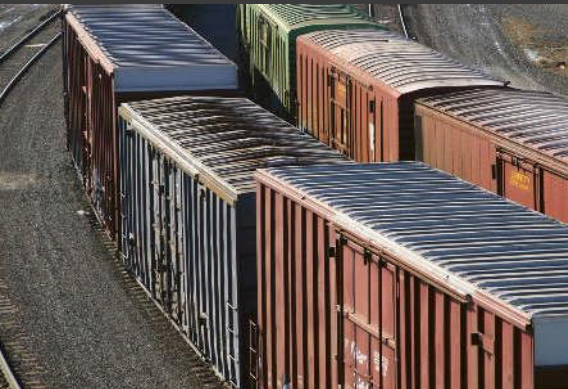


NEW YORK STATE FREIGHT TRANSPORTATION PLAN BACKGROUND ANALYSIS (DELIVERABLE 1)

JUNE 2015



PREPARED FOR:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

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ACRONYMS AND ABBREVIATIONS

AADT	Average Annual Daily Traffic
AAR	Association of American Railroads
BMTS	Binghamton Metropolitan Transportation Study
BNIA	Buffalo-Niagara International Airport
BPRR	Buffalo & Pittsburgh Railroad
CFA	Consolidated Funding Application
CN	Canadian National Railway
CNYIP	Central New York Inland Port
CP	Canadian Pacific Railway
CPO	Container Pooling Operation
CSX	CSX Corporation
CVII	Commercial Vehicle Infrastructure Integration
CVISN	Commercial Vehicle Information Systems and Networks
D&H	Delaware & Hudson Railway
DEIS	Draft Environmental Impact Statement
ECTC	Elmira-Chemung Transportation Council
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EWR	Newark Liberty International
FAF	Freight Analysis Framework
FAST	Free and Secure Trade
FHWA	Federal Highway Administration
FMT	Federal Marine Terminals
FTZ	Foreign Trade Zone
GBNRTC	Greater Buffalo-Niagara Regional Transportation Council
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GLSLS	Great Lakes St. Lawrence Seaway System
GTC	Genesee Transportation Council
GWB	George Washington Bridge
HOST	Horseheads Sand and Transloading Terminal
HOV	High-Occupancy Vehicle
IDA	Industrial Development Agency
ITGO	International Trade Gateway Initiative
ITS/CVO	Intelligent Transportation Systems for Commercial Vehicle Operations
IIMS	Integrated Incident Management System
ITS	Intelligent Transportation Systems
JFK	John. F. Kennedy International Airport
LGA	LaGuardia Airport
MAP-21	Moving Ahead for Progress in the 21st Century Act
MSW	Municipal Solid Waste
MTA	Metropolitan Transportation Authority
NFIA	Niagara Falls International Airport

NITTEC	Niagara International Transportation Technology Coalition
NJDOT	New Jersey Department of Transportation
NJTPA	North Jersey Transportation Planning Authority
NS	Norfolk Southern Railway
NYA	New York & Atlantic Railway
NYC	New York City
NYCDOT	New York City Department of Transportation
NYCEDC	New York City Economic Development Corporation
NYMTC	New York Metropolitan Transportation Council
NYSDOT	New York State Department of Transportation
NYSEDC	New York State Economic Development Corporation
NYSERDA	New York State Energy Research and Development Authority
NYSFTP	New York State Freight Transportation Plan
NYSTA	New York State Thruway Authority
PANYNJ	Port Authority of New York and New Jersey
PoNYNJ	Port of New York New Jersey
PTC	Positive Train Control
QEW	Queen Elizabeth Way
REDC	Regional Economic Development Council
RFID	Radio Frequency Identifier
Ro/Ro	Roll on/roll off
ROC	Rochester International Airport
ROW	Right of Way
RSR	Rochester and Southern Railroad
SOGR	State of Good Repair
SSTP	Safe and Secure Transportation Demonstration Program
STB	Surface Transportation Board
SWF	Stewart International Airport
TEDZ	Targeted Economic Development Zones
TEU	Twenty-foot equivalent unit
TOC	Traffic Operations Center
TOFC	Trailer On-Flat Car
UPS	United Parcel Service
USACE	US Army Corps of Engineers
WTC	World Trade Center

1.0 INTRODUCTION

The development of the New York State Freight Transportation Plan (NYSFTP) recognizes the completion of many other freight-planning efforts throughout the state in recent years. The New York State Department of Transportation (NYSDOT), several Metropolitan Planning Organizations (MPOs), and transportation authorities, including the Port Authority of New York and New Jersey (PANYNJ), have developed freight-related plans, programs, studies, and annual reports. Each of these identifies existing conditions and planned progress in maintaining and enhancing goods movement. Some are project specific, while others are primarily policy plans. While they span a number of years, each report contains valuable and relevant information.

Taken together, this body of work forms a foundation for the NYSFTP. An analysis recognizes common themes and planning principles among the studies. When agencies support such a broad set of principles, there is reason to bring them into the statewide plan.

As the dates of the reviewed resources vary in terms of publication (i.e., pre- and post-recession), note that not all forecasts and data provided are fully up-to-date. Further, many of the plans include specific recommendations for policies, strategies, and projects. It is recognized that, depending on when the plan was completed, some of these may have already been implemented. While enumerating all of these actions is beyond the scope of this report, participating agencies will have an opportunity to provide such information. The NYSFTP will consider recommendations not yet implemented as candidates for the plan and identify opportunities to bundle existing or suggested projects with implementation of other potential projects and strategies.

2.0 COMMON GOALS AND THEMES

2.1 | GOALS IDENTIFICATION

Ten of the studies assessed in this review include specific goals related to the respective study, plan, report, or program's actions and impacts:

- G-MAP: A Comprehensive Goods Movement Action Program for the New York-New Jersey Metropolitan Region – PANYNJ/NJDOT/NYS DOT (2014),
- John F. Kennedy International Airport (JFK) Air Cargo Study - New York City Economic Development Corporation (NYCEDC/PANYNJ) (2013),
- PortNYC Program - NYCEDC (2015),
- I-87 Multimodal Corridor Study - NYSDOT (2006),
- Niagara Frontier Urban Area Freight Transportation Study - Greater Buffalo Niagara Regional Transportation Council (GBNRTC) (2010),
- Transportation Strategies For Freight And Goods Movement In The Genesee-Finger Lakes Region - Genesee Transportation Council (GTC) (2012),
- New York Metropolitan Transportation Council (NYMTC) Regional Freight Plan Update 2015-2040 - NYMTC (Draft 2015),
- New York State Rail Plan - NYSDOT (2009),
- Binghamton Regional Freight Study - Binghamton Metropolitan Transportation Study (BMTS) (2008), and
- Cross Harbor Freight Program Tier 1 Draft Environmental Impact Statement - PANYNJ (2014).

Across these materials, common themes among goals were organized into eight goal categories. The goal categories include System Connectivity, Infrastructure, Economic Development, Investment, Environment, Safety/Security, Governance, and Land Use.

System Connectivity. Many of the studies include a goal to improve system connectivity, in recognition of the fact that efficient freight movement requires a transportation network without significant barriers. Connectivity may refer to gaps in a single mode, like cross-Hudson movement of rail freight, or on a smaller scale, lack of a rail siding serving an individual shipper. There are mentions of problems shortline railroads have interchanging cars with Class 1 operations. This demonstrates that while the system may be physically connected, it may not be functioning in an operationally connected manner. Availability of intermodal connections is also important. While drayage of containers to an intermodal rail terminal is commonplace, longer distances add costs.

Infrastructure. The quality of the transportation infrastructure across modes is a critical factor in maintaining freight flows. Many of the studies highlight the need for asset management and improvement of deficient facilities in a way that recognizes freight movement needs, not just overall traffic volume. For example, a single load-restricted

bridge on a key facility may interfere with truck movements over a much larger geography. This concern also applies to aging rail or port infrastructure.

Economic Development. The reports provide clear evidence that transportation agencies understand that efficient freight movement underlies a healthy economy. In order for New York firms to be competitive in a regional, national, or global marketplace, they must be able to ship and receive goods at competitive costs. In a “just-in-time” world that relies on fluidity, inefficiencies in the supply chain that add to shipping time cause businesses to incur added costs. While not all barriers to efficient goods movement are a consequence of the transportation system, it is important that the agencies responsible for planning, constructing, and operating it are keenly aware of the implications for economic development. For example, the G-MAP report includes a goal to ensure that global and local goods movement promotes and sustains regional economic competitiveness.

Investment. All public agencies experience challenges in finding adequate financial resources to meet their needs to plan, construct, operate, and maintain the transportation infrastructure under their jurisdiction. While not all of the reports addressed financing, a number of them did so. Important themes include advocating for adequate, predictable, and stable funding; identifying non-traditional sources of public funding; and exploring methods to encourage appropriate private investment, including public-private partnerships and incentives for private sector partners.

Safety and Security. These reports recognize that transportation safety is a broad topic that extends across all modes and modal interconnections, and sometimes to neighboring land uses. There is consensus on the importance of improving roadway safety related to truck movement, as well as the interface at highway-rail grade crossings. Safety concerns for rail and marine modes were not often identified; neither were those related to hazardous materials transported by truck, rail, and pipeline. Security is a related but independent matter. Security concerns exist at ports-of-entry, both seaports and land border crossings, and in the transport of dangerous cargo.

Environment. More than half of the reports recognize the important link between freight movement and environmental protection. Each mode of transport creates issues of environmental concern. All modes create air emission, including both criteria pollutants and greenhouse gases. Energy consumption is closely related to emissions. Strategies to reduce both energy use and emissions are most often linked to federal regulatory actions. Maintenance and operations of ports and waterways can have unique ecosystem impacts. PANYNJ, for example, identifies management of dredged materials as an important environmental matter. Other studies extend their view beyond the natural environment to acting on the ability to support Quality Communities initiatives and related cultural and social needs.

Governance. Agencies operating in the New York Metropolitan area, including New York City (NYC), PANYNJ, and NYMTC, had the only reports that raised governance issues. That may be in recognition of the complexity of doing business in that region, where the

multiplicity of state, regional, and local governments and quasi-governmental agencies share authority and responsibility for planning, maintaining, and operating freight facilities; and for raising revenue and managing budgets. The primary goals are to accomplish improved interagency cooperation, and a better regulatory climate.

Land Use. Only three of the reports cited any goals or objectives related to land use. Land use and freight movement are inextricably linked to one another. In most instances, however, transportation agencies see land use decision making as outside their purview, except for the control they exercise over their own rights-of-way and real estate.

Table 1 compares these studies by goal category and includes a brief description of each goal category. Table 2 provides a summary of the goals by resource.

TABLE 1: SUMMARY OF GOALS & OBJECTIVES IN FREIGHT-RELATED PLANS

MATRIX OF
FREIGHT PLAN
GOALS IN NEW
YORK STATE

	FACILITATES CONNECTIONS WITHIN THE FREIGHT SYSTEM AND MULTIMODAL MOBILITY	PRESERVES INFRASTRUCTURE AND EXPANDS SYSTEM CAPACITY	SUPPORTS ECONOMIC COMPETITIVENESS OF REGION	RELIES ON STRATEGIC PUBLIC AND PRIVATE INVESTMENT	PROTECTS THE ENVIRONMENT AND SUPPORTS SUSTAINABILITY AND QUALITY OF LIFE	REINFORCES SAFETY AND SECURITY WITHIN THE FREIGHT SYSTEM	CONSIDERS REGULATORY/GOVERNING ACTIONS TO SUPPORT EFFECTIVE FREIGHT MOVEMENT	ENCOURAGES LAND USE/REAL ESTATE PRACTICES THAT DO NOT HINDER FREIGHT MOVEMENT
	CONNECTIVITY	INFRASTRUCTURE	ECONOMIC	INVESTMENT	ENVIRONMENT	SAFETY/SECURITY	GOVERNANCE	LAND USE
GMAP	X	X	X	X	X	X	X	X
JFK Air Cargo	X	X	X	X			X	X
PortNYC		X	X	X	X		X	
I-87	X		X		X	X		
Niagara Frontier	X	X	X					
GTC	X	X	X	X	X	X		
NYMTC	X	X					X	
NYS Rail	X	X	X	X	X	X		
BMTS	X	X	X	X		X		
Cross Harbor	X	X				X		X
	9	9	8	6	5	6	4	3

TABLE 2: GOALS MATRIX

	G-MAP	JFK Air Cargo	PortNYC	I-87	Niagara Frontier	GTC	NYMTC	NYS Rail Plan	BMTS	Cross Harbor
ECONOMIC DEVELOPMENT	Supply-Chain Operations Ensure that global and local goods movement promotes and sustains regional economic competitiveness through shipping, staging, and delivery systems that are reliable, productive, timely, safe, and secure.	Increase cargo-related employment opportunities available within New York City. Diversify and expand industrial base in New York City and the region.	Support New York City's maritime industry, which includes ports and terminals, ferry operations, government services, maritime support operations recreational and commercial boating and maritime environmental resources. Develop rail freight assets to maximize use of rail by local businesses.	Support Corridor-Wide and Regional Growth and Development, including supporting anticipated growth and related regional and local plans; e.g. better connections to major business and recreational sites.	Establish region as intermodal and distribution hub	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency		Develop a rail network capable of supporting the future needs of New York State residents and businesses and manage it for optimum efficiency	Support the transport needs of existing businesses, and seek to attract new business	
CONNECTIVITY		Grow and enhance air cargo movement within the JFK Study Area		Enhance Person and Goods Movement and Intermodal Operations, including reliable traffic operations, expanded intermodal connections and more efficient border crossings.	Expand the use of regional seaport facilities.	Increase the accessibility and mobility options available to people and freight	Improve the reliability and overall movement of freight in the region by expanding alternatives for trucks.	An integrated rail system that facilitates the efficient movement of people and goods, expands choices, and improves access to and inter-connectivity of all transportation system modes.	Improve rail connections through yards by removing overlap barriers.	Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.
INFRASTRUCTURE	Accommodate regional freight demand by creating and managing transportation network capacity and connectivity.		Develop New York City's maritime infrastructure and resources through investment and public-private partnerships.		Expand the use of regional airport facilities.	Promote efficient system management and operations	Improve the physical infrastructure of the transportation system for freight related transport between shipping and receiving points.	Preserve the existing rail system as a long-term transportation asset.	Recognize the importance of Binghamton's location at hub of 3 Interstates and 3 railroads. Maintain both systems, and construct spot improvements.	Reduce the contribution of Cross Harbor truck trips to congestion along the region's major freight corridors relative to No Action conditions.

	G-MAP	JFK Air Cargo	PortNYC	I-87	Niagara Frontier	GTC	NYMTC	NYS Rail Plan	BMTS	Cross Harbor
INVESTMENT	Funding and Finance Generate sustainable and reliable public and private investments to build and maintain the region's goods movement system.	Generate new investment in cargo-related facilities and infrastructure to serve the City and JFK	Identify non-City funding sources to maritime development, including public-private partnerships			Facilitate partnerships in planning, financing, and the execution of transportation initiatives		Adequate, stable and predictable funding through public and private sources for rail investment.	Use available TIP funding, encourage railroad private investment	
ENVIRONMENT	Environment Align efficient goods movement operations with the environmental and social needs of the region's communities.		Identify innovative dredged material management programs to ensure a balance between development and protection of harbor ecosystems.	Protect the Corridor's Environment and Quality Of Life, including minimizing impacts from transportation actions or facilities, protecting unique resources, and supporting sustainable Quality Communities.		Protect and enhance the natural environment, cultural heritage and community appearance, and promote energy conservation		Provide a rail system that is energy efficient and environmentally sustainable and that promotes the integration of transportation, land use, and economic development to support New York's economic competitiveness and quality of life.		
SAFETY/ SECURITY	Supply-Chain Operations Ensure that global and local goods movement promotes and sustains regional economic competitiveness through shipping, staging, and delivery systems that are reliable, productive, timely, safe, and secure.			Promote Safety and Security of both freight and passenger movements and networks.		Increase the safety of the transportation system for motorized and non-motorized users. Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users		Personal safety and infrastructure and property security	Promote roadway safety through spot improvements	Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.

	G-MAP	JFK Air Cargo	PortNYC	I-87	Niagara Frontier	GTC	NYMTC	NYS Rail Plan	BMTS	Cross Harbor
GOVERNANCE	Establish a concerted and cooperative freight governance model to promote effective investment and operational performance practices through public policy, programs, and systems management.	Promote a comprehensive regional freight policy and public investment	Provide strategic planning for aviation and transportation-policy initiatives. Secure state and federal waterfront permits for NYCEDC projects as well as providing assistance to City agencies and maritime businesses.				Improve transportation of freight by removing burdensome government regulations and restrictions.			
LAND USE	Land Use Concentrate freight-intensive land uses to efficiently use existing networks, support scale economies, and meet demand.	Maximize real estate usage and operational efficiencies within the JFK Study Area								Support development of integrated freight transportation/land use strategies.

TABLE 2 KEY

- ECONOMIC** SUPPORTS ECONOMIC COMPETITIVENESS OF REGION
- CONNECTIVITY** FACILITATES CONNECTIONS WITHIN THE FREIGHT SYSTEM AND MULTIMODAL MOBILITY
- INFRASTRUCTURE** PRESERVES INFRASTRUCTURE AND EXPANDS SYSTEM CAPACITY
- INVESTMENT** RELIES ON STRATEGIC PUBLIC AND PRIVATE INVESTMENT
- ENVIRONMENT** PROTECTS THE ENVIRONMENT AND SUPPORTS SUSTAINABILITY AND QUALITY OF LIFE
- SAFETY/SECURITY** REINFORCES SAFETY AND SECURITY WITHIN THE FREIGHT SYSTEM
- GOVERNANCE** CONSIDERS REGULATORY/GOVERNING ACTIONS TO SUPPORT EFFECTIVE FREIGHT MOVEMENT
- LAND USE** ENCOURAGES LAND USE/REAL ESTATE PRACTICES THAT DO NOT HINDER FREIGHT MOVEMENT

2.2 | THEME IDENTIFICATION

The background analysis also served to identify themes in: (1) **trends** in freight movement throughout the state, (2) shared freight **issues** experienced by organizations associated with goods movement, (3) common **suggested policies** suggested by freight planning agencies/businesses, (4) similarities in **programs and projects** implemented at/on facilities throughout the state, and (5) **major trade partners**. The following bullets summarize the themes observed for each of these five categories.

1. Commonalities observed in freight **trends**:

- Significant freight rail increases forecasted over the next two to three decades.
- Gradual enhancements of existing facilities.
- Substantial and increasing trade with Canadian partners.
- Anticipated increases in overall freight tonnage – especially intermodal movement – in the next two to three decades.
- Majority of freight moved by truck.
- Manufacturing employment declines and a rise in research and development employment.
- Low population growth in upstate areas.
- Airports losing momentum on air cargo business, often a result of competing airports or less expensive or more convenient drayage or trucking options.

2. Commonalities observed in freight **issues**:

- Need for adequate, predictable, consistent public funding sources.
- Increasing bottlenecks and congestion in critical corridors/areas.
- Lack of convenient overnight truck parking.
- Aging infrastructure, accompanied by growing concern for bridge, pavement, rail, and other infrastructure safety conditions.
- System inability to accommodate high axle loads.
- Prevalence of clearance issues for both rail and truck vehicles.
- Need to upgrade truck and rail Infrastructure for heavier and larger vehicles.
- Limited access for shippers and deliverers at some freight facilities.
- Import/export imbalance, resulting in the inability to fill outgoing truckloads and containers from the region.
- Lack of intermodal terminals, particularly close to certain market segments.

3. Commonalities in **suggested policies**:

- Directing resources and marketing strategies to increase rail share in the freight market. Rail has exclusive ROW and is more environmentally efficient, making it a preferred option to minimize truck transport in many areas, especially for heavy commodities. However, limitations on rail transport operational model is also recognized.
- Exploring ways to improve investment strategies that recognize the role of both public and private capital.
- Investing in technological innovations like intelligent transportation systems and improving data collection and analytics to optimize freight movement (e.g., information exchange networks or programs like CVISN - Commercial Vehicle Information Systems and Networks)

- Understanding the environmental impact of freight movement and seeking ways to mitigate it.
- Focusing on safety and security issues. This topic encompasses numerous issues from terminal security to highway-rail grade crossing safety to truck safety.
- Identifying land use issues, and how to accommodate goods movement in and around communities.
- Enhancing efficiency at border crossings without compromising security.
- Preserving existing rail ROW and reducing instances of rail abandonment.

4. Commonalities in suggested **programs and projects**:

- Developing new intermodal facilities and logistics centers.
- Improving “last-mile” connections.
- Upgrading airports with runway expansions, as appropriate.
- Upgrading seaports through necessary dredging and on-dock improvements for efficient freight distribution.
- Funding bypasses or new connections to reduce congestion and the severity of bottlenecks.
- Increasing frequency and fluidity of rail operations.
- Adding rail sidings and truck facilities to improve safety conditions.

5. Commonalities in **major trade partners**:

- Buffalo with NYC, Ontario, GTC, Washington-Baltimore, Philadelphia, and Chicago.
- Binghamton with NYC and Syracuse.
- Elmira with greater New York and Pennsylvania.
- Rochester with NYC.
- NYC with northern NJ, greater New York, southern Atlantic states, and international markets.

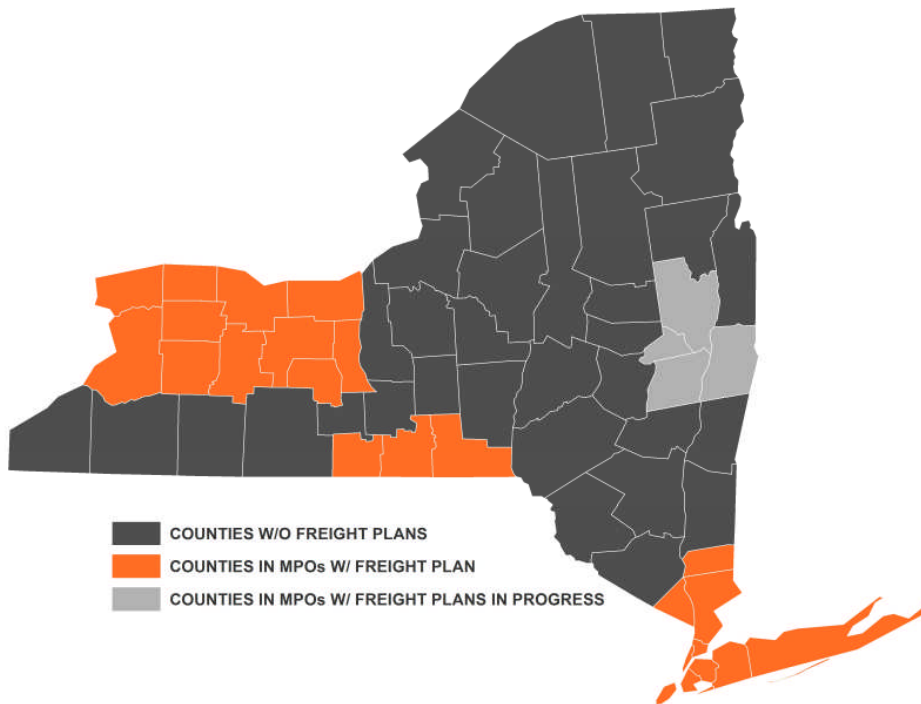
2.3 | GAP IDENTIFICATION

The following section describes the gaps that exist between the issues and the plans/policies identified in the background resource review.

GAPS IN GEOGRAPHIC COVERAGE

MPOs bear the primary responsibility for freight planning within their metropolitan areas. Through the review of regional freight plans, various gaps in existing efforts are apparent. The western and southern portions of the state are well-covered in term of plans provided by GBNRTC, GTC, BMTS, and the Elmira-Chemung Transportation Council, while NYMTC and PANYNJ cover the New York metropolitan area as illustrated in Figure 1. NYSDOT is aware that the Capital District Transportation Committee’s freight plan is currently under development. The lack of formalized plans in central and northern part of the state indicates a need for NYSDOT to use existing data and agency coordination to gain a better understanding of freight in these areas.

FIGURE 1: REGIONS COVERED IN BACKGROUND ANALYSIS



GAPS IN MODAL COVERAGE

The reports address freight transport by rail, water, and air, but leave coverage gaps in each mode.

Air: PANYNJ has significant air cargo operations at JFK and Newark Liberty airports. While the latter is in New Jersey, it is still important to the New York State freight industry. JFK is the ninth busiest airport in the US, and first in the state in terms of cargo movement. Air cargo does move through New York’s other airports including Syracuse, Rochester, Buffalo, Albany, and Newburgh. While not reviewed under the scope, as these airports do not account for significant percentages of local freight movement, they provide important service for consideration. Table 3 summarizes New York’s airport rankings by cargo weight landed.

TABLE 3: NEW YORK AIRPORT RANKINGS BY CARGO WEIGHT, 2013 (FAA 2015)

National Rank	NY Airport	Weight Landed in 2013 (Tons)
9	JFK (New York City)	3.37 Billion
68	Syracuse	325 Million
73	Rochester	295 Million
74	Buffalo	291 Million
99	Albany	161 Million
103	Stewart International (Newburgh)	140 Million
Total – Top NY Freight Airports		4.582 Billion

Water: Marine cargo is important to New York, and includes seaports, Great Lakes shipping, and the facilities of the NYS Canal Corporation. In terms of waterborne cargo, the Port of New York & New Jersey

is the third most active cargo seaport in the US, with the Port of Albany following at 50th. While these ports carry the bulk of marine freight in the state, NYSDOT’s planning effort should consider data for all waterborne freight movement including the Ports of Jefferson, Buffalo, and other smaller ports (e.g., Oswego and Ogdensburg).

TABLE 4: NEW YORK SEAPORT RANKINGS BY TONNAGE, 2013 (US ARMY CORPS OF ENGINEERS 2013)

National Rank	NY Port	Waterborne Tonnage				
		Domestic	Foreign	Imports	Exports	Total
3	New York, NY/NJ	46,716,414	76,606,230	56,144,985	20,461,245	123,322,644
50	Albany, NY	10,005,872	1,015,313	585,778	429,535	11,021,185
131	Port Jefferson, NY	1,430,315	7,563	7,563	0	1,437,878
148	Buffalo, NY	554,276	271,988	271,988	0	826,264
Total: Top NY Seaports		58,706,877	77,901,094	57,010,314	20,890,780	136,607,971

Rail: The New York State Rail Plan provides a thorough review of both freight and passenger facilities and operations throughout the state. This plan includes descriptions of various changes in rail ownership and operations.

