about the increasing rail traffic in their residential areas. Their concerns include: the at-grade rail crossing, noise, and the movement of solid waste and hazardous material.
(d) Highway congestion is increasing rapidly, causing residents and shippers many serious concerns. The problem is particularly
difficult in two major highways that are critical transportation spines, with traffic backed up for 8 hours/day.

(e) Congestion is affecting the competitiveness of the Port as well as increasing the amount of time to move goods between the Port and major distribution centers and manufacturing clusters.

(f) Highway congestion, along with older bridges and tunnels, has also affected good movements to the more urbanized areas.

(g) Another group of residents complain about the increase of truck traffic coming from their neighborhoods, as these try to avoid highway congestion. This group cites noise, air quality, and safety of their children as main concerns.

(h) Owners of the two largest distribution centers and the auto production facility are complaining about highway congestion and how this problem is severely comprising their business, making it nearly impossible to meet their delivery times and goals.

(i) Farm land is under increasing pressure to be developed for other purposes.

(j) The State Department of Transportation fiscal conditions are tight (i.e. the State is in a deficit position), traditional funding mechanisms are stretched, and the Federal funding anticipated in the near term is unknown.

4.0 Workshops with Sector Stakeholders

The State is in a relatively good position when it comes to the freight industry and the transportation system that supports it. The freight sector is a very significant economic engine with great potential for continued growth but it depends greatly on the quality of the transportation system while also factoring in the residents’ quality of life. As such, the Freight Division must address the concerns from the State, private sector, as well as the general public. While preliminary analysis work was done internally to identify some of the more critical issues, the analysis team’s effort has relied very heavily on input from private and public stakeholders.

A very large public kick-off meeting was held to unveil our initiative and gather initial feedback. In organizing the kick-off meeting, the Freight Division built on ongoing efforts by very active public-private freight stakeholder groups at the State’s Metropolitan Planning Organizations. The input gathered included identifying the appropriate participants / stakeholders for this undertaking as well as assembling the meeting agenda and materials to be presented. Planning for the kick-off meeting involved strong collaboration among the State’s public agencies, including several meetings and conference calls, in an effort to have as complete a list as possible of stakeholders and issues that needed to be raised.
The kick-off meeting was attended by:

- General public representatives from communities that are most affected by the freight industry and the movement of goods throughout our State. This is a group of individuals that have been very actively raising their issues with the Department as well as some of the other regional transportation agencies and the offices of their elected officials.
- Private sector representatives from each of the critical subsets of the freight industry in the State including:
  - warehousing and industrial development,
  - trucking (port drayage and long haul),
  - rail (both Class I and short lines),
  - marine operators (steamship lines that call on our port and regional barge operators),
  - air cargo movers (FedEx, UPS, and major international carriers that call on our airport),
  - port terminal operators, and
  - advocacy groups that represent the various freight industry subsets.
- State and Regional agency representatives including: Port Authority, Economic Development Authority and the State’s Metropolitan Planning Organizations.
- Local, State, and Federal elected officials’ representatives.
- Representatives of other divisions within the Department including: Engineering, Public Relations, and Commissioner’s Office.

The purpose of the kick-off meeting was to raise awareness of the State’s effort, raise some of the larger issues and most importantly build support for the work associated with developing short and long-term action plans. Intentions to keep the entire process public and transparent, outline of the plan schedule, and goals were made clear. Finally, stakeholders were asked to be active participants in the process through joining our working groups on the following issues:

- Industry – with the objective to raise and address issues impacting the industry such as the quality of the transportation system, economic development, and regulations;
- Public – with the objective to raise and address the quality of life issues that result from the freight industry and the movement of goods; and
- Government – to raise and address issues of interagency cooperation with respect to strategy development and funding.

The level of interest was higher than anticipated. As a result, the industry working group was divided into several subgroups dealing with very specific issues for: rail, trucking, warehousing, airport and port. Again, the entire process was very open and interactive including ongoing assessments of the ideas raised in the subgroup meetings. The outcomes of these assessments, done by the Freight Bottlenecks (###)
Division staff with particular focus on feasibility, cost and funding considerations, were reported back to the individual groups.

