A-3.1 Coordination Plan



CROSS HARBOR FREIGHT PROGRAM TIER I EIS

SAFETEA-LU 6002 COORDINATION PLAN - DRAFT

MAY 2011

THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY

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Section 1. Introduction

1.1 Purpose of Coordination Plan

To provide more efficient environmental reviews for project decision-making, Section 6002 of Public Law 104-59 "Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)," enacted August 10, 2005, requires that a coordination plan be prepared and implemented for those projects for which an EIS is prepared, in accordance with the National Environmental Policy Act of 1969 (NEPA). To that end, this plan has been prepared to foster participation and cooperation among federal, state and local agencies during the environmental review process of the Cross Harbor Freight Program EIS.

1.2 Project Summary

The greater New York/New Jersey/Connecticut region is the financial center of the US economy and the nation's largest consumer market. This regional economy relies on a goods movement system overwhelmingly dependent on trucking, and an aging and congested highway network. Regional forecasts of truck traffic growth vary depending on the source, year, and geography, but available sources agree that truck tonnage is anticipated to increase substantially, with some forecasts calling for up to a 36% increase by 2035. In the absence of highway network or goods movement system improvements, this growth and the region's increased dependence on trucking for freight distribution will result in more serious regional highway congestion and extended travel delays — a trend that could threaten the economic vitality of the greater New York/New Jersey/ Connecticut region.

The Cross Harbor Freight Program EIS is analyzing alternatives that would provide short-term and long-term strategies for improving the regional freight network, reducing traffic congestion, enhancing modal diversity and system redundancy, improving air quality, and providing economic benefits. The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ) are joint lead agencies for the preparation of the EIS. New York State and New Jersey Departments of Transportation (NYSDOT and NJDOT) are cooperating agencies in this effort.

The EIS analyses is being conducted using "tiering," as described in 40 CFR 1508.28, which is a staged process applied to the environmental review of complex projects. Tier I of the EIS allows the agencies to focus on general transportation modes and alignments for the proposed project, including identifying logical termini and assessing regional and corridor-wide transportation and other related effects. Tier I includes: a logistics and market demand analysis; a rail and highway operations and multimodal networks analysis; an economic and financial analysis; a capital and operations and maintenance cost estimation; regional transportation analysis, and; general environmental assessments. At the conclusion of Tier I, a Record of Decision (ROD) will be issued that will identify the recommended (preferred) transportation mode or combination of modes and alignments for the proposed project, with the appropriate level of detail for corridor-level decisions, or will select the "No Action Alternative." The ROD will also outline measures that are intended to avoid, minimize, or mitigate adverse impacts from the recommended alternative(s). Tier II of the EIS will explore in greater detail those alternatives that fulfill the project purpose within the mode and alignment chosen in Tier I, and will include analysis of

refined engineering designs and their site-specific environmental impacts, development of site-specific mitigation measures, and refined cost estimates. Input from the public and agencies will be solicited during both tiers.

1.3 Project History

Several previous studies have been conducted to examine possible alternatives to improve freight movement across the Hudson River and New York Harbor. The Cross Harbor Freight Movement Major Investment Study (MIS) commissioned by the New York City Economic Development Corporation (NYCEDC), was completed in 2000. The MIS identified alternatives and strategies to improve regional freight mobility, expand shippers' choices of route and mode, enhance the region's environmental quality, and promote regional economic development. Fifteen alternatives, involving highway, rail, waterborne, and air systems, were initially identified and evaluated, with the most promising strategies advanced to a subsequent phase of refinement and evaluation. Four alternatives were advanced for study in a Draft EIS, which was published in April 2004 by FHWA and the Federal Railroad Administration (FRA), as co-lead agencies, and the NYCEDC as the project sponsor. The Draft EIS considered: a No Action Alternative; a Transportation Systems Management (TSM) Alternative; an Expanded Float Operations Alternative, which involved expansion of capacity for the existing railcar float system across New York Harbor; and a Freight Rail Tunnel Alternative with two possible alignments. Following publication of the Draft EIS, the PANYNJ, as the region's bi-state transportation agency, and the agency that controls most of the east-west connections between New York and New Jersey, accepted the role of project sponsor. The PANYNJ's mission to identify and meet critical bi-state transportation infrastructure needs uniquely positions the agency to direct the Cross Harbor Freight Program EIS.

1.4 Project Purpose and Need

The greater New York/New Jersey/Connecticut region is the financial center of the US economy, the nation's largest consumer market, and a major hub of entertainment, services, fashion, and culture. Consequently, the region receives, processes, and distributes a significant amount of goods from the nation and the world. In 2007, nearly 950 million tons of freight were moved by truck into, out of, within, and through the 54-county region surrounding New York City and Long Island (including northern and central New Jersey, western and southern Connecticut, and portions of southern New York and eastern Pennsylvania). By 2035, this demand is projected to increase to more than 1.3 billion tons, as a result of forecasted growth in employment, personal income, and economic activity. This growth will create unprecedented pressure on the region's transportation infrastructure.

The region's ability to serve its markets is increasingly threatened by its heavy reliance on moving goods over an aging and congested roadway network by truck, while non-highway freight modes, particularly rail and waterborne, remain underdeveloped and underutilized. In addition, the flow of freight in the region is complicated by the historic physical barrier of the Hudson River and New York Harbor, which separates the large consumer markets of New York City, Long Island, and New England (east of the Hudson River) from the nation's major centers of agricultural and industrial production, and the region's major freight facilities and distribution centers (west of the Hudson River).

Given the existing system, forecasted increases in freight demand translate directly into increased truck traffic in the freight distribution network. This situation will result in serious highway congestion, particularly on a number of regionally important and heavily used network connectors, including the Verrazano-Narrows Bridge between Brooklyn and Staten Island, and the George Washington Bridge between Manhattan and New Jersey. Currently, the George Washington Bridge carries an average of approximately 300,000 vehicles per day, and the Verrazano-Narrows Bridge carries an average of 195,000 vehicles per day. According to the New York Metropolitan Transportation Council (NYMTC) Draft 2009 Congestion Management Process Status Report, current vehicle demand on these two major east-west crossings already outweighs capacity, and their level of service will continue to worsen through 2035.

Tier I of the EIS is focusing on goods movement throughout the greater New York/New Jersey/Connecticut region, including the major freight movement corridors leading to the Hudson River crossings identified above. Routes I-278, I-495, I-95, a number of highways serving northern New Jersey (such as New Jersey Turnpike/I-95, I-78, I-80, and I-287), and many state and local routes that are critical for local pickup and delivery activities, are included in the EIS study area. The EIS is also investigating major freight rail lines and facilities west of the Hudson River (such as a variety of lines within the Conrail Shared Assets Area, the CSX River Line, the Norfolk Southern Lehigh Line, Chemical Coast Line and important rail yards at Croxton, Kearny, Oak Island, Greenville, Port Newark/Elizabeth in New Jersey) and strategic rail assets east of the Hudson River, which may require improvements and/or capacity enhancement. Conditions at area marine terminals and airports are also included in the Tier I EIS study area.

The primary purpose of the project is to enhance freight movement across New York Harbor between the east-of-Hudson and west-of-Hudson sub-regions. Project goals, which will be refined during scoping with input from the public, elected officials, interested agencies and organizations, will support the primary purpose, and could include:

GOAL 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.

GOAL 2: Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.

GOAL 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.

GOAL 4: Support development of integrated freight transportation/land use strategies.

1.5 Alternatives

A set of alternatives are being developed and refined during public and agency scoping, and through a comprehensive alternatives screening and evaluation process, with input from stakeholders. Each alternative will be subject to a fatal flaw analysis. The alternatives will then be screened and reduced in number, based on the results of the freight flow modeling and a general assessment on their ability to meet the project goals and objectives. Following conceptual engineering and detailed transportation and environmental impact assessment, the alternatives to be documented in the Tier I Draft EIS will be identified. The Tier I EIS will consider a No Action

Alternative, a TSM Alternative (which could include the repair or upgrade of existing float bridges and scheduling improvements to allow both freight traffic and passenger service to utilize the region's rail lines), possible Travel Demand Management (TDM) alternatives and Build Alternatives that will be designed to take advantage of under-utilized regional and local rail networks and waterborne transport. The No Action Alternative will include planned upgrades to existing infrastructure, such as rehabilitation of the Greenville Yard Rail Float Facility, the rehabilitation of New York New Jersey Rail Float Operations and Assets, and committed and programmed improvements to New York City and Long Island rail lines and rail yards. The Build Alternatives may include an expanded railcar float operation, several versions of a tunnel, and perhaps a combination of short-term railcar float and long-term tunnel. In addition to evaluating these major Build Alternative components, the Tier I EIS will address alternative multiple new or expanded supporting rail yards that would serve as sites to break down freight for shipment to local destinations.

Section 2. Lead/Cooperating/Participating Agencies

2.1 List of Agencies, Roles, and Responsibilities

SAFETEA-LU requires the identification of lead, participating, and cooperating agencies in the development of an EIS. For the Cross Harbor Freight Program EIS, the lead agencies are FHWA and PANYNJ. They are responsible for managing and advancing the SAFETEA-LU Section 6002 coordination process and preparing the Tier I EIS. FHWA, in coordination with PANYNJ, has also identified those federal, state, and local agencies that would be invited to be cooperating agencies or participating agencies for this project. The New York State Department of Transportation (NYSDOT) and the New Jersey Department of Transportation (NJDOT) have agreed to be cooperating agencies. Their specific review responsibilities relative to this project, along with other agencies that accept a cooperating agency role, include:

- Various methodology reports dealing with modeling and market demand analysis, environmental assessment, engineering and capital and operating/maintenance cost estimating. These reports will appear as appendices to an overall Environmental Impact Statement methodology report, which will describe the process by which alternatives are developed, then analyzed for fatal flaws, then screened based on the extent to which they will cause diversion from truck to rail or waterborne modes, and then evaluated in detail, based on transportation, engineering and environmental considerations. The alternatives that remain after this last evaluation will be documented in the Tier I Draft EIS.

- Draft and final versions of the Public/Agency Scoping Document, which will identify the project goals and objectives, the initial long list of project alternatives, and the Statement of Project Need.

- Initial list of project alternatives, as well as the subsequent reduced lists, developed as a result of mode choice modeling and conceptual engineering, transportation planning and environmental impact assessment.

- Environmental analyses and findings, and their inclusion as the contents of the Draft EIS and Final EIS.

- Proposed mitigation measures, particularly those measures related to new or improved highway infrastructure.

Cooperating agencies have funding, approval and/or permitting authority, while participating agencies may have an interest in the project and/or possess information that would be relevant to the project. FHWA and PANYNJ, as joint leads, are intent on promoting the efficient management of the project development process and enhancing opportunities for coordination with the public and with other Federal, State and local governments. Cooperating agencies are also considered participating agencies - references in this document to participating agencies, therefore, include cooperating agencies.

Pursuant to Section 6002 of SAFETEA-LU, cooperating and participating agencies are responsible to identify, as early as possible, any issues of concern regarding the potential environmental or socioeconomic impacts of the alternatives being considered and ultimately addressed in the EIS that could substantially delay or prevent an agency from granting a permit or other approval needed for the project. Therefore, these agencies' role in the development of

the Cross Harbor Freight Program project should include the following overall responsibilities as they relate to their area of expertise:

- Provide meaningful and early input to the methodologies and level of detail required in the alternatives analysis and environmental assessment, as referenced above.
- Identify issues that could substantially delay or prevent granting of permits/approvals.
- Identify opportunities for collaboration, including participating in coordination meetings and joint field reviews, as appropriate.
- Provide timely review and comment on preliminary environmental documents to reflect the views and concerns of their respective agencies on the adequacy of the documents, alternatives considered, and anticipated impacts and mitigation.

Table 1 includes those agencies that have been invited to be involved in the SAFETEA-LU Section 6002 process for the Cross Harbor Freight Program Tier I EIS, as either a cooperating agency or participating agency, along with the reason for their requested involvement. Table 2 includes those agencies that have been invited to be involved in the SAFETEA-LU process as a participating agency. These tables will be completed upon receipt of confirmations of either cooperating or participating agency involvement.

Table 1 INVITED AS COOPERATING OR PARTICIPATING AGENCIES

Agency Name	Reason for Involvement
New York State Department of Transportation	Predicted diversion of freight movement by truck to rail or waterborne modes, and potential benefits to service levels and safety on existing and proposed New York State highways.
New Jersey Department of Transportation	Predicted diversion of freight movement by truck to rail or waterborne modes, and potential benefits to service levels and safety on existing and proposed New Jersey highways
Federal Emergency Management Agency	Provision of redundancy with a tunnel, as another river crossing and as a means of emergency access across New York Harbor when needed. Flood hazard potential in flood-prone or flood storage areas due to increased impervious surfaces associated with new/expanded rail yards or approaches to or from a proposed car float operation or a tunnel.
Federal Maritime Administration	Agency's programs promote the use of waterborne transportation and its seamless integration with other segments of the transportation system. Car float and related alternatives would utilize transportation modes and systems under FMA jurisdiction.
Federal Railroad Administration	Promulgation and enforcement of freight railroad safety regulations; economic regulation; traffic patterns and network analysis; and freight data and operations, in relation to potential changes in freight rail volumes on certain limes. Responsible for providing analytical support to Amtrak relative to passenger operations, which could be affected by increased freight rail activity on certain lines.
Federal Transit Administration	Oversight of passenger railroads that would be affected by increased freight rail operations on lines on which they operate, including NJ TRANSIT, Metro-North RR and Long Island RR.

Table 1 INVITED AS COOPERATING OR PARTICIPATING AGENCIES

Agency Name	Reason for Involvement
New York City Department of Transportation	Predicted diversion of freight movement by truck to rail or waterborne modes, and potential benefits to service levels and safety on existing and proposed City-owned roadways,
NYS Department of Environmental Conservation	Permitting responsibility under Section 401 Water Quality Certification (consistency with Clean Water Act regulations for work in water bodies); Article 24 freshwater wetlands regulatory program; Article 15 protection of waters regulatory program
State of New Jersey Department of Environmental Protection	Consistency with the State's Coastal Zone Management Plan. Contaminated materials and site remediation and air quality construction and conformity issues. Jurisdiction over wetlands including Waterfront Development Permitting and Flood Hazard. Historic Preservation Office consultation under Section 106
Surface Transportation Board	Potential extensions of railway lines that may be part of the national system. Concurrence by STB on construction.
Transportation Security Administration	Oversight of the security of freight movement within the United States as well as administering several grant programs concerned with rail and freight security.
United States Coast Guard - First Coast Guard District	Permitting administration of Section 9 of the Rivers and Harbors Act, related to construction of any bridge, dam, dike or causeway over or in navigable waters of the United States
US Army Corps of Engineers	Permitting responsibility under Section 404 of the Clean Water Act (discharge of dredged or fill material into navigable waters); Permitting responsibility under Section 10 of the Rivers and Harbors Act (excavation or fill within navigable waters or building of wharves, piers, jetties and other structures within navigable waters)
US Environmental Protection Agency	Expertise in environmental impact assessment including range of alternatives, purpose and need and secondary and cumulative effects. Regulatory concerns include: Transportation Conformity under the Clean Air Act; Section 404 permitting under the Clean Water Act among others.

Table 2 INVITED AS PARTICIPATING AGENCIES

Agency Name	Reason for Involvement
Connecticut Department of Transportation	Predicted diversion of freight movement by truck to rail or waterborne modes, and potential benefits to service levels and safety on existing and proposed Connecticut highways
Economic Development Corporation of Essex County	Project alternatives may impact long-range planning proposals for economic development in the county.
Essex County Department of Public Works	Project alternatives may impact facilities under DPW jurisdiction.

Table 2 INVITED AS PARTICIPATING AGENCIES

Agency Name	Reason for Involvement
Hudson County Department of Public Works	Project alternatives may impact facilities or future plans/projects under DPW jurisdiction.
Hudson County Economic Development Corporation	Project alternatives may impact long-range planning proposals for economic development in the county.
Jersey City Department of Housing, Economic Development and Commerce	Project alternatives may impact long-range planning proposals for economic development in the city.
Jersey City Department of Public Works	Project alternatives may impact facilities under DPW jurisdiction.
Long Island Regional Planning Council	Relationship of project alternatives to Long Island land use planning proposals and plans
Metropolitan Transportation Authority	Potential effects of proposed alternatives where MTA is planning future transit and commuter rail access and capital projects.
Metropolitan Transportation Authority - Bridges and Tunnels	Relationship of project alternatives to MTA – B & T properties and direct and indirect (traffic) effects on these facilities.
Metropolitan Transportation Authority- Long Island Railroad	Potential effects of proposed alternatives on LIRR operations, facilities and/or future plans.
Metropolitan Transportation Authority - Metro North Railroad	Potential effects of proposed alternatives on MNR operations, facilities and/or future plans
Metropolitan Transportation Authority- New York City Transit	Potential effects of proposed alternatives on NYCT operations (bus and subway), facilities and/or future plans
National Marine Fisheries Service	Consultation regarding proposed alternatives relative to ecological effects on coastal waters including review of the project's Essential Fish Habitat for New York Harbor and its tributaries.
New Jersey Transit	Potential effects of proposed alternatives on NJT operations, facilities and/or future plans.
New York City Department of City Planning	Consistency with land use and zoning and public policies. Relationship to and consistency with the Waterfront Revitalization Plan, and Coastal Zone Consistency Determination.
New York City Department of Environmental Protection	Potential site remediation and contaminated materials disturbance, noise regulations and local air quality issues.
New York City Economic Development Corporation	Consistency with PlaNYC and other economic goals of New York City.
New York Metropolitan Transportation Planning Council	Collaborative planning forum to address transportation-related issues from a regional prospective and decide on allocation of federal transportation funds.
New York State Department of State	Consistency with the State's Coastal Zone Management Plan
North Jersey Transportation Planning Authority	Collaborative planning forum to address transportation-related issues from a regional prospective and decide on allocation of federal transportation funds.

Table 2 INVITED AS PARTICIPATING AGENCIES

Agency Name	Reason for Involvement
NYS Office of Parks, Recreation & Historic Preservation	Coordinating effects determination for Section 106 of the National Historic Preservation Act.
Pennsylvania Department of Transportation	Predicted diversion of freight movement by truck to rail or waterborne modes, and potential benefits to service levels and safety on existing and proposed Pennsylvania highways
South Western Regional Planning Agency	Forum for interagency cooperation and public input into public project funding decisions
State of New Jersey Department of Environmental Protection, Division of Natural and Historic Resources	Coordinating effects determination for Section 106 of the National Historic Preservation Act.
Union County Department of Engineering and Public Works	Project alternatives may impact facilities under DPW jurisdiction.
Union County Improvement Authority	Project alternatives may impact long-range planning proposals for economic development in the county.
US Fish and Wildlife Service	Consultation regarding project alternatives relative to effects on aquatic and terrestrial wildlife as well as coordination with threatened and endangered species under Section 7 of the Endangered Species Act

2.2 Agency Contacts

Table 3 lists those agencies that have been invited to become involved in the SAFETEA-LU Section 6002 process for the Cross Harbor Freight Program project, as well as their respective contact persons, phone numbers, and email addresses. This table will be completed upon receipt of the confirmations regarding cooperating or participating agency involvement.