The reports from MPOs, the state, and the various major freight facilities and partnerships lack a complete, statewide accounting of trade information regarding international trade partners, movements, and customs operations at airports/seaports, except for Canada. This may be another area for focus in the NYSFTP planning process.

GAPS IN COORDINATION

Given the countless transportation-related agencies throughout the state – both public and private – coordination proves to be one of the most commonly cited issues in strategic freight planning and funding. Almost every resource from the Background Review recognized a need for increased coordination between freight agencies. Collaboration helps to expedite projects, enhance funding options, and ensure consensus amongst parties involved in a freight project or policy. Because NYSDOT holds a working relationship with each of these agencies, it has the unique opportunity to collaborate with these stakeholders and foster cross-jurisdictional-boundary relationships to promote efficient goods movement throughout the state.

GAPS IN FUNDING SOURCES

Congress has not established a dedicated source of federal funds for freight system improvements for highways. There is funding available for airport and port improvements, and for some rail improvements. Because the studies span a number of years, gaps exist in the portrayal of fund sources and initiatives available for freight transport improvements. NYSDOT must be cognizant in the development of the NYSFTP and associated outreach efforts to outline specific funding opportunities throughout the state, as well as private and public partners willing to engage in collaborative development.

3.0 SCOPE OF THE BACKGROUND ANALYSIS

3.1 | RESOURCES EXAMINED

Products reviewed for this report include:

NYSDOT:

- New York State Rail Plan - NYSDOT (2009)
- I-87 Multimodal Corridor Study - NYSDOT (2006)

MPO and Local Government:

- Port NYC Program - NYCEDC (2015)
- Niagara Frontier Urban Area Freight Transportation Study - Greater Buffalo Niagara Regional Transportation Council (GBNRTC) (2010)
- Transportation Strategies For Freight And Goods Movement In The Genesee-Finger Lakes Region - Genesee Transportation Council (GTC) (2012)
- Binghamton Regional Freight Study - Binghamton Metropolitan Transportation Study (BMTS) (2008)
- Elmira Urbanized Area Freight Movement Study - Elmira-Chemung Transportation Council (ECTC) (2015)
- New York Metropolitan Transportation Council (NYMTC) Regional Freight Plan Update 2015-2040 - NYMTC (Adopted 2013, Amended 2015)

Authorities and Coalition Organizations:

- G-MAP: A Comprehensive Goods Movement Action Program for the New York-New Jersey Metropolitan Region – PANYNJ/NJDOT/NYSDOT (2014)
- JFK Air Cargo Study - New York City Economic Development Corporation (NYCEDC/PANYNJ) (2013)
- PANYNJ 2013 Annual Report: Focus Forward - PANYNJ (2014)
- Peace Bridge Facility - The Buffalo and Fort Erie Public Bridge Authority (2015)
- Port Of Albany 2013 Annual Report - Port of Albany (2013)
- Buffalo Niagara International Trade Gateway Initiative (2013)
- New York State Thruway Authority 2013 Annual Report - New York State Thruway Authority (2013)
- Niagara International Transportation Technology Coalition (NITTEC) Annual Report – NITTEC (2013)
- Cross Harbor Freight Program Tier 1 Draft Environmental Impact Statement (DEIS) – PANYNJ (2014)

In addition, this report includes a review of the 10 New York State Regional Economic Development Councils (REDCs) for relevant information. The REDCs, created in 2011 by Governor Cuomo, serve as the focus of regional economic development initiatives across the state. Each REDC develops an annual Strategic Plan that includes specific proposals for which REDC will seek financing as well as Progress Reports that report on the outcomes of funded projects. Information obtained through the review of the

REDC products contributed to this report by providing knowledge of other investments in the state relevant to freight mobility.

The report also acknowledges the Strategies for a New Age: New York State's Transportation Master Plan for 2030. An individual, detailed review is not included for this plan in the report because it is not a freight-specific plan. However, the background analysis integrated relevant aspects of the Transportation Master Plan into the assessment of common goals.

Furthermore, the scope of the background analysis is limited to currently available plans and drafts. **It is important to note that these studies, though, recent, are not entirely up-to-date. Some projects suggested in the studies may be completed to-date, but undocumented. Similarly, various data regarding freight volumes and growth trends, as well as ownership of rail lines and similar infrastructure, may require update based on the publication date of the resource.**

3.2 | MATERIALS CLASSIFICATION

The background materials reviewed in this analysis separate into four categories:

- (1) Corridor/Area studies conducted for a specific corridor or site that include recommendations to improve specific existing issues.
- (2) Freight Plans: Regional or statewide plans specifically geared toward freight network improvement. These plans assess existing conditions and future forecasts to identify projects and policies that will serve to meet anticipated demand.
- (3) Annual Reports: Summaries of projects, policies, programs, plans, and other accomplishments or issues for an organization or facility over the course of a fiscal or calendar year.
- (4) Program/Facility Summaries: Synopsis of programs or facilities related to major freight movement.

The categorization of the background materials reviewed for this analysis is helpful in understanding the intent behind each plan and identifying information in these studies most relevant to the NYSFTP. Table 5 places each study, plan, report, or summary into its respective category.

It is important to understand that the majority of this work is foundational. Each product includes goals and/or objectives, analytics, and recommendations. The accompanying analysis identifies commonalities across the studies, plans, reports, and programs from different organizations that may move forward into the NYSFTP.

The remainder of this document summarizes each of the plans, programs, studies, and reports in detail to provide specific insight based on the study area or subject matter of each product.

TABLE 5: CATEGORIZATION OF BACKGROUND MATERIALS

Corridor/Area Studies	Freight Plans	Annual Reports	Program Summaries
<p>I-87 Multimodal Corridor Study - NYSDOT</p> <p>JFK Air Cargo Study - NYCEDC/PANYNJ</p> <p>Cross Harbor Freight Program Tier 1 DEIS - PANYNJ</p>	<p>New York State Rail Plan - NYSDOT</p> <p>Niagara Frontier Urban Area Freight Transportation Study - GBNRTC</p> <p>Transportation Strategies For Freight And Goods Movement In The Genesee-Finger Lakes Region - GTC</p> <p>Binghamton Regional Freight Study - BMTS</p> <p>Elmira Urbanized Area Freight Movement Study - ECTC</p> <p>NYMTC Freight Plan Update 2015-2040 - NYMTC</p> <p>G-MAP: A Comprehensive Goods Movement Action Program for the New York-New Jersey Metropolitan Region – PANYNJ/NJDOT/NYS DOT</p>	<p>PANYNJ 2013 Annual Report: Focus Forward - PANYNJ</p> <p>Port Of Albany 2013 Annual Report - Port of Albany</p> <p>New York State Thruway Authority 2013 Annual Report - New York State Thruway Authority</p> <p>NITTEC Annual Report - NITTEC</p> <p>REDC Annual Progress Reports</p>	<p>Port NYC Program - NYCEDC</p> <p>Peace Bridge Facility - The Buffalo and Fort Erie Public Bridge Authority</p> <p>Buffalo Niagara International Trade Gateway Initiative</p>

4.0 PLANS, PROGRAMS, STUDIES, & REPORTS

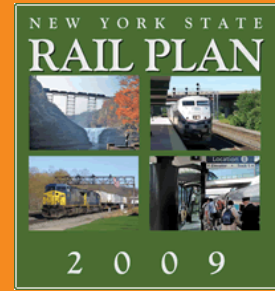
This section provides a detailed summary of each of the plans, programs, studies, and reports assessed in the literature review. Each product summary includes the following eight elements to analyze how each have an effect on the freight system:

1. Key Findings Related to the NYSFTP,
2. Cited Strengths,
3. Description of Facilities/Program,
4. Intermodal connectivity,
5. Volume-of-trade connectivity,
6. Growth trends,
7. Issues/problems that need addressing to either improve the facility and/or for the public benefit,
8. Projects, and
9. Plans for growth and/or efficiency improvements.

4.1 | NYSDOT RAIL PLAN

SUMMARY

The NYSDOT Rail Plan outlines a vision for statewide passenger and freight service, including specific goals, projects, and policies to enhance the existing system. NYSDOT developed the plan in coordination with freight rail companies, Amtrak, commuter rail service providers, local/regional planners, members of the public, and other stakeholders. NYSDOT submitted the report to the Secretary of Transportation and the Federal Railroad Administration (FRA). (New York State Department of Transportation 2009)



1. Key Findings Related to the NYSFTP

- NYSDOT's goal is to increase freight-rail market share by 25% by expanding and enhancing service. Rail provides an energy efficient means of goods movements, and as NYSDOT plans to have a plan for Positive Train Control (PTC) system integration by 2015, this efficiency – and safety – will increase.
- Current problematic issues in the statewide system include major rail bottlenecks, maintaining facilities, accommodating high axle load, access to shortlines, and providing height clearance.
- NYSDOT created the Companion Investment Program as a blueprint for funding decisions for future-freight rail investment to encourage projects that divert from highways. The report discusses a variety of funding options, including federal, state, and public-private partnership funding, but maintains the position that innovative funding strategies are necessary for future improvement.
- NYSDOT also alludes to performance monitoring for safety needs but lacks an implementation to conduct this monitoring.
- NYSDOT calls on a multifaceted public involvement process, emphasizing the need for private sector and stakeholder involvement. The plan involved listening sessions, outreach, consultation, and public comment.
- Rail currently serves 59 out of the 62 counties in New York.
- In New York State, rail is currently 3% of freight modal share, compared to 16% at the national level.
- The study anticipates an increase in freight traffic between Boston and New York by 2030. The study also mentions the "Patriot Corridor" between the Capital District and Ayer, MA. Norfolk Southern plans to make capital investments to update this track to 286,000-lb. capacity. The NYSFTP should examine this and other measures for accommodating additional travel on this corridor.
- The study addresses the need to prevent rail abandonment and describes the role of both NYSDOT and the Surface Transportation Board (STB) in the preservation process. A gap analysis of where abandonments exist versus rail line disconnects may be an effective way of approaching strategies for preservation and reconstruction.
- Only five intermodal facilities exist in the state for rail/truck/waterborne transloading, and upstate New York facilities are overcapacity. Canadian Pacific is considering building another yard in addition to the Kenwood facility near Albany. At the time of the study, there were no official plans.

2. Cited strengths

- Rail uses less energy and prevents congestion related to truck volume. Supports smart land use and environmental protection. A single intermodal train reduces as many as 280 trucks from the road.
- New York plays a role between the US and Canada and freight movement between these two countries. (In 2005, \$63.2B goods entering US from Canada across New York line with Buffalo as the most significant crossing.)
 - Rail carried 16.6% of imports and 4.7% of exports

3. Description of facilities

- The total system is comprised of approximately 4,208 route miles covering 59 counties (out of 62) with connections to all adjacent states/Canada.

TABLE 6: NYS RAIL PLAN DESCRIPTION OF FACILITIES

Rail Freight Network in New York State				
Railroad Category	New York State (2000)		New York State (2006)	
	Number	Miles Operated	Number	Miles Operated
Class I (U.S. Only)	2	1,919	2	1,606
Class I (Canadian)	2	403	2	389
Class II - Regional	4	304	4	330
Class III - Local	19	961	22	1,170
Switching & Terminal	8	96	7	127
Total	35	3,683	37*	3,622**
* Does not include Commuter, Amtrak or Tourist trains (see text). **Excludes Amtrak, commuter mileage (see text). Source: AAR Railroad Statistics				

- Class I: CSX Corporation (CSX), Canadian Pacific Railway Limited (CP), Norfolk Southern Railway (NS), and Canadian National Railway (CN) (CSX is largest with 1,292 route miles)
- Class II: Buffalo/Pittsburgh Railroad, NY Susquehanna & Western Railway, Pan Am Railways, and the Providence & Worcester Railroad (NYSW is largest with 249 route miles, Pan AM shortest with 53 route miles)
- Class III: 29 Class III Railroads
 - Western NY & Pennsylvania (largest at 136 route miles)
 - Massena Terminal Railroad (shortest at four route miles)
 - Housatonic Railroad – does not own any facilities operates on trackage rights
 - Terminal Railroads: Albany Port Railroad, NYNJ Rail (PANYNJ owned), South Brooklyn Railroad
- Mainline between Albany and Buffalo is one of CSXT’s highest volumes on the entire system
- Major Yards
 - Frontier Yard, Buffalo (1083 rail cars per day)
 - DeWitt Yard, Syracuse (376 rail cars per day)
 - Selkirk Yard, Bethlehem, south of Albany (1729 rail cars per day)
- History
 - In the 1990s, larger holding companies acquired many short lines.
 - Class I railroads increased their lines to carry 315,000 lb. cars on main certified routes. It is unlikely that shortlines will upgrade to these standards in the next few years due to high cost.
 - In 1991, CP acquired the D&H. CP heavily invested in upgrading former Delaware & Hudson Railway (D&H) and stabilized the route structure by consolidating operations with Norfolk Southern. The former D&H lines are economically weak compared to the former Conrail Lines.
 - In 1997, Long Island Rail Road franchised freight operations with New York & Atlantic Railway (NYA).
 - Conrail initiated service in 1998 along the Oak Point Link between Highbridge Yard and Harlem River Yard in the Bronx. The entire route from Selkirk and Harlem River Yard can clear conventional trailer on-flat car (TOFC) equipment, accommodates up to 286,000lb cars.
 - When Conrail was acquired and divided by NS and CSX in 1999, New York benefited through an increase in Class I railroads.
 - In 2005-2007, NS & CP consolidated/coordinated operations in NYS. NS leased Southern Tier between Binghamton and Port Jervis to the Central New York Railway, retaining overhead trackage rights. NS leased the segment between Port Jervis to Suffern to Metro North Railroad, retaining local and overhead trackage rights.
 - In 2008, NS and Pan Am Railways (PAR) submitted application to STB to establish the “Patriot Corridor” between the Capital District and Ayer, MA. NS will make capital

investments to update this track to 286,000 lb. capacity with the goal of taking long distance trucks off the highway.

4. Intermodal connectivity

- Mostly handled in containers transferred freely between railroads, trucks, and ships.
- Some handled on TOFC service.
- Intermodal Facilities:
 - Buffalo Intermodal Container Transfer Facility (component of the PANYNJ Port Inland Distribution Network)
 - CSX DeWitt Yard near Syracuse (serves central and northeastern NY)
 - NS's Bison Yard in Buffalo (serves western portion of the state)
 - Kenwood Yard in Albany adjacent to the Port of Albany (serves domestic traffic between Albany and Chicago)
 - New York Container Terminal at Howland Hook in Staten Island (full service international container and general cargo handling facility) expanded to a 500-foot berth.
 - CSX also has four intermodal terminals in Northern NJ: Little Ferry, North Bergen, North & South Kearny, and Dockside

5. Volume-of-trade connectivity

- 2006 over 1.8 million tons of carloads of freight carried throughout the state
- 2006 total tons of rail freight carried was over 76 million tons
- NYS Freight Service in 2006 Tons: Originating: 7.57M, Terminating 26.92M, Through: 42.22M
- Seven freight railroads moving 14 million car-miles of freight per year long the length of the Northeast Corridor – typical day = 50 trains – mostly freight operations occur at night – some segments between Boston/New York anticipated to increase by over 200% to 2030

6. Growth trends

- Growing container segment of rail traffic
- Over 20 years major increases in intermodal traffic (tripled from 1980 to 2002 grew 3.1 million trailers/containers to 9.3 million) – indicates increasing reliance on the rail system.
- Domestic freight traffic was 4.5 trillion ton-miles in 2005 (increase of 350 billion/8.7% from 1996). Rail alone grew 25.9 percent, while truck grew 21.8 percent
- Railroads carry largest share of ton miles, market share of 38.2 percent in 2005
- \$555B in goods transported to/from/within NYS in 2002 – 8.2 increase from 1997.
- Freight Analysis Framework (FAF) suggests an 88% growth in rail freight by 2035
 - Rail shipment increases from 47 million in 2004 to 93 million tons in 2035 in Niagara region (example: opening of the 2007 CSX Buffalo Intermodal Container Transfer Facility at Seneca Yard)
- Expected that by 2035 the estimated growth in rail freight will absorb all of the existing excess mainline capacity in the national rail freight system

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Federal investment in rail decreased by 50% over the past three decades.
- Need a predictable funding partnership.
- NYSDOT's comprehensive survey of rail industry capital needs totaled over \$6 billion in freight investment over next twenty years (Cross Harbor Freight Improvement Project not yet taken into account in these numbers)

TABLE 7: 2008 NYSDOT RAIL NEEDS SURVEY RESULTS (20-YEAR NEEDS 2009-2028)

Type	Status Quo	SOGR	System Enhance	System Expand	Total
Shortline, Regional, & Terminal Roads	\$265M	\$409M	\$612M	\$426M	\$1,712M
Class I – Major Freight Railroads	\$590M	\$730M	\$917M	\$414M	\$2,651M
Joint Freight – Intercity Passenger	\$112M	\$193M	\$258M	\$1,034M	\$1,597M
Total	\$967M	\$1,332M	1,787M	\$1,874M	\$5,960M

- 2007 Association of American Railroads (AAR) completed the National Rail Freight Infrastructure Capacity and Investment Study
 - Major freight rail hubs in the west impact the NYS rail service
 - Shortfall in rail capacity along the east coast could divert rail traffic to highway
 - A “no-build” scenario would cause diversion of ocean imports from US and Canadian Pacific ports to the Atlantic and Gulf ports, which could put more stress on the NY system
 - Need for primary rail corridors and small railroad capacity improvements within New York to keep pace with rail freight traffic
- Major New York Bottlenecks:
 - Buffalo Rail Terminal Area (CSXT, NS, CN, CP) – major hub for international rail movements, car classifications, intermodal through movements.
 - River Line (CSXT route between PANYNJ & Chicago) – single track line between northern New Jersey Terminal area and the Selkirk Yard – tunnel limits clearances, current efforts to address worst at-grade crossings
 - Hudson Line – multiple track main line with intercity/commuter passenger traffic – freight is limited to nighttime and several day times – substandard clearance issues lack of modern freight terminal facilities
 - New York City Rail Terminal Area – lack of terminal facilities to accommodate increasing rail freight service level, low operating speeds, substandard clearances time limits and schedule conflicts, no modern freight facilities, Rail car weight limit restrictions
 - Fremont Industrial Track/Bay Ridge Branch – lines with the NY & Atlantic Railroad Fresh Ponds Yard – only overland freight route facilities available to provide service to Brooklyn, Queens, and Long Island. Cannot handle 286,000lb cars
 - Trans Hudson Freight Rail Barrier
 - Long Island Rail Road Main Line
 - Rouses Point
 - Binghamton Rail Terminal Area
 - Portageville Bridge (on the Southern Tier rail freight route across the Genesee River)
- Vulnerability in bridge upkeep.
- Intermodal capacity issues in upstate areas.
- Need for a PTC system based on real-time moving block to optimize time savings and more efficient operations by increasing freight and passenger train on-time performance/ability to add more train frequencies – requires all trains to be equipped with cab signals – significant cost. This is subject to Federal rule making, and currently has a December 31, 2015 implementation deadline.
- Rail line abandonments or discontinuance of service: CP Green Island Branch (Cohoes to Green Island), M&NJ Main Line (Slate Hill to NJ State Line), NYS&W Utica Main Line (Chenango Forks to Sherburne), B&P Main Line (Ashford to Orchard Park)
- Not in service lines: MA&N Newton Falls Line (Carthage to Newton Falls)
- High-axle loads: Currently the only 315k-capable routes are on the CSX mainline across upstate from Pennsylvania to Massachusetts and south to New Jersey.
- Maintaining SOGR.
- Clearances - most significant obstruction on the CP Canadian subdivision between Capital District and the internal border at Rouses Point – CP’s primary route in eastern US
- Expanding the capacity of freight lines, and lines shared by freight/passenger trains, to handle more train movements.

- Level of real property taxation of rail lines. (Rail property taxes in New York were among the highest in the country. The configuration of the tax structure discouraged investment in railroad infrastructure, making more sense to remove or sell existing, low-density track to avoid real property tax levies. NYS Real Property Law changed in 2003, providing real property tax relief to freight rail companies, but real property taxes remain above the national average.)

8. Projects

- This plan does not prescribe specific projects but suggests a program involving public and private sector involvement to guide investment.
- The Companion Investment Program is a blueprint for state's funding decisions for future freight rail investment to encourage projects that improve the ability to divert from highways (i.e., removing vertical clearances, increase weight-carrying ability of the track, construct rail/intermodal facilities, increasing safety at rail crossings, support economic development, demonstrate public benefits).
- Criteria for rail investments:
 - Improve efficiency, reliability and reduce energy use
 - Increase capacity that increases freight usage and modal shares
 - Reduces highway congestion
 - Increases intermodal options
 - Increases competition
 - Meets identified market demand
 - Improves environmental conditions
 - Increase safety

9. Plans for growth and/or efficiency improvements

- Goal to increase freight rail market share by 25% while reducing truck trips/energy consumed
- Allow modern freight car access to NY metro and Long Island areas via east side of the Hudson
- Move freight through NY Harbor via the identified Cross Harbor Freight Movement Project to be completed by PANYNJ.
- Include three new intermodal facilities/inland ports (two located upstate) to serve growing container segment of rail traffic and removing long haul trucks from highways.
- Rail sidings, rail-truck transfer facilities, "last mile" connections serving all rail terminals and shippers who need access to the rail network.
- Take advantage of safety benefits of rail for shipping hazmat commodities.
- Open first "green" shortline locomotive fleet through assisting the short line railroads in replacing current fleets with clean, energy-saving locomotives.
- Move towards PTC to reduce accident risks.
- Integrate upstate and downstate networks in good repair.
- Long Range Service and Investment Program addresses critical capacity and bottleneck constraints and operational improvements:
 - Shortline rail SOGR and capacity improvements (\$200m)
 - Class I Railroad SOGR and Capacity Improvements (\$200m)
 - Construct Rail/Truck Intermodal Facilities (\$50m)
 - Improve Rail-Highway Crossings (\$20m)
 - Conversion to Green Locomotive Fleet (\$10m)
 - Economic Development/Market Expansion (\$40m)
- Freight investment programs will regularly update as the state's investment priorities are refined and project costs/schedules become more certain.

4.2 | I-87 MULTIMODAL CORRIDOR STUDY

SUMMARY

NYSDOT conducted the I-87 Multimodal Corridor Study as a proactive response to address the growth in trade and tourism that has placed increased demands on the corridor. The goal of the study was to identify and assess initiatives and opportunities to improve transportation services for all users of the corridor, thereby providing an opportunity for the corridor and surrounding regions to realize the economic potential resulting from changing global and national economic forces and trends. The Study resulted in a strategic plan laying how NYSDOT and its transportation partners, with support from the private sector, can effectively and efficiently meet the long-term needs of the corridor and its major travel markets. (New York State Department of Transportation 2006)



1. Key Findings Related to the NYSFTP

- The I-87 Study stressed agency coordination at both the state and national level, which also requires acknowledgement in the statewide freight plan.
- Investments should focus on “Smart Highways,” Intelligent Transportation Systems (ITS) on highways, improved pre- and in-trip information and communication for drivers, increased data collection through the Information Exchange Network, and potential highway pricing.
- Investments should also focus on “Smart Freight,” involving commercial vehicle operations (CVO) ITS tool – e.g., a full truck station on the Northway, development of public-private partnerships, upgrade to existing rail corridor infrastructure, and capacity increases for intermodal operations.
- Additionally, corridor needs included in the report were:
 - Congestion and traffic queue relief
 - East-west non-Interstate access to I-87
 - More consistent truck parking, services, amenities, and inspection facilities
 - SOGR for rail and waterborne facilities
 - Enhanced border crossing programs (truck and rail) – The study stresses freight movement between the US and Canada and the use of technology to expedite it.
- The study developed improvement packages to lump together activities to support these issues, which can provide insight to the NYSFTP. The following packages relevant to freight include:
 - ITS/CVO Operations
 - I-87 Corridor-wide Transportation Management
 - Luther Forest Access Improvement (Access points as of 2015 include Exit 12/Route 67 and Exit 13/Route 9.)
 - Northway Operational Improvements
 - Capital District Intermodal Operations (Since the study occurred in 2006, Norfolk Southern manages an intermodal facility off Route 67 in Mechanicville, NY, to assist in accommodating intermodal operations.)

2. Cited strengths

- The I-87/Autoroute 15 corridor provides a direct international connection between the largest metropolitan area in the United States (New York City) and the second largest metropolitan area in Canada (Montreal) through the Lacolle/Champlain border crossing.

3. Description of facilities

- The study focused primarily on route miles of the interstate located in New York State.
- The primary study area included I-87 from Albany north to Plattsburgh. The secondary study areas ranged north from Plattsburgh to Montreal and south from Albany to New York City.

4. Intermodal connectivity

- Marine
 - Hudson River (from just north of the City of Albany to the City of Hudson).
- Rail
 - Primary: Albany to the United States-Canada border at Rouses Point.
 - Secondary: New York City to Albany and Rouses Point to Montreal.
- Airports
 - Commercial: Albany International, Plattsburgh International, Stewart International.
 - General Aviation: Adirondack Regional, Lake Placid, Round Lake, Saratoga, Schenectady, Schroon Lake, South Albany, Ticonderoga, Warren (Floyd Bennett Memorial), Westport.

5. Volume-of-trade connectivity

- Nearby rail border crossings carried nearly \$2 billion value of freight in 2000.

6. Growth trends

- Between 1996 and 1999, truck traffic at the US-Canada border crossing increased 40%.
- In 1999, the Lacolle/Champlain border crossing handled over 800,000 trucks carrying \$14 billion worth of goods, making it the fifth busiest US-Canada border crossing.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Highways and Bridges – Capital District traffic congestion, traffic queues and accidents on I-87 at US-Canada border crossing, improved east-west non-Interstate access to I-87 and increased access to tourist and recreation attractions.
- Rest Area Network and Truck Facilities – more truck parking and services, better amenities at more consistently spaced rest areas, and permanent truck inspection facilities on southbound I-87 near US-Canada Border.
- Rail Networks and Operations – key upgrades to tracks, signals and sidings to mitigate limitations of single-track system and increase maximum speeds, and removing clearance restrictions for double stack freight trains.
- Aviation Facilities and Operations – upgrading runways and systems at general aviation facilities, expanded scheduled airline service (at Plattsburgh International Airport), better highway and transit access to airports, and basic aviation facilities at Adirondack Park area airports.
- Waterborne Network and Port Facilities – facility upgrades at the Port of Albany and related Hudson River navigational channel improvements.
- US-Canada Border Crossing (Beyond the on-going Port of Excellence project) – expansion of border crossing programs, border traffic safety, and expedited railroad passenger Customs checks and clearances.
- Intelligent Transportation Systems for Commercial Vehicle Operations (ITS/CVO) – coordination of systems, standards, and protocols among agencies; expanded systems for real-time travel information; coordinated management of Interstate and arterial system in the Capital District; seamless wireless telecommunications along the entire Corridor; and integrated electronic CVO inspections.
- Intermodal Facilities and Operations – rail improvements to allow increased intermodal activity; and Kenwood Yard improvements.