The feedback on specific issues gathered through the first phase of the working group meetings was the key input into our strategy development phase. The input Action Plan initiatives were assessed by the Freight Division staff in terms of feasibility, cost and funding. Based on the assessment and internal technical work, the Freight Division prepared a Draft Freight Strategy document. The draft Action Plan outlined in the strategy document was presented to all of the working groups for comments and finalized by the Freight Division. The final report (incorporating working group comments) was recently presented at a meeting attended by the same group as our kick-off meeting. The Freight Division is very confident in the Action Plan initiatives developed and encouraged by the strong outreach effort. The Commissioner’s office has been very involved in the entire process. The Freight Division is currently awaiting the opportunity to implement all or some of the Action Plan initiatives for improving the State’s freight transportation system, addressing the public’s concerns, and implementing initiatives that will support, grow, and develop the economy.

5.0 Government Action Plan

The freight issues that the State is facing did not just happen overnight and are not just affecting a small portion of the community. They have been building over a long period of time. The Freight Division asked all the stakeholders to come together to discuss their concerns and have tried to incorporate their concerns to come to a consensus about how to address these issues. The Action Plan initiatives listed below have tried to take into consideration the voices of the various stakeholders involved in the freight industry and the transportation systems that support it. These Action Plan initiatives are meant to be transparent and inclusive of all and stakeholders will feel they have been part of a win-win situation in the end.

The Freight Division believes a good working relationship has been established between the stakeholders during the workshop process used to develop these Action Plan initiatives. The intention is to build on this relationship and develop a working partnership that will grow in the future. In today’s global economy, this is most beneficial for all parties concerned. There is a need to work with our communities and partners not against them.

Communication is the key to any successful endeavor. As can be seen from the Action Plan initiatives listed below, this is a vital component of the Action Plan. Including the stakeholders in the discussions and decisions will only foster good will and allows them to take ownership in the solution. The Freight Division feels the Short and Long-Term Action Plans listed below will accomplish our goals of economic development and community quality of life.
5.1 Short-Term Action Plan

- Work with the port community to start a pilot program of after hours gates. This must involve all parties; labor, motor carriers, railroad, stevedores, public and private partners to be a success. This can become a long term commitment if everyone agrees that it’s a win/win program.
- Develop separate truck routes. This would probably involve legislation and would take some time to enact.
- Evaluate truck exclusions, off hour incentives and noise abatement opportunities in affected neighborhoods.
- Partner with the railroad to work on non-peak delivery hours where possible.
- Look at any grade crossings that might be able to be closed. Work with the community to show good will.
- Utilize Asset Management Systems (AMS), state-of-the-art decision-making tool designed to maximize investments in the State’s transportation infrastructure.
- Apply Intelligent Transportation Systems (ITS) technology to highway bottlenecks, work zones, and railroad grade crossings to improve traffic flow and safety.
- Establish designated truck routes that can be targeted for long range infrastructure improvements.
- Work with the trucking industry, Port, Airport, and Distribution Centers to incorporate and enhance 511 traveler information services for coordinated commercial vehicle operation (CVO) and traffic management purposes.

5.2 Long-Term / On Going Action Plan

- Embrace Intelligent Transportation Systems (ITS) Technology whenever possible. Consider piloting new technology where benefits exist for the State and/or industry.
- Review increasing truck weight/length on designated truck routes.
- Review increasing rail weight where appropriate.
- Establish a better working relationship with county and State economic development agencies to attract and keep businesses.
- Develop short sea shipping opportunities as well as eliminate the requirement for short sea shippers to be American owned companies.
- Identify strategic railroad corridors consistent with the American Association of State Highway and Transportation Officials (AASHTO) Freight Authorization Policy.
- Identify Strategic Highway Corridors that incorporate Freight Movement as part of the effort by Congress to establish a National Highway Safety Plan and Corridors of National Significance.
Participate in the Federal Highway Administration (FHWA) Electronic Freight Management (EFM) Program in order to optimize freight movement along the supply chain and avoid congested routes, modes or times using 511.