Table 3 AGENCY CONTACTS

Agency	Contact Person/Title	Phone	E-mail
Federal Highway Administration- New York	John Formosa	212-668-2205	john.formosa@fhwa.dot.gov
Federal Highway Administration- New Jersey	Dennis Merida Division Administrator	609-637-4200	dennis.merida@fhwa.dot.gov
Port Authority of NY & NJ	Laura Shabe Manager, Cross Harbor Freight Program	212-435-4441	lshabe@panynj.gov
NYS Department of Transportation	Stanley Gee Acting Commissioner	518-457-4422	Sgee@dot.state.ny.us
NJ Department of Transportation	James Simpson Commissioner	609-530-4314	James.simpson@dot.state.nj.us
NYS Department of Transportation-Region 10	Subimal Chakraborti Regional Director	631-952-6632	schakraborti@dot.state.ny.us
NYS Department of Transportation-Region 11	Phillip Eng, Regional Director	718-482-4526	peng@dot.state.ny.us
Connecticut Department of Transportation	Joseph Marie Commissioner	860-594-3000	joseph.marie@ct.gov
Economic Development Corporation of Essex County	Deborah A. Collins Executive Director	973-621-4454	edclombardi@aol.com
Essex County Department of Public Works	Philip A. LiVecchi Director	973-226-8500 ex. 2660	plivecchi@essexcountynj.org
Federal Emergency Management Agency - Region II	Michael Moriarty, Deputy Administrator	212- 680-3612	michael.moriarty@dhs.gov
Federal Maritime Administration	David Matsuda Acting Deputy Maritime Administrator	202-366-4000	david.matsuda@dot.gov
Federal Railroad Administration	Joseph Szabo, Administrator	202-493-6024	joseph.szabo@dot.gov

Table 3 AGENCY CONTACTS

Agency	Contact Person/Title	Phone	E-mail
Federal Transit Administration	Nancy Danzig Director, Planning and Program Development	212-668-2170	Nancy-danzig@dot.gov
Hudson County Economic Development Corporation	Elizabeth Spinelli Executive Director	201-369-4370	director@hudsonedc.org
Jersey City Department of Housing, Economic Development and Commerce	Carl Czaplicki Director	201-547-5070	czaplicki@jcnj.org
Jersey City Department of Public Works	Rodney Hadley Director	201-547-4402	rodney@jcnj.org
Long Island Regional Planning Council	Michael White Executive Director	516- 571-7613	mwhite@nassaucountyny.gov
Metropolitan Transportation Authority	Jay Walder, Chairman and CEO	212-878-7000	jwalder@mtahq.org
Metropolitan Transportation Authority – Long Island Railroad	Helena Williams President	718-558-8254	hewilli@lirr.org
Metropolitan Transportation Authority - Metro North Railroad	Howard Permut, President	212-340-2144	permut@mnr.org
Metropolitan Transportation Authority Bridges and Tunnels	Patrick Sbano, P.E. Manager, Traffic Safety and Engineering	212-870-6515	psbano@mtabr.org
National Marine Fisheries Service	Diane Rusanowsky	203-882-6504	Diane.Rusanowsky@noaa.gov
New Jersey Transit	Rich Wisneski Rail Planner	973-491 7808	RWisneski@njtransit.com
New York City Department of City Planning	Jack Schmidt Director – Transportation	212-442-4630	jschmid@planning.nyc.gov
New York City Department of Environmental Protection	Terrell Estesen Director City Project Review	718-595-4473	terrelle@dep.nyc.gov
New York City Department of Transportation	Naim Rasheed Director	212-676-1680	nrasheed@dot.nyc.gov

Table 3 AGENCY CONTACTS

Agency	Contact Person/Title	Phone	E-mail
New York City Economic Development Corporation	Madelyn Wils, Executive Vice President for Development	212-619-5000	mwils@nycedc.com
New York Metropolitan Transportation Planning Council	Howie Mann	212-383-2530	hmann@dot.state.ny.us
North Jersey Transportation Planning Authority	Mary K. Murphy Executive Director	973-639-8401	mkmurphy@njtpa.org
NYS Department of Environmental Conservation	John Cryan Regional Permit Administrator	718-482-4976	jcryan@gw.dec.state.ny.us
NYS Department of State, Division of Coastal Resources	George Stafford Director	518-474-8639	george.stafford@dos.state.ny.us
NYS Office of Parks, Recreation & Historic Preservation	Ruth Pierpont Director	518-237-8643 Ext. 3269	ruth.pierpont@oprhp.state.ny.us
Pennsylvania Department of Transportation	Allen Biehler Secretary	717-787-5574	etrador@state.pa.us
South Western Regional Planning Agency	Floyd Lapp Executive Director	203-316-5190	lapp@swrpa.org
State of New Jersey Department of Environmental Protection	Bob Martin Commissioner	609-292-2885	commissioner@dep.state.nj.us
State of New Jersey Department of Environmental Protection, Division of Natural and Historic Resources	Daniel Saunders Acting Administrator	609-633 - 2397	dan.saunders@dep.state.nj.us
State of New Jersey Department of State	Kathleen Kisco Asst. Sec. of State	609-777-1273	Kathleen.kisco@sos.state.nj.us
Surface Transportation Board	Victoria Rutson Chief, Section of Environmental Analysis	202-245-0295	RutsonV@stb.dot.gov
Transportation Security Administration	John P. Sammon Assistant Administrator for Transportation Sector Network Management	800-367-5690	John.sammon@dhs.gov
Union County Department of Engineering & Public	Joseph Graziano Director	908-789-3660	jgraziano@ucnj.org

Table 3 AGENCY CONTACTS

Agency	Contact Person/Title	Phone	E-mail
Works			
Union County Improvement Authority	Charlotte DeFilippo Executive Director	908-820-9710	ucia@verizon.net
US Army Corps of Engineers	Mr. Richard Tomer	917-790-8510	richard.l.tomer@usace.army.mil
US Environmental Protection Agency	Lingard Knutson	212-637-3747	Kutson.lingard@epa.gov
US Fish and Wildlife Service	Steve Sinkevich Senior Biologist	631-581-2941	steve_sinkevich@fws.gov

Section 3. Coordination Points and Responsibilities

3.1 Coordination Points, Information Requirements and Responsibilities

Table 4 summarizes the milestones, or "coordination points" during the Tier I EIS when lead agencies, cooperating agencies, participating agencies, and the public, including the agency responsible for activities during that coordination point, will distribute, receive and review/comment on findings, plans and documents. Table 4 also specifies the information required at each coordination point, as well as those parties responsible for transmitting that information.

Table 4 COORDINATION POINTS AND RESPONSIBLE AGENCIES

Coordination Point	Information To Agency	Agency Responsible	Information from Agency	Agency Responsible
SAFETEA-LU Coordination Plan - Draft	Coordination Plan - Draft	FHWA and PANYNJ	Comments on Plan and Agreement on Role.	All Agencies
NEPA Scoping	(1) Draft Scoping Document and EIS methodology including goals and objectives. (2) Response to agency comments and Final Scoping Document	FHWA and PANYNJ	Comments on alternatives considered, proposed methodology and goals and objectives.	Cooperating and Participating Agencies
Alternatives Evaluation including fatal flaw and screening analysis	Evaluation criteria and results of fatal flaw and screening analysis	FHWA and PANYNJ	Comments on evaluation process and results.	Cooperating and Participating Agencies
Detailed Evaluation on Alternatives	Results of transportation, economic, environmental and social assessment	FHWA and PANYNJ	Comments on analysis and concurrence on results of the evaluation	Cooperating and Participating Agencies
Identification of Potential Permit Requirements	Pre-conceptual engineering plans and impact assessment results	FHWA and PANYNJ	Identification of likely permits and issues that may substantially delay their obtainment	Cooperating Agenices
DEIS	Publish Tier I DEIS; hold public hearing(s); invite comments	FHWA and PANYNJ	Comments on alternatives' potential impacts. Review and responses to relevant comments	Cooperating and Participating Agencies
FEIS	(1) Response to Tier I DEIS comments; (2) Identify Preferred Alternative(s); (3) Publish FEIS.	FHWA and PANYNJ	Provide comments on FEIS.	Cooperating and Participating Agencies
NEPA	Consider comments on FEIS (2) Select alternative and Publish Record of Decision	FHWA	None	

3.2 Issue Resolution Process

The co-lead agencies and cooperating/participating agencies will work together to identify and resolve issues that could substantially delay completion of the environmental review, and issues of concern that could substantially delay or prevent issuance of permits or approvals needed for the project.

The following issue resolution process will be followed:

- Issues of concern will be resolved between the co-lead agencies and cooperating/participating agencies as they arise through direct agency meetings. These meetings will be held, as needed during the course of the Tier I EIS process, to discuss and resolve the issues of concern. The meetings will be specific to the issue and agency involved. Therefore, as appropriate, the meetings could range from a single meeting involving technical staff of the agency and PANYNJ, to a series of meetings involving incrementally higher executive-level participation from the relevant agencies and PANYNJ. At least three such meetings will be held within a reasonably available time period, consistent with the project process and schedule, to resolve an issue of concern in a timely manner before proceeding to the next step of the process, as described below.

- If direct meetings between the agencies are not sufficient to resolve an issue of concern in a timely manner, which may delay completion of the environmental review process or could result in denial of any approvals required for the project under applicable laws, then:
    1. An official issue resolution meeting will be scheduled with the highest executive levels of co-lead agencies, the coordinating/participating agency, New York State Department of Transportation, New Jersey Department of Transportation, and the New York and New Jersey members of the Committee on Environment and Public Works of the United States Senate and the Committee on Transportation and Infrastructure of the House of Representatives.

    2. If resolution cannot be reached within 30 days following such a meeting, and FHWA determines that information necessary to resolve the issue has been obtained, then:
        a. FHWA will notify the heads of coordinating/participating agencies, PANYNJ, the Committee on Environment and Public Works of the United States Senate, the Committee on Transportation and Infrastructure of the House of Representatives, and the Council of Environmental Quality of the FHWA determination, and
        b. FHWA will publish such notice in the Federal Register.

Section 4. Project Schedule

Table 5 provides a general schedule of milestones for the Cross Harbor Freight Program project. In general, coordinating/participating agencies have 30 days after transmittal of information from PANYNJ and FHWA in which to respond and provide comments. The project schedule shows an anticipated EIS completion, with issuance of a Record of Decision by FHWA, by Winter 2011/2012.

Milestone	Anticipated Date of Information To Agency	Agency Responsible	Anticipated Date of Information from Agency
Notice of Intent Published in Federal Register	May 13, 2010	FHWA	N/A
SAFETEA-LU Coordination Plan	May 2010	FHWA and PANYNJ	May 2010
Draft Scoping Document	June 2010	FHWA and PANYNJ	August 2010
Response to Comments/Final Scoping Document	May 2011	FHWA and PANYNJ	June 2011
Screening of Alternatives	July 2011	FHWA and PANYNJ	August 2011
Detailed Transportation Modeling, engineering and environmental assessment	August 2011	FHWA and PANYNJ	September 2011
Circulation of DEIS	Fall 2011	FHWA PANYNJ	
Circulation of FEIS	Spring 2012	FHWA PANYNJ	
Issue ROD	Summer 2012	FHWA PANYNJ	

Section 5. Revision History

Any changes to this Coordination Plan will be identified as the project advances, and included in Table 6. If the project schedule, as included in the original coordination plan requires modification, concurrence on the schedule change is only required if the schedule is being shortened. This concurrence is required from cooperating agencies, not participating agencies.

Table 6 PROJECT REVISIONS

Version	Date	Name	Description

A-3.2 June 2010 Meeting

THE PORT AUTHORITY
OF NY & NJ

U.S. Department of Transportation
Federal Highway Administration

AGENDA

Cross Harbor Freight Movement Program

SAFETEA-LU Agency Coordination Meeting

June 30, 2010
10:30 a.m. – 12:30 p.m.

Location
New York Metropolitan Transportation Council - 199 Water Street, 22nd Floor, New York, NY 10038-3534

Please be sure to sign-in at the registration desk.

10:30 a.m. – 10:50 a.m.

1. Open House – Review of Project Boards

10:50 a.m. – 12:30 p.m.

2. Presentation

a. Welcome – John Formosa
b. Project Overview – Laura Shabe
c. Purpose and Need – Robert Conway
d. Methodology – Robert Conway
e. Alternatives – Alan Meyers
f. SAFETEA-LU Coordination– John Formosa
g. Project Schedule – Robert Conway
h. -- Break – (10 minutes)
i. Q&A
    i. Needs Assessment
    ii. Goals
    iii. Alternatives

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3. Follow-up Checklist

a. Respond to SAFETEA-LU Invitation (with accept / decline status)
b. Submit Comments (in writing) by July 30:
   e-mail – feedback@crossharborstudy.com
   fax: (201) 612.1232
    i. SAFETEA-LU Coordination Plan
    ii. Needs Assessment
    iii. EIS Methodology
    iv. Other Feedback

THE PORT AUTHORITY
OF NY & NJ

U.S. Department of Transportation
Federal Highway Administration

June 14, 2010

NYS Department of Transportation-Region 10
Subimal Chakraborti
State Office Building
250 Veterans Memorial Highway
Hauppauge, NY 11788

Dear Mr. Chakraborti:

The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ) are preparing a Tier I Environmental Impact Statement (EIS) to evaluate alternatives that would provide short and long term strategies for improving the regional freight network. A Notice of Intent (NOI) for the Cross Harbor Freight Tier I EIS (CHFEIS) was published in the Federal Register on May 13, 2010. FHWA and PANYNJ are serving as co-lead agencies for the preparation of the Tier I EIS. The New York State Department of Transportation and the New Jersey Department of Transportation (NYSDOT and NJDOT) are serving as cooperating agencies.

In accordance with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 6002, FHWA and PANYNJ invite your agency to be a cooperating agency in the environmental review process for the CHFEIS. Enclosed with this correspondence is a copy of the draft SAFETEA-LU Coordination Plan, the NOI, and the draft Needs Assessment. The FHWA and PANYNJ request that your agency review these documents, and identify any environmental issues of concern associated with the proposed project.

An agency coordination meeting has been scheduled for:

Wednesday, June 30, 2010
10:30 a.m. – 12:30 p.m.
New York Metropolitan Transportation Council Office
199 Water Street, 22nd floor
New York, NY 10038

Please notify us by email by Friday, June 25, 2010, if you or a representative will be attending the meeting. Additional meeting materials will be distributed via e-mail prior to June 30.

Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible for identifying, as early as practical, any issues of concern regarding the project's potential environmental, social, or economic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. Section 6002 is intended to assure that agencies are fully engaged in the scoping of the project and the decisions regarding alternatives to be evaluated in detail in the NEPA analysis. As a suggestion, your agency's role in the development of the above project could include the following as they relate to your area of expertise:

1. Provide meaningful and early input to the methodologies and level of detail required in the alternatives analysis and environmental assessment, as referenced above.

2. Identify issues that could substantially delay or prevent granting of permits/approvals.
3. Identify opportunities for collaboration, including participating in coordination meetings and joint field reviews, as appropriate.
4. Provide timely review and comment on preliminary environmental documents to reflect the views and concerns of their respective agencies on the adequacy of the documents, alternatives considered, and anticipated impacts and mitigation.

Please respond in writing **on or before July 15, 2010**, using the enclosed form, with an acceptance or denial of this invitation. If you choose to accept this invitation, please identify your organization's key contact for this project and provide us with their contact information. If you should choose to decline the invitation, please indicate the reason for your decision.

Please be advised that pursuant to SAFETEA-LU Sec. 6002, any Federal agency that chooses to decline the invitation must specifically state that the agency:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project.

After the identification of all cooperating and participating agencies has been completed, we will prepare and circulate a proposed project schedule. The project schedule will outline the project documents that each agency is expected to review, the anticipated document completion dates and a schedule for agency comment submissions.

If you have any questions regarding the enclosed document or your agency's respective roles and responsibilities during the preparation of the EIS please contact:

Cross Harbor Freight Program
c/o InGroup, Inc.
PO BOX 206
Midland Park, NJ 07432
E-mail: feedback@crossharborstudy.com

Thank you in advance for your interest in the Cross Harbor Freight Program. We look forward to your participation in this important transportation project.

Sincerely,



Laura Shabe
Manager, Cross Harbor Freight Program
Port Authority of New York and New Jersey

Encl.

THE PORT AUTHORITY
OF NY & NJ

U.S.Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement (EIS)
SAFETEA-LU Cooperating Agency

Please return this form within 30 days – Due on or before July 15, 2010

Mail:
Cross Harbor Freight Program
C/O InGroup, Inc.
PO Box 206
Midland Park, NJ 07432

Fax:
201-612-1232

E-mail:
feedback@crossharborstudy.com

NYS Department of Transportation-Region 10
Subimal Chakraborti
State Office Building
250 Veterans Memorial Highway
Hauppauge, NY 11788

Please check the correct box:

[ ] We ***accept*** the invitation to be a cooperating agency in the environmental review process for the Cross Harbor Freight Program.

[ ] We ***decline*** the invitation to be a cooperating agency but ***would like*** to be a participating agency in the environmental review process for the Cross Harbor Freight Program.

Please provide the following information for the key contact person from your organization:
Name:_____ Title:_____
Adress:_____
City:_____ State:_____ Zip:_____
Phone:_____ Email:_____

[ ] We ***decline*** the invitation to be a cooperating or participating agency in the environmental review process for the Cross Harbor Freight Program.

Pursuant to SAFETEA-LU Sec. 6002, any Federal agency that chooses to decline the invitation must specifically state that the agency:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project.

Please attach a signed document stating your reason for declining this invitation.

_____ _____
Print name Title

_____ _____
Signature Date

THE PORT AUTHORITY
OF NY & NJ

U.S. Department of Transportation
Federal Highway Administration

June 14, 2010

NYC Police Department
Charles S. Kammerdener
1 Police Plaza UNIT 10038
New York, NY 10038

Dear Chief Kammerdener:

The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ) are preparing a Tier I Environmental Impact Statement (EIS) to evaluate alternatives that would provide short and long term strategies for improving the regional freight network. A Notice of Intent (NOI) for the Cross Harbor Freight Tier I EIS (CHFEIS) was published in the Federal Register on May 13, 2010. FHWA and PANYNJ are serving as co-lead agencies for the preparation of the Tier I EIS. The New York State Department of Transportation and the New Jersey Department of Transportation (NYSDOT and NJDOT) are serving as cooperating agencies.

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An agency coordination meeting has been scheduled for:

Wednesday, June 30, 2010
10:30 a.m. – 12:30 p.m.
New York Metropolitan Transportation Council Office
199 Water Street, 22nd floor
New York, NY 10038

Please notify us by email by Friday, June 25, 2010, if you or a representative will be attending the meeting. Additional meeting materials will be distributed via e-mail prior to June 30.

Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible for identifying, as early as practical, any issues of concern regarding the project's potential environmental, social, or economic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. Section 6002 is intended to assure that agencies are fully engaged in the scoping of the project and the decisions regarding alternatives to be evaluated in detail in the NEPA analysis. As a suggestion, your agency's role in the development of the above project could include the following as they relate to your area of expertise:

THE PORT AUTHORITY
OF NY & NJ

U.S.Department of Transportation
Federal Highway Administration

1. Provide meaningful and early input to the methodologies and level of detail required in the alternatives analysis and environmental assessment, as referenced above.
2. Identify issues that could substantially delay or prevent granting of permits/approvals.
3. Identify opportunities for collaboration, including participating in coordination meetings and joint field reviews, as appropriate.
4. Provide timely review and comment on preliminary environmental documents to reflect the views and concerns of their respective agencies on the adequacy of the documents, alternatives considered, and anticipated impacts and mitigation.