8. Projects

- Highway
 - I-87 Interchange and Access Improvements (New York State Thruway Authority's (NYSTA's) Albany Corridor Study, NYSDOT's Exit 3 Interchange Project, improvements at Exits 6, 9, 10, 12 and 18 and longer-term studies of improvements at Exit 11)
 - Tappan Zee Bridge/I-287 Corridor Study
- Safety
 - Marketing of NEXUS Program

- New York State Transportation Federation Travel Information Gateway
- Freight
 - Marketing of the Free and Secure Trade (FAST) Program
 - Port of Excellence at Champlain Crossing
 - Permanent Truck Inspection Station at US-Canada Border
 - New Baltimore Rest Area Upgrade
 - Truck Stop Electrification
 - Railroad Capital Programs and On-Going Maintenance
 - Port of Albany and Waterfront Redevelopment Efforts
 - On-Going Intermodal Facility Studies

9. Plans for growth and/or efficiency improvements

- Highway
 - I-87/Route 9 Closed-Loop Traffic Control System
 - Exit 20 Improved Access and Queue Detection
 - Improved East/West Access Via Routes 4 and 149
 - Integrated Incident Management System (IIMS) Along I-87 Corridor
 - Advanced Location and Traveler Information Services via Cell Phones and Radio Broadcast Data System/Radio Data System (RBDS/RDS) to provide travelers with real-time travel information while allowing agencies to monitor traffic conditions.
- Public Transit
 - Adirondack Rail Corridor Service Improvements
 - Adirondack Corridor High-Speed Rail Track and Operational Improvements
 - Expanded Rail Service to Saratoga County
 - Commuter Rail Service in Capital District
- Safety
 - Improved Wireless Communication on the Northway
 - Expanded Queue Detection and Warning System at the US-Canada Border
 - 3-Tiered Tourist Kiosk System in Adirondacks
 - Adirondack Tourist Destination Signage Program
- Freight
 - Truck Parking Supply Monitoring at Rest Areas
 - NYS Safe and Secure Transportation Demonstration Program (NYS-SSTP)
 - The latest word in the freight information technology world is “visibility,” allowing shipments’ condition, location, and status to be continuously monitored. The same systems can expedite border crossing by confirming shipments. The proposed SSTP demonstration incorporates radio-frequency identification (RFID) technology, and related “just-in-time” inventory systems to reduce inventory and warehousing costs and expedite the international flow of goods.
 - Electronic Seal Screening and Tracking of In-Bond Shipments
 - Kenwood Intermodal Yard Improvements
 - Improved Truck Access to “Build Now-NY” Site

4.3 | PORT NYC

SUMMARY



PortNYC (managed by NYCEDC) ensures that New York City's transportation infrastructure can support the expected population and economic growth over the next 20 years. To that end, the organization engages in a variety of projects that enhance the mobility of people and cargo into, within and throughout New York City. PortNYC also provides strategic planning for aviation, rail freight and maritime-policy initiatives that foster economic development. (NYCEDC 2015)

1. Key Findings Relevant to the NYSFTP

- PortNYC is not a plan but supporting ongoing development activities. The organization assists companies and freight industry stakeholders to promote trade and travel at New York City's ports.
- The major take away from the PortNYC business outline is the fostering and maintenance of public-private partnerships, assistance in establishing FTZ Foreign Trade Zone (FTZ) status, and assisting in interagency coordination and strategic planning.

2. Cited strengths

- New York Harbor is the third largest port in the United States and the largest port complex on the Atlantic Coast.
- Continued investments and the industry's top awards have made NYCruise the departure point for more than 1.2 million passengers annually.

3. Description of program/facilities

- Supports companies in and applying for the FTZ Designation Program:
 - Duty Elimination
 - Duty Deferral (Duty is paid only when imports are shipped into U.S Customs territory)
 - Inverted Customs Duty Savings (choice of component material or finished product)
 - Shipments Expedited
 - Quality Control
 - Exhibition (without duty payments) (NYCEDC 2015)
 - Weekly Entry
 - Zone to Zone Transfer
- Cargo Facilities
 - New York Container Terminal (containers)
 - South Brooklyn Marine Terminal (ro-ro and project cargos)
 - Lafarge Pier/New York Sand and Stone
 - Red Hook Container Terminal (containers, break-bulk, and ro-ro)
- Rail Facilities
 - Staten Island Railroad, including Arlington Railyard and the Arthur Kill Lift Bridge
 - Hunts Point Food Distribution Center
 - Brooklyn Waterfront Rail System
 - Bush Terminal 51st Street Railyard
 - South Brooklyn Marine Terminal
 - 65th Street Railyard
- PortNYC also has functions unrelated to freight (i.e., cruise terminals, aviation facilities, the Skyport Marina for seaplane charters, and ferry landings).

4. Intermodal connectivity

- Connections between ports and rail/truck for transloading.

5. Volume-of-trade connectivity

- Over 500,000 containers and 235,000 tons of cargo shipped annually through NYC's seaports.

6. Growth trends

- Gradual enhancement of facilities.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Information not available.

8. Projects

- In September of 2014, the Port Authority of NY & NJ Board of Commissioners approved a series of investments to upgrade the Cross Harbor Car Float facility operated by NYNJ Rail (New Jersey to Brooklyn). The upgrades to the New York-New Jersey carfloat system include: construction of up to two new transfer bridges at Greenville and related lead and support tracks; the purchase of two larger car floats, each with the capability of transporting 18 rail cars; and the purchase of up to four new, ultra low emission locomotives to replace existing ones that have outlived their useful lives.

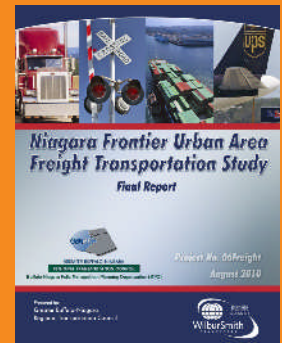
9. Plans for growth and/or efficiency improvements

- Support New York City's nearly \$7 billion maritime industry, which includes ports and terminals, ferry operations, government services, maritime support operations recreational and commercial boating and maritime environmental resources.
- Develop New York City's rail freight assets to maximize the use of rail by local businesses.
- Develop New York City's maritime infrastructure and resources through investment and public-private partnerships.
- Provide strategic planning for aviation and transportation-policy initiatives
- Identify innovative dredged material management programs to ensure a balance between development and protection of harbor ecosystems.
- Secure state and federal waterfront permits for NYCEDC projects as well as providing assistance to City agencies and maritime businesses.
- Identify non-City funding sources to maritime development

4.4 | NIAGARA FRONTIER URBAN AREA FREIGHT TRANSPORTATION STUDY

SUMMARY

GBNRTC developed the Niagara Frontier Urban Area Freight Transportation Study to assess the region's freight network, identify existing and forecasted needs, and evaluate potential economic development opportunities. The study involved an assessment of the overall regional economy, development of an inventory and profile of the regional freight system, a freight flow analysis, review of needs by mode, and a cost/benefit evaluation. (Greater Buffalo Niagara Regional Transportation Council 2010)



1. Key Findings Relevant to the NYSFTP

- The Buffalo region has connections to various trade partners: New York City, Washington-Baltimore, Philadelphia, Chicago, and Canada.
- GBNRTC focuses on economic development and utilization of the region's facilities that have excess capacity. The region hopes to advertise itself as an inland hub, as well as an outlet for air cargo. The Buffalo area supports a variety of renewable energy related companies. Because this is a growing industry and materials are well suited for maritime cargo, it presents a good opportunity to support the inland Port. The medical device, pharmaceutical, and automobile industries provide growth areas for air cargo. The study recommends a variety of facility-specific air and maritime projects to augment these components of the regional freight system.
- The study suggests that the Buffalo area is a good location for a logistics center. The region connects to its many trade partners in the mid-Atlantic via the CSX Chicago line, NS Southern Tier line, I-90, I-390, and I-81.
- The Buffalo region rail system requires both track and bridge improvements to maintain SOGR.
- The report references several studies, including the Buffalo Corridor Study, the Corridor 1 Study, and the NY Route 63 Study that could have implications on statewide freight.
- Other major considerations addressed in the study include improvements to the Erie Canal, establishment of an intermodal terminal at the Lehigh Valley Yard or another location as Buffalo is a good location for an intermodal facility between New York City and Toronto.

2. Cited strengths

- The region's geography places it at a key international market, with \$81 billion in trading passing through the region
- A number of industries which often rely on air cargo are located within the region, including automotive components and medical devices
- Niagara Falls International Airport (NFIA) has the lowest landing fees in the region and a 10,800-foot runway. The airport is also located in a Foreign Trade Zone
- The region ranked at the bottom of similarly sized urban areas in terms of annual delay per traveler
- The region's roadways are also relatively safe.
- Overall, the Buffalo/Niagara crossings form the third busiest port of entry for cross-border trade, behind Detroit/Windsor and Port Huron, with about 12-13% of the total. About 85% of the \$81 billion that moves through the Buffalo/Niagara crossings has an origin or destination outside of NYS.

3. Description of facilities

- The area around New York City is by far the GBNRTC's largest trading partner. Other important partners are other regions of northern New York State, as well as the area around Philadelphia

4. Intermodal connectivity

- Seventeen percent of the region's truck traffic is moving across the region to or from Canada.
- Buffalo-Niagara International Airport (BNIA) hosts three integrated express carriers that have been successfully operating at the airport for an extended period.
- The region is on the primary CSX mainline that connects the Northeast with Chicago and other Midwestern markets. Also crossing the region is the NS Southern Tier route, another important rail connection between the Northeast and Midwest.
- Buffalo is part of the Great Lakes St. Lawrence Seaway System (GLSLS), which extends 2,342 miles from the Atlantic Ocean through the St. Lawrence Seaway and Great Lakes to Duluth, Minnesota on Lake Superior. Channels are 27-feet to support waterborne commerce.

5. Volume-of-trade connectivity

- Truck cargo just over 150 million tons, Rail is just under 50 million tons, Maritime is about 1.6 million tons, Air is just under 100,000 tons
- The commodities accounting for the largest shares of truck traffic include Secondary Traffic; Food Products; Clay, Concrete, Glass and Stone; and, Primary Metal Products. Forecasts anticipate secondary traffic and food products will generate the largest increases in truck traffic. Coal is the highest volume commodity shipped by rail into the region while Waste and Scrap and Chemicals have the highest volumes of outbound rail shipments.

6. Growth trends

- The report forecasts that overall freight tonnage will more than double between 2004 and 2035.
- Forecasts assume that the largest increases in rail volumes for the region's rail network will occur in intermodal traffic, forecasted to increase by 184 percent between 2004 and 2035, compared to carload traffic (expected to increase by 68 percent over the same period). Most of the maritime shipments to and from the region are bulk commodities such as Grain, various Nonmetallic Mineral Products, Petroleum Products, and Coal. Mail and Contract Traffic account for the largest share of the region's air cargo, although Electrical Equipment and Farm Products are important commodities, as well.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Regional economy has declined in recent years
- Air quality attainment status is an issue.
- Air cargo leakage to competing airports from the Buffalo-Niagara market area is significant with 11 daily truck departures by air freight forwarders. Forwarders operate primarily to international gateway airports in the US and Canada.
- Kitty Hawk Air Cargo ceased operations at NFIA because of its bankruptcy and termination of services. No all-cargo air carriers moved in to fill the void. It is likely that local trucking companies and integrated express carriers absorbed Kitty Hawk's customers.
- Sharing air cargo between two regional airports in an urban area the size of Buffalo-Niagara is a challenge; cargo carriers seek to consolidate shipments using both ground and air hub and spoke networks to cover large areas and realize economies of scale benefits
- In 1999, CSX and NS railroads jointly acquired Consolidated Rail Corporation (Conrail) and divided its assets; leaving some capacity and operating constraints in the area that adversely affect freight service efficiency today.
- Most of the rail traffic that travels across the region must pass over CSX's CP Draw, which has created congestion issues in the past. Forecasts expect worse congestion.
- The CSX Niagara Branch, which could provide a bypass around the CP Draw, has clearance problems including a tunnel that is only slightly more than 16 feet high. At this height, a number of modern railcar types, including double stack intermodal well cars, multilevel car carriers, and hi-cube boxcars cannot use the line.
- The NS Portageville Bridge on the Southern Tier Line cannot accommodate the current industry standard 286,000 lb. rail cars.

- Several of the region's smaller railroads operate on rail lines that cannot accommodate 286,000 lb. cars as well.
- Data from the US Bureau of Transportation Statistics suggests that while total US freight ton-miles increased by about 30 percent between 1980 and 2004, cargo on the GLSLS declined about 10 percent.

8. Projects

- The New York State Thruway Authority and NYSDOT, in cooperation with the Federal Highway Administration (FHWA) are looking at potential improvements to congested segments of I-90, I-190, and I-290.
- The Continental 1 Corridor would be a new limited access highway that would generally follow the current alignment of US 219 through New York and much of Pennsylvania. It would eventually connect to I-95 in North Carolina and/or South Carolina. The most relevant portion of this proposed highway to the Buffalo-Niagara region is the planned extension of the Southern Expressway from Springville to Salamanca, NY, where it will interchange with I-86. An analysis of previously submitted benefit/cost calculations for the project suggests that the project may be difficult to justify on user benefits alone. However, subsequent economic impact studies suggest that the project may have sizeable economic development benefits.
- This study recommends establishing a regional truck route system, which can assist carriers in circumventing areas highly traveled by the motoring public, while still providing access to commercial customers in the region.
- The Peace Bridge Expansion Project will improve the security and operations at the bridge and enable the bridge to accommodate future increases in traffic. The toll plaza will expand to accommodate additional booths, enlarged inspection areas. Operators expect this project to yield benefits that significantly outweigh costs, although most of the benefits would accrue to shippers from outside of the region.
- The Mid-Peninsula Corridor, a proposed highway to connect Niagara, Ontario, with the Greater Toronto Area could affect the US side of the border. This project is an alternative to the Queen Elizabeth Way (QEW). However, this project is on hold, and planners within Canada are looking at alternatives such as widening existing routes, transit or other potential highway corridors.
- New York Route 63 between Batavia and Genesee provides a shortcut for motor carriers traveling on I-90 and I-390. A recent study commissioned by NYSDOT considered this route as a new bypass, but the alternative exceeded cost and the estimated schedule. However, the bypass study focused primarily on the inconvenience to local residents resulting from trucks using the shorter route. Because a potentially large portion of the region's commerce could use this route, it may have significant benefits to the region's shippers, a benefit which may warrant further study.
- CP Draw Bridge Replacement. A new bridge to replace a derelict bridge that is next to the existing CP Draw at a cost of \$40 million. This study included a sketch level analysis that suggested that the CP Draw would probably not reach capacity for at least a decade. Due to the timing of the benefits of CP Draw replacement, the project does not appear to have a benefit/cost ratio above one at this time. However, this study recommends further investigation using a more rigorous analysis. Rail carriers would need to supply proprietary data for analysts to estimate future delays at the bridge.
- Another project evaluated the possibility of a new route around the CP Draw involving the NS Buffalo Line and a rail line owned by the Buffalo & Pittsburgh Railroad (BPRR). This project had a favorable benefit/cost ratio and could point to alternatives that are less expensive than funding the construction of a new bridge.
- The agency proposed several additional projects to provide CN competitive access to the South Buffalo/Lackawanna area. One alternative established a connection between the CN line and the CSX Niagara Branch. Another alternative established a new connection from the Niagara Branch to the Avenue Running Track. These projects would require an operating agreement with CSX. It was not possible to quantify the benefits of these projects because their primary benefit would lie in providing area shippers with access to another carrier. The projects would also require improvements to the clearance of the CSX Niagara Branch to yield their full potential. This line

has a tunnel of slightly over 16 feet. One possibility could be to offer CSX assistance clearing the Niagara Branch in return for allowing CN access.

- The NS Portageville Bridge over the Genesee River on the NS Southern Tier line is beyond its expected service life. This NS line provides access to many of the region's most important trading partners, such as the New York metropolitan area. The bridge project is underway and slated for completion in 2017-2018.
- The Falls Road Railroad Bridge over the Erie Canal is structurally deficient and currently has weight restrictions, requiring \$1 million in rehabilitation. The rail line that uses the bridge could serve a new ethanol plant, which would generate sizeable traffic volumes. Although the benefits of the project were not evaluated in this study, it is likely the benefits would outweigh the \$1 million cost.
- The possibility of establishing an intermodal terminal at the NYSDOT-owned Lehigh Valley Yard is another consideration; however, a sketch-level evaluation of the project raises some concerns: The project would require an agreement between CN and CSX. CN already operates an intermodal terminal in Brampton, ON, a relatively short distance away. Rail carriers generally do not like to operate intermodal terminals with overlapping market areas. CN has indicated willingness to offer a shuttle intermodal service from Brampton if container volumes are sufficient. However, the volumes that CN specified are unlikely in the near future.
- This study provides a brief evaluation for a range of suggestions identified in the New York State Rail Plan, and prioritizes these projects into high, medium, and low implementation categories. In general, projects were considered high priority if improvements are made to rail lines that are in otherwise poor condition, or to rail lines that are likely to have significant traffic potential. Upgrades of signaling systems on short line railroads were low priority, as were projects with other potential funding sources (e.g. at-grade crossings).
- Potential development of a logistics center in the region.

9. Plans for growth and/or efficiency improvements

AIR

- Retail FedEx, United Parcel Service (UPS), and DHL Express – Continued service by these integrators at BNIA is important to the region's air cargo service, and working with these carriers to insure that they are satisfied with local market conditions is a priority.
- Maintain and Improve Airport Facilities – Continual improvements will help to maintain existing services and make the BNIA, NFIA more attractive to new services.
- Continue economic development initiatives focusing on medical device and automotive industries – These two industry clusters within the area are regular users of air cargo. Pharmaceutical cargo could be another growth area.
- Recruit an Anchor Tenant at NFIA – This tenant would generate sufficient cargo volume to justify dedicated cargo service. The nature of the tenant would depend upon targeted trade. Possible tenants could be fresh fruit, pharmaceutical, machinery or a range of other commodities.
- Market NFIA to "overhead" cargo, so that cargo that would otherwise pass over the region instead stops. Overhead traffic requires analysis to determine if there is a logical reason for an aircraft to stop in the Buffalo-Niagara region.
- Develop NFIA as an "industrial airport," attracting manufacturers of aircraft and equipment to support the aviation industry

WATERBORNE

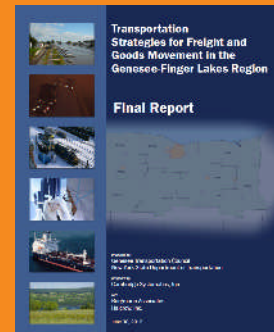
- Short sea shipping alternatives – These could be either containerized lift-on/lift-off or roll on/roll off (Ro/Ro) services. This study presents some skepticism regarding the economics of short sea shipping for the region. While Great Lakes bulk vessels enjoy a tremendous capacity advantage over alternate transportation options, the containerized and Ro/Ro vessels that can operate on the GLSLS would not have as significant a size advantage. For example, the largest container vessel would have a capacity of around 500 twenty-foot equivalent units (TEUs), about the equivalent of a large intermodal train. Because US flagged vessels are expensive to operate, about \$25,000 to \$30,000 per day, and because they are slow, typically around 11.5 miles per hour, it would be difficult to offer shippers sufficient cost advantages to overcome the disadvantages to maritime service in terms of speed and delay between sailings.

- AES Somerset (the Kintigh Generating Station coal-fired power plant located in Somerset) has proposed to invest \$25 million to construct a 3,200-foot long pier-conveyor that will allow the facility to obtain waterborne shipments of coal, petroleum coke, and limestone instead of relying on rail. The AES Somerset Lake Unloading Project could offer economic development benefits if other shippers were to use the 1,800-acre Somerset site and benefit from the pier-conveyor. The project would also generate economic development benefits in construction and by assuring continued operation of the Somerset plant. Because maritime is the safest mode of freight, this report estimates that the project would create \$0.69 per ton in safety benefits for Appalachian coal deliveries that switch from all rail to rail/water and \$3.85 per ton in safety benefits for Montana coal deliveries that switch from all rail to rail/water.
- This study also considered improvements to the Erie Canal. Although the canal continues to provide a very useful resource for shipping certain cargoes, the volume of traffic is such that the canal is not significant to the region's overall freight system.
- This study notes the following market opportunities in regards to maritime freight:
 - The handling of wind turbines could be a significant short-term opportunity. This is driven by New York State and Ontario goals for renewable power
 - Despite the initiative toward renewable power, coal could also represent a growth cargo. Coal sourcing continues to shift from Appalachian coal to western coal. Due to the distance, western coal is more likely to travel by water
 - Ethanol could drive demand for the region's port facilities. The RiverWright plant, if built, could drive a significant increase in demand for maritime freight
 - Building materials could represent a growth opportunity. The region's port terminals do not handle as much building material as would be expected from a metropolitan area of the Buffalo-Niagara region's size

4.5 | TRANSPORTATION STRATEGIES FOR FREIGHT AND GOODS MOVEMENT IN THE GENESEE-FINGER LAKES REGION

SUMMARY

The Transportation Strategies for Freight and Goods Movement in The Genesee-Finger Lakes Region, developed by GTC in conjunction with NYSDOT, is a regional plan to guide transportation investment to ultimately support regional economic competitiveness and maximize economic growth. The GTC study area includes the following nine counties: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates. (Genesee Transportation Council 2012)



1. Key Findings Relevant to the NYSFTP

- The GTC study emphasizes the importance of asset management, preservation of ROW, safety, and resiliency. Various projects proposed in the report address these issues. The NYSFTP should also reflect these considerations.
- General roadways concerns include clearance, weight, and speed limitations on location highways. Various small- to mid-scale recommendations address these issues.
- GTC cites the potential for an intermodal facility and/or a logistics center in the region.
- The region foresees information systems playing a more significant role in freight transportation.
- Issues with regional rail operators create challenges for the regional network. These include rail car exchange, meeting the national 286,000-lb. standard (mainly an issue for Class III), storage capacity at interchange points, and lack of communications between operators. The study includes site-specific recommendations to address these areas of concern.
- GTC identifies emerging technology manufacturing and enhancing the viability of agriculture as major objectives for regional industries.
- GTC offers the following regional transportation planning, programming, and project implementation cycle: Develop policies that guide planning and investment, identify and evaluate alternatives against goals and objectives, prioritize alternatives and select projects for funding, design and implement improvements (project and policy initiatives), measures and track system performance, and repeat. The GTC plan results in the following eight performance measures, which provide helpful examples for the statewide planning effort:
 - Safety: Number of Fatalities
 - System Preservation: Pavement Fair or Better
 - System Preservation: Non
 - Mobility: Travel Time Index
 - Environment: Emissions of Nitrogen Oxides
 - Environment: Emissions of Volatile Organic Compounds
 - Environment: Emissions of Carbon Dioxide
 - Environment: Direct Energy Usage

2. Cited strengths

- Largely uncongested transportation system is the region's largest strength and best asset.
- Open regional transportation planning process that includes a diverse range of stakeholders in decision-making.
- Contribution of local governments plans to direct the location, scale, and growth of future freight generators.
- Well-established clusters of freight-generating land uses available for redevelopment. (Due to past use, sites are often well-separated from conflicting land uses.)

- Quality and extent of existing transportation infrastructure reduces pressure for investments in new transportation capacity. (e.g., currently, truck drivers can build flexibility into their schedules to avoid peak periods by scheduling deliveries and other trips during off-peak periods.)
- Efficient coordination of transportation system operators and emergency responders, allowing rapid clearing of incidents and reducing the delays.
- Strong statewide and regional commitment to reducing freight energy use and mitigating freight's impacts on communities and the environment.
- Access to the St. Lawrence Seaway via Ports at Ogdensburg, Oswego, and Buffalo.
- The NYC Metro area is largest trading partner, both by weight and value. The Buffalo-Toronto Metro area is the second major trading partner.
- Largest Imports (Tonnage): Food/Kindred; Chemicals/Allied; Clay, Concrete, Class, Stone; Coal
- Largest Exports (Tonnage): Food/Kindred; Non-metallic Minerals; Clay, Concrete, Class or Stone; Chemicals or Allied; Farm
- Robust agricultural/forestry/fishing/hunting industry base. In 2007, the GTC region included 1.5 million acres of farmland (6,417 farms) with a total market value of \$1.2 billion sold in agricultural products and \$52 million in gross income.

3. Description of facilities

- Major Highway: I-90 (NYS Thruway) Boston-Washington corridor; I-390 (Genesee Expressway) east-west connector/connects with I-490 near Rochester Airport; I-490 connects with Thruway on both ends; I-590 connects I-390 and I-490 and turns into NY-590 north of I-490 connecting to NY-104; NY-590 north limited access highway – part of Rochester beltway; US-20 connects various activity nodes throughout the region; US-20A runs west to Buffalo and connects Wyoming County to I-390; NY-14; NY-19; NY-31; NY-39; NY-63; NY-77; NY-96; NY-104; NY-332
- CSX and Norfolk Southern have presence in the study area through track ownership. Canadian Pacific maintains trackage rights on a portion of the NS railroad – these carry long-haul traffic; 6 shortline (Class III) lines: Depew, Lancaster and Western Railroad (DLWR), Falls Road Railroad (FRR), Finger Lakes Railway (FGLK), Livonia, Avon and Lakeville Railroad (LAL), Ontario Midland Railroad (OMID), Rochester and Southern Railroad (RSR)
- Storage Yards: Rochester Yard (Goodman Street Yard on CSX's Chicago line); Brooks Avenue Yard (between the CSX Chicago Line and the West Shore Branch), Charlotte Yard (terminus of the CSX Buffalo Division, West Avenue Yard (north of Books Avenue Yard and west of Goodman Street Yard – at junction of the CSX Chicago line and the RSR former B&O line)
- Greater Rochester International Airport (ROC) – cargo handling airport w US Customs – cargo shippers include ABX Air, Bax Global, DHL Worldwide, Emery Worldwide, Federal Express
- Many other businesses receive materials via air but cargo arrives in the region via truck.
- Port of Rochester – activity slowed down – serve niche bulk cargo markets
- Port of Oswego – two terminals with bulk storage, dry storage, and berthing space – handles aluminum, steel rebar and billets, corn, soybeans, potash, salt, project and heavy lift cargo, cement, and petroleum products.