Evaluate the expansion of mass transit (train or bus) on underused segments of the short line railroad corridors.

Eliminate bridge height and weight restrictions on all designated railroads and strategic highway corridors within the next five to seven years.

Establish designated rest areas for truckers that provide real time travel time and congestion information.

### 6.0 Funding Initiatives

In addition to policy/regulatory and service challenges, there are significant funding challenges that affect all modes of transportation. Many of these challenges are similar to those identified at the national and regional levels. Solutions to these challenges are the responsibilities of all levels of government and the private sector.

The challenges facing transportation are not unique to the State. It is the responsibility of the State and Local governments to identify bottlenecks, future demands, as well as determine needs through capital, operational, and Intelligent Transportation Systems (ITS). It is just as important to define cost and benefits associated with improvements. For instance, who pays and who benefits from the improvements?

#### 6.1 Federal Funding

Federal funding initiatives can be described as either funding programs or financing tools. Funding programs are typically targeted for specific projects to address freight transportation needs. Financing tools include loans, credit enhancement, and tax-exempt financing programs.

In February 2009, in an effort to address the current economic condition, the Federal Government developed a $787-billion stimulus package. Within the stimulus package, $111-billion has been earmarked for infrastructure and science. Allocation of funds by the Federal Agency is jet to be defined. However, the State will actively seek funding and partnerships where possible.

Several Federally funded infrastructure programs currently exist and including the following:

- Federal funding for highways include: Highway Trust Fund (HTF), truck sales tax, and Heavy Vehicle Use tax, and SAFETEA-LU funding,
Freight rail infrastructure is almost financed entirely by the private sector. However, the Federal government has implemented loan programs to assist with rehabilitation and development of significant transportation infrastructure. Such initiatives include: the FRA’s Railroad Rehabilitation and Improvement Financing (RRIF) program and the Transportation Infrastructure Finance Innovation Act (TIFIA) loan program.

- Passenger rail (operated by Amtrak) is financed through annual Federal grants for both operations and general capital.
- With respect to ports and waterways, the Federal Government provides assistance with the cost of feasibility studies, construction, operation and maintenance expenses. Harbor navigation projects are eligible for financing from Federal general revenue. Whereas, inland waterway navigation improvements are funded solely by the Army Corps of Engineers. Operation and Maintenance expenses are financed through the Harbor Maintenance Trust Fund.

State and Local Governments welcome new Federal infrastructure funding and are pleased with the commitment of all levels of government to invest in infrastructure. However, significantly more Federal funding needs to be identified to assist the State in meeting its strategic transportation requirements over both the short and long term. State and Local Governments must continue to lobby for enhanced maintenance and rehabilitation programs.

6.2 State Funding
As noted earlier, it is important to define cost and benefits associated with improvements. The State supports initiatives that foster economic and social benefits and result in an improved level of service to the State’s residents and businesses. Several State funded infrastructure programs currently exist and including the following:

- State funding for highway projects largely come from fuel taxes. However other highway funding sources include: vehicle registration fees, motor carrier, tolls, the sale of bonds, and general fund appropriations.
- Short line and regional railroads are often funded by the State and Local Governments. State funding primarily comes in the form of general funds, or loans/grants.

6.3 Local Funding
Many nationally and regionally significant intermodal terminals connect to other national roadway networks (like the Interstate System) by local streets and roads. Several Local funded infrastructure programs currently exist and including the following:
• Local funding for highway projects come from a variety of sources including: motor fuel, motor vehicle taxes, property taxes, bonds, and general fund appropriations.
• The majority of transit funding is available from the Local government. (A small portion of total funds is available from the Transit Account of the HTF and State funds.)

6.4 Private Funding
Ports, railroads, warehouses, and intermodal terminals are primarily owned and operated by the private sector.
• Freight rail infrastructure is almost financed entirely by the private sector. This is especially true for Class 1 railroads.
• Port berth and pier dredging is the responsibility of the port and terminal operators.

6.5 Future Funding
The status and health of the freight transportation network is of critical interest for all levels of government. In recent years, there has been increasing discussion regarding government’s role in financing freight-oriented improvements, including investments in private infrastructure where a public benefit is identified. The converse holds true as well for investments private sector investments in public infrastructure where there is a public benefit.