Please respond in writing **on or before July 15, 2010**, using the enclosed form, with an acceptance or denial of this invitation. If you choose to accept this invitation, please identify your organization's key contact for this project and provide us with their contact information. If you should choose to decline the invitation, please indicate the reason for your decision.

Please be advised that pursuant to SAFETEA-LU Sec. 6002, any Federal agency that chooses to decline the invitation must specifically state that the agency:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project.

After the identification of all participating agencies has been completed, we will prepare and circulate a proposed project schedule. The project schedule will outline the project documents that each agency is expected to review, the anticipated document completion dates and a schedule for agency comment submissions.

If you have any questions regarding the enclosed document or your agency's respective roles and responsibilities during the preparation of the EIS please contact:

Cross Harbor Freight Program
c/o InGroup, Inc.
PO BOX 206
Midland Park, NJ 07432
E-mail: feedback@crossharborstudy.com

Thank you in advance for your interest in the Cross Harbor Freight Program. We look forward to your participation in this important transportation project.

Sincerely,



Laura Shabe
Manager, Cross Harbor Freight Program
Port Authority of New York and New Jersey

Encl.

THE PORT AUTHORITY
OF NY & NJ

U.S.Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement (EIS)
SAFETEA-LU Participating Agency

Please return this form within 30 days – Due on or before July 15, 2010

Mail:
Cross Harbor Freight Program
C/O InGroup, Inc.
PO Box 206
Midland Park, NJ 07432

Fax:
201-612-1232

E-mail:
feedback@crossharborstudy.com

NYC Police Department
Charles S. Kammerdener
1 Police Plaza UNIT 10038
New York, NY 10038

Please check the correct box:

[ ] We ***accept*** the invitation to be a participating agency in the environmental review process for the Cross Harbor Freight Program.

Please provide the following information for the key contact person from your organization:
Name:_____ Title:_____
Adress:_____
City:_____ State:_____ Zip:_____
Phone:_____ Email:_____

[ ] We ***decline*** the invitation to be a participating agency in the environmental review process for the Cross Harbor Freight Program.

Pursuant to SAFETEA-LU Sec. 6002, any Federal agency that chooses to decline the invitation must specifically state that the agency:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project.

Please attach a signed document stating your reason for declining this invitation.

_____ _____
Print name Title

_____ _____
Signature Date

Cross Harbor Freight EIS

SAFETEA-LU Meeting

June 30, 2010

U.S.Department of Transportation
Federal Highway Administration

THE PORT AUTHORITY
OF NY & NJ



Agenda

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY
OF NY & NJ

- Project Overview
- Alternatives Evaluation
- Potential Alternatives
- SAFETEA-LU Process
- Questions and Answers

Project Identification

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

Tier I - Environmental Impact Statement (EIS)

Notice of Intent (revised) to Prepare EIS

- Issued May 13, 2010 in Federal Register

Co-Lead Agencies

- Federal Highway Administration
- Port Authority of New York & New Jersey

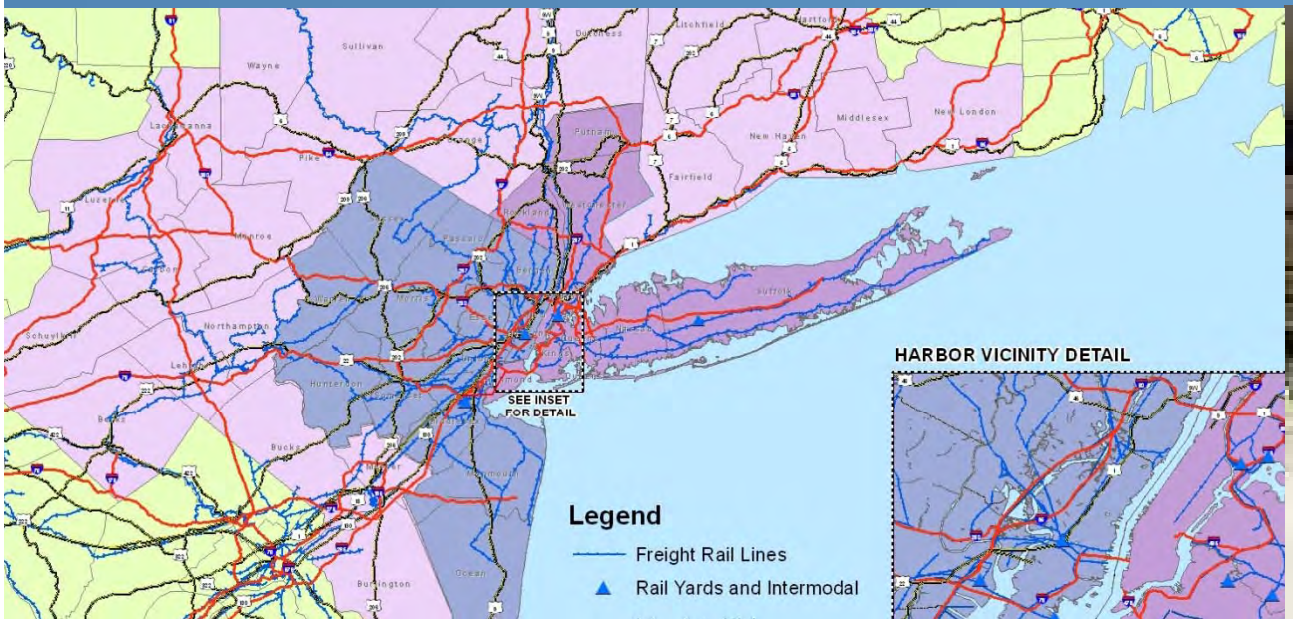
Cooperating Agencies include:

- New York State Department of Transportation (NYSDOT)
- New Jersey Department of Transportation (NJDOT)

Meeting Purpose

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Opportunity for agencies to provide early review of information related to the project
- Craft materials in anticipation of public meetings to be held in Fall 2010





Purpose of Project

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

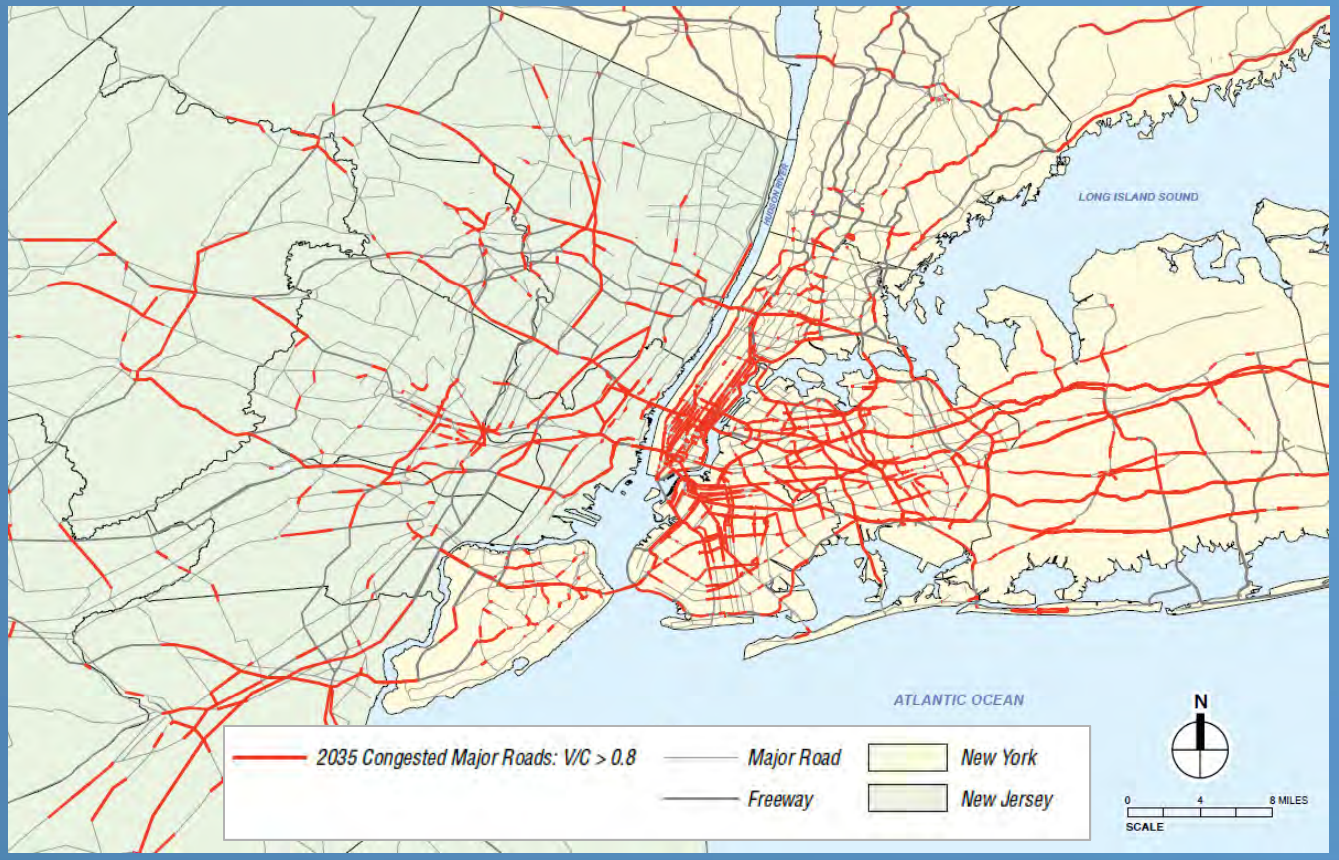
Improve the movement of freight in the greater New York/New Jersey region by enhancing freight movement between the east-of-Hudson and west-of-Hudson sub-regions.



Need for Project

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

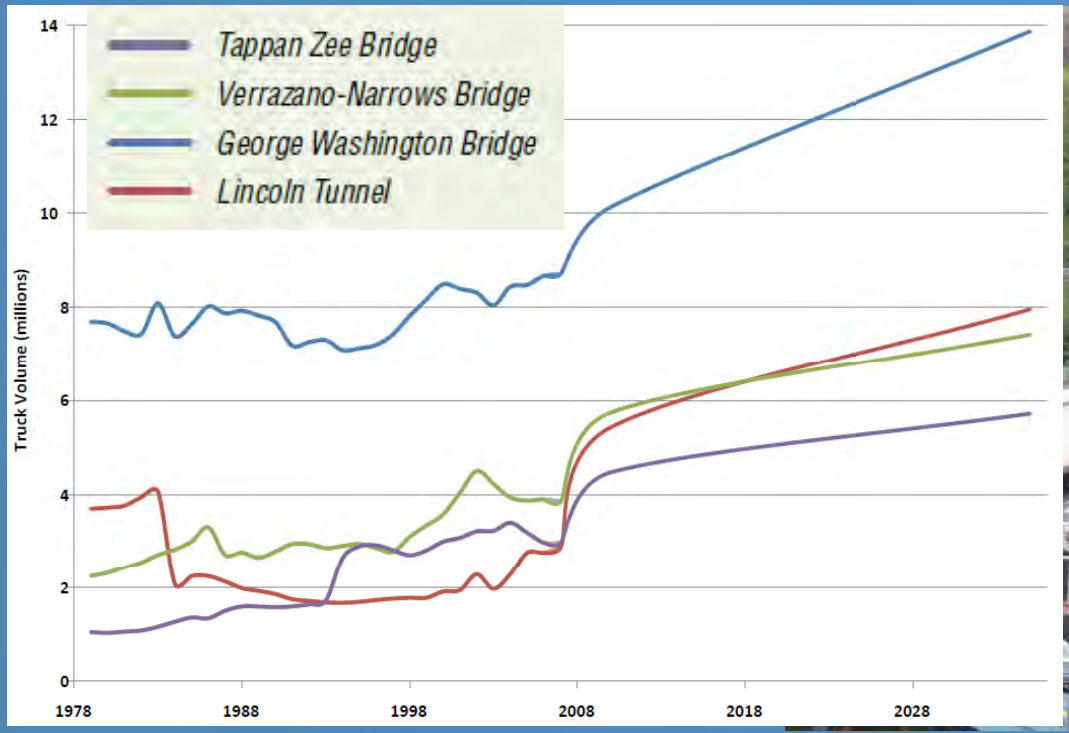
- 20 M truck trips on Hudson River crossings /yr
- By 2035 - freight to increase by more than 36 %



Need for Project

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Roadway network is aging and congested
- Steeply increasing demand and truck traffic
- Non-highway freight modes underutilized





Proposed Goals

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

1. Reduce the contribution of Cross Harbor truck trips to congestion along the region's major freight corridors.
2. Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.
3. Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.
4. Support development of integrated freight transportation and land-use strategies.

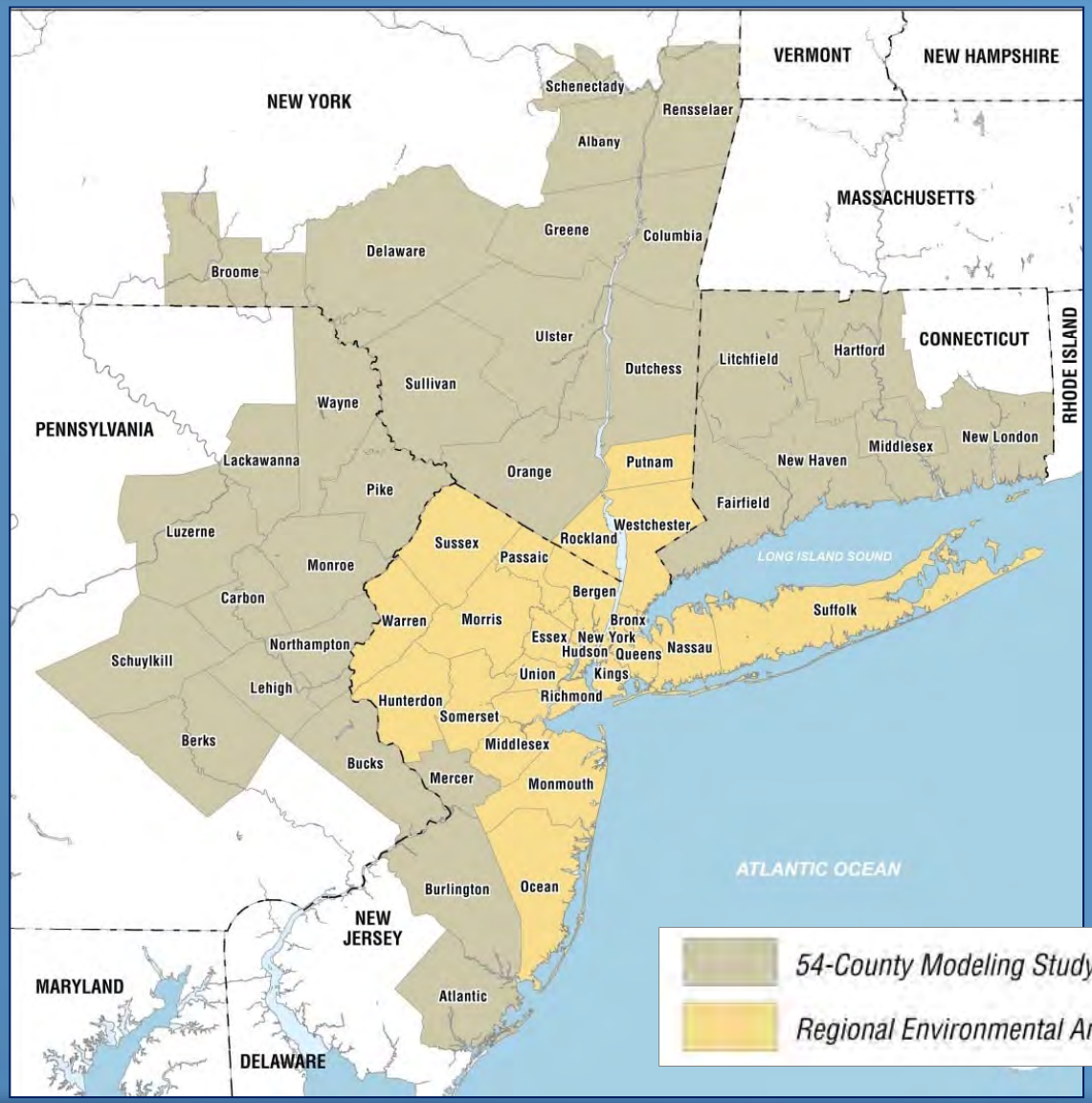
Tier I EIS

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Staged process for environmental review of complex projects
- Corridor-level analysis of alternatives
  - Broad examination of goals and objectives
  - Assessment of regional and corridor-level effects
- Definition of alternatives to proceed into Tier II EIS or other environmental documents and permits
- Record of Decision (ROD) with mode, alignment and logical termini

Study Area

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



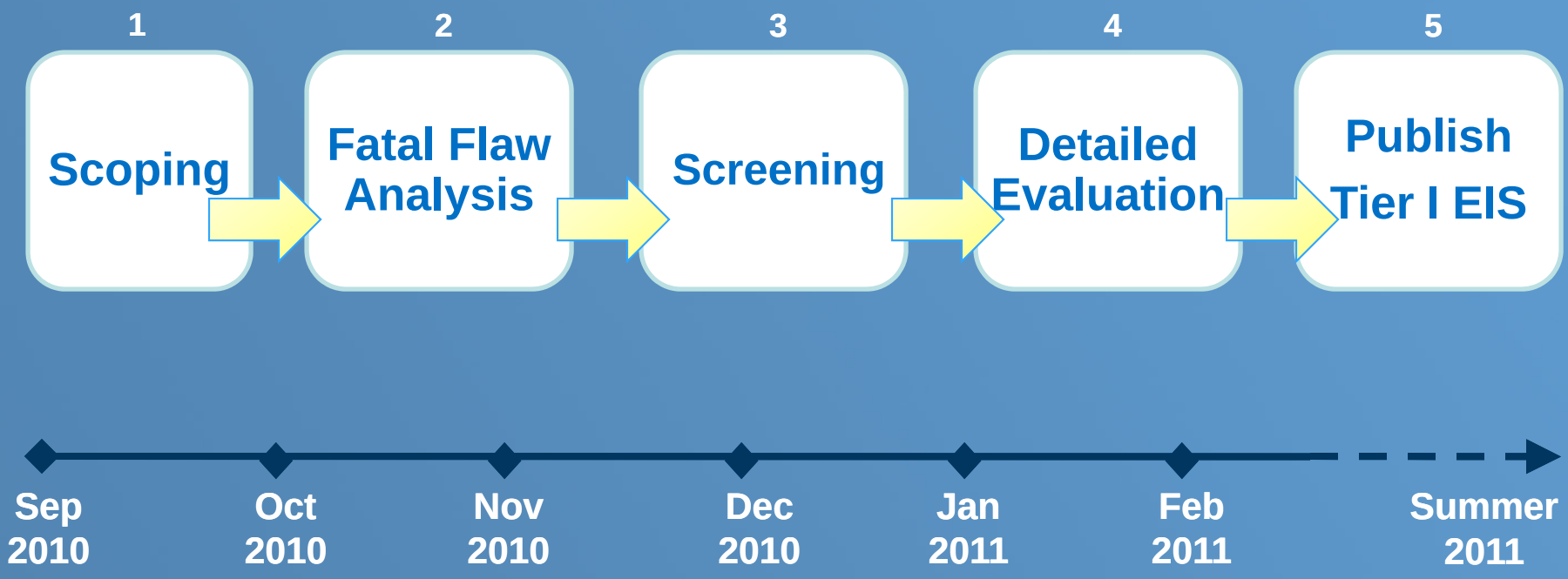
Agenda

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Project Overview
- **Alternatives Evaluation**
- Potential Alternatives
- SAFETEA-LU
- Questions and Answers