4. Intermodal connectivity

- There are no intermodal container transfer facilities within the nine-county study region.
- NS and CSX maintain intermodal facilities close to the region in Cheektowaga and Blasdell (near Buffalo). CSX also operates intermodal operations out of DeWitt Yard in Syracuse.

5. Volume-of-trade connectivity

- Value
 - 2010 – Inbound \$122.0B, Outbound \$171.0B, Internal \$11.0B
 - 2015 (Estimated) – Inbound \$140.7B, Outbound \$230.0B, Internal \$14.6B
 - 2035 (Estimated) – Inbound \$215.6, Outbound \$465.9, Internal \$29.1B
- Weight
 - 2010 – 253M tons
 - 2035 (Estimated) - 420M tons
- Annual Tonnage Distribution by Mode & Direction:

- 80% Truck, 13% Rail, 7% Water, <1% Air
- 66% Through, 15% Inbound, 14% Outbound, 5% Internal

6. Growth trends

- Population grew 8% from 1980 to 2010. Anticipating growth of 5.1% between 2000 and 2040.
- Total employment will increase 3% from 2006-2016. Manufacturing supersector will decline (-22%) but other industries are projected to grow: Construction (13%), educational services (7%), and healthcare (13%)
- Manufacturing is the top industry by gross domestic product (GDP) followed by Government, Real Estate/Rental/Leasing and Retail Trade
- Retail Trade has highest number of firms by industry sector, followed by Construction.
- Manufacturers transformed supply/distribution chains – increased reliance on just-in-time deliveries making inputs and outputs more time sensitive
- Industries requested more access to bulk rail. A new line is open at Batavia. Industries using intermodal shipping containers – most enter the region by truck but there is discussion of creating a rail terminal in the region to decrease shipping costs for goods entering at seaports.
- Low value heavy industries like scrap metal, cement, and timber are more likely to go by rail spur or water, while contemporary manufacturers, distribution centers/logistics hubs, and other freight generators are more likely to be close to a highway.
- The region is gaining a competitive advantage in higher wage/high technology fields like optics, biotechnology, alternative energy, healthcare, and education.
- Emerging industries like optics and other advanced manufacturing require inputs that are more likely to be semi-finished materials rather than raw materials. Therefore, they may require smaller packaged/less-than-truckload services that rely on air movement.
- The plan identifies opportunities at the Port of Oswego for importing agricultural input commodities. Trucks move locally-grown/produced agriculture products to a production or distribution facility for production/packaging and other activities and then distributed via truck to retail outlets in and out of the region.
- GTC's priority is to ensure that roadways have adequate capacity (i.e. lanes, geometry, pavement quality, height/weight restrictions, and bridge condition). Expansions will mostly focus on roadways (and airports to a lesser extent), but the agency recognized the need to preserve seaports/rail infrastructure.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Rail interchange points need enough capacity to store rail cars both dropped off and picked up by the Class I and II operators.
- Shortline rail has non-union crews and Class I rail has union workers. Labor rules and hours are different and can prevent quick rail car exchange between operators.
- Different rail operators use different means of communication, which can lead to delays due to paperwork/equipment movement
- Many Class III railroads have trouble bringing their rail facilities up to the national standards for maximum loaded weight (286,000 pounds)
- Need for improved coordination among public and private stakeholders regarding planning, investment, and operations of the freight transportation system
- Communities sometimes compete with one another for new development, offering subsidies and tax abatements to secure a new employer, but bringing them in to sub-optimal locations from a freight perspective.
- Local municipal zoning/land use policies and actions sometimes are inconsistent with regional freight transportation goals.
- There is a need for public-private partnerships but the region struggles with the allocation of public resources for these types of projects.
- In 2005, New York passed a railroad real property tax abatement program. Each railroad has to apply for an abatement of taxes if they advance an improvement project that is considered beyond regular maintenance, such as signal improvements. In practice, railroads have found it

very difficult to qualify for the tax abatement, and therefore have not been able to make improvements that could have been cost-feasible with the tax abatement.

- Tension between the investment priorities of private freight transportation operators and the public sector's mandate to promote the general welfare. (i.e., Congress requirement for PTC control to ensure trains adhere to speed restrictions while private rail operators argue that other investments, such as investments in state-of-good-repair and additional rail capacity, would have a greater return on investment.)
- Lack of an officially designated/signed truck route network increases the risk that truck drivers will traverse through residential areas, weight-restricted bridges, low-clearance bridges, etc.
- Insufficient rail access points such as bulk transfer facilities and intermodal rail transfer facilities.
- Class I rail lines prefer not to develop adjacent to main line tracks because it means they could be required to add a switch and implement PTC technology.
- Some rail lines have fallen into disrepair or had critical infrastructure (e.g., bridges) removed.
- Most shortline rail lines in the region are single track, and there are not enough sidings in rural areas to temporarily store empty rail cars that are sitting idle between shipments.
- All types of freight activity draw complaints, mainly about noise, vibration, emissions, and safety.
- Bridge weight and clearance restrictions can force trucks to make long detours.
- Limited air cargo service at airports within the study area boundaries.
- Mixed-use residential/retail/commercial redevelopment at and around the Port of Rochester coupled with a lack of adequate highway facilities for freight precludes future use for industrial development or as a major freight hub.
- Lack of access to comprehensive information on non-transportation infrastructure capacity that is necessary to complement transportation investments.
- Interchange agreements between the railroads are rarely enforced, and operational difficulties that lead to delays on the Class I system also affect the short line operators.
- Short line rail operators are having a more difficult time reaching financially feasible agreements with Class I rail lines to haul small numbers of rail cars generated by short line customers.
- At-grade rail crossings still pose potential risks for crashes between trains and motor vehicles.
- Security challenges at rail yards, freight storage areas, and truck rest areas located far from population centers.
- High inbound U.S.-Canada border crossing times.

8. Projects

NEAR TERM

- Address low clearance and weight restricted bridges on major freight corridors and on access routes to development sites of regional priority
- Implemented improvements at the I-390/I-490 interchange to alleviate peak-period congestion and prevent spreading to off-peak hours (Note: this is the highest priority project for GTC and the highest priority transformational infrastructure project for the Finger Lakes REDC.)
- Replace Portageville Bridge on NS Southern Tier rail to eliminate weight/speed restriction
- Complete projects identified in Transportation and Industrial Access Site Reports from 2007
- Construct rail sidings to major regional landfills to shift inbound municipal solid waste from truck to rail
- NY-63 Corridor Near-Term improvements on freight corridors as identified in local studies

MID-TERM

- Sustainability/capacity improvements in NY-63 corridor
- Increase allowable truck weight and length on appropriate roadways (generally near interstates and the Thruway).
- Identify locations for a regional-scale rail/highway intermodal transfer facility and identify potential customers to warrant this investment
- Evaluate feasibility of developing a multimodal logistics center/freight village at the Lyons Industrial Park (along CSX mainline and Corning secondary)
- Save right of way (ROW)/infrastructure improvements along Norfolk Southern's Corning Secondary Line between Geneva and Lyons

- Evaluate feasibility of improvements in Seneca Army Depot Industrial Rail Facility
- Improve overhead clearance restrictions and siding on RSR line for improved connection to the NS Southern Tier line
- Save ROW/infrastructure improvements to reinstate rail service on the former Falls Road line between Brockport and Rochester for potential future rail use.
- Save ROWs on other lines identified in the Regional Right of Way Preservation Study for potential future rail use.
- Address weight/width/clearance restrictions on roadway crossings at the Erie Canal
- Safety improvements to reduce truck accidents on I-490 curves between Genesee River and Goodman Street
- Extend Pre-emption street from North Street to NY-5 and US-20 via overpass over the NS crossing in Geneva

9. Plans for growth and/or efficiency improvements

MID-TERM

- Work with navigation system developers/fleet dispatchers to update truck driver information systems
- Monitor operational performance of freight corridors at congestion hot spots and implement congestion management strategies
- Reduce impact of incidents and freight system disruptions by improving system resiliency
- Conduct freight infrastructure vulnerability needs assessment
- Implement specific noise-mitigation/vibration/emissions impacts of freight movement
- Evaluate feasibility of new truck bypasses using innovative funding sources and private sector participation where suitable alternate routes do not exist
- Work with the SmartWay Transport Partnership, New York State Energy Research and Development Authority, and others to access low-interest loan programs for programs/infrastructure to reduce freight fuel consumption/emissions
- Reduce delays for Canada-US border crossing inspections and upstream congestion related to border crossings
- Change designation of NY-390 to I-390 north of I-490 to make redevelopment parcels along the highway to make more attractive to national site location consultants
- Improve efficiency of switching rail cars between operators
- Review existing truck stop demand, identify gaps, build additional truck parking facilities

LONG-TERM

- Facilitate trade with Canada and more freight via non-highway modes (rail shuttle service, ferry)
- Address growing congestion in NYC area and how it affects the region
- Extend main runway at ROC to accommodate larger aircrafts and attract new customers

4.6 | BINGHAMTON REGIONAL FREIGHT STUDY

SUMMARY

BMTS created the Binghamton Regional Freight Study to identify priority actions for improving freight movement through the region. BMTS built the plan with the collaboration of NYSDOT and partner agencies to identify ways to support the needs of local businesses for economic development. The study recommended a variety of localized highway and railway projects, numerous targeted economic development zones, increased freight data collection and information systems efforts, and increased coordination with state and private agencies. (Binghamton Metropolitan Transportation Study 2008)



1. Key Findings Relevant to the NYSFTP

- The BMTS region recognizes the importance of building the local economy, as the plan highlights five new Targeted Economic Development Zones (TEDZs), and plans to develop “best practice” guidelines regarding large scale commercial and industrial development.
- BMTS estimates that the Binghamton Yard project and the reconstruction of East Binghamton Yard will benefit the private sector in the form of lower inventory costs for area businesses. NYSDOT and BMTS must work with rail operators in the region to form a public private financing plan that takes into account both public and private benefits. Like most other regions in the state, the Binghamton area seeks to expand its rail market share.
- BMTS highlights public-private partnerships, preservation of the current rail system, freight data collection, and information systems for wayfinding.

2. Cited strengths

- The Binghamton area maintains economic assets in its skilled workforce, advanced technological capabilities, fertile land, and a location on the edge of the Northeastern Megalopolis, stretching from Boston to Washington, D.C.
- Research activities at Binghamton University are an economic driver.
- Tied to the wealthy and populous Eastern Seaboard cities via I-88 and I-81, and to the US industrial Midwest via I-86/NY 17, the Binghamton region has emerged as an increasingly popular location for the logistics, warehousing, and distribution industries.
- Manufacturing sector still strong
- Geographically, Binghamton is a rail through-point for Midwest locations to reach New York State and New England markets.
- Highway connections to major markets
- Accessible undeveloped land for potential economic development, including logistics

3. Description of facilities

- The highest levels of truck activity occur on the Interstate highway network and NY-17.
- The roadway segments with the highest truck volumes generally have very good pavement, while those segments with the worst pavement conditions tend to carry the fewest trucks.

4. Intermodal connectivity

- Many truck-rail transloading/intermodal facilities within and beyond the region

5. Volume-of-trade connectivity

- A total of 95 million tons of freight moved into, out of, within, or through Binghamton in 2004
- Inbound truck freight of \$24 billion
- In terms of tonnage, about 91 percent of inbound freight, 99 percent of outbound freight, and all local freight moves by truck. All inbound, outbound, and locally-shipped containers move by truck. By value, over 95 percent and through freight moves by truck.

- Syracuse and New York City are currently Binghamton's largest trading partners followed by rest of New York State and the Midwest
- About 14 percent of through tonnage (10 percent of rail traffic moving through containers) and 5 percent of the value of through traffic is moved by rail. More than 95 percent of all rail traffic in Binghamton is through traffic.
- An estimated 9.5 million tons move through Binghamton via rail, with 90 percent of this cargo moving rail carload, rather than rail intermodal (which accounts for the remaining 10 percent).
- The largest through commodities consist of coal, scrap metal, and grain, which rarely move intermodal.

6. Growth trends

- The growth in the importance of foreign trade to the US economy.
- Decline in domestic manufacturing, accompanied by an increase in the need for domestic transport and distribution of goods made overseas.
- Recent rapid increases in energy costs that are leading to shifts in where and how products and components of products are manufactured, warehoused, and distributed to consumer markets, including some manufacturing being moved from Asia to Central America.
- A decline in the value of the dollar, which makes domestically produced goods more competitively priced both here and abroad.
- Low to moderate region growth in the future.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- As manufacturers have shifted production from the northeast and Midwest to lower cost locations, the Binghamton area has seen jobs leave and a prolonged out-migration of its population to regions possessing stronger employment growth.
- Of the 458 bridges in Broome County included in NYSDOT bridge inventory, 135 (30 percent) are rated "Deficient." In Tioga County, 97 of 220 bridges (44 percent) received "Deficient" ratings.
- There are six major rail bridges which have vertical clearances under 14'0," all of which are located along the Southern Tier Line in Binghamton.
- Two notable capacity and operational bottlenecks in the region's freight transportation system are the Binghamton and East Binghamton rail yards, where Binghamton's major rail operations converge.
- Yard-related delays, lack of passing sidings on mainline tracks, low travel speeds due to hilly terrain and steep grades, and lack of local access points to the region's rail system.
- Low area production, resulting in movement of empty truckloads
- Limited access to some specific sites

8. Projects

- Five TEDZ:
 - Kirkwood Industrial Park;
 - Broome Corporate Park;
 - The Brandywine Highway corridor just north of downtown Binghamton;
 - The site of the former Anitec facility on Elm Street in Binghamton; and
 - The NY-17 corridor in Tioga County.
- Proposed addition of a climbing lane on I-81 southbound from Interchange 4 to Windy Hill Road.
- Proposed extension of Griswold Street to the area east of Brandywine Highway and south of I-81 and the provision of an access ramp that would eliminate the need for a circuitous routing for trucks into and out of the site.
- Proposed provision of an access road to the Anitec site from the planned new interchange on NY-17 (future I-86) at Prospect Street.
- Various localized highway projects
- The Binghamton Yard project, estimated at \$1.43 million, and the reconstruction of East.
- Binghamton Yard, an estimated \$4.265 million project, both are estimated to predominately benefit the private sector in the form of lower inventory costs for area businesses.

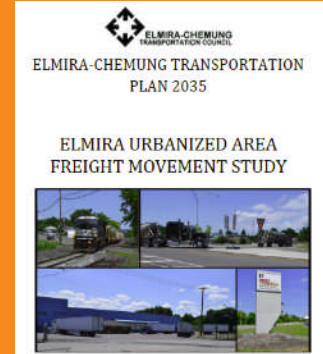
9. Plans for growth and/or efficiency improvements

- Continue to integrate freight into the BMTS planning and programming processes.
- Encourage private-sector participation in economic development and freight planning decisions.
- Take immediate steps to preserve the regional rail system and rail service to businesses throughout the region.
- Encourage currently proposed investments in private rail infrastructure.
- Improve the dissemination of information to truck drivers and truck fleet dispatchers.
- Implement regional wayfinding improvements.
- Increase truck-parking capacity.
- Improve the collection and reporting of freight data on local, state and Interstate highways.
- Identify previously unexploited freight funding sources and freight financing techniques and build on the region's successes in acquiring needed rail funding.
- Determine where high levels of rail and/or roadway traffic require safety improvements at rail grade crossings and/or elimination of those crossings with high accident rates.
- Maintain the security of regional freight transportation infrastructure.
- Provide climbing and passing lanes at appropriate locations on two-lane rural roads to help prevent head-on collisions due to passing traffic.
- Identify a local truck route network and install appropriate and legal signage on local roadways to direct trucks onto roadways designed to accommodate them.
- Encourage construction of rail sidings additional small bulk transfer facilities regionwide to increase local access to rail service.
- Negotiate more frequent and more reliable interchanges of rail cars between the region's short lines and Class I operators to shorten delivery times by rail and make rail shipments more competitive with truck shipments.
- Encourage growth in rail market share by continuing to support private rail investments and providing incentives, where appropriate, to help businesses overcome obstacles to using freight rail services to ship goods.
- Develop a mechanism for quickly sharing information about alternate routes and diversions due to highway closures and other incidents directly with dispatchers for national truck fleet operators, post the maps on its website, and transmit the maps to NYSDOT, the I-95 Corridor Coalition, and other transportation information clearinghouses.
- Encourage implementation of Commercial Vehicle Infrastructure Integration (CVII) initiatives
- Help implement freight emissions reduction and fuel efficiency initiatives led by the New York State Energy Research and Development Authority (NYSERDA), the FHWA and the US Environmental Protection Agency (EPA).
- Study the need for and feasibility of truck-only lanes in the context of future industrial development in the BMTS region, long-term projections of growth in truck trips through the region and changes in freight movement technologies.
- Develop "best practices" guidelines for large-scale commercial and industrial development, potentially including a model municipal ordinance for jurisdictions where truck- or rail-oriented industrial development is to be encouraged.
- Develop sub regional plans for industrial growth in desired growth areas, such as the area around Broome Corporate Park and the NY-17 Corridor in Tioga County.

4.7 | ELMIRA URBANIZED AREA FREIGHT MOVEMENT STUDY

SUMMARY

ECTC developed the Elmira Urbanized Freight Movement Study in collaboration with NYSDOT alongside the development of the region's long-range transportation plan. The study accounted for existing freight movement and economic conditions, anticipated trends in employment and trade, and provided recommendations to help the region better accommodate these trends. Recommendations include developing a regional truck information program, enhancing freight facility access, increasing information collection and sharing, and pursuit of small-scale projects with near-term freight mobility benefits. (Elmira-Chemung Transportation Council 2015)



1. Key Findings Relevant to NYSFTP

- ECTC maintains its manufacturing employment base and a major distribution center. The area is also located on a critical freight highway and railway path across the Southern Tier, thus experiencing a significant amount of through traffic.
- ECTC lacks funding to finance any large-scale freight projects, but identifies various plans for future growth, including extended access to I-86 and a major local transloading facility for fracking material.
- ECTC plans to increase coordination with NYSDOT to enhance its freight data collection and performance efforts.

2. Cited strengths

- Strong manufacturing sector.
- CVS Distribution Center (one of fourteen in the US).
- Horseheads Sand and Transloading Terminal (HOST) that deals with shipping large amounts of fracking-related materials destined for Pennsylvania.
- Two hot-mix asphalt plants in the region.

3. Description of facilities

- I-86 runs from the west to southeast, while State Routes 13 and 14 are the primary north-south arterials. State Route 13 is a significant arterial between Ithaca and Elmira.
- Elmira-Corning Airport
- NS, a Class 1 railroad that provides service throughout the eastern US, provides freight rail service in Chemung County. NS operates 12 to 14 trains per day along the Southern Tier mainline, a major freight route between Buffalo and northern New Jersey, including the Port of New York and New Jersey
- Large manufacturing facilities
- CVS Distribution Center

4. Intermodal connectivity

- Transloading facility at HOST

5. Volume-of-trade connectivity

- Chemung County is a net importer of freight in tonnage and value, with about 72% of total commodity tonnage and about 54% of total commodity value inbound to the County in 2011.
- The Northeast US, principally areas within New York State and Pennsylvania, is Chemung County's major trading partner. In addition, there is significant freight movement between the County and the Midwest US, including Indiana, Ohio, Chicago, and Michigan.

6. Growth trends

- Trucks carry the majority of freight, in both tonnage and value, to and from Chemung County, and forecasts project this to continue to do so through at least 2040. Forecasts show the overall tonnage of truck-borne freight to and from the County may increase by over 80% between 2014 and 2040.
- Almost half (20 out of 45) of Chemung County's largest private employers are manufacturers. Between 2001 and 2011, the County's manufacturing GDP increased over 35%. During this same period, however, manufacturing employment decreased by about 30% suggesting that manufacturers are finding ways to increase productivity without hiring additional labor.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Fewer jobs makes the region less attractive for those entering the workforce; young people tend to leave, resulting in an aging population. Since the 1970s, Chemung County's population has declined each decade, with the 2010 population only slightly greater than the population in 1950.
- The clustering of industries and manufacturers in these concentrated geographic zones presents challenges for the region's transportation system. For example, the roadways connecting these areas with I-86 and state highways experience a disproportionately high volume of truck traffic. Thus, these roadways need to be constructed and maintained to a level adequate to handle truck weights and service frequency.

8. Projects

- There is a potential benefit to extending the Clemens Center Parkway as a Northern Arterial to I-86. This would create a second high-quality northern access into the City and on to Pennsylvania.
- An industrial access issue exists at the site, but is the concept of a direct connection for HOST to State Route 13. This connection would provide quick and convenient access to I-86. HOST tenants include those who serve the natural gas drilling industry in Pennsylvania by bringing significant amount of material in by rail and shipping it out by truck.
- There are currently no identified funds to progress these two projects as each has a considerable cost well beyond the federal and state resources identified in the 2035 Plan.

9. Plans for growth and/or efficiency improvements

- Develop a regional truck information program
- Develop freight facility access and mobility plans
- Partner with NYSDOT to identify/maintain freight data/performance measures
- Pursue projects with near-term freight mobility benefits

4.8 | NYMTC REGIONAL FREIGHT PLAN UPDATE 2015-2040

SUMMARY

NYMTC updated their Regional Freight Plan seeking to link the plan to national freight goals, develop freight performance measures, update freight-related data, and reassess project and policy needs throughout the metropolitan region. NYMTC seeks to minimize congestion or impediments to freight flow, identify other than truck goods movement options, collect new data, enhance performance measurement, and increase agency/ stakeholder coordination. (New York Metropolitan Transportation Council 2015)



1. Key Findings Relevant to the NYSFTP

- NYMTC requires extensive coordination between critical freight carriers, facilities, and stakeholders. The plan emphasizes collaborative planning efforts amongst these entities.
- This region has a very high amount of intermodal activity. NYMTC seeks to identify opportunities for further intermodal movement. Potential locations at the time of the study included: Harlem River, Pilgrim State Hospital in Deer Park.
- The 2007 breakdown of freight movement by value in the NYMTC region was 98% (\$1.32 trillion) moved by truck, 1% (\$11 billion) by water, 1% (\$9 billion) by rail, and less than 1% (\$7 billion) by air/other modes. The region would like to focus on building its freight network outside of truck traffic. The removal of the 53-foot restrictions helped to facilitate the movement of truck traffic and increase access to other modes (i.e., air via JFK). The plan demonstrates initiatives at both JFK and SWF regarding redevelopment initiatives.
- The region's major issues include lack of capacity and poor infrastructure conditions. The plan includes projects to address both congestion and maintenance issues. For example, NYMTC assisted the integration of the New York Integrated Incident Management System technology in all five boroughs in the mid-2000s, HOV lanes on the Staten Island Expressway, various bridge improvements, and attempts to remove clearance barriers on major facilities.
- NYMTC emphasizes data collection in terms of understanding current economic and goods movement conditions, as well as creating performance measures related to national freight planning goals.
- NYMTC engaged in several studies that did not have concrete implications at the time of the plan:
 - Truck Rest Stops through the region,
 - Truck route management in NYS and Rockland County,
 - Feasibility of freight villages in the region,
 - Feasibility of freight ferries between Hunts Point and New Jersey and between New Haven and Long Island,
 - Cross Harbor Freight Program (expansion of carfloat service or tunnel development),
 - Cross Sound Enhancement Project (improvement of ferry service across the Long Island Sound), and
 - Hudson Food Corridor Initiative (movement of Central NY food supply to the metropolitan area via the Hudson).
- NYMTC seeks and supports innovative methods for managing freight demand, which could provide example(s) to the NYSFTP, including:
 - The NYPERMITS online oversize permitting service,
 - The New York City Department of Transportation (NYCDOT) PARK Smart Program, and
 - The PANYNJ off-hour truck toll discount.

2. Cited strengths

- JFK is ranked as one of the top air cargo gateways in the country.
- Coordinated planning efforts are strong in the region. There is a partnership planning effort amongst NYSDOT, New Jersey Department of Transportation (NJDOT), and PANYNJ to develop a regional freight strategy. New federal mandates for freight planning in Moving Ahead for

Progress in the 21st Century Act (MAP-21) and expanded exchanges on freight issues among NYMTC, the neighboring North Jersey Transportation Planning Authority (NJTPA), and other nearby metropolitan planning organizations will aid coordination, as well.

- Advanced truck management technology (e.g. weigh-in-motion sensors, camera sensors to monitor parking spaces/curbside loading zone occupancy).
- Recent moves to upgrade infrastructure to better handle modern equipment.

3. Description of facilities

- The Port of New York & New Jersey (PoNYNJ) serves as a major international gateway for imports and exports consumed and produced in the NYMTC Region.
- Interstates are primary gateway to the region for truck traffic. These interstates include I-78, I-80, I-84/684, I-95, I-87/287, I-278, I-295, and I-495.
- Major Rail:
 - CSX, which operates along the River Line in Rockland County, Hudson Line in Putnam, Westchester, and Bronx counties, the Hell Gate Line and Fremont Secondary from Bronx County into Queens County. CSX also provides local industry service to customers along the New Haven Line and to the Hunts Point Distribution Center in Bronx County;
 - NS, which only serves the New York Metropolitan region from the south and west. Its lines do not directly enter the NYMTC counties; New Jersey freight rail access to the NYMTC region depends on the cross-harbor car float;
 - Canadian Pacific Railway (CP), which until 2010, operated carload train service east of the Hudson to Oak Point Yard and Fresh Pond Yard, CP has established a haulage agreement with CSX, with CSX handling CP traffic in their trains south of Albany. CP retains the right to resume trackage rights operations in lieu of the haulage agreement. CP's intermodal operations continue at a modest level over the NS Lehigh Line in New Jersey to Oak Island Yard in Newark.
 - Conrail Shared Assets, a switching carrier jointly owned by NS and CSX, operates in much of Northern New Jersey and over the Arthur Kill Lift Bridge to Arlington Yard and the Travis Industrial Track in Richmond County (Staten Island).
- Shortline Rail:
 - The Housatonic Railroad (HRRC), which holds presently unused freight rights over Metro-North's Beacon Line, from Beacon east through Hopewell Junction to the New York-Connecticut state line
 - NYA has held an exclusive franchise to provide freight service over trackage owned by the Long Island Rail Road (LIRR) since 1997. The NYA operates from a hub at Fresh Pond Junction in Queens. NYA serves Brooklyn via the freight only Bay Ridge Branch, and points west, east, and south on Long Island via the Lower Montauk Branch, Main Line of the Long Island Railroad (LIRR), Montauk Branch, and Port Jefferson Branch.
 - NYNJ Rail, owned by PANYNJ, operates a rail carfloat between Greenville Yard in Jersey City, NJ and the 65th Street Yard in Brooklyn.
 - The P&W accesses New York through trackage rights over the freight operating rights held by CSX (as successor to Conrail and CP) on MetroNorth's New Haven route. The only regular move by P&W on this route is the handling of crushed rock in unit train service to Fresh Pond Junction on Long Island, which is the only commodity permitted under P&W's limited trackage rights.
 - The South Brooklyn Railway (SBK) is a freight carrier owned by the Metropolitan Transportation Authority (MTA)/New York City Transit that presently consists of isolated segments of track at 39th Street and 3rd Avenue and at NYCT's Coney Island Yards.
- In addition to PANYNJ container, bulk and breakbulk terminals, there are numerous private terminals along various New York waterways handling a variety of cargo such as sand and gravel, petroleum products, paper products, etc.
- Airports: John F. Kennedy International Airport (JFK), LaGuardia Airport (LGA), Westchester County Airport (HPN), Long Island MacArthur Airport (ISP) and Republic Airport (FRG).