The country’s aging infrastructure continues to deteriorate and is in need rehabilitation. Furthermore, existing infrastructure is at or reaching capacity resulting in an increasing demand for new development. Revenues from existing resources are insufficient to keep pace with the nation’s current status and future demand. Short and long-term funding initiatives will be required to ensure sustainable growth and development. The following outlines additional initiatives to seek funding from all levels of government.

Additional initiatives to seek Federal infrastructure funding include (but are not limited to):
• working in partnership with other states to identify key freight corridors region wide and seek dedicated funds from the Federal Government,
• acquiring investment tax credits by transportation facility owners for capital improvements,
• participating in Public-Private Partnership (PPPs) projects,
• dedicating a portion of customs duties for freight-related improvements,
• increasing fuel tax and existing truck/vehicle registration fees to proportionally maintain or potentially increase current allocation of funding,
• imposing a transit user fee in the form of a Federal ticket tax (similar to that charged on airline fares),
• charging a freight fee on all containers being transported through ports and other international crossings for freight-related improvements,
• increasing financial assistance to railroads to enhance capacity (such as upgrading to double stack availability), and
• implementing a carbon tax or “cap and trade” system.

Other options available for State and Local Governments to fund infrastructure projects include (but are not limited to):
• working with other departments to acquire funding on infrastructure that exists for the movement of both freight and passengers (such as seeking tourism funding to improve airport infrastructure),
• increasing fuel taxes and other highway user fees,
• providing flexibility to toll and/or implement congesting pricing,
• participating in Public-Private Partnership (PPPs) projects,
• implementing tax increment financing for transit improvements as an incentive to increase ridership and reduce highway congestion, and
• replacing fuel taxes with vehicle-miles traveled (VMT) fees.
Appendix: Data Sources for Further Analysis

The following section outlines data sources available for further analysis.

**Freight Railroads**

Association of American Railroads  
http://www.aar.org/Safety/Safety.aspx
- Profiles of U.S. Railroads (Annual survey of freight railroads-name, owner, operator, location geographic boundaries, number of employees, wages and revenue)
- Railroads 10-Year Trends (US freight industry performance, traffic, revenue, financial statistics, employment)
- Railroads & States (Amtrak and freight railroad statistics by state)
- Railroad Facts (Summary of historic data on Class I railroads)
- Analysis of Class I Railroad (Financial and operating statistics for each Class I railroad)
- Weekly Railroad Traffic (Carloads by commodity and railroad plus intermodal traffic by railroad)

Surface Transportation Board  
http://www.stb.dot.gov
- Transportation (TRANS) Files (Railroad annual report)
- Uniform Railroad Cost System (Rail movement cost estimates)
- Carload Waybill Sample (Rail shipment data such as O/D points, type of commodity, number of cars, revenue and interchange locations)

U.S. Department of Transportation, Bureau of Transportation Statistics  
http://www.bts.gov
- North American Transportation Atlas (Geospatial information for transportation modal networks, intermodal terminals, and related attribute information)
- National Transportation Atlas Databases-NTAD (Most complete database source for highway network information for rail, water, and air networks)
- Transportation Statistics Annual Report (Summary of state transportation statistics with focus on economic, safety, and environmental consequences of systems)
- National Transportation Statistics –NTS (National transportation data and transportation-related energy statistics for major transportation modes)
- The State Freight Transportation Profiles (summaries of national Transportation Atlas database, CFS, US Waterway Data, and railroad Accident/Incident Reporting System (RAIRS)

U.S. Department of Transportation, Federal Highway Administration  
http://ops.fhwa.dot.gov/freight
- Freight Analysis Framework (The Freight Analysis Framework integrates data from a variety of sources to estimate commodity flows and related freight transportation activity among states, regions, and major international gateways)
- TRANSEARCH (Comprehensive market research data service for intercity traffic flows)
- U.S. Census Bureau www.census.gov
- Commodity Flow Survey (Origin/Destination of commodities shipped in U.S. by mode, value, and weight.)