Alternatives Evaluation

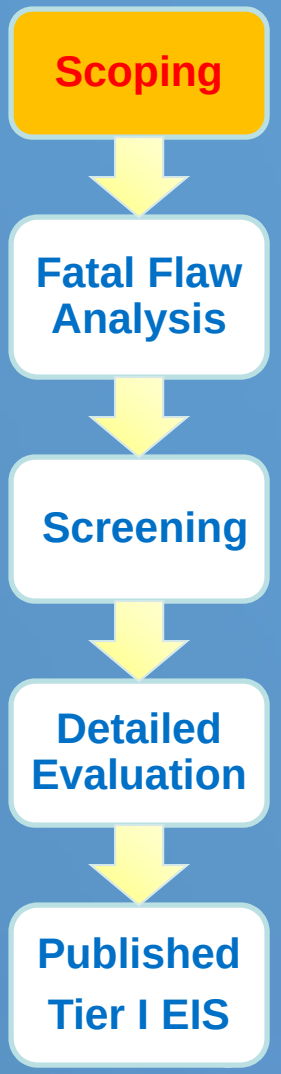
U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



Alternatives Evaluation: Scoping

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

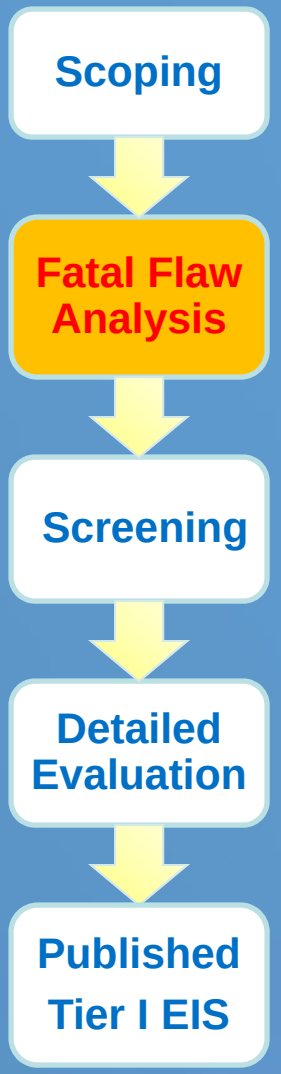
- Develop project goals and objectives
- Establish methodologies for Tier I EIS
  - Alternatives Evaluation
  - Conceptual Engineering and Cost Estimating
  - Market Demand Forecasting
  - Highway and Rail Network Analysis
  - Environmental Assessment



Alternatives Evaluation: Fatal Flaw Analysis

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

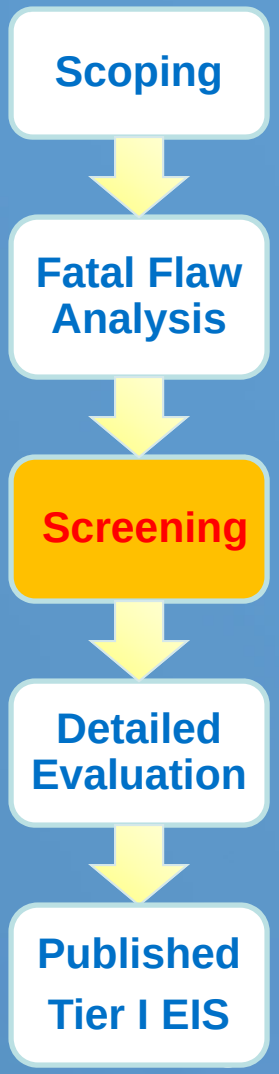
- Eliminates clearly infeasible alternatives based on:
  - Relationship to goals
  - Engineering and technological feasibility
  - Institutional feasibility
  - Public and agency input from scoping process
- Range of potentially feasible alternatives advanced to screening



Alternatives Evaluation: Screening Analysis

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

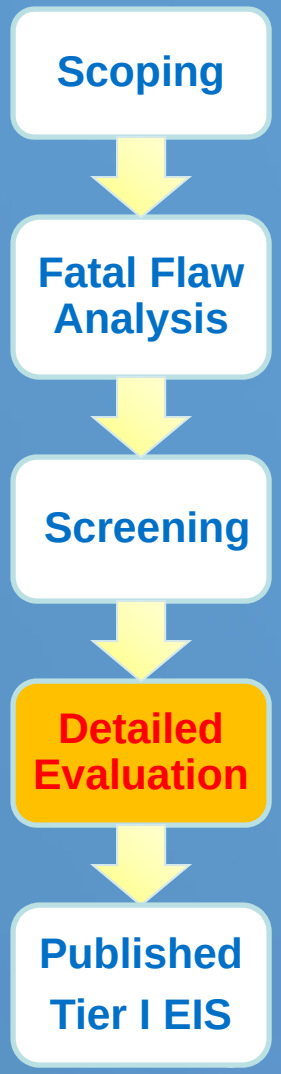
- Screening factors
  1. Logistics and market demand
  2. High-level highway and rail effects
  3. Likelihood of generating public and private benefits
- Alternative must meet threshold criterion



Alternatives Evaluation: Detailed Evaluation

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

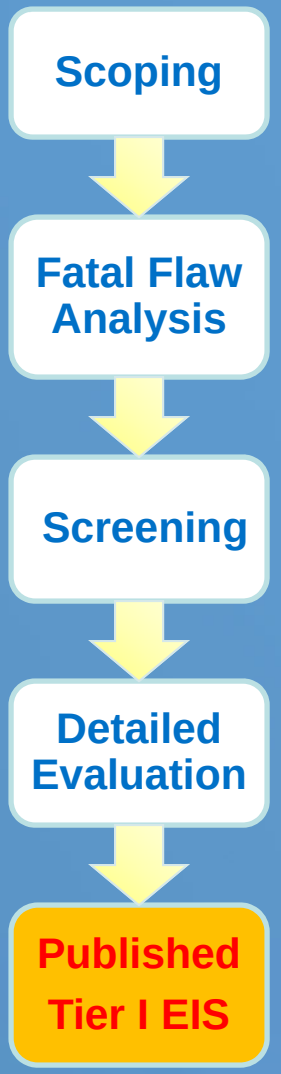
- Alternatives assessed based on:
  - Impacts to highway and rail network
  - Impacts to rail network
  - Public and private benefits
  - Private benefit
  - Conceptual engineering and operational analysis
  - Environmental analysis



Alternatives Evaluation: Tier I EIS

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Documentation of the results of the Alternatives Evaluation
- Preliminary Draft EIS
  - Review by co-lead and cooperating agencies
- Draft EIS
  - Public review and comment
  - Public hearings
- Final EIS
  - Response to comments
  - Record of Decision



Agenda

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Project Overview
- Alternatives Evaluation
- **Potential Alternatives**
- SAFETEA-LU
- Questions and Answers

Potential Alternatives

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



Categories

1. No Action Alternative
2. Management Alternatives
3. Build Alternatives

No Action Alternative

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



- Capacity and operational improvements by 2035
  - Highways and bridges
  - Rail lines and yards
  - Seaport and airport
- Types of Improvements:
  - NJTPA and NYMTC
  - PANYNJ
  - Freight Railroad
  - Passenger Railroad

Management Alternatives

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



Transportation System Management (TSM)

- Improve existing infrastructure efficiency with lower-cost projects
- Upgrade, improve, and/or increase capacity: rail lines, yards, floats

Transportation Demand Management (TDM)

- Variable pricing by facility or time
- Work-from-home and mode shift incentives
- Dedicated or restricted use

Build Alternatives

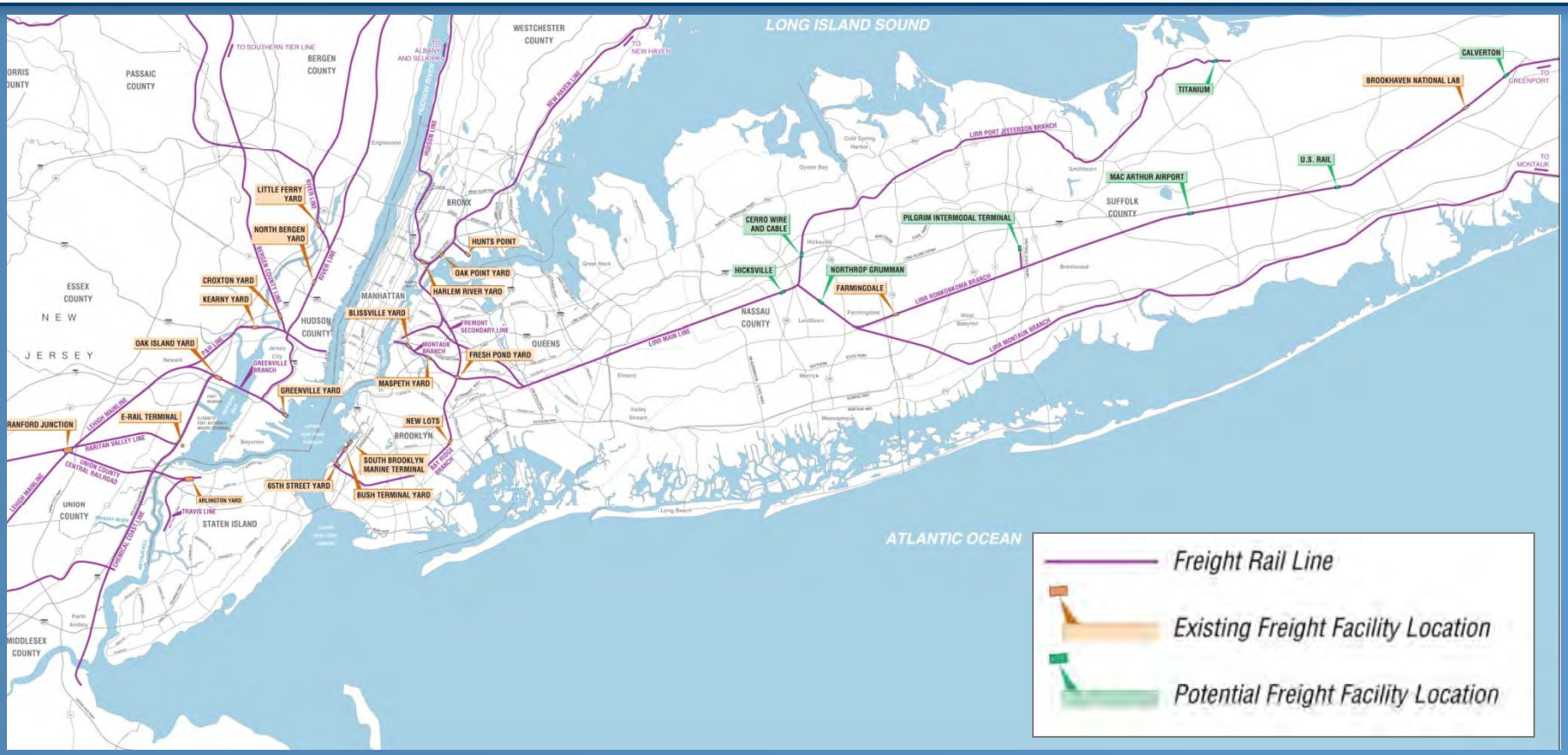
U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



- Multiple service options and locational variables
- Infrastructure options
  1. Float/ferry
  2. Rail tunnel
  3. Rail tunnel with vehicle access

Build Alternatives:
Potential Rail Yards and Terminals

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



Infrastructure	Locational Variables			Service Options			
Float	Terminals						
Rail Tunnel							
Rail/Vehicle Tunnel							

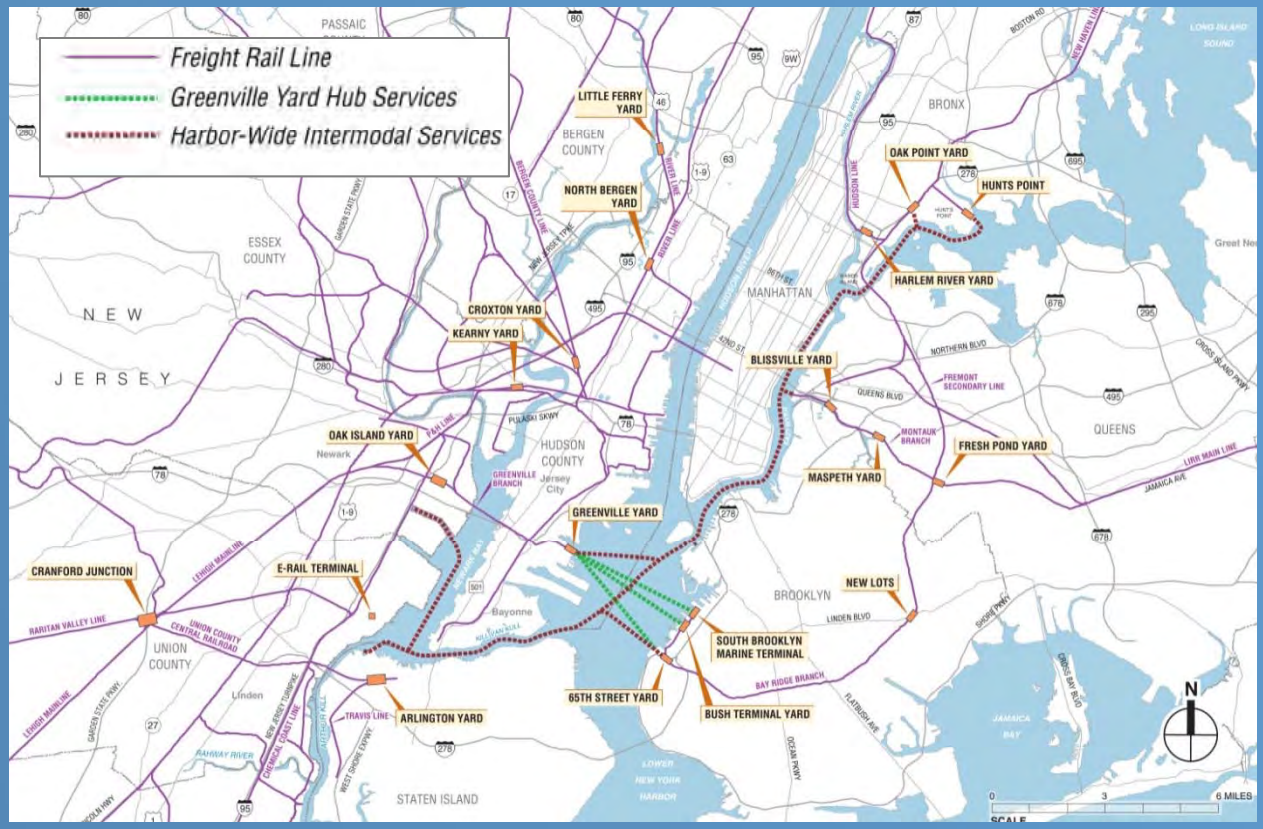
Build Alternatives: Locational Variables for Floats

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives



Infrastructure	Locational Variables			Service Options			
Float	**Terminals**	**Alignments and Routes**	**Logistics Support Facilities**				
Rail Tunnel							
Rail/Vehicle Tunnel							

Build Alternatives – Float: Railcar

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives



Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar			
Rail Tunnel							
Rail/Vehicle Tunnel							

Build Alternatives – Float: Container

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives



Infrastructure	Locational Variables			Service Options			
Float	**Terminals**	**Alignments and Routes**	**Logistics Support Facilities**	Railcar	**Container**		
Rail Tunnel							
Rail/Vehicle Tunnel							

Build Alternatives – Float: Truck

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives



Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	
Rail Tunnel							
Rail/Vehicle Tunnel							

Build Alternatives – Ferry: Truck (and Driver)

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives



Infrastructure	Locational Variables			Service Options			
Float	**Terminals**	**Alignments and Routes**	**Logistics Support Facilities**	Railcar	Container	Truck	**Truck/Driver**
Rail Tunnel							
Rail/Vehicle Tunnel							

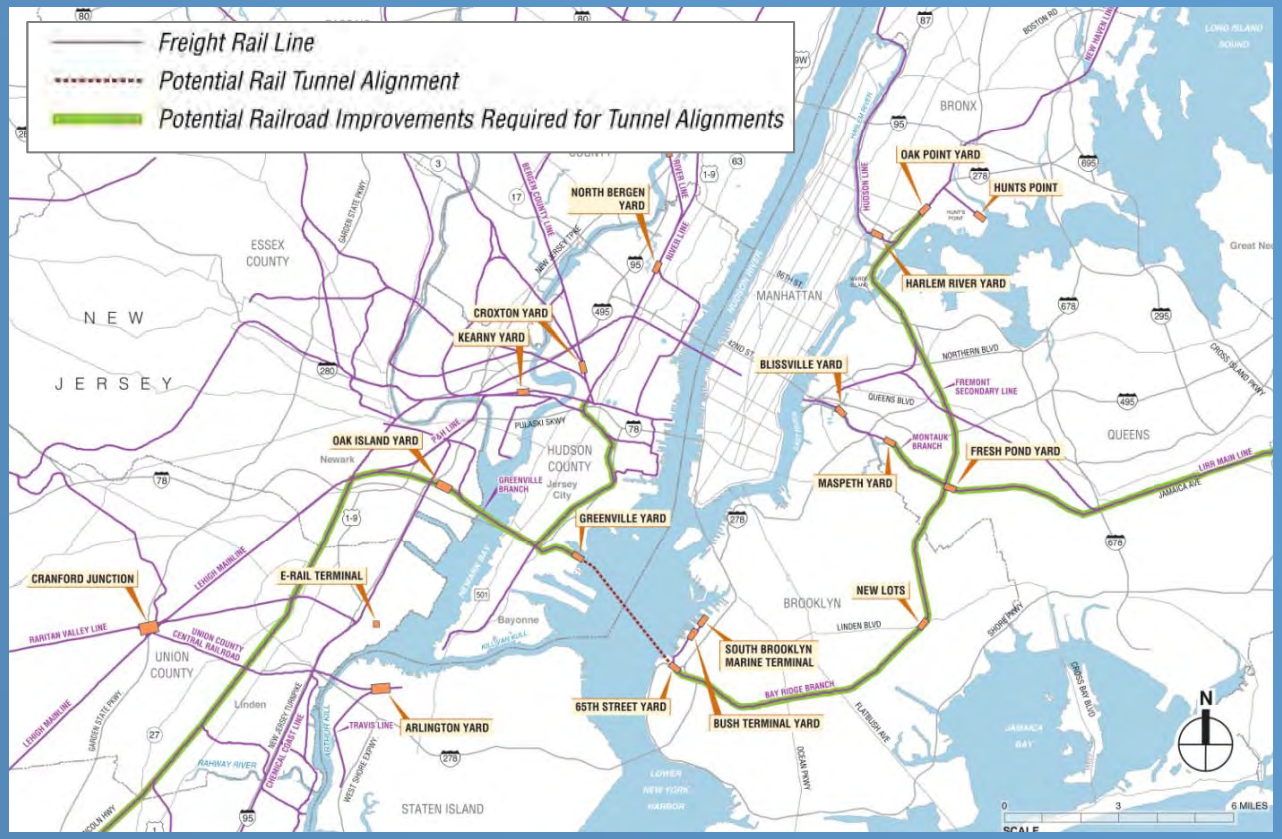
Build Alternatives – Rail Tunnel: Locational Variables for Tunnel

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives



Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	Truck/Driver
Rail Tunnel							
Rail/Vehicle Tunnel							