4. Intermodal connectivity

- 65th Street Yard, NYNJ Rail: Rail/Water, Bulk Transload
- Bridgeport & Port Jefferson Steamboat Co.: Water/Highway
- Brookhaven Rail Terminal, US Rail: Bulk Transload
- Bush Terminal Yard (51st Street Yard): Rail/Water, Bulk Transload
- Harlem River Yard, CSX: Municipal Solid Waste (MSW) Transload
- Hunts Point, CSX: Bulk Transload
- New London to Orient Point Ferry: Water/Highway
- New York Container Terminal and Arlington Rail Yard, Conrail: Rail/Water
- South Brooklyn Marine Terminal, NYA: Rail/Water

5. Volume-of-trade connectivity

- More than 405 million tons and through freight moved over the NYMTC region's transportation network in 2007. Thirty-six percent of this traffic was inbound, 17 percent was outbound, 19 percent was intraregional, and 29 percent was through traffic.
- When measured by weight, in 2007, 91 percent (368 million tons) of the regional freight moved by truck, 5 percent (22 million tons) by water, 2.5 percent (10 million tons) rail, and less than 1 percent (3 million tons) by each air and other modes.
- Eighty-four percent of the tonnage moved into, out of, within, or through the study region traveled less than 500 miles in 2007, and forecasts anticipate this share to be 80 percent in 2040.
- \$1.34 trillion and through freight moved in the NYMTC region. Ninety eight percent (\$1.32 trillion) moved by truck, 1 percent (\$11 billion) by water, 1 percent (\$9 billion) by rail, and less than 1 percent (\$7 billion) by air and other modes.
- The top three trading partners of the study region – Northern New Jersey, Rest of New York State, and the South Atlantic states – account for about 60 percent of total inbound and outbound freight flows by weight in 2007 and will make up about 54% of the region's trade volume by 2040.
- The top five commodity groups moving inbound, outbound and intraregionally in both 2007 and 2040 are secondary traffic (defined here as freight flows to and from distribution centers or via intermodal facilities and typically represents consumer goods), nonmetallic ores and minerals, petroleum and coal products, food and kindred products, and clay, concrete, glass and stone products. Together they account for more than 73 percent of total commodities by weight both currently and in the future.
- About 27% of trucks constitute urban freight/local delivery. Additionally, 17% through traffic, 17% terminal/warehouse access, 19% distribution/interplant, and 4% local.

TABLE 8: ANNUAL TRUCK TRIPS BY TYPE, 2007

Truck Trip Type	Annual Truck Trips
Through	5,210,383
Terminal and Warehouse Access	5,322,301
Distribution and Interplant	5,770,202
Urban Freight and Local Delivery	8,270,666
Local	1,319,832
All Commodity Truck Trips	30,214,674 ¹⁵

Sources: IHS Global Insight TRANSEARCH Database; Cambridge Systematics analysis.

6. Growth trends

- Demand for goods/services back to/exceeding pre-recession levels.
- Growth in household disposable income
- By 2040, forecasts expect inbound, outbound, intraregional and through freight to increase to 592 million tons - a 46 percent increase. Forty percent of this traffic is inbound, 15 percent outbound, 15 percent intraregional, and 30 percent through traffic.

- In 2040, the freight transportation mode split is expected to change slightly, with water declining in share from 5 percent to 3 percent, and other modes increasing in share from 1 percent to 3 percent.
- Kings County is projected to account for 32 percent (27 million tons) of the 2040 outbound tonnage and 21 percent (48 million tons) of the inbound tonnage in the region
- By 2040, the total value of the inbound, outbound, intraregional, and through freight is expected to increase 77 percent to \$2.38 trillion. Truck will continue to carry 98 percent (\$2.34 trillion) of freight by value; rail, water, and air will each carry about 0.5 percent of freight by value (between \$12 and \$13 billion each), and other modes will carry 0.2 percent (\$4 billion) by other modes.
- With an anticipated increase in freight movement, the truck parking supply shortfall will increase unless existing facilities expand or new facilities constructed.
- Among Port Authority-owned airports (JFK, LGA, EWR, and SWF), cargo tonnage for year 2012 fell for the second year in a row, declining by 6 percent following a 2.5 percent decline in 2011.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- The predominance of trucking for freight deliveries;
- The lack of modern rail freight infrastructure east of the Hudson;
- A lack of available funding for dredge disposal;
- Clearance issues for delivery vehicles;
- Competition with and priority for passenger rail services in the use of the rail infrastructure for freight purposes; and
- Fragmented rail operations and lack of supporting infrastructure for rail.
- Passenger and freight conflicts remain a relevant issue in the region.
- Congestion in the following areas:
 - I-95 between the George Washington Bridge and the Sheridan Exwy.;
 - I-495 between Glen Cove Road and the Brooklyn-Queens Exwy. (I-278);
 - I-87/I-287 between Suffern and the Tappan Zee Bridge;
 - I-287 near White Plains in Westchester County;
 - Sunrise Highway east of the Southern State Parkway in Suffolk County;
 - Several sections of I-678 (Whitestone Exwy./Van Wyck Exwy.) between the Whitestone Bridge and Atlantic Avenue;
 - I-278 (Brooklyn-Queens Exwy./Gowanus Exwy./Staten Island Exwy.) between the Long Island Exwy. (I-495) in Queens County and the MLK Exwy. (NY-440) in Richmond County;
 - The Holland Tunnel and its approaches in lower Manhattan; and
 - Rockaway Blvd/Nassau Exwy. adjacent to JFK International Airport.
- Poor pavement on the following facilities:
 - 4.1 miles of NY Route 27, Montauk Highway, in Suffolk County;
 - 3.5 miles of I-684 in Putnam County;
 - 3.0 miles of I-684 in Westchester County;
 - 2.3 miles of Route NY 25, Queens Boulevard, in Queens County;
 - 0.6 miles of I-278 in Queens County; and
 - 0.5 miles of I-87 in Bronx County.
- I-87, I-278, I-287, I-678, and I-95 have the greatest number of structurally deficient bridges
- Between 2007 and 2011, 62 truck-involved crashes resulting in fatalities occurred on the Strategic Freight Highways in the 10-county NYMTC region. Nearly one-third of those crashes, 19, occurred in Queens County, and 10 crashes occurred in each Bronx and Nassau Counties.
- Constrained capacity;
- Sub-optimal physical condition of some components of the network;
- Limitations on shippers' and receivers' access to components of the network;
- Vulnerability of the network to the effects of climate change;
- Lack of strategic redundancy;
- Need for improved management of truck movements; and
- Complex public and private institutional relationships.

8. Projects

- Conducted study of truck rest stops throughout the region
- Conducted study of truck route management in New York City and Rockland County
- Conducted feasibility study of freight villages within the region
- Removal of the restriction on 53-foot trailers on the Van Wyck Expressway.
- NYCDOT has examined and piloted several loading zone management schemes since the completion of the Truck Route Management Study.
- NYSDOT launched its “NYPERMITS” online oversize/overweight permitting service
- The New York Integrated Incident Management System operates across all five boroughs of New York City in 2003. Between 2003 and 2007, additional IIMS units operate throughout the City’s limited-access highway network.
- Programs experimenting with value pricing of toll and parking facilities, including congestion pricing in Manhattan and NYCDOT’s parking pricing pilot program.
 - NYCDOT’s PARK Smart program- success in managing curbside parking/loading area supply in several neighborhoods requires community and business community participation to tailor the program to the needs of the neighborhood.
 - PANYNJ introduced an overnight truck toll discount at its six NY-NJ bridges and tunnels to encourage off-peak scheduling of truck movements.
- Port Inland Distribution Network pilot program consisted of a barge service from Port Elizabeth in New Jersey to the Port of Albany. The service was short-lived, as it was not cost-competitive with trucking without a significant subsidy.
- NYMTC published the Hunts Point Waterborne Freight Assessment in 2004 and Long Island Sound Waterborne Transportation Plan in 2005, which examined the feasibility of freight ferries between Hunts Point and various locations throughout the region. The two studies examined a number of potential ferry links, and recommended further study of a truck ferry link between Hunts Point and New Jersey, and between New Haven and Long Island.
- The Arthur Kill Lift Bridge improvements linked Staten Island to the national rail network in 2006.
- NYCEDC conducted a study of the rail access needs of the South Brooklyn waterfront. Extension of the First Avenue line into South Brooklyn Marine Terminal is currently under construction.
- Various projects to provide a minimum of 17’9” TOFC clearance; eliminate weight and clearance restrictions on plate F cars and tri-level auto carriers (19’-6”) and expand eventually to 23-foot double-stack clearance, but found that removing vertical clearances throughout NYC/Long Island to achieve this goal, though not yet estimated, is likely to be prohibitively expensive.
- In 2012, PANYNJ began using 65th Street Yard as the eastern terminus of the NYNJ Rail carfloat service, and a 14-acre bulk transload facility is on site. NYCEDC owns the yard and NYNJ Rail operates it.
- PANYNJ purchased the only rail car float service operating in the harbor and secured FHWA approval to commit federal earmark resources, with PANYNJ local matching funds, to rehabilitate the facilities in Brooklyn and Jersey City. With FHWA oversight, PANYNJ has revised the planned capital investment to support continued growth in volume and to coordinate with related rail improvements on both sides of the harbor.
- In 2009, rehabilitation of the Highbridge Interchange and Alexander Hamilton Bridge commenced. The project consists of replacing the concrete deck of the bridge, retrofitting the steel arch and supports of the bridge, and redecking and/or retrofitting of bridges on several of the interchange ramps. Anticipated completion for the project was late 2013.
- NYSDOT engaged in a Draft Environmental Impact Statement (DEIS) to study alternatives for improving the interchange between the Bruckner and Sheridan expressways, which did not advance to a Record of Decision.
- PANYNJ studied alternatives for upgrading the Goethals Bridge crossing and completed an Environmental Impact Statement (EIS) in 2011. In April 2013, PANYNJ awarded a public-private partnership contract to design, build, finance, and maintain a new bridge, which PANYNJ will operate. The new bridge will have 12-foot wide lanes (3 in each direction), wider shoulders, and a sidewalk/bikeway. As an independent improvement project, PANYNJ also has initiated planning

for a project to provide more direct access for trucks traveling between Staten Island's New York Container Terminal and the new Goethals Bridge.

- The Staten Island Expressway portion of the high-occupancy vehicle (HOV) system is complete. MTA awarded a contract for reconstruction of the upper deck of the Verrazano-Narrows Bridge, which will include a reversible HOV lane and complete the HOV system between Staten Island and the Hugh L. Carey Tunnel.
- Cross Sound Enhancement Project, which aims to improve existing ferry services across Long Island Sound, increasing capacity to accommodate an additional 3,000 trucks per year between Connecticut and Long Island;
- Trans-Hudson Freight Connector Project, which aims to expand the quality and capacity of the Cross-Harbor rail float service between New Jersey and Brooklyn
- Hudson River Food Corridor Initiative, which aims to study the feasibility of transporting fresh produce from agricultural regions in North-Central New York near the Hudson River and Long Island to the New York-Newark Metropolitan Area.

9. Plans for growth and/or efficiency improvements

- Developing freight performance measures.
- Refreshing data and trends for post-recession information.
- Refresh freight projects/policies to match current local/LRPs.
- Link plan to national freight goals.
- Assess potential to develop Harlem River as an intermodal yard. (Currently a solid waste transfer station).
- Assess potential to develop Pilgrim State Hospital in Deer Park as a bulk and/or intermodal facility. NYSDOT released a Design Report and DEIS in 2007. No further action occurred.
- PANYNJ is completing an EIS to identify a preferred alternative for facilitating freight movement across New York Harbor. Potential alternatives include an enhanced rail carfloat service and a rail tunnel with several potential operating scenarios.
- Phelps Dodge site proposed as an intermodal terminal to support the Cross Harbor tunnel in the 2004 NYCEDC-led EIS. Currently, PANYNJ is leading a new Cross Harbor Freight Program EIS.
- Conduct regional feasibility study to identify additional intermodal freight sites.
- The 2004 Bronx Arterial Needs Major Investment study recommended a continuous connector road system on the Cross Bronx Expressway, but the strategy did not receive further analysis.
- The vertical clearance restrictions on the Brooklyn-Queens Expressway (BQE) remain in place, though NYCDOT's Brooklyn Bridge rebuilding project will increase the vertical clearance under the bridge. Anticipated completion for the project was 2014.
- Maintain Southern Rail Gateway to enhance cross-Hudson connectivity.
- Airport redevelopment initiatives and ongoing capital investment at JFK/SWF.

4.9 | G-MAP: A COMPREHENSIVE GOODS MOVEMENT ACTION PROGRAM FOR THE NEW YORK-NEW JERSEY METROPOLITAN REGION

SUMMARY

G-MAP is the Regional Goods Movement Action Program developed in coordination with various partner agencies, including NYSDOT, NJDOT and PANYNJ. The initiative outlines a comprehensive agenda of operational, regulatory, and investment priorities that can assure more efficient and sustainable performance of essential goods movement to support regional trade and commerce and consumer needs. (PANYNJ/NYSOT/NJDOT 2014)



1. Key Findings Relevant to the NYSFTP

- G-MAP describes the New York Metropolitan region as both a global gateway and a critical linkage in the Northeast Megaregion.
- G-MAP highlights the New York metropolitan region's major freight network issues as congestion, aging infrastructure, constrained funding and fragmented management.
- Early Actions include increasing coordination and accountability between transportation operating agencies, developing public-private partnerships to creatively fund system improvements, enhancing commercial vehicle regulation/permitting/enforcement, integrating ITS along I-95, creating an air cargo drop-off center to link freight movement between airports, expanding off-peak delivery programs, achieving consistency with national rail weight standards, and expanding the national standard 53-foot trailer network to serve JFK Int'l Airport.
- G-MAP's Action Packages provide a strategic framework to advance policy and management changes, and infrastructure investments. The project packages in G-MAP underscore the importance of enhancing access to all modes and across jurisdictions in the region. Regulatory harmonization, Intelligent Transportation Systems (ITS), freight preservation, and performance measurement are important elements in creating a safe, sustainable and efficient goods movement system.

2. Cited strengths

- This program provides an important perspective on the multi-jurisdictional nature of freight movement, in this case in the New York metropolitan area. It develops a shared strategy amongst the Port Authority, NYSDOT, and NJDOT
- Promotes system-level solutions and long-term commitments
- Provides a framework to leverage funding of regional freight projects
- Allows for regional champions and public and private supporters
- Creates a dynamic project evaluation process to guide local, regional, state, and federal agencies
- Brings transparent monitoring and oversight to regional performance
- Offers a long-term agenda for collective regional action.

3. Description of facilities

Identifies a Regional Core Freight Network including
Highway --

- Interstates: (NY) I-87, I-287, I-495, I-95, I-684, I-295, I-895, I-78, I-80, I-195, I-278, I-678, I-84, I-91, (PA) I-276, I-76, I-676
- State Roads: 3, 4, 8, 10, 15, 17, 20, 21, 22, 23, 24, 25, 31, 57, 91, 97, 110, 124, 135, 182, 208, 347, 440, 454, 609, 982
- US Highways: 22, 202, 206, 1/9, 1, 46, 6, 7, 9W

Marine --

- Military Ocean Terminal at Bayonne (MOTBY)
- Port Jersey Marine Terminal
- Howland Hook Marine Terminal

- Port Newark
 - Elizabeth – Port Authority Marine Terminal
 - Brooklyn Port Authority Marine Terminal
 - Red Hook Container Terminal
- Rail --
- Oak Point Yard
 - Harlem River Yard
 - Oak Island Yard
 - Kearny Yard
 - Croxton Yard
- Generators --
- Tremley Point
 - Hunts Point Market
 - Raritan Center
- Air --
- John F. Kennedy International (JFK)
 - Newark Liberty International (EWR)
 - LaGuardia (LGA)
 - Westchester County (White Plains)
 - Trenton-Mercer
 - Lehigh Valley International
 - Philadelphia International
 - Republic (Suffolk County)
 - Long Island-MacArthur (Islip)
 - Tweed-New Haven Regional
 - Stewart International Airport (SWF).

FIGURE 2: G-MAP REGIONAL CORE FREIGHT NETWORK



4. Intermodal connectivity

- Transloading occurs at numerous rail, air and water facilities throughout the region. The PANYNJ's ExpressRail System enables ship-to-rail transfers at Howland Hook Marine Terminal in Staten Island, as well as other ports.
- The program notes the need for freight transfer facilities closer to customers and transportation corridors to reduce vehicle miles traveled and facilitate the use of environmentally friendly last-mile deliveries.

5. Volume-of-trade connectivity

- Information not in document, used data in Cross Harbor Freight Movement Program Tier 1 DEIS.

6. Growth trends

- Information not in document, used data in Cross Harbor Freight Movement Program Tier 1 DEIS.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- 8 million daily commuters consume most of the metro area's road and railway capacity.
- Dense development patterns and competing land uses push essential distribution and intermodal transfer facilities farther away from customers and consumers
- Limited public funds are available for infrastructure maintenance and expansion

8. Projects

G-MAP packages projects to bring efficiencies and synergies, as well as to promote investment from federal and private sector partners. The total funding requirement for the 10 Action Packages is approximately \$24.5 billion, of which about 44 percent (\$10.7 billion) is currently funded. The Action Packages are:

- Inside I-287: The First & Last Miles
- Airport Access: Delivering Priority Transportation
- Multimodal Rail: Realizing the Rail Renaissance
- GATES: Promoting the Region's Global Gateway
- I-95 Corridor: Serving the Northeast Megaregion
- Deploying Freight Technology for Smarter Operations
- Capital Resources for the Financial Capital
- Off-Peak: Capturing Available Capacity
- Regulatory Harmonization: Seamless Service Provision
- Freight Preservation: Preserving Access and Facilities for Essential Freight Services

9. Plans for growth and/or efficiency improvements

A shortlist of early actions were developed to allow the partner agencies to build momentum in moving from planning to implementation. The Early Actions are:

1. Draft an agreement amongst the Port Authority, NJDOT, and NYSDOT to establish the purviews, limits, guidelines, and accountability for direction of implementation
2. Complete the transition to full Program Implementation
3. Develop a Regional Strategic Plan for commercial vehicle enforcement operations
4. Consolidate and standardize definitions and regulations regarding operations for oversize/overweight vehicles
5. Streamline permitting for oversize/overweight vehicles, including coordinating existing agency permitting web portals
6. Connect JFK to the existing NYC 53-foot trailer through-route and the overall network
7. Create an air cargo drop-off and consolidated trucking service to JFK and EWR from Stewart International Airport (SWF)
8. Develop specialization in Public-Private Partnerships (P3) and innovative freight financing techniques at the Partner Agencies
9. Expand the NYC off-peak delivery program regionally

10. Designate an “I-95 Virtual Freight Corridor” that integrates ITS components—such as real-time traffic and truck routing information, Weigh-in-Motion, and shared enforcement information—to leverage the work done by TRANSCOM and the I-95 Corridor Coalition
11. Commit to implementing the GATES package of infrastructure and operational actions
12. Achieve regional consistency with 286k national rail standards

Performance Measures for the Action Packages include:

- Freight Demand & Throughput: the performance of the local economy, volume data including container throughput at the marine terminals, ExpressRail volumes, mainline rail volumes, or truck volumes on specific Core Network corridors.
- System Efficiency: Travel time and travel time reliability on representative freight corridors and freight carrier average operating costs
- System Condition: Pavement condition, bridge ratings, bridge dimensions
- Safety & Security: The number of truck-involved fatalities and serious injuries and meet one of these criteria: (1) equivalent or comparable classification, capacity, and condition; (2) within a reasonable (~ five mile) distance from a Core Network roadway; and (3) more or less parallel to a Core Network roadway
- Investment: indication of funded and unfunded portions by Action Package
- Environment: Greenhouse gas (GHG) emissions, vehicle miles of travel/emission rates by type and age of fleet

NOTES: G-MAP’s strategic Action Packages are comprised of a mix of infrastructure investments and policy/regulation changes, including funding partnerships, data collection, system performance management, off-peak goods movement projects, expansion of gate hours, ITS implementation, highway improvements, and localized bottleneck reduction.

4.10 | JFK AIR CARGO STUDY

SUMMARY

JFK AIR CARGO STUDY

The JFK Air Cargo Plan, initiated by the NYCEDC and PANYNJ includes the review of the JFK air cargo market and plans to help revitalize the infrastructure within and surrounding the airport. (NYCEDC/ PANYNJ 2013)

1. Key Findings Relevant to the NYSFTP

- The JFK Air Cargo Plan characterizes JFK as the nation's largest international freight gateway for air cargo. The airport recently observed decreases in air cargo, however, due to competing airports and increased congestion around the facility.
- The airport reorganized its plans for JFK's internal cargo zones to maximize efficiency, reduce congestion, and create business opportunities within JFK's current structure.
- The JFK plan emphasizes business development opportunities. These include encouraging: trade-oriented commercial development, use of off-airport facilities for logistics support, development of a Cargo Village, making the lease process more cost effective for tenants, making Springfield Gardens a business investment district, increasing airport marketing, and relocating freight forwarders and customs brokers on site. This business-oriented strategy echoes the criticalness of interagency coordination, particularly between the public and private sectors.

2. Cited strengths

- Enormous local consumer market:
 - New York City has 8.2 million people with a GDP of \$576 billion
 - Tri-state region has 32 million people with GDP of \$1.8 trillion
 - Approximately 50 million tourists per year add to customer base
- More international traffic through NYC airports than any other US metropolitan area
- NYC's locational "prestige"
 - Lifestyle, international reputation
 - Access to a large workforce and skilled labor
 - Exceptional public transportation
- Diversified population base
 - 35.7% of New Yorkers are foreign-born
- The nation's largest international freight gateway for air cargo
- The nation's largest passenger market with the most belly cargo capacity
- Unmatched reach to international destinations with frequent service to key trading partners
- The nation's largest and most affluent consumer market
- Unparalleled network of freight forwarders and customs brokers and truckers familiar with ever changing security and screening regulations
- Service for almost every specialized cargo type
- Physical space on airport to accommodate growth

3. Description of facilities

- Both FedEx and UPS operate out of JFK. FedEx has the larger operation but has a substantial amount of unreported truck-to-truck traffic to serve its Long Island markets.
- Regional Air Cargo Impact
 - 50,000 jobs
 - \$3.0B in wages
 - \$8.5B in sales
 - Major employer in Queens County
 - Almost 1.4 M tons of freight shipped and received annually
 - Largest international cargo gateway by freight value
 - 25,000 different commodities handled within the region

4. Intermodal connectivity

- Transloading cargo from air to truck.

5. Volume-of-trade connectivity

- Tonnage: 2010 – 1.4M Short Tons

6. Growth trends

- JFK air cargo volumes have declined by almost a third over the past decade.
- Currently the Airport and the Region are experiencing declines in:
 - Cargo market share and tonnage,
 - Airport revenues,
 - Cargo-related jobs, and
 - Off-airport tax base cargo moved by trucks due to stringent air carrier requirements.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Growth of international traffic to competing airports
- Infrastructure issues and congested roadways
- Competing off-airport land uses
- Limited off-airport growth opportunities
- On-airport barriers to business growth such as obsolete facilities
- JFK has numerous facilities and infrastructure with functionality that has become limited and in need of modernization. This includes the access roads to both the airport facilities and to the regional cargo community for which connectivity is so important.
- There is no designated interstate-highway route for 53-foot trailers to serve JFK, while these vehicles have become the trucking standard nationally, and operate in NYC despite restriction.
- Cost reduction for tenants and users of on- and off-airport facilities that includes rates and charges that balance risk and reward for potential partners.
- Infrastructure financing strategies for off-airport facilities.
- Access and maneuverability for trucks on- and off-airport.
- The cost of doing business at the Airport and in the City/Leasing and property costs at the Airport
- Trucking firms face unique costs when serving JFK (E.G., Tolls, special access fees, the length of time to make deliveries and pickups)
- Dated and sub-standard cargo facilities on-airport.