This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.
Major Interstates and State Highways

Federal Highway Administration
http://www.fhwa.dot.gov

- National Highway Planning Network (Highway link information for transportation modal networks)
- Highway Performance Monitoring System (National public road mileage on both a statewide and national basis)
- Truck Weight Study data (Database contains information on weight-in-motion and vehicle classification information collected at truck weight sites)
- Status of the Nation’s Surface Transportation System: Condition and Performance (Highway, bridge, and transit operation and financial performance measures)
- Freight Analysis Framework (The Freight Analysis Framework integrates data from a variety of sources to estimate commodity flows and related freight transportation activity among states, regions, and major international gateways)
- Standard Trucking and Transportation Statistics (Comprehensive overview of trucking industry)
- Trucking Activity Report (Benchmarking statistics for both truckload and less-than-truckload carriers)
- Monthly Truck Tonnage Report (Information on tonnage moved by for-hire motor carriers)

American Transportation Research Institute
http://www.atri-online.org

- A well-known leader in transportation-related research. An organization whose hallmark is innovative thinking, critical analysis and uncompromised excellence.
- U.S. Department of Transportation, Bureau of Transportation Statistics http://www.bts.gov
- North American Transportation Atlas (Geospatial information for transportation modal networks, intermodal terminals, and related attribute information)
- National Transportation Atlas Databases-NTAD (Most complete database source for highway network information for rail, water, and air networks)
- Transportation Statistics Annual Report (Summary of state transportation statistics with focus on economic, safety, and environmental consequences of systems)
- National Transportation Statistics –NTS (National transportation data and transportation-related energy statistics for major transportation modes)
- The State Freight Transportation Profiles (Summaries of National Transportation Atlas database, CFS, US Waterway Data, and railroad Accident/Incident Reporting System (RAIRS)

U.S. Census Bureau
www.census.gov

- Commodity Flow Survey (Origin/Destination of commodities shipped in U.S. by mode, value, and weight.

State Department of Transportation

- Traffic Count
- Accident Data
- Bridge Inventory

Global Insights, Inc.
http://www.ihsglobalinsight.com

- TRANSEARCH (Comprehensive market research data service for intercity traffic flows)
Port and Maritime Terminals
U.S. Department of Transportation, Maritime Administration
http://www.marad.dot.gov
- Port Facilities Inventory (Detailed information on more than 4,000 major ocean and river port facilities)
- Domestic Waterborne Commerce of the US (Domestic waterborne commerce in short tons by commodity, vessel, operator, shipping/receiving dock, type of service, and trade segment)
- Green Marine Highway Shipping

U.S. Department of Transportation, Bureau of Transportation Statistics
http://www.bts.gov
- North American Transportation Atlas (Geospatial information for transportation modal networks, intermodal terminals, and related attribute information)
- National Transportation Atlas Databases-NTAD (Most complete database source for highway network information for rail, water, and air networks)
- Transportation Statistics Annual Report (Summary of state transportation statistics with focus on economic, safety, and environmental consequences of systems)
- National Transportation Statistics –NTS (National transportation data and transportation-related energy statistics for major transportation modes)
- The State Freight Transportation Profiles (summaries of national Transportation Atlas database, CFS, US Waterway Data, and railroad Accident/Incident Reporting System (RAIRS)

U.S. Department of Transportation, Federal Highway Administration
http://ops.fhwa.dot.gov/freight
- Freight Analysis Framework (The Freight Analysis Framework integrates data from a variety of sources to estimate commodity flows and related freight transportation activity among states, regions, and major international gateways)

U.S. Dept. of Defense, US Army Corps of Engineers
http://www.usace.army.mil
- Port Series (Information on US port facilities)
- Waterborne Transportation Lines of the US (Information on all domestic vessel operations)

U.S. Census Bureau
www.census.gov
- Commodity Flow Survey (Origin/Destination of commodities shipped in U.S. by mode, value, and weight)

Global Insights, Inc.
http://www.ihsglobalinsight.com
- TRANSEARCH (Comprehensive market research data service for intercity traffic flows)