Build Alternatives – Rail Tunnel: Tracks (Single vs. Double Track)

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives





Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	Truck/Driver
Rail Tunnel				Tracks			
Rail/Vehicle Tunnel							

Build Alternatives – Rail Tunnel: (Single vs. Double Stack)

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives



Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	Truck/Driver
Rail Tunnel				Tracks	**Clearance**		
Rail/Vehicle Tunnel							

Build Alternatives – Rail Tunnel: "Open Technology" Equipment

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives





Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	Truck/Driver
Rail Tunnel				Tracks	Clearance	**Open Tech**	
Rail/Vehicle Tunnel							

Build Alternatives – Rail Tunnel: Shuttle Service for Vehicles

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

No Action Alternative

Management Alternatives

Build Alternatives







Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	Truck/Driver
Rail Tunnel				Tracks	Clearance	Open Tech	**Ro-Ro Shuttle**
Rail/Vehicle Tunnel							

Build Alternatives – Rail/Vehicle Tunnel: Scheduled Trucks

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

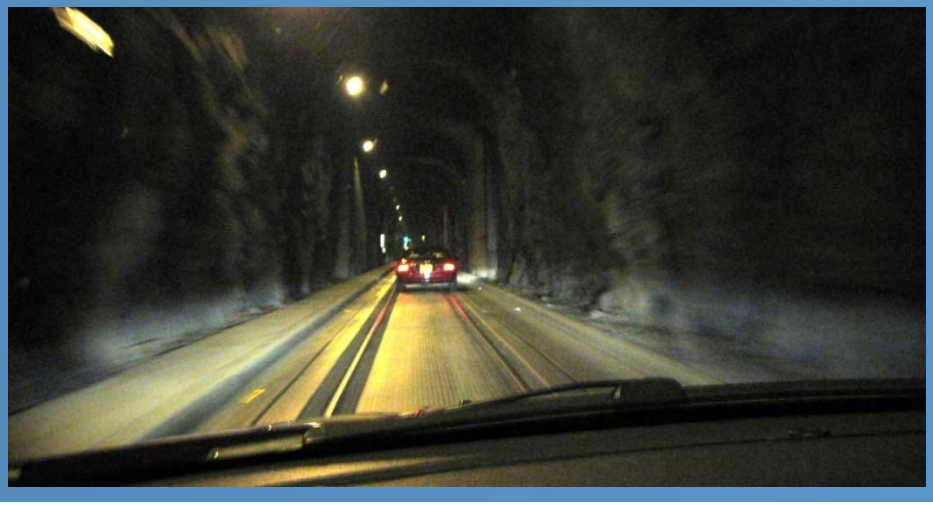
No Action Alternative

Management Alternatives

Build Alternatives







Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	Truck/Driver
Rail Tunnel				Tracks	Clearance	Open Tech	Ro-Ro Shuttle
Rail/Vehicle Tunnel				Scheduled Trucks			

Build Alternatives – Rail/Vehicle Tunnel: Automated Vehicles

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No Action Alternative

Management Alternatives

Build Alternatives





Infrastructure	Locational Variables			Service Options			
Float	Terminals	Alignments and Routes	Logistics Support Facilities	Railcar	Container	Truck	Truck/Driver
Rail Tunnel				Tracks	Clearance	Open Tech	Ro-Ro Shuttle
Rail/Vehicle Tunnel				Scheduled Trucks		Automated Vehicles	

Agenda

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Project Overview
- Alternatives Evaluation
- Potential Alternatives
- **SAFETEA-LU**
- Questions and Answers

SAFETEA-LU

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

Overview

- The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)
- Provide more efficient environmental reviews for project decision-making
- Requires coordination plan be prepared and implemented for NEPA EIS projects
- Foster participation and cooperation among federal, state and local agencies

Invitation and Identification of Agencies

- **Cooperating agencies** have funding, approval and/or permitting authority.

- **Participating agencies** may have an interest in the project and/or possess information that would be relevant to the project.

Responsibility of Agencies

- Provide input to the methodologies and level of detail in the alternatives analysis and environmental assessment
- Identify opportunities for collaboration, including participating in coordination meetings and joint field reviews.
- Provide review and comment on preliminary environmental documents, alternatives considered, and anticipated impacts and mitigation.

Next Steps and Schedule

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

1. Respond to Invitation Letter – July 30
2. Review and provide comments on Needs Assessment and EIS Methodology – July 30
3. Review Scoping Document and provide comments – mid August
4. Public Scoping Meetings – September and October
5. Screening Alternatives – winter

Agenda

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Project Overview
- Alternatives Evaluation
- Potential Alternatives
- SAFETEA-LU
- **Questions and Answers**

Questions and Answers: Needs Assessment

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

- Problem Identification and Opportunities
- Highway System
- Freight Rail System
  - East-of-Hudson
  - West-of-Hudson
- Current and Future Freight Flows

Questions and Answers: Goals

U.S.Department of Transportation
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THE PORT AUTHORITY OF NY & NJ

1. Reduce the contribution of Cross Harbor truck trips to congestion along the region's major freight corridors.
2. Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.
3. Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.
4. Support development of integrated freight transportation/land use strategies.

Questions and Answers: Alternatives

U.S.Department of Transportation
Federal Highway Administration
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- No Action Alternative
- Management Alternatives
  - TSM
  - TDM
- Build Alternatives
  - Multiple service options and locational variables
  - Infrastructure options
    - Float/ferry
    - Rail tunnel
    - Rail tunnel with vehicle access

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U.S.Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement (EIS)
SAFETEA-LU Agency Invitation Response Form

Mail:
Cross Harbor Freight Program
C/O InGroup, Inc.
PO Box 206
Midland Park, NJ 07432

Fax:
201-612-1232

E-mail:
feedback@crossharborstudy.com

Agency:_____
Name: _____ Title: _____
Address:_____
City:_____ State:_____ Zip:_____
Phone:_____ Email:_____

Please CIRCLE if accepting or declining participation and check the correct agency box :

[ ] We ***accept/decline*** the invitation to be a:

[ ] participating agency in the environmental review process for the Cross Harbor Freight Program.

[ ] cooperating agency in the environmental review process for the Cross Harbor Freight Program.

Please provide the following information for the key contact person from your organization:
Name:_____ Title:_____
Address:_____
City:_____ State:_____ Zip:_____
Phone:_____ Email:_____

Pursuant to SAFETEA-LU Sec. 6002, any Federal agency that chooses to decline the invitation must specifically state that the agency:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project.

Please attach a signed document stating your reason for declining this invitation.

_____ _____
Print name Title

_____ _____
Signature Date

Carmen Costa

From: Cross Harbor Freight Program [crossharborfreightprogram@ingroupinc.com]
Sent: Monday, June 21, 2010 1:24 PM
To: carmen@ingroupinc.com
Subject: Cross Harbor Freight Program SAFETEA-LU

THE PORT AUTHORITY OF NY & NJ

U.S. Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program
Tier I Environmental Impact Statement
SAFETEA-LU Invitation

The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ) are preparing a Tier I Environmental Impact Statement (EIS) to evaluate alternatives that would provide short and long term strategies for improving the regional freight network. A Notice of Intent (NOI) for the Cross Harbor Freight Tier I EIS (CHFEIS) was published in the Federal Register on May 13, 2010.

In accordance with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 6002, FHWA and PANYNJ invite your agency to be a participating agency in the environmental review process for the CHFEIS.

The FHWA and PANYNJ request that your agency review the following documents, and identify any environmental issues of concern associated with the proposed project.

- Draft SAFETEA-LU Coordination Plan
- NOI
- Draft Needs Assessment

Copies can be downloaded using the following link and login information. (If the link does not open, please cut and paste it into your browser.)
http://www.crossharborstudy.com/SAFETEA_LU/

Username (case sensitive): agency01
Password (case sensitive): cHFP01

Please respond in writing **on or before July 15, 2010**, using the download fax back form or a signed and dated letter, with an acceptance or denial of this invitation. If you choose to accept this invitation, please identify your organization's key contact for this project and provide us with their contact information. If you should choose to decline the invitation, please indicate the reason for your decision.

In addition, an **agency coordination meeting has been scheduled** for:
Wednesday, June 30, 2010
10:30 a.m. – 12:30 p.m.
New York Metropolitan Transportation Council Office
199 Water Street, 22nd floor
New York, NY 10038

Please notify us via email to feedback@crossharborstudy.com, by Friday, June 25, 2010, if you or a

representative will be attending the meeting. Additional meeting materials will be distributed via e-mail prior to June 30.

If you have any questions regarding the enclosed document or your agency's respective roles and responsibilities during the preparation of the EIS please contact:
Cross Harbor Freight Program
c/o InGroup, Inc.
PO BOX 206
Midland Park, NJ 07432
E-mail: feedback@crossharborstudy.com

Thank you in advance for your interest in the Cross Harbor Freight Program. We look forward to your participation in this important transportation project.

225 PARK AVENUE SOUTH, 11th FLOOR • NEW YORK, NEW YORK 10003-1604 • feedback@crossharborstudy.com

This message was sent from Cross Harbor Freight Program to carmen@ingroupinc.com. It was sent from: Cross Harbor Freight Movement Program, 225 Park Avenue South, 11th Floor, New York, NY 10003-1604. You can modify/update your subscription via the link below.

To be removed click here

Carmen Costa

From: Cross Harbor Freight Program [crossharborfreightprogram@ingroupinc.com]
Sent: Tuesday, June 29, 2010 4:39 PM
To: carmen@ingroupinc.com
Subject: Cross Harbor Freight Program SAFETEA-LU Meeting Call-in Information

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U.S. Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement
SAFETEA-LU Agency Coordination Meeting

Please be advised that a **meeting call-in number has been set up for remote participation in the Cross Harbor SAFETEA-LU Agency Coordination meeting** scheduled for Wednesday, June 30, 2010.

If you have not yet responded to the invitation or if you have previously declined, please consider joining us via telephone.

Below you will find the call-in information:
Access phone number: (800) 501-8979
7-Digit Access Code: 7558095

The presentation portion of the meeting is scheduled to begin at approximately 10:50 am. ***Please, dial in by 10:45.***

Meeting materials are available for review prior to the meeting. To download copies, use the link and log-in information below:

http://www.crossharborstudy.com/SAFETEA_LU/

Username(case sensitive): agency01
Password (case sensitive): cHFP01

Thank you in advance for your interest in the Cross Harbor Freight Program. We look forward to your participation in this important transportation project.

225 PARK AVENUE SOUTH, 11th FLOOR • NEW YORK, NEW YORK 10003-1604 • feedback@crossharborstudy.com

This message was sent from Cross Harbor Freight Program to carmen@ingroupinc.com. It was sent from: Cross Harbor Freight Movement Program, 225 Park Avenue South, 11th Floor, New York, NY 10003-1604. You can modify/update your subscription via the link below.

To be removed click here

Carmen Costa

From: Cross Harbor Freight Program [crossharborfreightprogram@ingroupinc.com]
Sent: Tuesday, June 29, 2010 4:42 PM
To: carmen@ingroupinc.com
Subject: Cross Harbor Freight Program SAFETEA-LU Meeting Materials

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Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement SAFETEA-LU Agency Coordination Meeting Materials

We invite you to download and preview materials prior to the Cross Harbor Freight Program SAFETEA-LU Agency Coordination Meeting on Wednesday, June 30, 2010.

Please use the following link to download the materials:

http://www.crossharborstudy.com/SAFETEA_LU/

Username(case sensitive): agency01
Password (case sensitive): cHFP01

We look forward to your participation at the agency coordination meeting on Wednesday.

225 PARK AVENUE SOUTH, 11th FLOOR • NEW YORK, NEW YORK 10003-1604 • feedback@crossharborstudy.com

This message was sent from Cross Harbor Freight Program to carmen@ingroupinc.com. It was sent from: Cross Harbor Freight Movement Program, 225 Park Avenue South, 11th Floor, New York, NY 10003-1604. You can modify/update your subscription via the link below.

To be removed click here

Carmen Costa

From: Cross Harbor Freight Program [crossharborfreightprogram@ingroupinc.com]
Sent: Thursday, August 05, 2010 12:04 PM
To: carmen@ingroupinc.com
Subject: Cross Harbor Freight Program SAFETEA-LU Response Reminder

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U.S.Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement SAFETEA-LU Agency Responses and Comments Reminder

Agency responses to our invitation to participate in the Cross Harbor Freight Program SAFETEA-LU Coordination were due on July 30.

If you accept Cooperating or Participating Agency status, comments on the Draft SAFETEA-LU Coordination Plan, Needs Assessment and the Draft EIS Methodology documents, supplied with your invitation packet, are also now due.

Should your agency choose not to participate, we would appreciate a reason for declining.

We welcome your response. Please submit comments, no later than Friday, August 6. If your agency requires an extension, please contact the project team at crossharborstudy@ingroupinc.com.

Agency response forms and study document comments may be emailed to crossharborstudy@ingroupinc.com or fax to (201) 612-1232.

To obtain a duplicate agency response form, or copies of the study documents, please email your request to crossharborstudy@ingroupinc.com.

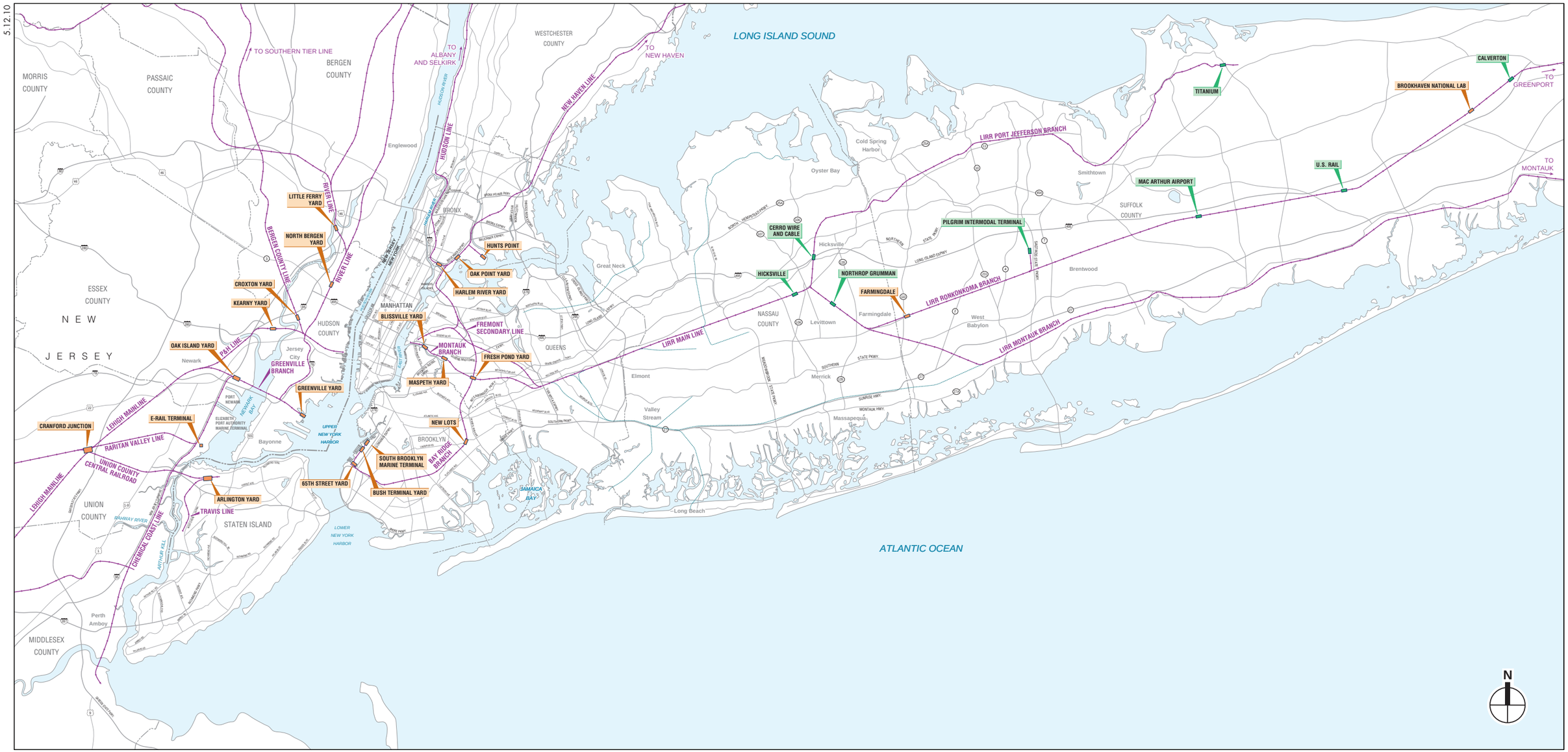
We look forward to your participation in this important freight study.

225 PARK AVENUE SOUTH, 11th FLOOR • NEW YORK, NEW YORK 10003-1604 • feedback@crossharborstudy.com

This message was sent from Cross Harbor Freight Program to carmen@ingroupinc.com. It was sent from: Cross Harbor Freight Movement Program, 225 Park Avenue South, 11th Floor, New York, NY 10003-1604. You can modify/update your subscription via the link below.