8. Projects

- Determine a new runway option given land requirements.
- Create and allocate funding for an aggressive and focused marketing effort.
- New state of the art cargo building in Area D
- Construction of a truck center on airport property to meet the needs of truckers serving JFK
- New animal handling facility on airport (\$32 million facility will be able to handle over 70,000 animals per year)
- New on-airport cargo space and laid out vision for new development
 - Area D: Focus for air cargo operations, including ramp access
 - Area C: Develop for integrator operations, including ramp access
 - Area B: Attract freight forwarders and customs broker operations
 - Area A: Consider development for non-cargo related uses
- Provide a Certified Cargo Screening Facility to serve the broker-forwarder community and small carriers.
- Tear down or mothball vacant functionally obsolete facilities on airport
- Improve intersections, optimize signal timing, install new signage and expand on street parking opportunities at key locations and roadways in off-airport cargo areas
- Develop City owned sites for air cargo or value added businesses

- New air cargo facilities to address roadway geometry to larger vehicles and more room for truck queuing (given 53-foot restriction lift).
- Provide capacity for Customs inspection in all cargo buildings to enhance the efficiency of US Customs & Border Protection (“CBP”).
- Update Design Standards and Development Guidelines for all new cargo facilities

9. Plans for growth and/or efficiency improvements

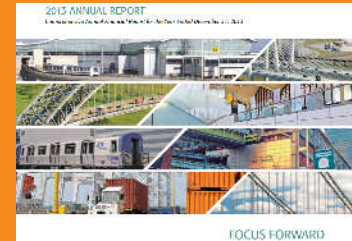
- Lift on the 53-foot trailer restriction and collaborate with city and state transportation agencies to identify any associated safety or infrastructure concerns. This action occurred after the study was in effect.
- Fewer and larger common-use cargo facilities concentrated in Zone D to reduce truck movements/vehicle dwell time. (The Preferred Alternative recommends three large cargo facilities in Zone D that would be the primary focus of carrier activity. The facilities are double-decked and capable of handling 1,000,000+ tons with a throughput of 1.5 tons per square foot.)
- Integrator operations concentration in Zone C to ease trucking congestion and reduce queuing issues. (Part of Zone C preserved for the expansion of terminal capacity to accommodate passenger growth for the next 30 years.)
- Eventually the carrier cargo facilities in Zone B relocated to Zone D, and Zone B rededicated to customs brokers and freight forwarders creating an on-airport “Cargo Village” to create a more efficient operating environment for these supporting businesses. (1.8 million square feet of state-of-the-art facilities for customs brokers and freight forwarders.)
- The plan would move all cargo out of Zone A, which reduces trucks on the southernmost segment of the Van Wyck Expressway and would open up Zone A for new development.
- Explore the creation of a trade-oriented commercial development in Zone A. The Port Authority could create a commercial development in excess of one million square feet.
- Maintain sufficient aircraft ramp acreage to accommodate forecast freighter traffic. (Potential need for 38 aircraft parking positions, carriers would continue to meet long-term cargo demand through wide-body belly capacity, reducing the growth rate for freighter activity. Increasing sophistication in cargo handling equipment, and the emphasis on common-use facilities with a single major handler as the primary tenant, provides for increased efficiency in turning aircraft and optimization of ramp capacity.)
- Explore reuse of off-airport facilities for logistics support.
- Create a joint City/Port Authority Incentive Program.
- Create a tiered pricing structure for ground leases.
- Change the basic Port Authority leasing policy to enable property staff to negotiate ground leases in excess of 25 years.
- Initiate ground lease payments with the start of beneficial occupancy in new buildings.
- Create a “virtual” Cargo Village, which includes off-airport support facilities.
- Improve off airport connectivity between the facilities in Springfield Gardens and the Cargo Zones
- Simplify pickup and delivery, and reduce trucking dwell time through fewer stops, more efficient landside planning, and technology.
- Work with the Foreign Trade Zone (FTZ) Board to convert the existing FTZ’s to the alternative site framework that provides faster review and approval times.
- Tenants in the off-airport industrial district adjacent to JFK desire improved communication with City agencies in the delivery of city services.
- By creating an Industrial Business Improvement District, tenants and owners in the Springfield Gardens area can advocate on priority issues and implement area wide improvements.
- Establish air cargo as a separate business center within the PANYNJ Aviation Dept.
- Performance measures were suggested in the consultant study as a way to gauge comparative success of air cargo operations.
- Provide (Industrial Development Agency) IDA financing on airport as requested by prospective users to broaden the range of available financing options and aggressively pursue transactions for off-airport businesses.

- Conduct a cost/benefit weight analysis and fuel burn calculations for key routes in emerging markets.
- Assess advantages JFK provides in existing more mature markets as well and attract new airline customers to JFK by developing a targeted list for carrier and route outreach.
- Launch event promoting air cargo to export oriented businesses and hold business roundtables and launch air cargo outreach roadshow.
- Freight forwarders and customs brokers might want to relocate back on-airport. The area directly across Rockaway Boulevard from the Airport's busiest cargo area holds one of the industry's largest concentrations of customs brokers and freight forwarders. Customs brokers and freight forwarder trucking elements and employee parking are problematic in the current off-airport environment.

4.11 | PANYNJ 2013 ANNUAL REPORT: FOCUS FORWARD

SUMMARY

PANYNJ releases a report annually to describe the year's major accomplishments, highlight trends and changes in operations and infrastructure, and identify future planning efforts and objectives. (The Port Authority of New York & New Jersey 2014)



1. Key Findings Relevant to the NYSFTP

- PANYNJ's focuses lie in investing in key trade and transportation infrastructure, maintaining SOGR at its facilities, as well as encouraging cross-agency communication and collaboration to underscore efficiency in programming, and implementing plans and projects.
- Many of the projects listed in the Annual Report are maintenance or replacements projects to help maintain the existing state of repair at PANYNJ facilities. These include harbor deepening, intermodal improvements, redevelopment projects at each airport, raising the Bayonne Bridge, replacing the Goethals Bridge, replacing suspender ropes on the George Washington Bridge (GWB), improvements to the Lincoln Tunnel Helix, upgrades to the Cross Harbor Car Float/Greenville Yards, and improvements to the port roadway system to allow for increased truck safety.
- The report references the agency's 10-year capital plan, allowing for new construction of facilities like a flyover bridge at the Port Newark Container Terminal, to compliment the facility's expansion and to connect directly to rail.
- The Port Performance Task Force, comprised of industry stakeholders, was created to recommend process improvements at the PoNYNJ facilities.

2. Cited strengths

- 10-year capital plan - \$27.6 billion: \$12.6 billion state-of-good-repair projects, \$11 billion for new projects. Will support the creation of 126,000 job years and \$29 billion in economic activity.
- PANYNJ developed a Port Performance Task Force - consisting of industry stakeholders such as terminal operators, freight carriers, truckers, the International Longshoreman's Association, New York Shipping Association – that effectively increases collaboration and coordination.
- In 2013, the Port Authority's ExpressRail service surpassed 5 million containers handled since first opening in 1991.

3. Description of facilities

- 400 million people and vehicles moving through facilities each year
- 6,777 staff – gradual decline since the early 2000s
- Interstate Transportation Network:
 - Tunnels/Bridges Terminals
 - GWB & Bus Station
 - Holland Tunnel
 - Lincoln Tunnel
 - Bayonne Bridge
 - Goethals Bridge
 - Outerbridge Crossing
 - PA Bus Terminal
 - PATH:
 - Temporary World Trade Center (WTC) PATH Terminal
 - Journal Square Transportation Center
 - Ferry Transportation
- Air Terminals:
 - LaGuardia

- JFK International
- Newark Liberty International
- Teterboro
- Stewart International
- Port Commerce: (* indicates including ExpressRail)
 - Port Newark*
 - Elizabeth Marine Terminal*
 - Brooklyn
 - Red Hook
 - Howland Hook*
 - Greenville Yard
 - NYNJ Rail
 - Port Jersey – Port Authority Marine Terminal
- Development
 - Essex County Resource Recovery
 - Industrial Park at Elizabeth
 - Bathgate
 - Teleport
 - Newark Legal & Communications Center
 - Queens West
 - Hoboken South
- WTC
 - WTC Site
 - One World Trade Center
 - WTS Towers 2,3,4
 - WTC Retail

4. Intermodal connectivity

- Transloading from ship, plane, and rail to truck, and ship to rail.

5. Volume-of-trade connectivity

- 115,688 total Eastbound vehicles in thousands (GWB/Lincoln Tunnel/Holland Tunnel/Staten Island Bridge) gradual decline since early 2000s. 91% auto (105,452), 2.5% bus (2,948), 6.3% truck (7,288)
- Containers in 20-foot TEUs – 5,467,000 (fluctuation/22% increase since 2004)
- 453,000 International waterborne vehicles (200,000 decrease since early 2000s)
- 4 million metric tons of waterborne bulk commodities (decrease from early 2000s)
- Total Port Commerce Net Capital Expenditures \$180,760 (2004: \$258,669/2009: \$174,459)
- Total Air Cargo-tons: 1,987 (2004: 2,799/2009: 1,925)

6. Growth trends

18-County Port District --

- In 2013 gains in productivity and employment were 3%
- Employment increases since the recession. Strong employment, but finance/ insurance/ brokerage/ banking sectors slower growth than others.

PANYNJ Facilities –

- Slight decrease in vehicular traffic from 2012 – 2013.
- PATH volumes flat at 73 million passengers in 2013.
- Container cargo levels at Port Authority Port facilities declined by 1.3% to \$3.2 million in 2013 resulting from a decline in East Coast market share and temporary disruptions in port operations.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Aging infrastructure
- Minor decreases in container cargo levels

- New technology causing marine facility congestion in summer 2013

8. Projects

- Harbor deepening – Working with the US Army Corps of Engineers (USACE) to deepen key channels to 50 feet
- Intermodal improvements at Howland Hook Marine Terminal and Port Newark (two new tracks on each site)
- Redeveloping the Greenville Yard rail facility next to Port Jersey-Port Authority Marine Terminal
- Port of New York and New Jersey roadway plan scheduled for implementation in 2019 – includes safety improvements and allows freight vehicles to turn at a higher speed
- \$26.5 million on a flyover bridge at Port Newark to support the Port Newark Container Terminal's current expansion (\$500 million – increase of 100 acres to site area), and to connect to rail

9. Plans for growth and/or efficiency improvements

- Aviation: \$8 billion
 - Redevelop Central Terminal Building at LaGuardia
 - Redevelop Terminal A at Newark
 - State-of-Good-Repair projects at JFK
- Tunnels/Bridges/Terminals: \$7.9 billion
 - Raising Bayonne Bridge Roadway for larger ship access
 - Replace the Goethals Bridge
 - Replace the suspender ropes on the GWB
 - Continuing Lincoln Tunnel Helix Replacement Program
 - Continuing Lincoln Tunnel Access Program
- Port Commerce: \$1.5 billion
 - Design and build an upgraded Cross Harbor Car Float facility and new on-dock rail facility at Greenville Yards to serve the Global Container Terminal in Jersey City

4.12 | PEACE BRIDGE FACILITY

SUMMARY

The Peace Bridge, located just over ten miles south of Niagara Falls at the east end of Lake Erie, connects Buffalo to the Town of Fort Erie in Ontario, Canada. The facilities it operated and maintained by the binational Buffalo and Fort Erie Public Bridge Authority. The bridge is 5,800 feet long and opened originally in 1927. (Buffalo and Fort Erie Public Bridge Authority 2015)



1. Key Findings Relevant to the NYSFTP

- Current undertakings at the Peace Bridge include:
 - Preparing an EIS on a proposal to provide improved access to and from the US Border Port of Entry/Peace Bridge Plaza, in the City of Buffalo,
 - Modernization of the Authority's Customs commercial building on the US side,
 - Widening of the bridge to four lanes in Canada,
 - Re-decking of the bridge's span, and
 - Installation of a scenic overlook feature along the international boundary line.
- The preclearance program piloted at the Peace Bridge was a success program and is not a permanent activity on the bridge. (Today's Trucking 2015)

2. Cited strengths

- Only US/Canada bridge that offer EZPass toll pay. Toll schedule:
 - Autos \$3; 2-Axles \$6; 3-Axles \$10; 4-Axles \$18; 5-Axles \$28; 6-Axles \$40; 7-Axles \$53

3. Description of facilities

- 3,580 foot steel bridge with three lanes
- Daily operations on toll revenue (EZPass)
- The main approaches to the Peace Bridge on the United States side are the New York State Thruway (I-190) and Porter Avenue, a four-lane arterial. On the Canadian side, the principal approach highways are the QEW, a four-lane controlled-access highway, Highway 3, a regional four-lane highway and the Niagara Parkway.
- Inbound customs plaza in the United States has seven lanes for trucks and nine for cars
- Inbound customs plaza in Canada has 14 booths/lanes for cars and a separate area for 5 trucks
- Bridge was widened from two to three lanes in 2014

4. Intermodal connectivity

- Not addressed in the resource.

5. Volume-of-trade connectivity

- \$40 billion in trade crossings each year.
- Auto Volumes: 2012 – 4.765M; 2013 – 4.672M; 2014 – 4.359M
- Truck Volumes: 2012 – 1.265M; 2013 – 1,245M; 2014 – 1.250M

6. Growth trends

- Still in pilot phase for preclearance program: A six-month pilot program that allowed US customs officers stationed in Canada to pre-inspect trucks entering the United States has ended, and the concept has been deemed “feasible” by US Customs and Border Protection. Satisfactory completion of the test opens the door for the more complex 12-month test in Fort Erie – involving a river crossing as opposed to a land crossing – to begin this month. The Washington project used advanced technologies to access additional databases to reduce truck wait times during inspection. (Sommer 2014)

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Not addressed in the resource.

8. Projects

- The Peace Bridge is in the midst of a \$167 million capital plan.
- The Buffalo and Fort Erie Public Bridge Authority finished a \$10 million widening of the U.S. approach in 2014.
- Several additional projects include the widening of the bridge to four lanes in Canada, re-decking of the span, and installation of a scenic overlook feature along the international boundary line.
- FHWA, in cooperation with NYSDOT, is preparing an EIS on a proposal to provide improved access to and from the US Border Port of Entry/Peace Bridge Plaza, in the City of Buffalo. The primary need of the project is to address the limited direct access between the Plaza and Interstate 190. Existing direct access is limited and requires regional and international traffic to use the local street system. This limited access adds additional commercial traffic to the local streets, which were originally designed to only meet the needs of local traffic. The purpose of the project is to reduce the use of the local streets by interstate traffic and provide access to the existing Plaza at its current location. The primary objectives of the project are to address the need for direct access from the Plaza to the northbound lanes of Interstate 190, to redirect through traffic from Front Park, and to remove Baird Drive. The NY Gateway Connections Improvement Project to the US Peace Bridge Plaza is anticipated for completion in spring 2017. (New York State Department of Transportation 2014)

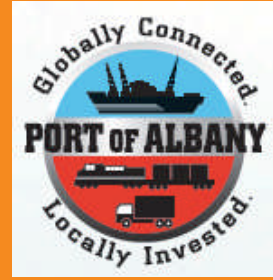
9. Plans for growth and/or efficiency improvements

- The \$24 million Authority's Customs commercial building modernization is scheduled for completion in January 2016. The building is over sixty years old in need of general repair and increased energy efficiency.

4.13 | PORT OF ALBANY 2013 ANNUAL REPORT

SUMMARY

The Albany Port District Commission released the Port of Albany Annual Report summarizing basic port statistics, facility highlights, new project details, recently observed trends related to port operations, and upcoming plans at or related to the Port of Albany. (Port of Albany 2014)



1. Key Findings Relevant to the NYSFTP

- The Port of Albany contributes at least 1,400 jobs to the local economy and is the second most active cargo ports in the state.
- The Port of Albany experienced enhancements over the past year including acquisition of a new crane and replacement of 180 timber piles. Improvements in-progress include the Rensselaer Wharf Project, increasing the capacity of commercial waterfront activity and doubling the number of ships able to dock on the east side of the Hudson, and over \$200,000 in rail improvements.
- These enhancements to the Port will allow for increased cargo movement, which will be helpful as General Electric announced a \$2.7 billion order to provide 38 power plant steam and gas turbines and generators to Algeria, with at least half of the equipment shipped through the Port of Albany from 2014 through 2017.
- The Port has approximately 20 acres of open storage space available, indicating an excess in storage supply.

2. Cited strengths

- Rensselaer Iron and Steel has been a tenant of the Port of Albany for more than 15 years on the Rensselaer side of the Port. The company leases 10 acres and is the dedicated user of approximately half of the Rensselaer Wharf.
- The Port of Albany's Consolidated Funding Application (CFA) was the largest funding award in the Capital Region.
- Construction of a state-of-the-art Security/Emergency Operations Center was completed in 2013.
- Upstate Shredding took a lease for 18 acres in the center of the Albany Port District Facility. The operation is a metal recycling business that invested at least \$15 million to make substantial improvements to the property and constructed a new office, scale house, metals building and a separate fluid recovery building.
- New Castle Asphalt signed a long term lease for 10 acres on the port's Rensselaer side, where the company will produce asphalt for paving projects. New Castle is the product of two construction companies, Rifenburg Construction Inc. in Troy and D.A. Collins in Wilton, and R.J. Valente Cos., a gravel company based in Waterford. The plant will employ six people on site and provide opportunities for as many as 10 independent truck drivers that will transport blacktop to work sites around the Capital Region. The plant could produce up to 400 tons of blacktop/hour using a mixture of crushed stone, sand, liquid asphalt.
- In 2013, the Port of Albany was ranked among the top five (5) ports in the nation for overall quality, quality of facilities, customer service and customer satisfaction by the Railway Industrial Clearance Association (RICA).

3. Description of facilities

- 1,400 local jobs
- Located 124 nautical miles north of New York Harbor on the Hudson River
- Channel Depth 32 feet
- Deep water facilities are located on the Albany (west) and Rensselaer (east) sides of the Hudson River

- Wharf length on the Albany (west) side of the river is 4,200 feet and on the Rensselaer (east) side is 1,200 feet
- 20 acres of open storage space are available at Albany (west side)
- Four transit sheds and two backup warehouses (300,000 sq ft of sprinkler-protected storage)
- 20 miles of standard gauge switching railroad
- Heavy lift on-dock rail
- Super-sacking and bagging operation
- Mobile harbor crane with a lift capacity that ranges from 123 short tons at 65 feet to 38 short tons at 158 feet
- On-site US Customs and Border Protection Office to expedite cargo clearance
- 13.5 million bushel capacity grain elevator with a larger loader vessel
- 105 million gallon capacity bulk liquid storage
- On-site specialized cargo inspection services available

4. Intermodal connectivity

- Rail and truck connections in port.

5. Volume-of-trade connectivity

- Scrap Iron 175,309 tons, Grain 133,100 tons; Molasses 42,125; Woodpulp 20,780 tons; Heavy Lift/Project 18,023 tons; Barges-Heavy Lift/Project 1,077 tons

6. Growth trends

- In 2013, longshore hours worked saw a notable increase. Federal Marine Terminals (FMT) reported that the increase in hours was largely attributable to value added services available at the Port, including the custom cargo inspection services available.
- Commodities growth trends from previous reports:
 - Total Tonnage 2010 – 451,918
 - Total Tonnage 2011 – 305,021
 - Total Tonnage 2012 – 391,470
 - Total Tonnage 2013 – 390,414

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Lost the Capitol Scrap Metal Company

8. Projects

- On-going Rensselaer Wharf Reconstruction Project, which will double the capacity of commercial waterfront activity on the Rensselaer side of the Port and will allow twice as many ships to dock at the same time on the easterly side of the Hudson River and allow heavy cargo handling.
- A sew crane, the second mobile harbor crane at the Port of Albany, was delivered in Jan 2015.
- In 2013, the Port initiated a \$1.5 million investment in replacing the timber piles along the Albany wharf, removing 180 timber piles from the riverbed and replacing them with specialized southern pine treated in an environmentally sustainable manner to prolong the life of the timber.
- The Port secured over \$200,000 toward the cost of improving the rail so the business can maximize its logistics operations (extend rail 1,400 feet to access the Mohawk Paper warehouse)

9. Plans for growth and/or efficiency improvements

- In September 2013, General Electric announced a \$2.7 billion order to provide 38 power plant steam and gas turbines and generators to Algeria. At least half of the equipment will ship through the Port of Albany, which means a substantial increase in work for the longshore team at the Port. Parties at Algeria/General Electric slated the plants for operation by 2017, indicating that the influx of this cargo would occur between 2014 and 2017. (PennEnergy Editorial Staff 2013)

4.14 | BUFFALO NIAGARA INTERNATIONAL TRADE GATEWAY INITIATIVE STRATEGIC PLAN

SUMMARY

GBNRTC commenced the Buffalo Niagara International Trade Gateway Initiative to increase collaboration with local partners, including the Western NY REDC, to better position the Buffalo-Niagara region as a resource for private sector trade interests. The International Trade Gateway Initiative (ITGO) Steering Committee was established in August 2012 to guide the initiative. (Greater Buffalo-Niagara Regional Transportation Council 2013)



1. Key Findings Relevant to the NYSFTP

- The Buffalo region is key manufacturing area with over a half approximately a half of all inbound and outbound commodities related to the manufacturing industry. The region is located next to Toronto's region of heavy growth providing extensive opportunities for international trade.
- The Buffalo Niagara International Trade Gateway Initiative identifies a lack of containers, higher inbound flow than outbound, corridor competition, high toll costs, and congestion at the border as challenges to the region's freight network.
- The plans noted in the Initiative's Strategic Plan include a multitude of outreach efforts including connecting with members of the local REDC, building relationships with other public agencies, promoting education and the workforce, working with international partners, and facilitating partnerships with the private sector.
- The Initiative also involved inventorying existing infrastructure and the workforce to establish strengths and weaknesses within the region to help guide investment targets.
- Estimated improvements include the Niagara Airport Commercial Park, completion of the Portageville Bridge to improve connections to the Southern Tier, Lewiston-Queenston Plaza renovations (this site is a critical internal connection), and improvements at the Peace Bridge to expedite connections with Canada.

2. Cited strengths

- Second largest port of entry along the nation's northern border, comprising 15 percent of trade between Canada and the US.
- A strong advanced manufacturing base; skilled workforce.
- Proximity to the Greater Golden Horseshoe region of Toronto, providing easy access to the 4th fastest growing market in North America and facilitating integrated, cross-border supply chains in innovative manufacturing clusters
- Road, rail, air and sea shipping capabilities
- Unmatched "soft" infrastructure and import/export expertise – customs brokers, 3PLs, warehousing, etc.
- Creation of International Trade Gateway Initiative (ITGO) Steering Committee in August 2012
- The region serves as a key gateway between Canada and the United States, with several high volume border crossings that provide the benefit of one region serving two nations. This locational advantage is seen as an opportunity to promote light manufacturing and assembly since companies can ship components, instead of finished products, here for assembly, which adds value to goods heading to and from Canada, as well as other international locations.

3. Description of facilities

- Commodities that account for the largest shares of truck traffic include secondary traffic, food products, clay, glass, stone, and primary metal products. Coal is the highest volume commodity shipped by rail into the region

4. Intermodal connectivity

- Infrastructure includes four Class 1 railroads (Canadian National, Canadian Pacific, CSX Transportation and Norfolk Southern), two Class 1 railroad mainlines (CSX Chicago Line and the NS Southern Tier), and numerous short line railroads, an extensive interstate highway system, two airports (Buffalo Niagara International Airport and Niagara Falls International Airport) and numerous marine ports.

5. Volume-of-trade connectivity

- The region has good east-west connectivity, particularly to the Port of NY/NJ, Ohio, Indiana, Chicago, and markets beyond. In addition, the Toronto region does not have any direct connections to the Port of NY/NJ.
- Freight from the New York-New Jersey-Long Island region constitutes 34% of all regional inbound and outbound tonnage. Seventeen percent of the region's truck traffic moves across the region to or from Canada.
- Manufactured goods constitute the majority of the region's imports (47%) and exports (50%), with export specializations in footwear/headgear, textiles, plastics/rubbers, vegetable products, and stone/glass.

6. Growth trends

- The majority of freight tonnage carried to, from, across and within the Greater Buffalo-Niagara region is carried by truck, with rail having the second largest share. Overall freight tonnage is expected to more than double by 2035.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Lack of a Container Pool: The absence of a container pool results in an imbalance of inbound and outbound freight. When containers are not available within a given area, they must be relocated from areas where they are available, adding cost and time.
- Inbound and Outbound Freight Imbalance: Generally, more intermodal freight flows into the region than flows out, which tends to raise the cost of truck drayage to and from the region, impacting the region's ability to serve as a distribution hub for the Toronto market.
- Competing Corridors: An ideal logistics hub location should be situated on both a heavy rail corridor and a heavy trucking corridor. This is consistent with the truck mantra "freight moves freight." Carriers are more likely to find backhauls and charge lower rates on well-balanced, dense freight corridors. These truck rates and the density of their facilities and services will in turn influence the desirability of a location from the standpoint of shippers. In terms of truck traffic, the I-90 corridor within New York State competes with the I-80 corridor within Pennsylvania, but carries less than 58 percent of the truck traffic of I-80. In addition, Ohio-based logistics centers have some advantages over the Greater Buffalo-Niagara region. Areas such as Cleveland are at a comparative advantage by being situated on a denser freight corridor. Ohio locations can also effectively serve the Toronto area market. A driver based in Cleveland, OH can drive to Toronto and return to Cleveland before his hours of service are exhausted.
- Tolls: The cost of tolls to motor carriers within the region is a disincentive.
- Border Congestion Post-9-11: The international borders in the Niagara region pose challenges for US and Canadian freight carriers due to unpredictable wait times, inconsistent training for customs officers and processing inconsistencies. These inefficiencies pose a risk to the bridges' customer base, resulting in added costs.

8. Projects

- 2013: Completion of the Peace Bridge US Plaza renovations will increase the efficiency at the Peace Bridge and investment in the region. Renovations include widening, re-decking, modernization of the commercial building, and other security improvements (associated with the preclearance pilot) that will expedite border crossing.