Air Cargo Services
U.S. Department of Transportation, Federal Aviation Administration
http://www.faa.gov
- Terminal Area Forecast (Air cargo volumes by commodity type)
- Federal Aviation Administration Aviation Forecasts Fiscal years 2000-2011 (Air cargo historical and forecast volumes by commodity type)
Airports Council International North America
http://www.aci-na.org
- Airport Activity statistics in terms of passenger and cargo operations
- Air Transport Association http://www.iata.org/index.htm
- Air Transport (Passenger and freight airline statistics)

U.S. Department of Transportation, Bureau of Transportation Statistics
http://www.bts.gov
- North American Transportation Atlas (Geospatial information for transportation modal networks, intermodal terminals, and related attribute information)
- National Transportation Atlas Databases-NTAD (Most complete database source for highway network information for rail, water, and air networks)
- Transportation Statistics Annual Report (Summary of state transportation statistics with focus on economic, safety, and environmental consequences of systems)
- National Transportation Statistics –NTS (National transportation data and transportation-related energy statistics for major transportation modes)
- The State Freight Transportation Profiles (summaries of national Transportation Atlas database, CFS, US Waterway Data, and railroad Accident/Incident Reporting System (RAIRS)

U.S. Department of Transportation, Federal Highway Administration
http://ops.fhwa.dot.gov/freight
- Freight Analysis Framework (The Freight Analysis Framework integrates data from a variety of sources to estimate commodity flows and related freight transportation activity among states, regions, and major international gateways)

U.S. Census Bureau
www.census.gov
- Commodity Flow Survey (Origin/Destination of commodities shipped in U.S. by mode, value, and weight.

Global Insights, Inc.
http://www.ihsglobalinsight.com
- TRANSEARCH (Comprehensive market research data service for intercity traffic flows)

**Warehouse and Distribution Centers**

U.S. Department of Commerce
http://www.commerce.gov
- Statistical Abstract of the U.S. (National-level overviews of Freight Statistics, including operations costs, fuel consumption, employment, and revenue)
- Census of Manufacturers (Employment and manufacturing industries statistics as well as quantity and value of material consumed and products shipped)
- Annual Survey of Manufacturers (additional employment data and value of goods shipped by type or goods)

International Chamber of Commerce
http://www.iccwbo.org

International Warehouse Logistics Association
http://www.iwla.com

This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.
Transit
U.S. Department of Transportation, Federal Transit Association
http://www.fta.dot.gov

U.S. Department of Transportation, Federal Highway Administration
- Status of the Nation’s Surface Transportation System: Condition and Performance (Highway, bridge, and transit operation and financial performance measures)

American Public Transportation Association
http://www.apta.com

Funding Initiatives
U.S. Department of Transportation Federal Highway Administration
- Review of existing Federal funding programs and financing tools for funding freight improvements.
- Case Studies of Freight Financing for 57 projects involving various modes of transportation in 28 states.

American Recovery and Reinvestment Act
- The Federal Government developed the American Recovery and Reinvestment Act
- $787-billion US stimulus package, $111B of which has been earmarked for infrastructure and science.
- The Recovery Act specifies appropriations for a wide range of Federal programs and will increase or extend certain benefits payable under
- Eligible projects for infrastructure funding include: Highway Infrastructure, Transit, Amtrak, High Speed Rail and Intercity Passenger Rail, Airport Improvement, Transportation Security Administration Explosive Detection Systems, Border and Ports of Entry, and Coast Guard.

U.S. Department of Transportation Fiscal Year 2009 Budget In Brief
- Summary of Department of Transportation Fiscal Year 2009 Budget
- Under the FY 2009 budget, the Federal Highway Administration will continue to support several programs including: the Surface Transportation Program, the National Highway System, Interstate Maintenance, Highway Bridge Replacement and Rehabilitation Program, Congestion Mitigation, Air Quality Improvement Program, and Transportation Infrastructure Finance and Innovation programs.
- $40.1 billion has been earmarked for the 2009 budget

Report of the National Surface Transportation Policy and Revenue Study Commission, Transportation for Tomorrow
http://transportationfortomorrow.org/final_report/
- Commissioner recommendations for creating and sustaining a pre-eminent surface transportation system in the United States.
- Recommendations for surface transportation financing are outlined for all modes and levels of Governments.