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5.12.10



Freight Rail Line

Existing Freight Facility Location

Potential Freight Facility Location

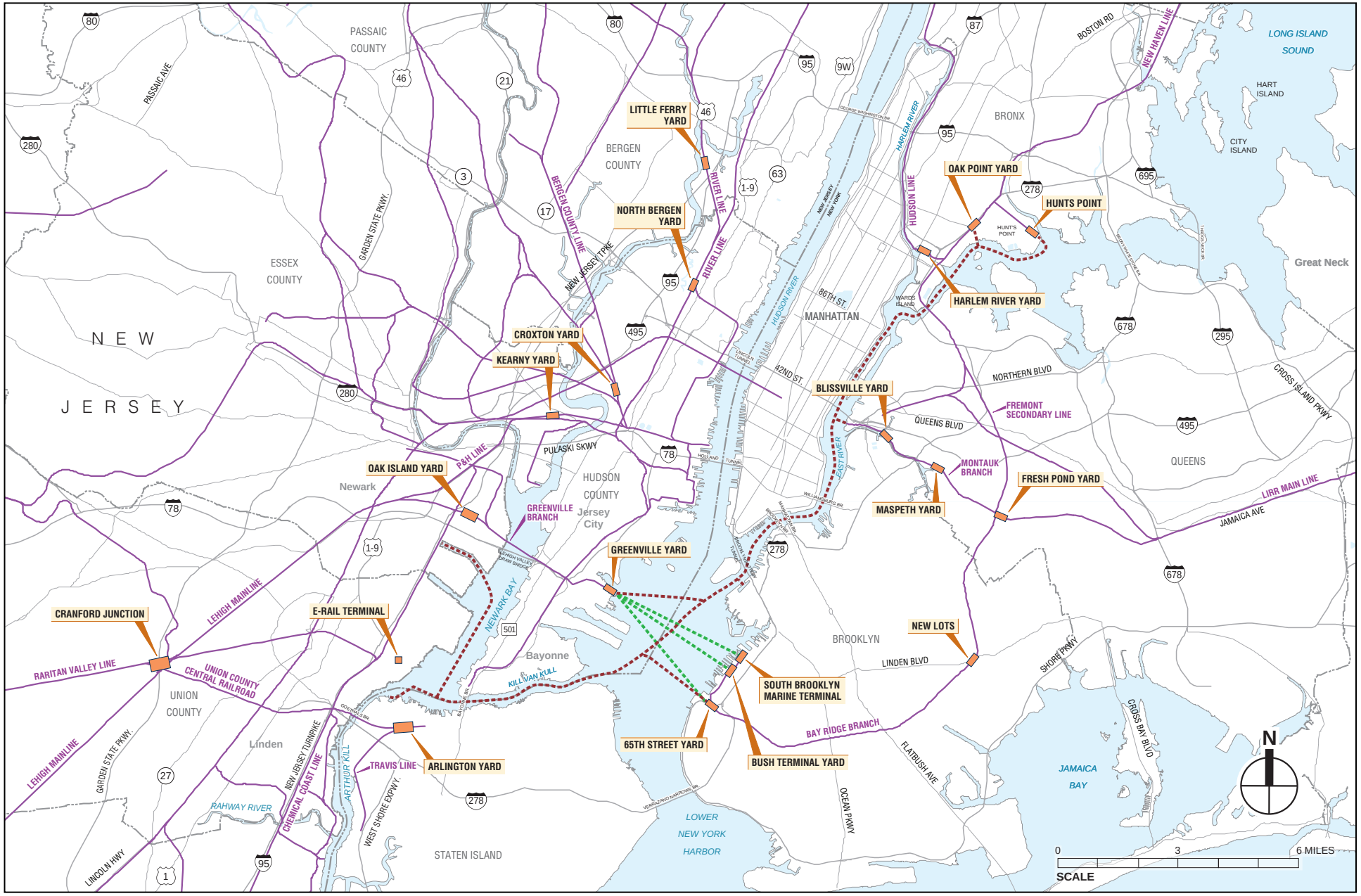
0 2 4 6 8 10 MILES

SCALE

FIGURE 5

Existing and Potential Regional Rail Freight Facilities

CROSS HARBOR FREIGHT PROGRAM



Freight Rail Line

Greenville Yard Hub Services

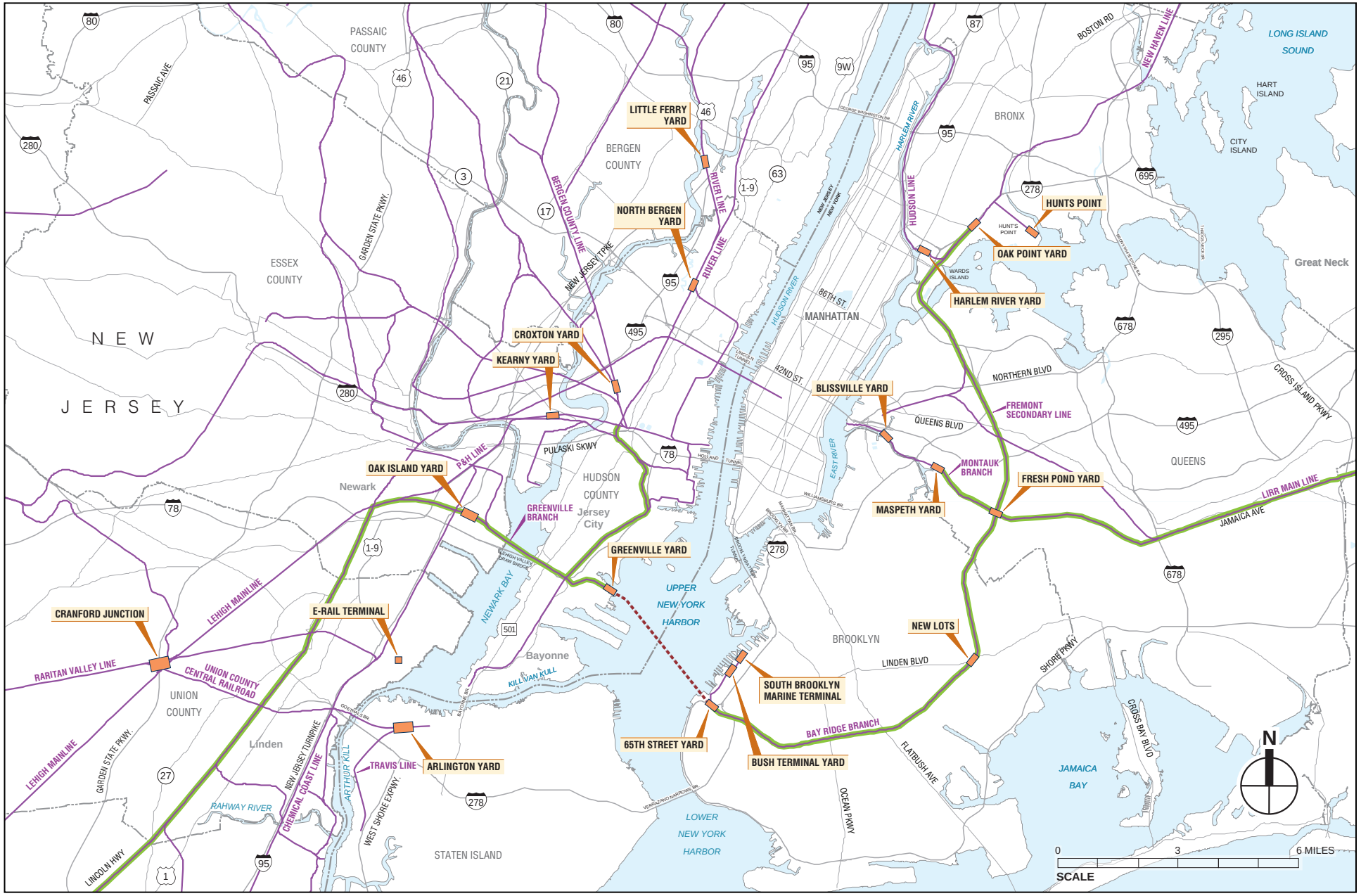
Harbor-Wide Intermodal Services

FIGURE 6

Expanded Railcar Float and Truck Float/ Ferry Alternatives — Potential Routes

CROSS HARBOR FREIGHT PROGRAM

5.12.10



Freight Rail Line

Potential Rail Tunnel Alignment

Potential Railroad Improvements Required for Tunnel Alignments

FIGURE 7

Rail Tunnel Alternatives

CROSS HARBOR FREIGHT PROGRAM

A-3.3 May 2011 Meeting

THE PORT AUTHORITY OF NY & NJ

CROSS HARBOR FREIGHT PROGRAM

U.S. Department of Transportation
Federal Highway Administration

AGENDA

Cross Harbor Freight Movement Program

SAFETEA-LU Agency Coordination Meeting

May 17, 2011
1:30 p.m. – 3:30 p.m

Location
North Jersey Transportation Planning Authority (NJTPA) – One Newark Center, 17th Floor, Newark, NJ 07102

Please be sure to sign-in at the registration desk.

---

1. Registration

---

2. Presentation

- Welcome
- Project Overview
- Alternatives
    - TSM/TDM
    - Build Alternatives Matrix
- *Break*
- Freight Flow Data
    - 2007 Baseline
    - 2035 Forecast
- Mode Choice Survey Results
- Q&A

---

3. Follow-up Checklist

a. SAFETEA-LU plan is available – please take a copy.
b. Submit general feedback/comments (in writing) to:
e-mail – feedback@crossharborstudy.com or fax: (201) 612.1232

Cross Harbor Freight Program
Alternatives to be Evaluated in Screening Analysis

TSM	**Surface Rail Efficiency/Safety Improvements (TSM1)**	
	TSM1-1	Oak Island to Greenville
	TSM1-2	Greenville to Fresh Pond
	TSM1-3	Fresh Pond west to East River
	TSM1-4	Fresh Pond north through MNR
	TSM1-5	Fresh Pond east through Long Island
	Railcar Float Efficiency/Safety Improvements (TSM2)	
	TSM2-1	51st Street
	TSM2-2	65th Street
TDM	**Bridge/Tunnel Pricing: GWB, Lincoln, Holland, Goethals and Outerbridge (TDM1)**	
	"Managed Trucking" Facilities/Franchises (TDM2)	
	TDM2-1	South Brooklyn
	TDM2-2	Maspeth
	TDM2-3	Hunts Point
	TDM2-4	ISC/GATX
	TDM2-5	Nassau/Suffolk
Float & Ferry	**Railcar Float (FLT)**	
	Greenville to 51st Street	
	FLT1-a	Fast
	FLT1-b	Slow
	Greenville to 65th Street	
	FLT2-a	Fast
	FLT2-b	Slow
	Greenville to Queens	
	FLT3-a	Fast
	FLT3-b	Slow
	Greenville to Bronx	
	FLT4-a	Fast
	FLT4-b	Slow
	Truck Ferry (TFRY)	
	Port Newark/Elizabeth to Brooklyn/Queens/Bronx/Nassau/Suffolk	
	TFRY1-a	Fast
	TFRY1-b	Slow
	Greenville to Brooklyn/Queens/Bronx/Nassau/Suffolk	
	TFRY2-a	Fast
	TFRY2-b	Slow
	South Amboy to Brooklyn/Queens/Bronx/Nassau/Suffolk	
	TFRY3-a	Fast
	TFRY3-b	Slow
	Truck Float (TFLT)	
	Port Newark/Elizabeth to Brooklyn/Queens/Bronx/Nassau/Suffolk	
	TFLT1-a	Fast
	TFLT1-b	Slow
	Greenville to Brooklyn/Queens/Bronx/Nassau/Suffolk	
	TFLT2-a	Fast
	TFLT2-b	Slow
	South Amboy to Brooklyn/Queens/Bronx/Nassau/Suffolk	
	TFLT3-a	Fast
	TFLT3-b	Slow

Alternatives to be Evaluated in Screening Analysis (cont'd)

Float & Ferry (cont'd)	**Roll on-Roll off Container Barge (RRCB)**	
	Port Newark to South Brooklyn	
	RRCB1-a	Fast
	RRCB1-b	Slow
	Port Newark to Davisville, RI	
	RRCB2-a	Fast
	RRCB2-b	Slow
	Lift on-Lift off Container Barge (LLCB)	
	Port Newark to South Brooklyn	
	LLCB1-a	Fast
	LLCB1-b	Slow
	Port Newark/Elizabeth to Davisville, RI	
	LLCB2-a	Fast
	LLCB2-b	Slow
Rail Tunnel	**Double-Stack Intermodal Service (T1)**	
	T1-1	Queens
	T1-2	Brooklyn
	T1-3	Bronx
	T1-4	Nassau/Suffolk
	T1-5	Central Suffolk
	T1-6	Combinations
	Open Technology (T2)	
	T2-1	Queens
	T2-2	Brooklyn
	T2-3	Bronx
	T2-4	Nassau/Suffolk
	T2-5	Central Suffolk
	T2-6	Combinations
	With "Chunnel" Operation - Greenville to Linden Blvd (T3)	
	With Trucking - Greenville to Linden Blvd (T4)	
	T4-1	24 hours/7 days
	T4-2	12 hours/7 days
	AGV Use - Greenville to Linden Blvd (T5)	
	T5-1	24 hours/7 days
	T5-2	12 hours/7 days

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Cross Harbor Freight Program
Environmental Impact Statement



SAFETEA-LU Coordination Meeting
May 17, 2011

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ

Agenda

- Project Overview
- Alternatives
- *Break*
- Freight Data and Forecasts
- Surveys and Mode Choice Models
- *Questions and Answers*

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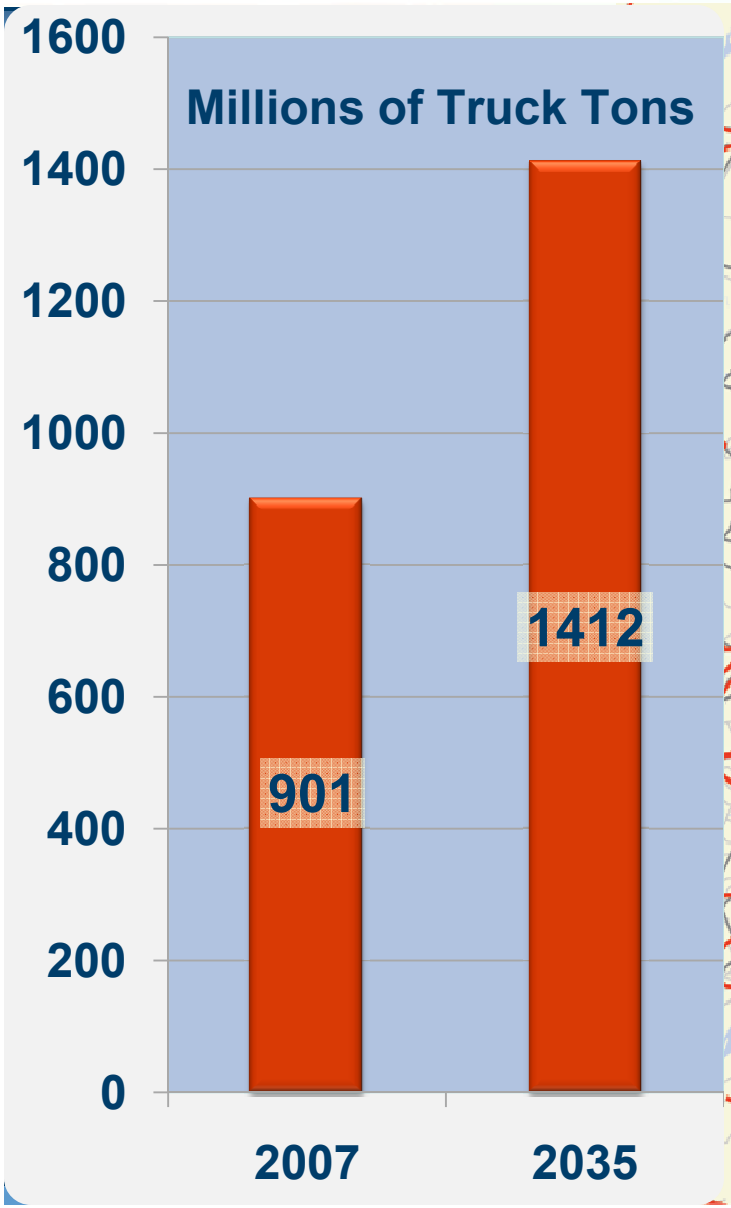
Project Purpose and Need

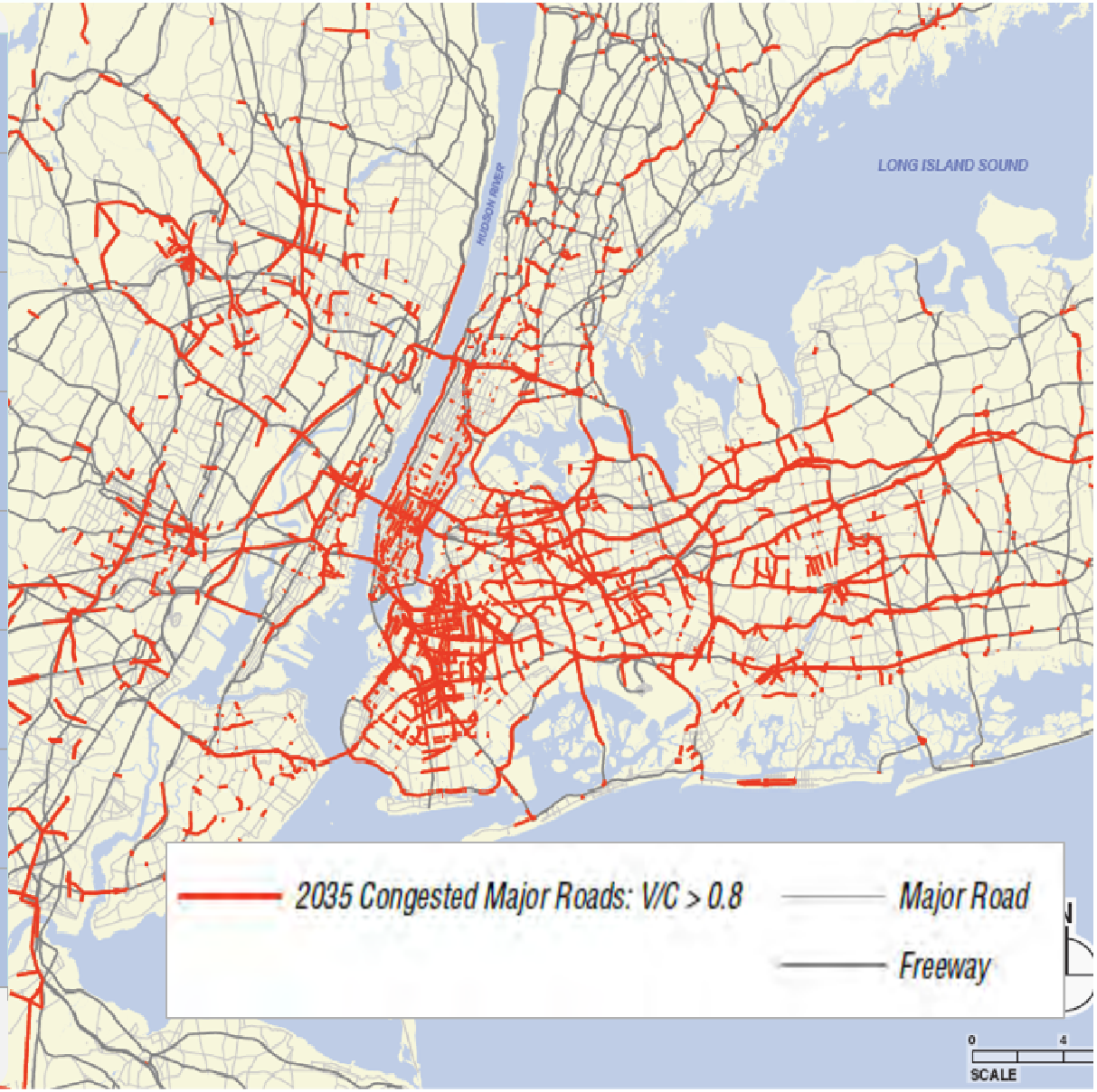
Improve the movement of goods in the greater New York/New Jersey region by enhancing the transportation of freight across New York Harbor.