- 2013: Completion of Continental 1 north/south trade corridor to secure reinstatement of funding for completion of SEIS and secure federal designation as a regionally significant project. (Buffalo Niagara's geographic advantages as a trade hub are hindered by the absence of a north-south route; completion of C1 would connect southern east coast ports directly to Toronto.)
- 2015: Completion of Portageville Bridge: The Portageville Bridge in Letchworth State Park is a key rail link on the NS Southern Tier line between the Port Authority of NY/NJ and Buffalo Niagara; not only is the bridge in dire need of reconstruction or replacement, but completion of the bridge will open expanded intermodal opportunities in our region
- 2013: Completion of regional air service planning documents including the NFIA Master Plan and the Regional air service strategic plan. Two air service planning processes are underway to determine the opportunities for increased regional air cargo and the alignment of resources.
- 2013: Complete NFIA slate of projects including completion of the transfer of the Army Reserve Center site to the town of Niagara; infrastructure improvements, rehabilitation and demolition of existing Army Reserve Center facilities for reuse; and development of the Niagara Airport Commercial Park (150,000 sq. ft. of leasable space including a 65,000 sq. ft. airplane hangar. A community needs assessment was conducted for the site and a reuse plan was prepared recommending a mix of light industrial uses with an emphasis on aviation and aerospace activities.)
- Delayed: Completion of Lewiston-Queenston US Plaza renovations, a key bi-national connection between Buffalo Niagara and North America's fastest growing market. Global and national shippers cite increasing the efficiency at the Lewiston-Queenston Bridge as a key to increased investment in our region

9. Plans for growth and/or efficiency improvements

ITGO Specific

- 2013: Creation of a not-for-profit corporation to oversee implementation of the ITGO strategic plan: Determine structure, objectives, funding, budget; Recruit board of directors; Finalize strategic plan
- 2013: Identify public and private funding mechanisms to finance ITGO work; secure funding
- 2014: Hire executive director for ITGO organization
- 2014: Connect ITGO efforts with existing regional development organizations and on-going initiatives, including GBNRTC and One Region Forward
- 2013: Initiate ITGO communications committee; Develop ITGO message/brand/marcom strategy
- 2013: Initiate ITGO government affairs committee
- Ongoing: Build and nurture relationship with Port Authority of NY/NJ
- Ongoing: Engage Empire State Development and other economic development partners, including Western NY REDC/Buffalo Billion
- 2013: Identify outreach targets ("customers") for ITGO and create database: Local and regional; National and international

Policy-Oriented

- 2013: Implementation of truck pre-inspection at the Peace Bridge
- 2014: Upon completion of the regional workforce skills analysis, work with regional educational institutions to enhance offerings related to logistics, supply chain, trade, etc.
- 2014: Upon completion of the regional workforce skills analysis, work with regional workforce development programs to enhance offerings related to logistics, supply chain, trade, etc.
- 2014: Achieve inclusion of funding mechanism in federal transportation reauthorization
- Ongoing: Implement the recommendations of the Beyond-the-Border Action Plan and Regulatory Cooperation Council

Outreach-Oriented

- 2014: Conduct regional rail assessment: a. Inventory stakeholder companies utilizing rail; b. Assess domestic and international rail policy
- 2014: Create a regional soft infrastructure database/directory: including regional warehousing capacity and site availability.
- 2013: Inventory regional workforce development resources relative to trade-related industries to determine needs and shortages

- Ongoing: Engage key contacts at national and international large shippers to determine national strategies
- Ongoing; Engage Port of Buffalo and Great Lakes shipping companies to determine growth opportunity

4.15 | NYS THRUWAY AUTHORITY 2013 ANNUAL REPORT

SUMMARY

The NYS Thruway Authority annual report provides an overview of Thruway operations, details regarding major construction contracts, highlights from the year's largest capital projects, budget descriptions, new initiatives, and statistics from the past year. (New York State Thruway Authority 2013)



1. Key Findings Relevant to the NYSFTP

- The NYS Thruway is one of the busiest toll roads in the US.
- Aside from the addition of a third travel lane in each direction in the Albany area, current projects outlined in the Thruway Authority's annual report include mostly rehabilitation and SOGR improvements.
- The Authority encourages environmentally sustainable practices in its annual report, including advanced alternative energy resources and environmental mitigation efforts.

2. Cited strengths

- Vital link between its major cities from the Atlantic Ocean to Canada and the Great Lakes

3. Description of facilities

- 570-mile highway system
- In 2013, 250 million customers traveled approximately 7.8 billion vehicle-miles on the highway
- The Thruway Authority has had the responsibility of operating and maintaining the historic New York State Canal system – 524-mile inland waterway with traffic totaling 96,433 tons in 2013, an increase of approximately 124 percent over 2012 and the most tonnage moved since 1993.
- 48,107 Special Hauling Permits issued to oversize and overweight vehicles

4. Intermodal connectivity

- Not included in resource.

5. Volume-of-trade connectivity

- Truck counts not readily available from source.

6. Growth trends

- 96,433 tons of cargo shipped through the Canal system by barge, representing an increase of 124% from 2012.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- Aging infrastructure.
- Congestion.

8. Projects

- 2013 marked the completion of a three-year, \$100 million project to add a third travel lane in each direction of the Thruway along a busy commuter corridor near Albany (interchanges 23-24)
- Installed new road surface on the South Grand Island Bridges between Buffalo and Niagara Falls (Interchanges 57 – 58)
- In the wake of the devastation from storms Irene, Lee and Sandy, upgrading century-old “movable dams” on the Mohawk River section of the Erie Canal
- After more than a decade of delay, a New NY Bridge to replace the Tappan Zee is becoming a reality. The first span of the new twin-span bridge is scheduled to open in 2016 with the project

completed in 2018 at the opening of the second span. The new bridge is being designed and constructed to last 100 years without major structural maintenance.

TABLE 9: NYS THURWAY AUTHORITY PROJECTS

In 2013 the Thruway Authority let 62 projects worth a total of \$339.5 million, including:

RANK	PROJECT	LOCATION	BUDGET
1	Deck replacement	North Grand Island Bridge (southbound)	\$55,360,128
2	Pavement rehabilitation	North of Newburgh to south of New Paltz	\$28,938,888
3	Pavement resurfacing and rehabilitation of two bridges	I-287/Route 17S to north of Suffern	\$28,762,000
4	Rehabilitation of Movable Dam 7 at Erie Canal Lock 11	Amsterdam	\$21,464,462
5	Pavement resurfacing	Dunkirk to Westfield	\$16,388,664
6	Rehabilitation of the Silver Creek and Walnut Creek Bridges	Silver Creek	\$15,649,366
7	Pavement resurfacing	Leroy to west of Batavia	\$15,417,235
8	Construction of the Mohawk Valley Gateway Lookout (NYS Funds)	Amsterdam	\$14,627,944
9	Spillway and site work at Erie Canal Locks 8 and 9	Scotia and Rotterdam	\$9,569,570
10	Pavement resurfacing and safety upgrades	Verona to Canastota	\$8,627,689

9. Plans for growth and/or efficiency improvements

- Enhance alternative energy (turbines, alternative fuels)
- Noise Wall construction
- Evangola State Park Wetland Mitigation

SUMMARY

The Niagara International Transportation Technology Coalition (NITTEC) is a bi-national, multi-jurisdictional consortium that is responsible for oversight of transportation operations in the Buffalo-Niagara region. These functions, cited below, have a direct impact on the efficiency and reliability of truck travel. (Niagara International Transportation Technology Coalition 2013)

**1. Key Findings Relevant to the NYSFTP**

- NITTEC encourages the use of technology to improve transportation operations and efficiency.
- The consortium demonstrates continued investment in systems and procedures to keep pace with the national standard of practice in transportation operations and incident management.
- NITTEC's investments in data collection, systems monitoring, incidents management, and reporting is exemplary to the remainder of the state.

2. Cited strengths

- 74,705 Unique Visitors in 2013, 168,107 Visits, 614,498 Pages

3. Description of facilities

- Regional Operational Functions
 - Traveler Information
 - Border Traffic Management
 - Traffic and Congestion Management
 - Incident Management
 - Special Event Planning and Management
 - Transportation System Monitoring
 - Emergency Management
 - Weather System Monitoring
 - Construction Coordination
 - Performance Measures Reporting
 - Multi-agency Collaboration
- Management Objectives
 - Maintain Corporate Culture as a Service Organization.
 - Maintain Diverse Professional Staff of Service Providers.
 - Build and Maintain Leadership Role for Implementing Technology in the Evolving Transportation Operations and Intelligent Transportation Systems Environment.
 - Maintain Organizational Hierarchy to Improve Career Development and Succession.
 - Be Focal Point for ITS Projects & Information Sharing, Coordinated Operations, Congestion Mitigation and ITS Project
 - Delivery in the Region.
- Traffic Operations Center (TOC) Activities
 - Accidents
 - Disabled Vehicles
 - Congestion Management
 - Border Crossing Delay Information
 - Construction Coordination
 - Snow and Ice Notification
 - Maintenance Activities
 - Signal Malfunctions
 - Public Pothole Calls
 - Debris Removal
 - Transit Events

- Top methods for detecting incidents in the TOC: Camera, CAD/CARS/CHARMS, HELP Team, Phone Call, Scanner
- Outreach Materials
 - Website
 - Traffic Map
 - Mobile App
 - Social Media Exercise (closure notifications)
- The goal of the Highway Emergency Local Patrol (HELP) roadside assistance program is to reduce the time between the start of an incident and the time at which the last responder has left the scene (Incident Duration). HELP patrols Route 33, Route 198, and I-290 during the morning commute (6:30 AM – 9:30 AM) and afternoon commute (3:00 PM – 6:00 PM). In 2013 81% of the incidents HELP was involved, they were the first to arrive at the scene.

4. Intermodal connectivity

- Not included in resource.

5. Volume-of-trade connectivity

TABLE 10: NITTEC VOLUME-OF-TRADE CONNECTIVITY

Canada Bound

Displayed below is the holiday volume traffic share from 2012 - 2013 for the Lewiston-Queenston Bridge, Peace Bridge, and Rainbow Bridge for vehicles traveling into Canada.

Bridge	2012	2013	% Difference
Peace Bridge	345,465	322,802	-7%
Rainbow Bridge	248,694	232,753	-6%
Lewiston-Queenston Bridge	239,706	218,127	-9%
Total	833,865	773,682	-7%

United States Bound

Displayed below is the holiday volume traffic share from 2012 - 2013 for the Lewiston-Queenston Bridge, Peace Bridge, and Rainbow Bridge for vehicles traveling into the United States.

Bridge	2012	2013	% Difference
Peace Bridge	336,096	329,202	-2%
Rainbow Bridge	275,640	265,775	-4%
Lewiston-Queenston Bridge	239,888	223,400	-7%
Total	851,624	818,377	-4%

6. Growth trends

- Continued investment in systems and procedures allows the Coalition to keep pace with the national standard of practice in transportation operations and incident management.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

TABLE 11: NITTEC INCIDENT RECORDS

INCIDENT SEVERITY

The table below displays the count of collisions, categorized as major, intermediate and minor, for major expressways in Western New York for 2013.

	Minor	Intermediate	Major	Total
I - 190	204	46	11	261
I - 290	199	28	6	233
I - 90	150	28	16	194
I - 990	10	2	1	13
Route 198	85	12	5	102
Route 219	7	2	4	13
Route 33	201	40	8	249
Route 400	7	1	1	9
Total	867	157	50	1,074

WESTERN NEW YORK – TOC ACTIVITY

The table below shows the number of activity logs generated by event type, from 2011 - 2013.

Event Type	2011	2012	2013
Collisions	1,213	1,024	1,280
Construction/ Maintenance	2,047	1,624	1,801
Disabled Vehicles	1,572	1,501	1,512
Debris	1,520	1,816	1,685
Congestion	450	388	525
Snow & Ice	783	537	901
Signal Malfunction	1,338	961	1,540
Border Crossing	200	226	291
Total	9,123	8,077	9,535

WESTERN NEW YORK – ROUTE ACTIVITY COMPARISON

The table below shows the activity comparison from 2011 - 2013, and the following graphs display a monthly breakdown of activity, for the major expressways in Western New York. Route activity consists of incident, construction and debris/signal events occurring on each major highway.

Route	2011	2012	2013
I - 190	768	693	804
I - 290	1,038	910	984
I - 90	598	527	517
I - 990	125	94	117
Route 198	349	380	354
Route 219	141	136	220
Route 33	1,190	1,186	1,330
Route 400	61	89	89
Total	4,270	4,015	4,415

8. Projects

- Provided recommendations to stakeholders on standardized website display format of border wait time data.
- Reviewed ramp delays and closure of I-190 Northbound Exit 9 ramp to Peace Bridge.
- Reviewed and coordinated major construction projects with appropriate Coalition members.
- Monitored and reviewed construction zone travel time and delay.
- Reviewed the Ministry of Transportation Ontario (MTO) Construction Coordination Tool to determine if the system is cost effective and can be modified to fulfill the Committee's requirements.
- Reviewed wrong way signage on exit ramps for the New York State Thruway Authority (NYSTA) and NYSDOT.
- Investigated ATDM Strategies.

- Held ATDM workshop in conjunction with FHWA and member agencies.
- Continued management of Dynamic Message Signs (DMS) and Portable Variable Message Signs (PVMS), and reviewed associated signing strategies.
- Conducted review of Travel Time DMS locations and messaging for AM and PM to enhance travel time messages.
- Identified and reviewed possible detour routes for major incidents causing long-term and full road closures on I-290, I-190, I-90 and Route 33.
- Assisted in review of ITS requirements for the Peace Bridge Gateway Design Plan.
- Continued to support the requirements for ITS projects and strategic initiatives, including expanding ITS operations and coverage within the region with the goal of integrating systems and operations across modes and agencies.
- Maintained and updated a Gap Analysis to identify the areas of system risk and additional support / redundancy for the equipment at NITTEC.
- Assisted in review of Bluetooth technology as supplement to and future replacement of the existing TRANSMIT System.
- Worked with agencies on integrating digital feeds into NITTEC TOC.
- Supported discussions with I3B developer, NYSTA and NYSDOT regarding statewide changes to C2C Systems.
- Administered several enhancements to the Crossroads ATMS.
- Completed review and recommended updates for the Buffalo Niagara Regional Arterial Management System Plan.
- Provided border crossing wait time information to travelers on nearly 300 occasions.
- Received and provided incident information for approximately 20 first responder agencies.

9. Plans for growth and/or efficiency improvements

- Yearly review of the border related incident management plans, including communication and management protocols with the Incident Management Committees.
- Coordinate and manage the development and implementation of regional traffic management plans and activities related to construction projects.
- Identify and review commercial vehicle staging areas and procurement.
- Review and analyze system performance measures to calculate the impact of incidents, construction, and weather delays within a corridor and promote operational improvements.
- Maintain and update a Gap Analysis to identify the areas of system risk and additional support / redundancy for the equipment at NITTEC.

4.17 | CROSS HARBOR FREIGHT PROGRAM TIER 1, DRAFT ENVIRONMENTAL IMPACT STATEMENT

SUMMARY

FHWA and PANYNJ prepared this Tier I DEIS to evaluate Cross Harbor Freight Program alternatives. The primary purpose of the study is to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions. By improving the movement of goods across the harbor, the study would provide near-term and long-term improvements to the regional freight network, reduce truck traffic congestion, improve air quality, and provide economic benefits. Ten Build Alternatives were selected in the DEIS for evaluation of benefits and potential environmental effects in the EIS. The study area included 54 counties (Port Authority of New York and New Jersey 2014)



1. Key Findings Relevant to the NYSFTP

- The study identifies specific freight movement by mode throughout the cross-harbor region, helping to identify critical “last-mile” routes in the area and deficiencies in access.
- The study provides a variety of feasible alternatives for further assessment by PANJNY. The variety in alternatives illustrates the desire to involve multiple industries and stakeholders, promoting innovation in the selection process.
- The alternatives do not focus on expanding the current roadway system; rather, these alternatives identify opportunities to take advantage of or enhance existing waterborne and rail infrastructure. By augmenting these modes, the strategies assist in reducing the number of trucks on the road.

2. Cited strengths

- PANJNY is the largest port complex on the US Atlantic seaboard.
- Multitude of intermodal facilities.
- High volume of trade already within the area.
- Heavy amount of interagency coordination and stakeholder involvement in the planning process.

3. Description of facilities

- The study considered the following facilities as opportunities for access and expansion:
 - Oak Island Yard, Newark, NJ
 - Greenville Yard, Jersey City, NJ
 - 65th Street, Brooklyn, NY
 - 51st Street Yard, Brooklyn, NY
 - South Brooklyn Marine Terminal, Brooklyn, NY
 - Red Hook Container Terminal, Brooklyn, NY
 - East New York Yard, Brooklyn, NY
 - Fresh Pond Yard, Queens, NY
 - Maspeth Yard, Queens, NY
 - Oak Point Yard, Bronx, NY
 - Long Island Facilities, NY – Pilgrim Intermodal Terminal and Brookhaven Rail Terminal
 - New England Facilities – Examples in the study included Davisville, RI
- The study considers the following markets are potential opportunities to reroute traffic to improve congestion conditions:
 - Rail via Selkirk. This is freight that currently crosses the Hudson River by rail at Selkirk or Mechanicville, New York, near Albany, well north of the Build Alternative crossings
 - Rail Drayage. This is freight that either originates in or is destined for the 54-county Cross Harbor modeling study area

- Container Drayage. This is international container traffic—moving through PANYNJ marine terminals in northern New Jersey
- Other Short Haul Truck. These are mostly short-haul truck trips of less than 400 miles, other than rail drayage and container drayage trips.
- Truck Reroute. These are truck trips (mostly short-haul trips) that currently use one of the existing Hudson River crossings to travel to or from the east-of-Hudson region.
- Study Area Long-Haul Truck. Truck trips to and from the modeling study area longer than 400 miles present an important market opportunity for truck-to-rail diversion
- Through Trip Long-Haul Truck. Trips that have neither an origin nor destination within the modeling study area.

HIGHWAY

- 53-foot trailers accessible to Westchester or on Long Island using the following routes:
 - I-95 from Bronx/Westchester County line to I-295
 - I-295 from I-95 to Throgs Neck Bridge to the Long Island Expressway (I-495)
 - I-495 from I-295 to Queens/Nassau County line
- 53-foot trailer accessible to study areas outside New York City:
 - I-87 (New York State Thruway)
 - I-95 (New England Thruway)
 - I-495 (Long Island Expressway)
- Key New Jersey highways:
 - The New Jersey Turnpike
 - I-78 except between Henderson Street in Jersey City and the Holland Tunnel
 - NJ Route 81 from I-95 in Elizabeth City to US 1 at EWR
 - NJ Route 440 from the New Jersey Turnpike to the Outerbridge Crossing
 - Access networks include: US-1, US-9, NJ-139, NJ-185, NJ-440, CR-501, CR-508
- Various Bridges:

TABLE 12: CROSS HARBOR FREIGHT RELATED BRIDGE CHARACTERISTICS

Bridge	Connection	Number of Lanes	AADT*	% Trucks	Other	Toll
Tappan Zee Bridge	Westchester and Rockland Counties	7	140,000	EB AM: 4% EB PM: 6% WB AM: 13% WB PM: 10%	Moveable Barrier to Provide 4 Lanes at Peak	Yes
Verrazano-Narrows Bridge	Staten Island and Brooklyn (Points East)	3 Lanes per Direction per Level	202,000	EB AM: 12% EB PM: 10% WB AM: 13% WB PM: 9%	Upper and Lower Levels	Yes (Dir.)
Brooklyn-Battery Tunnel	Brooklyn and Manhattan	2 Lanes per Direction	51,000	2%	vertical clearance of 12 feet 3 inches	Yes
Brooklyn Bridge	Brooklyn and Manhattan		125,000	<1% SU Truck	3-ton Limit; Large Trucks/ Buses Prohibited	No
Manhattan Bridge	Holland Tunnel (via Canal Street) and Brooklyn	2 Lanes per Direction	72,000	6-17%	Upper/Lower Levels; Trucks Restricted to Lower Level 5AM to 3PM	No
Williamsburg Bridge	Lower Manhattan and Williamsburg	2 Lanes per Roadway	108,000	<1%	2 Inner and 2 Outer Roads; Trucks use Outer Roads	No
Queens-Midtown Tunnel	Midtown Manhattan and Long Island Expy	2 Lanes per Direction	85,000	3%	Two Tubes	Yes
Queensboro Bridge	East Midtown Manhattan and Queens	2 Lanes per Direction Upper; 1 Lane Lower (Manhattan Bound)	180,000	4%	Upper/Lower Levels; Outer Roadways; Trucks Restricted to Lower	No
Throgs Neck Bridge	Bronx/New England and Queens	3 Lanes per Direction	107,000	N/A	N/A	Yes
Bronx-	Bronx and	N/A	113,000	N/A	N/A	Yes

Bridge	Connection	Number of Lanes	AADT*	% Trucks	Other	Toll
Whitestone Bridge	Queens					
RFK Bridge	Bronx, Queens, and Manhattan	N/A	92,000/78,000	N/A	N/A	Yes
Goethals Bridge **New Bridge in Construct.	Staten Island and New Jersey	2 Lanes per Direction	71,000	N/A	Restricted to 14-ft Height/ 8.5-ft Width; Being Rebuilt	Yes (EB)
Outerbridge Crossing	South Staten Island and New Jersey	2 Lanes per Direction	75,000	N/A	Restricted to 14-ft Height; Narrow Width	Yes (EB)
Bayonne Bridge **New Roadbed in Construct.	Staten Island and New Jersey	2 Lanes per Direction	19,000	11%	N/A	Yes (Staten Island Bound)

*AADT = Average Annual Daily Traffic

George Washington Bridge

- The GWB has two levels with four travel lanes per direction (12 toll lanes) on the upper level and three travel lanes per direction (10 toll lanes) on the lower level. The upper level has a height restriction of 14 feet and a width restriction of 8.5 feet, while the lower level has a height restriction of 13.5 feet and a width restriction of 8.5 feet. Trucks and special vehicles are allowed only on the upper level. In addition, compressed flammable gases (including propane) and other hazardous materials are prohibited on the lower level.
- The GWB is the world's busiest motor vehicle bridge. The 2014 AADT for the bridge was 270,000 vehicles, and tolls are collected only in the eastbound direction. The speed limit on the bridge is 45 mph, but it is heavily congested in both directions in both the AM and PM peak periods, slowing traffic. More tractor-trailers cross the Hudson River over the GWB than through the Holland and Lincoln Tunnels due to the tunnels' height restrictions. Trucks account for 7 percent of the total traffic on the bridge.

RAIL

- Major rail providers include: CSX, NS, CP, and Conrail Shared Assets Organization (local corridors – typically short with high speeds of 30mph)
- Major rail routes: River Line, Southern Tier Line, Lehigh Line and Trenton Line

MARINE

- New Jersey Terminals: Port Newark/Port Elizabeth along Newark Bay and the Port Jersey Global Marine Terminal on Upper New York Bay
- New York Terminals: New York Container Terminal in Staten Island and Red Hook Container Terminal in Brooklyn

AIR

- JFK has more than four million square feet of office and warehouse space for air cargo, hosting 1,000 cargo companies. Designated as a Foreign-Trade Zone. Well-connected to the truck highway network via Van Wyck Expressway (I-678), Rockaway Boulevard and Belt Parkway Service Road.
- EWR is a major hub for express carriers with nearly 1.4 million square feet of cargo space. The airport is adjacent to Port Newark, Port Elizabeth, and Foreign-Trade Zone No. 49, providing fast and efficient air-sea connections. Truck highway network includes Route 1/9 and I-95.
- LGA specializes in short- and medium-haul cargo service. Trucks allowed access via 82nd Street and 94th Street.

4. Intermodal connectivity

- Port Newark/Port Elizabeth, NY
- Hunts Point, NY
- Pilgrim Intermodal Terminal
- Brookhaven Rail Terminal, Long Island, NY
- Oak Island Yard, Newark, NJ
- Greenville Yard, Jersey City, NJ

- 65th Street & 51st Street Yard, Brooklyn, NY
- South Brooklyn Marine Terminal, Brooklyn, NY
- Red Hook Container Terminal, Brooklyn, NY
- East New York Yard, Brooklyn, NY
- Fresh Pond Yard, Queens, NY
- Maspeth Yard, Queens, NY
- Oak Point Yard, Bronx, NY

5. Volume-of-trade connectivity

- In 2007, 1.1 billion tons of freight moved to, from, within, or through the 54-county freight data analysis region by all modes:
 - 23% through traffic (all modes)
 - 77% originated in or destined for an area in the 54-county region (all modes)
 - Trucks carried 81% of freight in the area
 - Rail carried 9% of freight in the area
 - Water carried 9.4% of freight in the area
 - Air carried 0.1% of freight in the area
 - Other modes (including pipeline) carried 0.5% of freight in the area.
 - 105 million tons of domestic freight moved by water to/from/within the 54 county region
 - 40% within; 32% inbound; 28% outbound

HIGHWAY

- Greenville Yard: Port Jersey Boulevard provides access to Exit 14A of I-78, Route 440, and Route 185. Traveling on Route 440, vehicles would be able to access I-278 in Staten Island via Bayonne Bridge in the south or Route 1/9 Truck in the north.
- Port Newark/Port Elizabeth: Local access via Corbin Street; Trucks would either go north, take Port Street to access I-78 and Route 1/9 or go south, take North Avenue to access I-95 and Route 1/9 via Route 81.
- Oak Island Yard: Local access via Frontage Road; Bounded by I-78 to the south and by I-95/New Jersey Turnpike to the east. In addition, the yard is located under Routes 1 and 9.
- 65th Street & 51st Street Yard: Trucks access via Gowanus Expressway and Third Avenue.
- South Brooklyn Marine Terminal: The major through truck route is Gowanus Expressway, which provides access to Queens/Bronx via BQE, Manhattan via Battery Tunnel, and Staten Island via Verrazano-Narrows Bridge. From the terminal, vehicles would use local truck routes along 39th Street, First Avenue, Third Avenue, and Fourth Avenue.
- Red Hook Container Terminal: Close to Brooklyn-Queens Expressway and Battery Tunnel; Use Van Brunt Street, Delevan Street, Nelson Street, Hamilton Avenue, Degraw Street, Clinton Street and Columbia Street for local access.
- East New York Yard: Atlantic Avenue, Linden Boulevard, Utica Avenue, Pennsylvania Avenue, and East New York Avenue are NYCDOT-designated truck routes near the facility.
- Maspeth Yard: To the north and east, trucks could use 48th Street, 58th Street, Maurice Avenue, and Grand Avenue; to the west, they could use Grand Avenue and Metropolitan Avenue; Rust Street, Metropolitan Avenue, and Grand Street also provide access.
- Oak Point Yard: Bruckner Boulevard, including intersections with key local truck routes in Hunts Point, such as Leggett Avenue, Garrison Avenues, and Barry Street.
- Hunts Point: close to the Sheridan Expressway (I-895)/Bruckner Expressway (I-278) interchange; local truck access via Food Center Drive, Halleck Street, Viele Avenue, Tiffany Street, Oak Point Avenue, Edgewater Road, Randall Avenue, Leggett Avenue, Garrison Avenue, and Bruckner Boulevard
- Pilgrim Intermodal Terminal: Access via G Road/County Route 106; Other facilities include Crooked Hill Road (to the west) and Wicks Road (to the east)
- Brookhaven Rail Terminal: Service road (to the north); Country Road 101 (to the west); State Street runs through the site.

RAIL

- Freight trains reach the west-of-Hudson region primarily via the River Line from Selkirk Yard near Albany and via the Lehigh Line and Trenton Line from the south and southwest.