Freight Bottlenecks (No. 2)
Capstone Group Project Presentation - Bottlenecks #2

November 18, 2009
2:30 PM to 3:30 PM

Some reminders to make sure the web cast runs smoothly…

• Please do not put your telephone on hold at any point during the call
• Please mute your telephone line unless participating in discussion
  – *6 to mute, *7 to return to talk mode
• Feel free to utilize the chat function for questions, or to indicate that
  you would like to speak
Agenda

• Welcome
• Introductions
• Meeting Objectives
• Capstone Presentation
• Questions and Answers, and Feedback
Analysis of Freight Bottlenecks (#2)

Freight Division Analysis Team:
Russ Bond, Massachusetts Department of Transportation
Brenda Cruz, New York State DOT
Jeannie Fazio, Maryland DOT
Caryn Gunter, New Brunswick DOT
Thomas McQueen, Georgia DOT
Jakub Rowinski, North Jersey Transportation Planning Authority
Presentation Overview

1.0 Scope of Project
2.0 Existing System
3.0 Action Plan Development
4.0 Government Action Plan
   • Short-term
   • Long-term
5.0 Funding Initiatives
   • Current programs & tools
   • Future sources
6.0 Summary
1.0 Scope of Project

- Freight Division was tasked by the Commissioner with developing a statewide freight strategy
  - for the short and long-term
  - to address the concerns from the State, private sector, as well as the general public.
2.0 Existing System

• The State is made up of a dynamitic multimodal transportation system that moves freight and passengers in and through the region
• The State functions as a “bridge” for travelers and freight
• Other attributes make the State attractive for travelers, businesses, residents, and freight
This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.

## 2.1 Freight Railroads

- **Two Class 1 Railroads**
  - Over capacity
  - Height & weight issues
  - Multiple at-grade crossings
  - Increasing rail traffic through residential areas; noise; and movement of solid waste / hazardous material

- **Short Line Railroads**
  - with unused (but available) rights of way
2.2 Major Interstates and State Highways

• Two major highways
  – Traffic backed up total of 8 hrs/day and impacting businesses
  – Congestion affecting the competitiveness of the Port
  – Congestion increasing the amount of time required to move goods
  – Numerous old bridges and tunnels in the urbanized areas which constrains the movement of goods
  – Truck traffic increasing though residential areas
  – Congestion comprising “just in time” business
2.3 Port and Maritime Terminals

• Large international port
  – Congestion affecting competitiveness
  – Amount of time increasing to move goods
  – Potential opportunity: some coastal sites are in use or available for barge and other maritime movements, which could relieve pressure on the port
2.4 Air Cargo

• Major airport that has domestic and international service for air cargo movement
  – Cargo enters the supply chain on trucks coming in and out of the terminal, which accesses the already-congested highway system
2.5 Warehouse and Distribution Centers

• The State is the home to many distribution and manufacturing centers
  – Two largest distribution centers and auto production facility concerns:
    • congestion and
    • impact on “just in time” business model
  – Businesses cannot meet delivery time goals due to congestion
2.6 Transit

- Transit service exists throughout most of the urban areas of the State.
- Rail and bus service to some of the suburban communities.
- Potential opportunity: new passenger rail service is under consideration.
2.7 Other Considerations

- Farm land under pressure to be developed for other purposes.
- Fiscal conditions.
3.0 Action Plan Development

- Addresses the concerns from the State, private sector, as well as the general public
- Analysis team relied very heavily on input from private and public stakeholders
3.0 Action Plan Development (cont’d)

Freight Division Preliminary Analysis

Workshops with Sector Stakeholders

Draft Action Plan

Final Action Plan
4.0 Government Action Plan

• The Freight Division developed a comprehensive transportation Government Action Plan
  – addresses concerns from the State, private sector, as well as the general public

• The Action Plan recognizes the need for all levels of government and the private sector to develop funding, policy, regulatory, and service initiatives
  – meet the transportation needs of individuals and industry
  – short and long-term
4.1 Short-Term Action Plan