Freight Growth = Truck Demand

U.S.Department of Transportation
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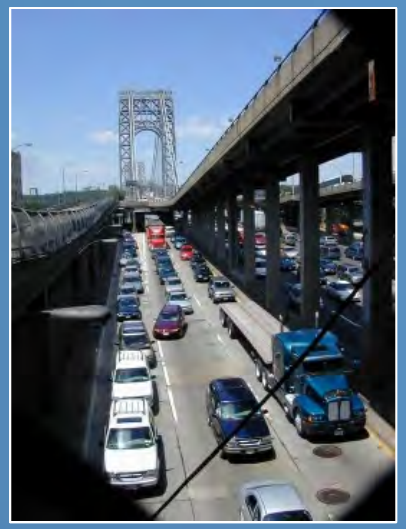


Delays on Major Truck Routes

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Daily (average) Hours of Delay			
	2010	2035	Percent change
BQE	17,384	24,968	+44%
LIE	81,482	121,219	+49%
Cross Bronx	11,640	15,349	+32%
GWB	12,424	22,394	+80%
Lincoln Tunnel	11,763	20,652	+76%



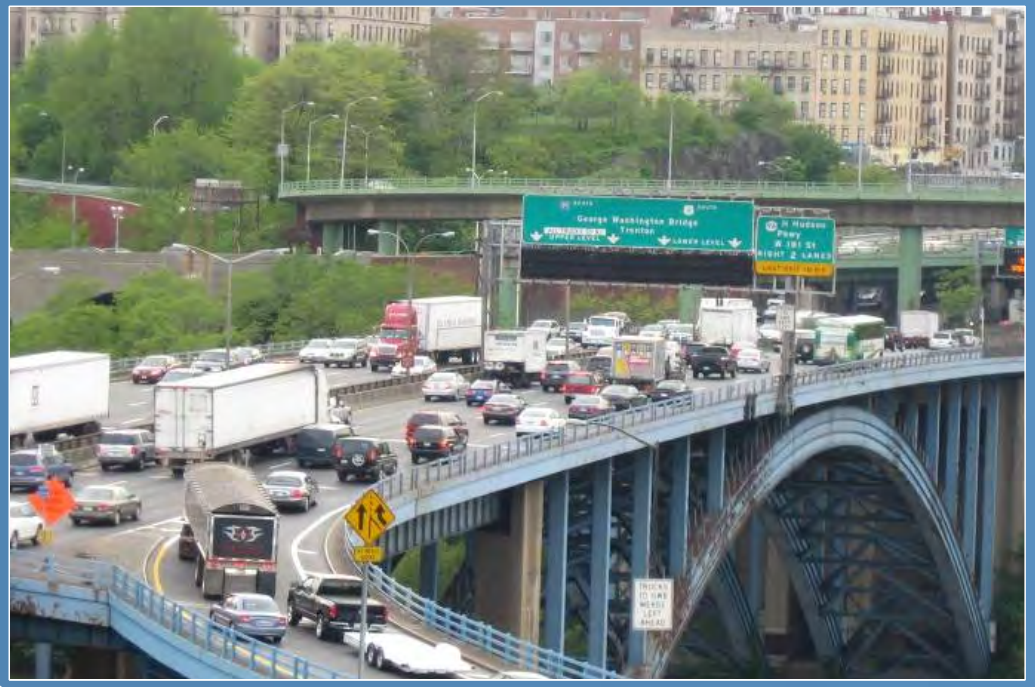




Delays on Hudson Crossings

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- **George Washington and Verrazano Bridges**
  Current and future demand exceeds capacity at peak
- **Lincoln and Holland Tunnels and GWB**
  45 – 60 minute delays common



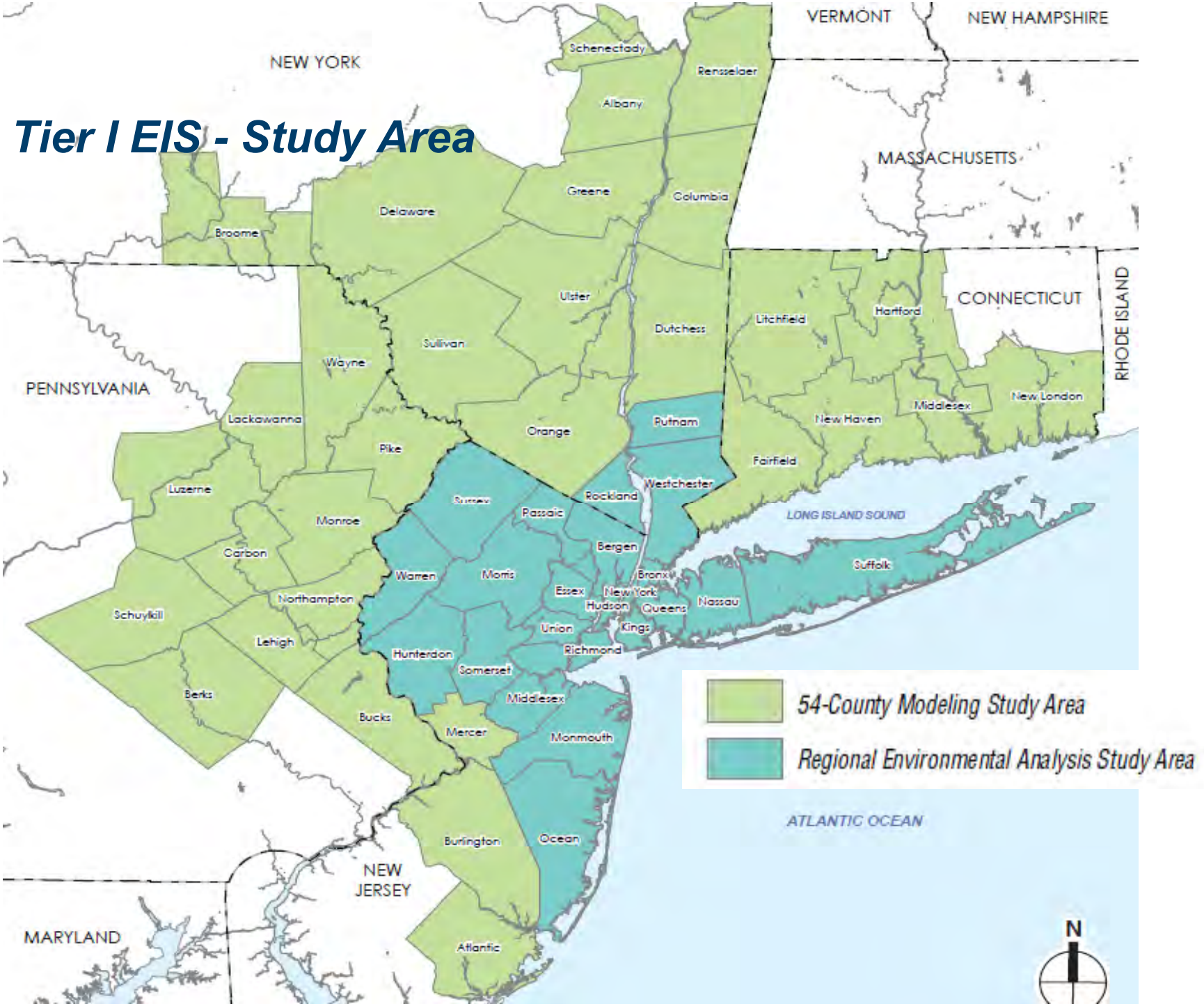


Rail Freight Network: Rail Lines and Yards

U.S.Department of Transportation
Federal Highway Administration
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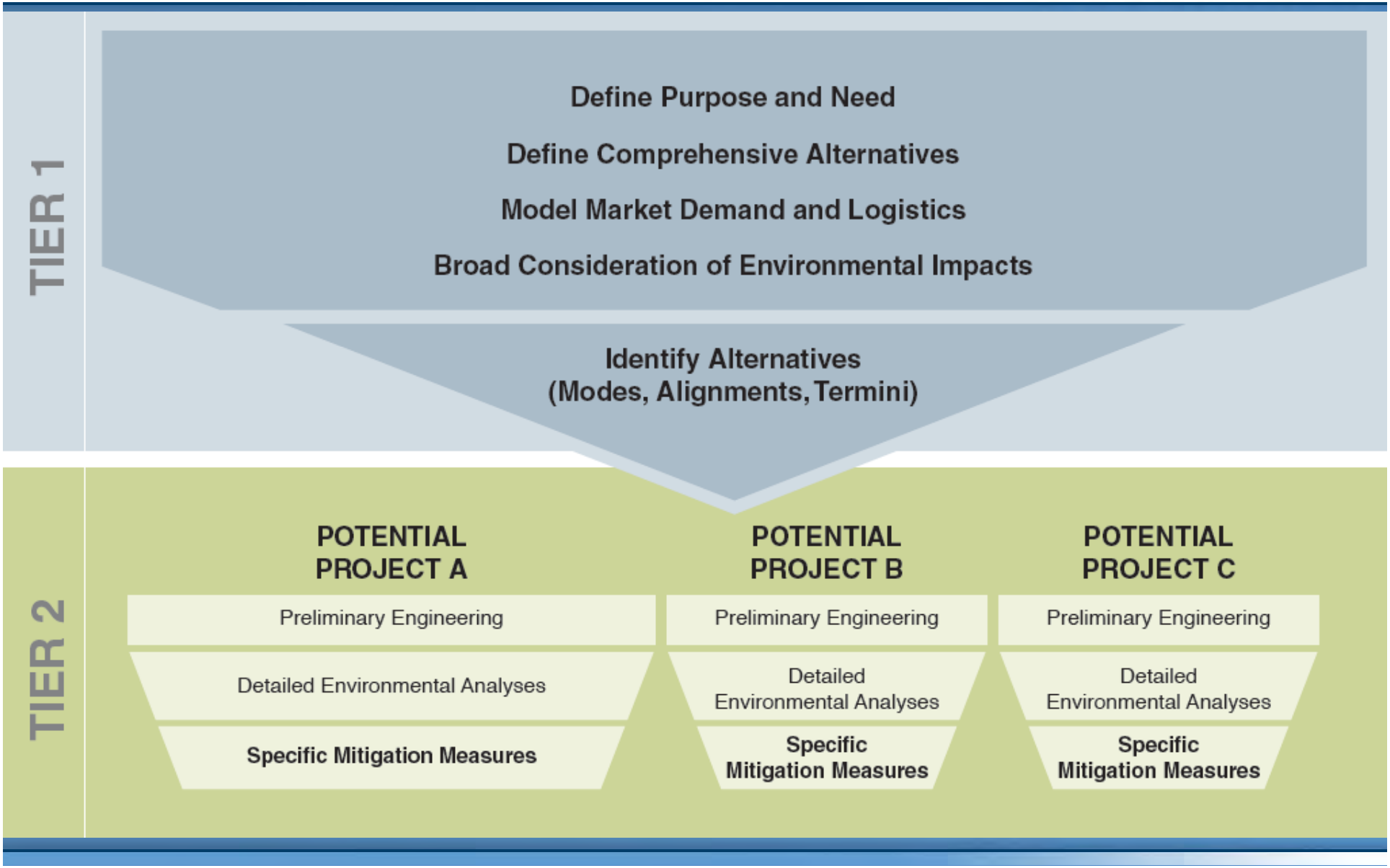
Tier I EIS - Study Area



Tiered EIS

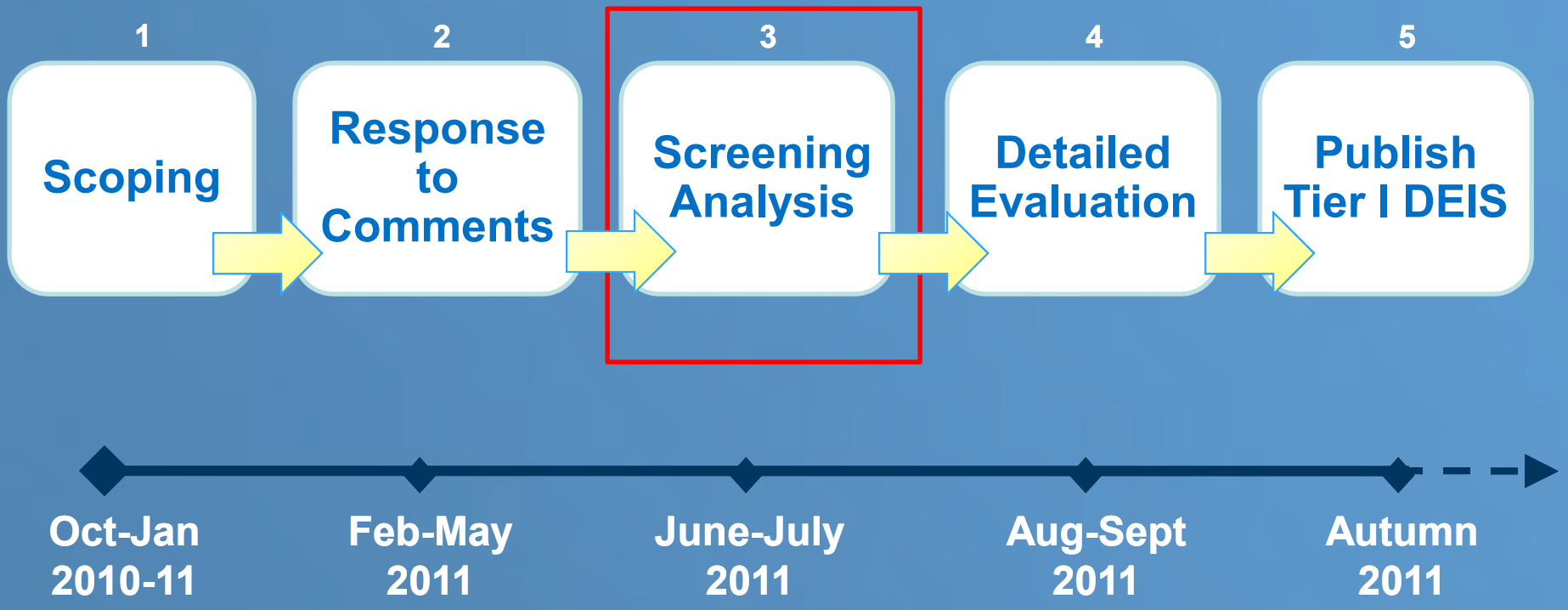
Staged process for complex projects

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Alternatives Evaluation Overview

U.S.Department of Transportation
Federal Highway Administration
THE PORT AUTHORITY OF NY & NJ



Anticipated Schedule

Agenda

U.S.Department of Transportation
Federal Highway Administration
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- Project Overview
- **Alternatives**
- Freight Data and Forecasts
- Surveys and Mode Choice Models
- Questions and Answers

Alternatives Development

Inclusive process / No rush to judgment

- Identified broad categories of improvements
- Made initial assumptions about potential modes, routes, terminals, and services
- More than 100 variations
- Determined likely levels of service (cost, speed, reliability) for testing in the project Mode Choice models
- Favorable LOS assumptions to give every alternative its best chance to succeed

Categories of Alternatives

U.S.Department of Transportation
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No Action Alternative

Management Alternatives

Build Alternatives

No Action

Management Alternatives

- Transportation System Management (TSM)
- Transportation Demand Management (TDM)

Build Alternatives

- Rail Tunnel
- "Multimodal" Tunnel
- Float/Ferry/Barge

TSM Alternatives

Surface rail efficiency and safety improvements

Railcar float efficiency and safety improvements

Improved west-of-Hudson rail network





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Selected TSM Projects

- Raritan Valley Line in New Jersey, beyond NJ TRANSIT plans
- Additional tracks at Oak Island Rail Yard
- Lehigh Valley Line bridge and adjoining main rail line improvements
- Chemical Coast Line improvements near Staten Island Line
- Traffic management and signal control along the Hudson Line
- Upgrade existing Cross Harbor rail connection at Selkirk
- Upgrade existing Cross Harbor container barge
- Improving the existing rail yard at 65th Street in Brooklyn
- Track and signal improvements to Bay Ridge and Montauk Branch
- Expansion of rail facilities at the Oak Point Yard in the Bronx
- Intelligent Transportation Systems at truck crossings
- Long Island RR weight and clearance improvements

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TDM Alternatives

Bridge/Tunnel Pricing

– GWB, Lincoln Tunnel, Holland Tunnel, Goethals Bridge and Outerbridge Crossing

Managed Trucking Facilities

– Consolidation/distribution terminals allowing long-haul trucks to move at night, with local short-haul delivery during the day

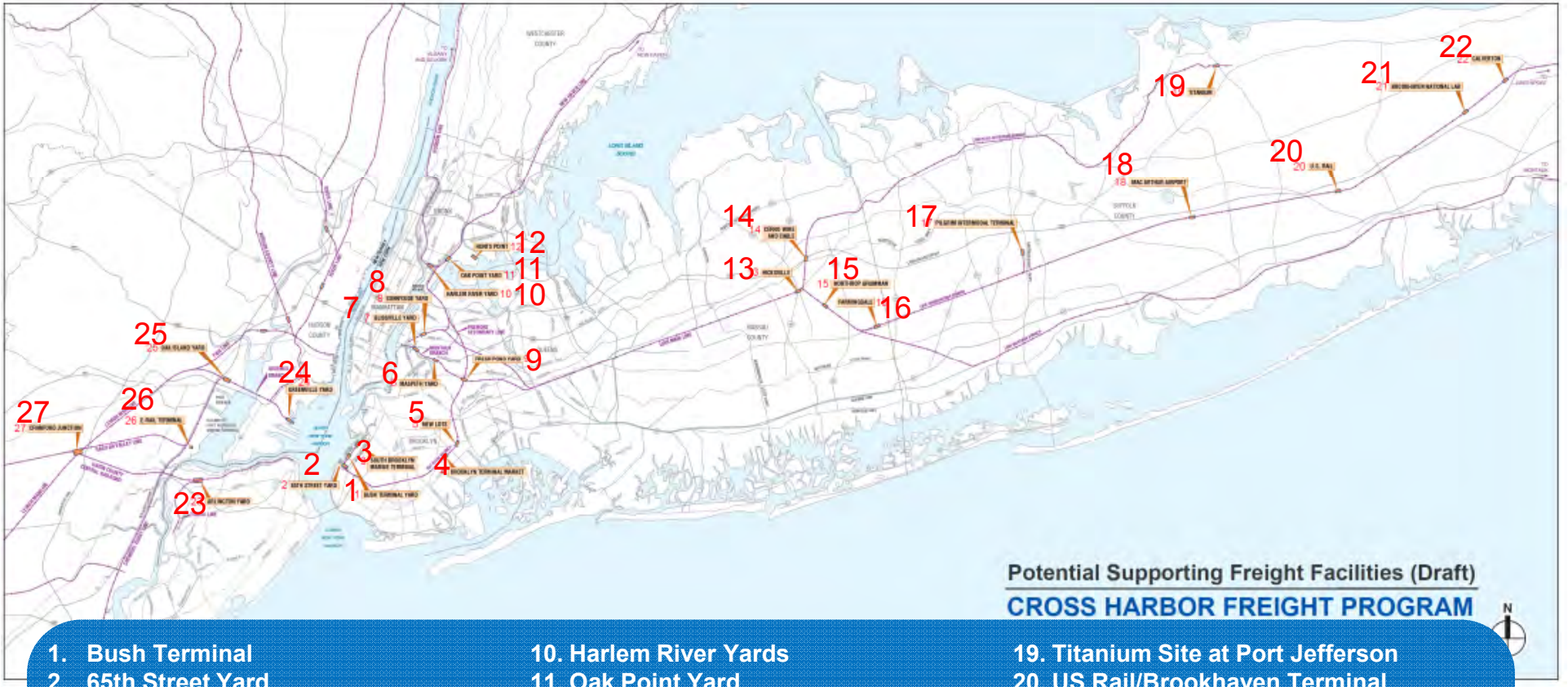
– South Brooklyn Marine Terminal, Maspeth, Hunts Point, ISC/GATX, Nassau/Suffolk





Build Alternatives
Can Link Many Different Terminal Sites

U.S.Department of Transportation
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1. Bush Terminal
2. 65th Street Yard
3. South Brooklyn Marine Terminal
4. Brooklyn Terminal Market
5. New Lots, East New York
6. Maspeth Yard & Phelps Dodge Site
7. Blissville Yard
8. Sunnyside Yard
9. Fresh Pond Yard
10. Harlem River Yards
11. Oak Point Yard
12. Hunts Point
13. Hicksville
14. Cerro Wire & Cable
15. Northrop Grumman
16. Farmingdale
17. Pilgrim (LITRIM)
18. MacArthur Airport
19. Titanium Site at Port Jefferson
20. US Rail/Brookhaven Terminal Yaphank
21. Brookhaven National Laboratory
22. Calverton
23. Arlington Yard / GATX
24. Greenville Yard
25. Oak Island Yard
26. E-Rail Terminal
27. Cranford Junction