- Freight access from the main rail hubs in New Jersey to Long Island and other points east is limited to either a circuitous overland route or the existing NYNJR railcar float operations. Approximately one fifth of the intermodal shipments grounded in northern New Jersey are drayed to and from the east-of-Hudson service area.
- Currently, most rail traffic bound for the east-of-Hudson region arrives at railheads in northern New Jersey, and is trucked across the Hudson River for delivery to regional destinations.
- There are three routes for rail freight access to the east-of-Hudson region:
 - The corridor beginning at Selkirk Yard (CSX), which is located on the west side of the Hudson River near Albany. Trains destined for Long Island and southern Connecticut cross the river and join the multi-track CSX Hudson Line at Castleton, NY. Freight traffic on the Hudson Line shares the track with Amtrak and, south of Poughkeepsie, with Metro-North passenger trains.
 - The NYNJR railcar float between Greenville Yard in New Jersey and 65th Street Yard. This route provides for access from the south and southwest and is the remnant of the once-vibrant marine transfer activities in and around New York Harbor. The merger of the Pennsylvania and New York Central Railroads curtailed this activity.
 - the Metro-North New Haven Line from New Haven, Connecticut to New Rochelle, New York, thence Amtrak to Oak Point, and the Fremont Secondary to reach Long Island. Once a primary freight route to New England from the south, this route is presently utilized by New England regional railroad P&W, which delivers unit trains of crushed rock to Fresh Pond Junction from New Haven on a seasonal basis
- Bay Ridge Branch is an example of a freight-only rail line through Brooklyn and Queens that is currently underutilized due to the decline in rail freight traffic.
- CSX holds the rights to offer freight service into Connecticut across the Metro-North between New Rochelle and New Haven but little traffic has moved along this route since the 1980s. Presently, CSX Connecticut operations are limited to Cedar Hill Yard, a terminal in New Haven.

MARINE

- In 2013, marine container terminals handled 5.5 million twenty-foot equivalent units, estimated at a value in excess of \$200 billion, 71 million tons of bulk cargo, and over 745,000 vehicles.
- Two-thirds of the more than 100 million tons of domestic waterborne cargo moving in the region consists of refined petroleum products
- The Upper Bay Lift Bridge is a rail bridge located just north of Port Newark/Port Elizabeth and connects Jersey City to Newark. The bridge spans 300 feet with a 135-foot clearance in the up position and 35 feet of clearance in the down position. On average, 10 vessels that require opening of the bridge pass daily. The cycle time to lift, hold open, and close the bridge for tug/barge combination vessels, which make up 97 percent of the traffic, is approximately 12 minutes. Based on average vessel use, the time that the bridge is unavailable for rail operation is 1.6 hours per day.

AIR

- JFK, EWR, and LGA provide direct air transportation services to more than 200 cities in 70 countries
- In 2010, the regional airport system handled over 2.4 million tons of cargo (2.3 million tons of freight and 0.2 million tons of revenue mail)
 - JFK handled 1.4 million tons
 - EWR handled .9 million tons
 - LGA handled 7,500 tons
- Access to JFK is truck-dependent and will benefit from cross harbor service
- Air freight carriers do not typically transport the type of freight moved by truck, rail, or water. Air cargo mainly consists of high value/urgent goods (e.g., precious stones and metals, machinery, precision medical instruments, art and antiques, aircraft parts, and pharmaceutical products).

6. Growth trends

Growth trends determined using a 2007 base year and 2035 forecast year for the No Build:

- Changes in volume would result in a deterioration in LOS to a condition of D, E or F include portions of the Conrail River Line that may deteriorate from C to E,

- The CSX River Line may decline from C to E,
- Drop from LOS C to LOS E on the Conrail National Docks Secondary north of Constable Junction.
- Improvement in LOS on the NS Lehigh Line (from LOS C to LOS A) and the Conrail Lehigh Line (from LOS E to LOS C) due to planned capacity expansion on these lines.

7. Issues/problems that need addressing to either improve the facility and/or for the public benefit

- New York/New Jersey region's highway system suffers from significant peak-period traffic congestion, which continues to expand in duration beyond the typical commuting hours.
- Heavy congestion at crossings between the west-of-Hudson and east-of-Hudson regions.
- Critical rail connections to the east-of-Hudson market are remote, inefficient, or have capacity restrictions. The regional rail system provides only one crossing of the Hudson River and New York Harbor—over the old New York Central Bridge in Selkirk, NY—a detour of over 300 miles for much of the rail traffic that approaches the east-of-Hudson region from the south and west. Freight rail traffic traveling in the east-of-Hudson region must share most tracks with passenger service and is subject to horizontal and vertical clearance limits.
- Waterborne and air cargo facilities in the region are limited by the same constraints that limit truck-based freight since freight transferred to these modes is still distributed by trucks.
- Waterborne modes are limited in their nature to areas accessible by water and after freight reaches the waterfront termini, it must still travel by truck or rail. The waterborne-to-rail freight system for domestic freight moves is limited to one existing harbor crossing, the NYNJR operation between Greenville Yard and 65th Street.
- Air freight movement, comprising a very small percentage of freight moving in the region, is limited to lightweight, high value, time-sensitive goods and likely cannot provide a large scale solution to regional freight movement.
- Institutional constraints involving multiple stakeholders/routes
- Many facilities require circuitous routes that add time and congestion

8. Projects

The following are the ten alternatives proposed after the assessment of 27 alternatives:

WATERBORNE ALTERNATIVES

- Enhanced Railcar Float Alternative – The enhanced railcar float operation would expand existing service between Greenville Yard in Jersey City and 65th Street Yard in Brooklyn with hourly service at full operation and reestablish the operation to 51st Street Yard in Brooklyn, which discontinued temporarily in the aftermath of Superstorm Sandy. Both the Brooklyn yards (at 51st & 65th Streets) and the Oak Point Yard, in the Bronx, could serve as the east-of-Hudson crossing termini for this Build Alternative via railcar float. Supporting freight facilities would include Fresh Pond Yard, Maspeth Yard, Oak Point Yard, and existing/proposed facilities on Long Island.
- Truck Float Alternative – With this alternative, truck trailers or whole trucks would move on a vessel across the harbor, without the truck drivers. In this alternative, a truck driver would deliver a trailer or tractor-trailer to the terminus on one side of the harbor. Upon arrival to the other side of the harbor, a second driver would pick up the trailer or tractor-trailer for transport to its ultimate destination. The termini considered in this analysis in the west-of-Hudson region include Port Newark/Port Elizabeth. In the east-of-Hudson region, the termini considered include 65th Street Yard, 51st Street Yard, South Brooklyn Marine Terminal (SBMT), Oak Point, and Hunts Point.
- Truck Ferry Alternative – This traditional vehicle ferry service involves a truck driven onto a ferryboat and both the truck and driver traverse the water body. The alternative considered in this analysis would move trucks on a vessel between Port Newark/Port Elizabeth in New Jersey and 65th Street Yard, 51st Street Yard, South Brooklyn Marine Terminal, Oak Point, or Hunts Point in New York.
- Lift On-Lift-Off Container Barge Alternative – The alternative would provide barge service for international containerized cargo between Port Newark/Port Elizabeth or Greenville Yard, and

SBMT, 65th Street Yard, 51st Street Yard, Red Hook Container Terminal, or Maspeth Yard, in New York. Service to New England could exist by barge (e.g., Davisville, RI).

- Roll On-Roll Off Container Barge Alternative – Roll On-Roll Off container barge service between Port Newark/Port Elizabeth or Greenville Yard, and SBMT, 65th Street Yard, Red Hook Container Terminal, Maspeth Yard, and Davisville, Rhode Island, as an illustrative New England terminus.

RAIL TUNNEL ALTERNATIVES

- Rail Tunnel Alternative – The Rail Tunnel Alternative would provide a rail crossing from Greenville Yard to the LIRR’s Bay Ridge Branch. The tunnel would accommodate double-stacked container railcars and would allow for bi-directional service (double track). 65th Street Yard would process carload freight moving to and from Brooklyn, parts of Queens, and southern Long Island. Maspeth Yard in Queens would process both intermodal and carload freight. Oak Point Yard in the Bronx would process carload freight destined to and from northern parts of New York City and north of New York City. (A Long Island Facility for processing carload, intermodal, and international container freight was assumed to assess the potential costs and benefits, as well as socioeconomic and environmental effects of this alternative.)
- Rail Tunnel with Shuttle (“Open Technology”) Service Alternative – The Shuttle would provide short-distance intermodal rail service using “Open Technology.” With this service, also known as the “Iron Highway,” the train could split into multiple parts, or opened, to facilitate loading. (This technology reduces the costs of loading and unloading railcars and allow non-intermodal equipment to use rail. These effects would make rail potentially competitive with trucks at shorter distances, supporting truck to rail diversion at trucking distances of less than 400 miles.) Open Technology service would require dedicated train sets and specialized loading and unloading areas at the rail termini, but otherwise this alternative would operate on the same infrastructure as the conventional rail tunnel. The service would exist between termini constructed in the west-of-Hudson region, such as one of the existing freight facilities in Pennsylvania, and in Maspeth Yard, in Queens or at a Long Island Facility.
- Rail Tunnel with Chunnel Service Alternative – The Chunnel service is an alternative way to get trucks through the tunnel, eliminating the need to drive through the tunnel. Instead, the trucks drive onto and off special railcars at two termini with truck loading and queuing areas. Much like the English Channel Tunnel, Chunnel service would carry trucks through the tunnel on railcars. Chunnel service would require dedicated train sets and specialized loading and unloading terminals. The two terminals would be located at the Oak Island Yard in New Jersey and East New York Yard in Brooklyn.
- Rail Tunnel with Automated Guided Vehicle (AGV) Technology Alternative – AGVs are robotic, self-guided mobile platforms that carry items such as pallets, machinery, etc., and—in the case of marine terminals— containers. The use of AGVs can expand into the larger freight transportation network. AGVs would offer a service combining aspects of traditional intermodal rail and a chunnel. Like intermodal rail, containers would lift from a truck to AGV at an originating terminal, carry through the tunnel, then lift from AGV to truck at a destination terminal; the trucker would not accompany the freight. The AGV terminals would be Greenville Yard and East New York.
- Rail Tunnel with Truck Access Alternative – The Rail Tunnel with Truck Access Alternative includes pavement to allow rubber-tired vehicles to pass through the tunnel during periods when trains are not present. With alternating truck and rail access, the service might be offered to trucks 12 hours a day, seven days a week (12/7 Tunnel). Trucks would enter near Exit 14B of the New Jersey Turnpike and would run through the tunnel to the Bay Ridge Branch. From there, slip ramps would be provided to Fort Hamilton Parkway to connect with I- 278 and south Brooklyn. Trucks would also continue in the Bay Ridge Branch rail right-of-way and terminate at Linden Boulevard.

9. Plans for growth and/or efficiency improvements

- The Port Authority of New York and New Jersey is currently managing a project to increase the navigational clearance underneath the Bayonne Bridge from 151 feet above water to 215 feet above water.

- The Tier I EIS will result in a record of decision that will identify a preferred transportation mode—or a combination of modes and alignments- with the appropriate level of detail for a corridor-level decision. The selected Tier I alternative(s) would then be subject to a more detailed and comprehensive analysis in Tier II. Tier II would include much more detailed design and operational data and would address site-specific environmental impacts, detailed costs, and specific mitigation measures

5.0 REDC PLAN SUMMARIES

The following lists the 2013 and 2014 Strategic Plans and Progress Reports produced by each of the state's 10 REDCs:

- Western New York Regional Economic Development Council:
 - Progress Report 2014, Progress Report 2013
- Finger Lakes Regional Economic Development Council
 - Progress Report 2014, Progress Report 2013
- Regional Economic Development Council of the Southern Tier
 - Progress Report 2014, Progress Report 2013
- Central New York Regional Economic Development Council
 - Progress Report 2014, Progress Report 2013
- Mid-Hudson Regional Economic Development Council
 - Progress Report 2014, Progress Report 2013
- New York City Regional Development Council
 - Progress Report 2014, Progress Report 2013
- Long Island Regional Economic Development Council
 - Progress Report 2014, Progress Report 2013
- Capital Region Regional Economic Development Council
 - Progress Report 2014, Progress Report 2013
- Mohawk Valley Regional Economic Development Council
 - Progress Report 2014, Progress Report 2013
- North Country Regional Economic Development Council
 - Progress Report 2014, Progress Report 2013

In 2014 and 2013, three projects related to freight infrastructure were identified and funded in Regional Economic Development Plans, including:

- Inland Port in Onondaga County (\$1M),
- Ogdensburg Agri-Business project which involved repair two railroad bridges (\$225,000), and
- Air Cargo facility at JFK (\$0.5M).

In addition, the Plattsburgh International Airport expansion project (\$445,000) indicated increased capacity for passenger airfare, but expansion of freight capacity was unclear.

Table 13 and **Table 14** include a list of the projects identified in the 2013 and 2014 Regional Economic Development Plans that will either support the freight system or generate freight. Only projects over \$50,000 were included in the review.

Table 13: Freight-support¹ and/or Freight-generate² Projects 2014³

REDC	Project	Support ⁴	Generate	Comment
Mid Hudson	\$1.25 million to USAI Lighting.		X	LED Plant
	\$0.2m Equilibrium Brewery		X	
	\$0.6M Hudson Valley Paperwork		X	
	\$0.5M Kikkerfrosch (brew)		X	
	\$1.5M Bad Ass Cider		X	2 Projects
	\$0.075 e-Works recycling		X	
	\$0.3M Hillburn Granite		X	
	\$0.25M United Structural Works,		X	
	\$0.5M Ceres Technol (solar panel)		X	
	\$0.25M Selux		X	2 Projects
Long Island	\$0.13 M Seton Food Hub		X	
	\$0.7 M Zumtobel Lighting		X	2 Projects
	\$0.05M Elite Manufacturing		X	Aerospace
	\$0.35M Exergy, LLC		X	
	\$0.11M American Pride Fasteners		X	2 Projects
	\$0.09M Ancon Gear		X	
	\$-.59M Big Apple Sign		X	
	\$0.436M Certerra, Inc.		X	Biotech
\$1M Contract Pharmacal		X		
Southern Tier	\$0.24M J&K Electronics,		X	
	\$0.15M Nationwide Exhibitor		X	
	\$0.045M Buckingham Manu		X	
	\$0.22M Pacemaker Steel		X	
	\$0.9M Sportsfield Specialties		X	
	\$0.15M HP Hood		X	
Finger Lakes	\$0.5M Granite Works		X	2 Projects
	\$0.3M Tioga Hardwoods		X	2 Projects
	\$1.5M Biogas Plant		X	
	\$0.5M EPP Team		X	Optical
	\$2M Bioscience Manufacturing		X	
	\$0.75 M Foodlink, Inc.		X	
	\$0.5M LiDestri Foods		X	
	\$0.675M Photonics		X	2 Projects
	\$0.6M Intergrow Greenhouses		X	
	\$0.25M Seneca BioEnergy,		X	
Central NY	\$0.3M Newchem Inc.		X	
	\$0.3M Teel & O'Brien Mfg.		X	
	\$0.4M Emmi Roth USA		X	Yogurt
	\$0.125 M Hardwood Transform		X	
	\$0.02M Bauer PerformLacrosse,		X	
Central NY	\$0.350M Sullivan Bongio Bazine		X	2 Projects
	\$1.75M US Intercorp,		X	2 Proj. Energy
	\$0.7m Stonewell Bodies & Mach		X	2 Projects

¹ Freight supportive projects --infrastructure that supports truck, rail maritime and or distribution centers

² Freight generating projects – infrastructure that generates incoming and or outgoing freight – manufacturing plants, retail malls, wholesalers

³<http://regionalcouncils.ny.gov/sites/default/files/regions/westernny/REDCAwardsBooklet2014.pdf>

REDC	Project	Support ⁴	Generate	Comment
North Country	\$2M for Agri-Mark (cheese manu) \$0.15M Greenwood Woodbusters \$0.16M TriTown Packing, \$0.2M North American Tapes, \$0.1M TAP Industries		X X X X X	2 Projects
NYC	\$6M Brooklyn Brewery to SI \$0.96 M Israel Beigels \$0.274M Lady M Confections \$0.5M JFK Air Cargo \$0.225 M Precision Gear \$0.2M Steuben Foods	X	X X X X X X	2 Projects
Capital	\$1.5 M Troy Farmers Market \$0.348M Simmons Machine Tool \$0.36 M ZeroBase Energy, \$0.1M Field Goods, LLC \$0.5M Castleton Paperboard \$0.31M Argyle Cheese Factory \$1.075M Morcon, Inc.		X X X X X X X	Paper
Mohawk	\$1 M Nano \$0.3M Fountainhead Group \$1.5M Trenton Technology \$1.34M Vincent's Heating &Fuel \$0.05M Otsego County Rail Yards		X X X X X	2 Projects Industrial Site
Western NY	\$0,5 Bethlehem Steel (a reach)		X	Brownfields

Table 14: Freight-support and/or Freight-generate Projects 2013

REDC	Project	Support ⁵	Generate	Comment ⁶
Mid Hudson	\$0.75 M Continental Organics, \$0.25M Kolmar Laboratories \$0.4M RIJ Pharmaceutical \$0.9M Crossfire Integration \$1M Taylor Biomass \$1M Clear Solution Labs \$0.2M Hudson Valley AgriBus.		X X X X X X X	2 Projects
Long Island	\$0.18M Ametek Hughes Treitler \$3.6M CS Wholesale Grocers I \$2M US Nonwovens \$0.4M Long Island Compost \$0.15 M Maloya Laser \$0.1M Nastra Automotive \$0.9M Pool Cover Corp \$0.27M Powertech Controls \$1.1M AL Energy Solutions LED \$1.135M LI Compost Corp \$1M ADDAPT		X X X X X X X X X X X	Aerospace \$40M (in final) Aerospace Aerospace
Southern Tier	\$1.3 M Bulk Wood Pellet; \$ 0.85New Mill \$.03 Dyco Electronics		X X X	

⁶ Comment Proposal (PRP) Plan (PLN) In construction (CNS) Complete (CPL)

REDC	Project	Support ⁵	Generate	Comment ⁶
Finger Lakes	\$2M Biogas Plant; \$0.3 Syntec Optics; \$0.1M PPI Corp. \$2M Arnold Magnetic Technology \$.03 M Red Jacket		X X X X X	
Central NY	\$0.3 M Johnston Paper; \$1.8 M Ariston Dairy \$1 M Inland Port Construction ⁷⁸ \$1.5M CNY Fabrication, \$1.1 M Hanford Pharmaceuticals \$3.5M NFICON, sensors manufacturing \$1M Stickley, \$0.25 M Syracuse Fiber Recycling	X	X X X X X X X	(2 Projects) Onondaga Affil of Braun (2 Projects) (2 Projects) (2 Projects)
North Country	\$.8 M Asept Pak Inc (Pharma) \$4.5 M Plattsburgh Intl Airport ⁹ \$1.4 M Bioenergy Project \$.875M Applied Bio-refinery \$0,04M Tug Hill Vineyard \$0.225 M Ogdensburg Agribus ¹⁰ .	X? X	X X X X X X	2 Projects 2 Rail Bridges
NYC	\$.4 M Ralph Rucci LLC		X	Fashion
Capital	\$0.1M Menands Farmers Market \$0.225M Local Food Distrib. Hub \$0.75 M e.nfrastructure Tech.		X X X	
Mohawk	\$.03 M Erie Canal Distillers \$.25M Mohawk Resources \$0.15 M 3B Timber Co 0.45M Matt Brewing Co.		X X X x	2 Projects 2 Projects
Western NY	\$1M paint plant AISher Pigments; \$0.8M Rigidized metals; \$0.25M Rare Earth Recycling 0.33M Triad Recycling		X X X x	

⁷ “This project will support Phase 2 construction of the Central New York Inland Port (CNYIP): Container Pooling Operation (CPO). Once completed, CNYIP & CPO will offer freight loading and unloading capabilities, warehousing, storage and other functions in a strategically located area. The project decreases truck traffic volume and provide savings for regional companies relying on import and export of goods and materials.”

⁸ CNY Intermodal Rail Freight and Inland Port Feasibility Study Complete—August 2013 The CNY RPDB completed preparation, in partnership with CHA Consulting Engineers, of a conceptual Master plan study to determine the feasibility of developing a modern rail freight and inland port Distribution center serviced by rail on a 200 acre site located directly north of the CSX Syracuse/ DeWitt Rail Yard. Elements of the study include an inventory of similar inland-ports in country, an Assessment of existing environmental conditions, project alternatives and costs estimates, and Presentation of a series of conceptual site plans. Funding for this project was provided by the federal Economic Development Administration.

⁹ Plattsburgh airport has cargo, is designated for military. Not clear (yet) whether expansion is for pax only or also for cargo.

¹⁰ Upgrade two rail bridge and purchase and install new storage facility and conveyor system to increase agricultural products capacity at port of Ogdensburg.

GLOSSARY

Anchor Tenant	The major tenant at a facility.
Bottleneck	A localized disruption of regular traffic patterns, often dealing with roadway design or temporary situations.
Cab Signaling	A train control system that is located in the engine control compartment and which indicates to the locomotive engineer the track occupancy or condition for the track ahead. The cab signal is used in conjunction with interlocking signals and with, or in lieu of, block signals located adjacent to the track.” http://www.hubdiv.org/docs/signaling/NORAC.pdf
Cargo Village	Broad term used to describe a cluster of air, truck, rail, and other freight related forwarders/handlers/inspectors in one location.
Railroad Classification (Class I, II, III)	Class I: Carriers with annual carrier operating revenues of \$467.0 million or more Class II: Carriers with annual carrier operating revenues of less than \$467.0 million but in excess of \$37.4 million Class III: Carriers with annual carrier operating revenues of \$37.4 million or less, and all switching and terminal companies regardless of operating revenues. http://www.aslrra.org/about_aslrra/FAQs/
Custom Brokers	Private individuals, partnerships, associations or corporations licensed, regulated and empowered by U.S. Customs and Border Protection (CBP) to assist importers and exporters in meeting Federal requirements governing imports and exports. http://www.cbp.gov/trade/broker/overview
Dredging	Dredging is the act of removing silt and other material from the bottom of bodies of water. http://oceanservice.noaa.gov/facts/dredging.html
Freight Analysis Framework (FAF)	Integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. With data from the 2007 Commodity Flow Survey and additional sources, FAF version 3 (FAF3) provides estimates for tonnage, value, and domestic ton-miles by region of origin and destination, commodity type, and mode for 2007, the most recent year, and forecasts through 2040. Also included are state-to-state flows for these years plus 1997 and 2002, summary statistics, and flows by truck assigned to the highway network for 2007 and 2040. http://ops.fhwa.dot.gov/Freight/freight_analysis/faf/index.htm
FAST Program	A commercial clearance program for known low-risk shipments entering the US from Canada and Mexico. Initiated after 9/11, this innovative trusted traveler/trusted shipper program allows expedited processing for commercial carriers who have completed background checks and fulfill certain eligibility requirements. http://www.cbp.gov/travel/trusted-traveler-programs/fast
Foreign Trade Zone	Secure areas under US Customs and Border Protection supervision that are generally considered outside CBP territory upon activation. Located in or near CBP ports of entry, they are the US' version of what are known internationally as free-trade zones. http://www.cbp.gov/border-security/ports-entry/cargo-security/cargo-control/foreign-trade-zones/about

Freight Forwarders	Business that coordinates shipment of commodities to and from producers, manufacturers, and markets.
Integrated Incident Management System (IIMS)	A project in New York City to send pictures and incident information from a first responder on the scene to secondary responders. The information is provided directly to off-site supervisors, enabling them to make faster and more accurate responses of their resources without having to travel to the incident scene first. http://ops.fhwa.dot.gov/eto_tim_pse/technologies/iims.htm
Intermodal Facility	Involving more than one mode of transportation. For example, rail to truck or ship to truck/rail.
Last Mile	Movement of commodities from a transportation hub to final destination, often involving limitations from urbanized area development like congestion and street specifications.
Lift-on/Lift-off	Containerized cargo, requiring lift on and off vessels and other vehicles using handling equipment. http://www.globalsecurity.org/military/systems/ship/lo-lo.htm
Logistics Center	A warehouse, distribution center, or depot.
Luther Forest	A 414-acre site in the Malta, New York area, specifically designed for semiconductor and nanotechnology manufacturing and other innovative technologies.
Positive Train Control System (PTC)	A set of highly advanced technologies designed to automatically stop or slow a train before certain types of accidents occur. Specifically, as mandated by Congress in the Rail Safety Improvement Act of 2008 (RSIA), PTC must be designed to prevent: train-to-train collisions, derailments caused by excessive speed, unauthorized incursions by trains onto sections of track where maintenance activities are taking place, and movement of a train through a track switch left in the wrong position. https://www.aar.org/policy/positive-train-control
NEXUS Program	Allows pre-screened travelers expedited processing when entering the United States and Canada. Program members use dedicated processing lanes at designated northern border ports of entry, NEXUS kiosks when entering Canada by air and Global Entry kiosks when entering the US via Canadian Preclearance airports. NEXUS members also receive expedited processing at marine reporting locations. More information available at: http://www.cbp.gov/travel/trusted-traveler-programs/nexus
One Region Forward	Broad-based, collaborative effort to promote more sustainable forms of development in Erie and Niagara counties – the Buffalo Niagara Region – in land use, transportation, housing, energy and climate, access to food, and more. It will combine research and public engagement with planning and action to help us meet the combined economic, environmental, and social challenges of the 21st century. More information available at: http://www.oneregionforward.org/about/
Overhead Cargo	Cargo that overpasses a region rather than landing in terms of air cargo.
PARK Smart Program	PARK Smart is a program to make parking easier while reducing congestion and improving safety. NYSDOT is conducting six-month pilots in neighborhoods across the City to evaluate how the program works in different settings. The agency works closely with community boards, merchants, BIDs and other local stakeholders when developing the pilots. More information available at:

<http://www.nyc.gov/html/dot/html/motorist/parksmart.shtml>

Preclearance	The same immigration, customs, and agriculture inspections of international air passengers performed on arrival in the US can be completed before departure at foreign airports instead. More information available at: http://www.cbp.gov/border-security/ports-entry/operations/preclearance
Radio Frequency Identification	Technology that stores a serial number on a microchip that is attached to an antenna that uses radio waves to automatically identify people or objects. The antenna enables the chip to transmit the identification information to a reader. The reader converts the radio waves reflected back from the RFID tag into digital information that can then be passed on to computers that can make use of it. More information available at: http://www.rfidjournal.com/site/fags#Anchor-What-363
Roll-on/Roll-off (Ro-Ro)	Ships carry independent vehicles that are driven on and off the vessel.
Shortline	Relatively small, independent rail company used to move local distances.
Safe and Secure Transportation Program Demonstration (SSTP)	A demonstration project that incorporates non-traditional approaches and new paradigms in order to ensure that international commerce can continue, and increase, even under the highest alert level or in the event of a border closing. The goal is a system, approved by US Customs and Border Protection that assures the integrity of freight while also handling the State's need to regulate driver and vehicle credentialing and equipment road worthiness and weight. More information available in: (New York State Department of Transportation 2006)
Super-sacking	Heavy-duty bag handling systems.
Weigh-in-Motion	Measuring devices developed to identify and record vehicle weight as vehicles pass over measuring instrument.

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