Port
- Work with the port community to start a pilot program of after hours gates

Rail
- Evaluate grade crossings that might be able to be closed
- Identify strategic railroad corridors

Air
- Identify highway and trucking bottlenecks
4.1 Short-Term Action Plan (cont’d)

**Trucking**

- Develop separate truck routes
- Evaluate truck exclusions, off hour incentives, and noise abatement opportunities in affected neighborhoods
- Establish designated truck routes that can be targeted for long range infrastructure improvements
- Partnering with the railroad to work on non-peak delivery hours where possible.

**Highway**

- Identify strategic railroad and highway corridors
4.1 Short-Term Action Plan (cont’d)

Other (applicable to various modes)

• Utilize decision-making tools designed to maximize investments in the State’s transportation infrastructure
• Apply ITS technology to improve traffic flow and safety
• Work with all modes to incorporate and enhance 511 traveler information services
4.2 Long-Term Action Plan

Port
- Support short sea shipping opportunities

Transit
- Expand mass transit (by bus)

Air
- Alleviate highway and trucking bottlenecks
4.2 Long-Term Action Plan (cont’d)

Trucking

• Lobby increased truck weight / length on designated truck routes
• Designate rest areas for truckers that provide real time travel and congestion information

Rail

• Increase rail weight
• Eliminate bridge height and weight restrictions on all designated railroads and strategic highway corridors
• Expand mass transit (by train)
4.2 Long-Term Action Plan (cont’d)

Other (applicable to various modes)

- Prioritize corridors according to funding available
- Embrace ITS technology
- Pilot new technology where benefits exist for the State and/or industry
- Participate in various programs to optimize freight movement using 511
- Establish a better working relationship with county and State economic development agencies to attract and keep businesses
5.0 Funding Initiatives

Infrastructure funding available from:

• Federal
• State
• Local
• Private
5.1 Federal Funding

- Funding programs (ex. programs targeted for specific projects)
- Financing tools (ex. loans, credit enhancement, and tax-exempt financing programs)
- State and Local Governments must continue to lobby for enhanced maintenance and rehabilitation programs
5.2 State Funding

• The State supports initiatives that foster economic and social benefits and result in an improved level of service to the State’s residents and businesses

• State funded infrastructure programs (ex. fuel taxes, tolls, the sale of bonds, general fund appropriations)
5.3 Future Infrastructure Funding

- Short and long-term infrastructure funding initiatives required to ensure sustainable growth and development
- Funding initiatives required from all levels of government
5.3 Future Funding
(cont’d)

From Federal Government
- Work in partnership with other states to identify key freight corridors region wide
- Acquire investment tax credits
- Participate in Public-Private Partnership (PPPs) projects.
- Dedicate portion of customs duties
- Increase fuel tax and existing truck/vehicle registration fees.
- Impose a transit user fee in the form of a Federal ticket tax
- Charge a freight fee on containers moving through ports and international crossings.
- Increase financial assistance to railroads.
- Implement a carbon tax or “cap and trade” system.
5.3 Future Funding (cont’d)

From State and Local Government

• Work with other departments to acquire funding on infrastructure that exists for the movement of both freight and passengers.
• Increase fuel taxes and other highway user fees.
• Provide flexibility to toll and/or implement congesting pricing.
• Participate in Public-Private Partnership (PPPs) projects.
• Implement tax increment financing for transit improvements.
• Replace fuel taxes with vehicle-miles traveled (VMT) fees.
6.0 Summary

• Developed a comprehensive transportation Government Action Plan
  – addresses current and foreseen concerns from the State, private sector, as well as the general public
  – meets the transportation needs of individuals and industry
  – short and long-term
• Identified infrastructure funding available from the federal, state, local and private sectors
• Identified future short and long-term infrastructure funding initiatives
This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.

**Questions?**

Freight Division Analysis Team would now like to entertain any questions.
This report is based on a hypothetical scenario developed through an academic exercise for the I-95 Corridor Coalition Freight Academy. The contents of this report should not be construed as factual in any way.

Thank You