Build Alternatives
Rail Tunnel

U.S.Department of Transportation
Federal Highway Administration
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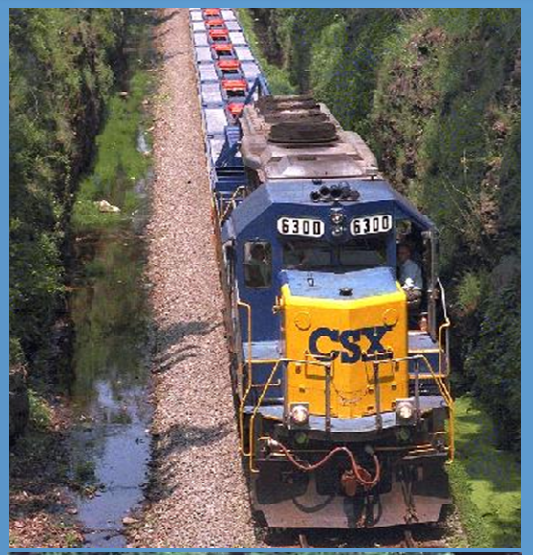
Greenville to 65th Street and South Brooklyn waterfront

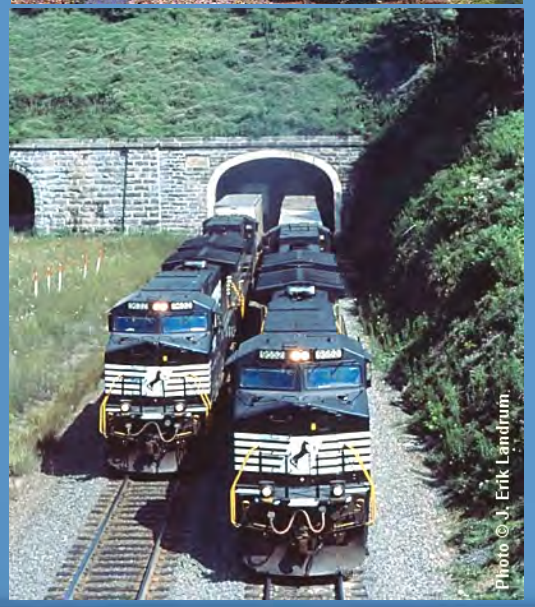
Potentially continuing to one or more additional terminals at:

- Maspeth
- Hunts Point
- Nassau/Suffolk border
- Central Suffolk

Double-stack cleared

Accommodating local and through rail traffic





Build Alternatives
"Multimodal" Tunnel Concept

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Accommodate other modes with rail

- Combined Rail/Truck Tunnel
- "Chunnel" service
- Automated Guided Vehicles (AGV)





Modes are either in parallel alignment (24/7 operation) or could alternate periods of exclusive operations

Build Alternatives
Combined Rail/Truck Tunnel

U.S.Department of Transportation
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Planning Concept

- Trucks enter near NJ Turnpike 14B
- Trucks run through tunnel to 65th Street/Bay Ridge Branch
- Slip ramps to Fort Hamilton Parkway to connect with I-278 and South Brooklyn
- Truckway in Bay Ridge Branch ROW terminating at Linden Boulevard
- One lane each way, truck only, tolled
- 24/7 or 12/7 options





Build Alternatives
"Chunnel" Service

U.S.Department of Transportation
Federal Highway Administration
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Planning Concept

- Alternative to trucks in the tunnel
- Trucks are driven onto and off of special railcars, running between two terminals with truck loading and queuing areas
- Route concept is same as trucks in the tunnel
- Operates on rail track – 24/7 operation with minimal interference to freight trains





Build Alternatives
Automated Guided Vehicles (AGVs)

U.S.Department of Transportation
Federal Highway Administration
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Planning Concept

- Proven technology - used in factories, warehouses, and marine terminals, extended over a larger transportation network
- Trucker leaves cargo or chassis at a transfer yard; automated power unit or platform brings it through the tunnel to another transfer yard; trucker picks it up
- Route concept is same as trucks in the tunnel
- 24/7 or 12/7 options





Build Alternatives
Float/Ferry /Barge

U.S.Department of Transportation
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1. Expanded Rail Car Float System
2. Truck Float (cargo only) / Truck Ferry (cargo, cab, driver)
3. Container Barge / Coastal Feeder



Build Alternatives
Expanded Rail Car Float System

U.S.Department of Transportation
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Greenville to 65th Street is part of the No Action

Services could also be offered from Greenville to:

- - 51st Street
- - Hunters Point
- - Harlem River Yard

Service assumptions

- **PANYNJ's planned 30-car barge is the design vessel, 9-knot service speed, min. one trip per day**





Build Alternatives
Truck Float/Ferry

U.S.Department of Transportation
Federal Highway Administration
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Multiple service pairs

- From: Port Elizabeth (E-Rail), Greenville, or South Amboy
- To: 65th Street, Hunters Point, Hunts Point, Oyster Bay/Huntington, or Port Jefferson

Favorable service assumptions

- **30-unit vessel, 20-knot service, 15 min. load/unload times, 30 minute headways**

Truck Float



Truck Ferry



Build Alternatives
Container Barge/Feeder Service

U.S.Department of Transportation
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Possibility of container barge service from Port Newark to

- South Brooklyn Marine Terminal via 9-knot barge
- Davisville, RI via 25-knot feeder

Infinite route options possible; these are representative of current planning by NYC and RI







Agenda

U.S.Department of Transportation
Federal Highway Administration
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- Project Overview
- Alternatives
- **Freight Data and Forecasts**
- Surveys and Mode Choice Models
- Questions and Answers

Identify Relevant Freight Rail Opportunities

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1. Grow existing East of Hudson rail traffic

2. Move rail-truck transfers from West of Hudson railyards (Northern New Jersey, Eastern Pennsylvania, Albany) to East of Hudson railyards, reducing truck "drayage" trips across the Hudson

3. Convert East of Hudson truck trips to rail and/or water
   - Long-haul trucks to the East of Hudson
   - Medium-haul and short-haul trucks to the East of Hudson
   - Trucks passing through the East of Hudson
   - Port-generated trucks to/through the East of Hudson (special case)

Data Analysis Challenges

- Different commodity classification schemes
- Different analysis zone definitions
- Volume and nature of truck flows
- Initial and corrected versions of Transearch
- Poor information on multi-modal “linked” trips and moves through distribution centers
- Counts and models report all trucks, including trucks we aren’t interested in (non-freight service trucks, empties, etc.)
- Transearch and FAF omit some trucks we are very interested in (MSW, shorter hauls, smaller loads)

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Base Year 2007 Estimates

To establish reliable 2007 baseline

- Started with Transearch
- Reconciled and "cross walked" different zone and commodity schemes
- Converted tonnages to loaded trucks
- Calibrated crossing truck tonnage to toll counts, regional model estimates, and FAF-3 estimates
- Adjusted O-D tonnage based on PANYNJ O-D surveys
- Added truck MSW data from original research
- Estimating rail-truck shares from NNJ, Selkirk, Harrisburg, Allentown

Process was longer and more involved than expected, but produced a good high-level fit to empirical data

- 15,000 EB heavy truck crossings to "NY Part NYNJ" FAF-3 Zone
- 26,000 to 32,000 EB total heavy truck crossings

Estimated 2007 Freight Flows
54-County Data Analysis Area

U.S.Department of Transportation
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	Truck	Rail Carload	Rail Intermodal	Total	Share
Tons	901,087,374	80,024,997	16,733,420	997,845,791	
Share	90.3%	8.0%	1.7%	100.0%	
Within 54 Counties	380,426,132	794,248	560	381,220,940	38%
Inbound to 54 Counties	199,601,627	25,808,209	6,243,080	231,652,916	23%
Outbound From 54 Counties	135,257,428	7,622,752	6,250,900	149,131,080	15%
Pass Through 54 Counties	185,802,186	45,799,788	4,238,880	235,840,854	24%

*** Not including 8.5 million tons MSW by truck**

Estimated 2007 Freight Flows
54-County Data Analysis Area

U.S.Department of Transportation
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Truck Origins	Truck Destinations						
	54 Counties	Other < 400 Miles	Long Haul > 400 Miles	Canada	Mexico	Total	Share
54 Counties	380,426,132	82,070,541	44,320,012	7,030,395	1,836,481	515,683,560	57%
Other < 400 Miles	133,857,928	70,511,025	21,456,893	5,438,568	1,326,404	232,590,817	26%
Long Haul > 400 Miles	50,412,281	70,332,775	8,541,146	2,581,115	32,782	131,900,098	15%
Canada	13,755,129	3,318,408	1,998,127			19,071,664	2%
Mexico	1,576,290	261,894	3,050			1,841,234	0%
Total	580,027,759	226,494,643	76,319,228	15,050,077	3,195,667	901,087,374	100%
Share	64%	25%	8%	2%	0%	100%	

Within Study Area	380,426,132	42.2%
Inbound to Study Area	199,601,627	22.2%
Outbound From Study Area	135,257,428	15.0%
Pass Through Study Area	185,802,186	20.6%
Total	901,087,374	100.0%

Estimated 2007 Freight Flows
Hudson Crossings Only

U.S.Department of Transportation
Federal Highway Administration
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	Truck	Rail Carload	Rail Intermodal	Total	Share
Tons	247,223,616	21,426,688	2,938,800	271,589,104	
Share	91.0%	7.9%	1.1%	100.0%	
Within 54 Counties	79,952,743	281,412	-	80,234,155	30%
Inbound to 54 Counties	31,708,054	3,642,137	117,520	35,467,711	13%
Outbound From 54 Counties	30,874,528	2,917,896	151,840	33,944,264	12%
Pass Through 54 Counties	104,688,290	14,585,243	2,669,440	121,942,973	45%

*** Not including tons MSW by truck**

Estimated 2007 Freight Flows
Hudson Crossings Only

U.S.Department of Transportation
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Truck Origins	Truck Destinations					
	Study Area	Other < 400 Miles	Long Haul > 400 Miles	Canada	Mexico	Total
Study Area	79,952,743	12,966,579	14,443,712	2,977,199	487,038	110,827,272
Other < 400 Miles	16,008,358	25,881,905	11,434,010	2,819,351	895,107	57,038,730
Long Haul > 400 Miles	11,204,445	49,616,882	8,541,146	1,711,274	32,782	71,106,529
Canada	4,339,663	2,285,974	1,272,114	-	-	7,897,750
Mexico	155,590	194,702	3,044	-	-	353,335
Total	111,660,798	90,946,042	35,694,026	7,507,824	1,414,927	247,223,616

Within Study Area	79,952,743	32.3%
Inbound to Study Area	31,708,054	12.8%
Outbound From Study Area	30,874,528	12.5%
Pass Through Study Area	104,688,290	42.3%

Forecast Year 2035 Estimates

U.S.Department of Transportation
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Transearch and FAF-3 2035 forecasts

- Both from Global Insight
- Generally very consistent
- Commodity driven and modally "blind"

Process

- Started with Transearch 2035, same adjustment and scaling as 2007
- MSW growth forecast is policy-driven
- We can "relocate" forecast growth (for example, to show Port growth at one site versus another) within the region if appropriate

Forecast uncertainty

- Growth rates seem reasonable and achievable, but no warrantee
- Uncertainty best addressed on the time axis – assume forecast volumes will be achieved, but maybe sooner or later than expected

Estimated 2035 Freight Flows
54-County Data Analysis Area

U.S.Department of Transportation
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	Truck	Rail Carload	Rail Intermodal	Total
2007 Tons	901,087,374	80,024,997	16,733,420	997,845,791
Share	90.3%	8.0%	1.7%	100.0%
2035 Tons	1,412,395,863	102,272,694	23,330,482	1,537,999,040
Share	91.8%	6.6%	1.5%	100.0%
Total Growth	56.7%	27.8%	39.4%	54.1%
Annual Growth	1.6%	0.9%	1.2%	1.6%

*** Not including tons MSW by truck, and not reflecting potential effects of Cross Harbor improvements**

Estimated 2035 Freight Flows
Submarket Estimation

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Demand models operate on the entire dataset

- Not a “black box” but a very big box

Extracting submarket estimates for each target opportunity from the full dataset, and validating each against empirical data

- Grow existing rail, move rail trip ends, long-haul trucks, medium and short-haul trucks, through trucks, Port trucks

Why?

- Additional validation step
- Will help us better explain the types and levels of demand that could support and justify Cross Harbor improvements

Agenda

U.S.Department of Transportation
Federal Highway Administration
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- Project Overview
- Alternatives
- Freight Data and Forecasts
- **Surveys and Mode Choice Models**
- Questions and Answers

Survey and Mode Choice Models Analysis Steps

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1. Industry interviews and focus groups
2. Survey research program
   - Revealed preference surveys, stated preference surveys
3. Estimate mode choice models from survey data
4. Validate mode choice models
5. Apply choice models to initial alternatives
6. Refine alternatives through iterative process
   - Vary routes and terminals; vary service cost, speed, frequency, reliability, etc. and re-test with models

Interviews and Focus Groups

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Collect information to help design the survey instruments

- Two "two-hour" focus groups – six and seven participants
- Eight facilitated "executive interviews"
- 30+ shipper, receiver, carrier, government interviews

Key questions

- What are the decisions to be made – mode, route, time-of-day?
- Who makes shipment decisions?
- What are the key decision variables?
- How do different industry segments behave?
  size, location, trip length
- Are Hudson River crossing trips different from other trips?

Findings from Interviews

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Decision-making criteria

- Cost, time, reliability all very important
- Carriers and shippers both involved in decision-making

Business operations

- High cost of crossing the Hudson – tolls, operating restrictions, enforcement, congestion and unreliability
- May be "distribution center dependent"
- May not have off-peak flexibility
- Some distrust of unfamiliar modes (e.g., anything other than a truck)

Pretest of initial survey with focus group participants

Survey Recruitment

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Recruitment

- Initial list of potential establishments from industry directories
- Targets for industry types, sizes, freight volumes
- Random selection and telephone recruitment
- 840 recruits

Requirements for inclusion

- Shippers and receivers moving freight to, from, within the study area
- Responsible for making mode choice decisions
- Cross-Hudson shipments exceeding 2,000 lbs

Initial data collection

- Establishment type, size, volume of freight moved
- Shipment characteristics, distribution center utilization

Revealed Preference and Stated Preference Surveys

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Recruited firms were then surveyed in depth

- 400 completed Revealed Preference (RP) Surveys
- 2,400 completed Stated Preference (SP) "choice experiments"

RP surveys

- Basic information about current user attributes and freight transportation
- Allowed segmentation of results by industry, size, volume

SP surveys

- Respondents offered choice between their current modes and services (tailored to each respondent based RP results) and alternatives

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Who Was Surveyed?

400 respondents from the 840 initial recruits

Achieved good representation across different industry categories, sizes, freight volumes

Figure 2. Number of Employees

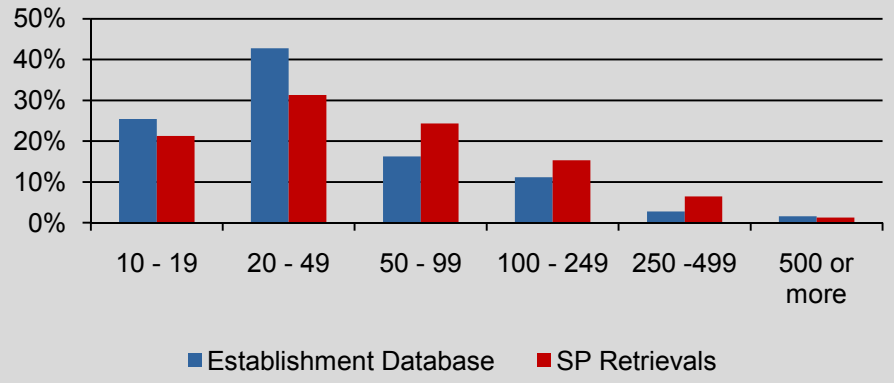


Figure 1. Industry Category

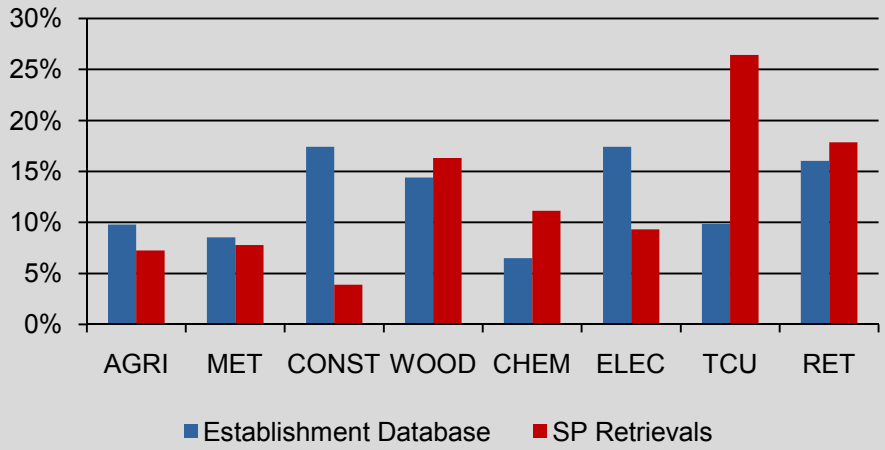
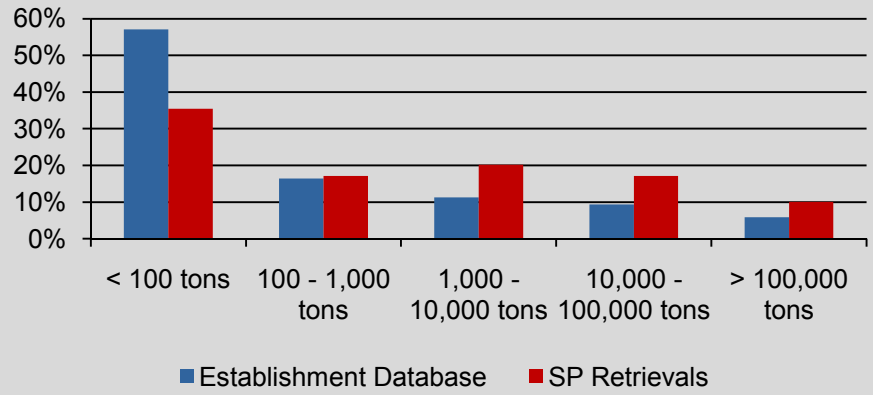


Figure 3. Freight moved by Establishment



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What Choices Were Offered?

All Cross Harbor modes were offered

- Rail, railcar float
- Truck, truck float/ferry, truck on "chunnel" rail or AGV
- With/without Distribution Centers

Each mode had a defined level of service

- Highway models, rail models, and other regional and national data used to develop "base case" cost, speed, reliability

Cross Harbor LOS offered in any experiment could be higher or lower than the base case – why?

- Cross Harbor alternatives were preliminary, actual LOS not known
- Need to test the effects of various LOS values

Choice Experiment Sets

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Six choice exercises per respondent

- Exercise 1 and 2 – trade-offs within current mode
- Exercise 3 – night-time delivery interest
- Exercise 4, 5 and 6 – current versus new modes

Result

- Quantitative data on how freight shippers and receivers make transportation decisions, by industry type and size and volume
  - » What are they willing to pay?
  - » How fast do they want their goods?
  - » What level of reliability do they demand?
  - » What modes do they prefer, all other factors being equal?
  - » What trade-offs are they willing to accept?
  - » What would make them change routes, times, or modes?

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Trade-Offs Within Current Mode

Suppose these were your transportation options to ship your goods from:
Brooklyn, NY to Chicago, IL

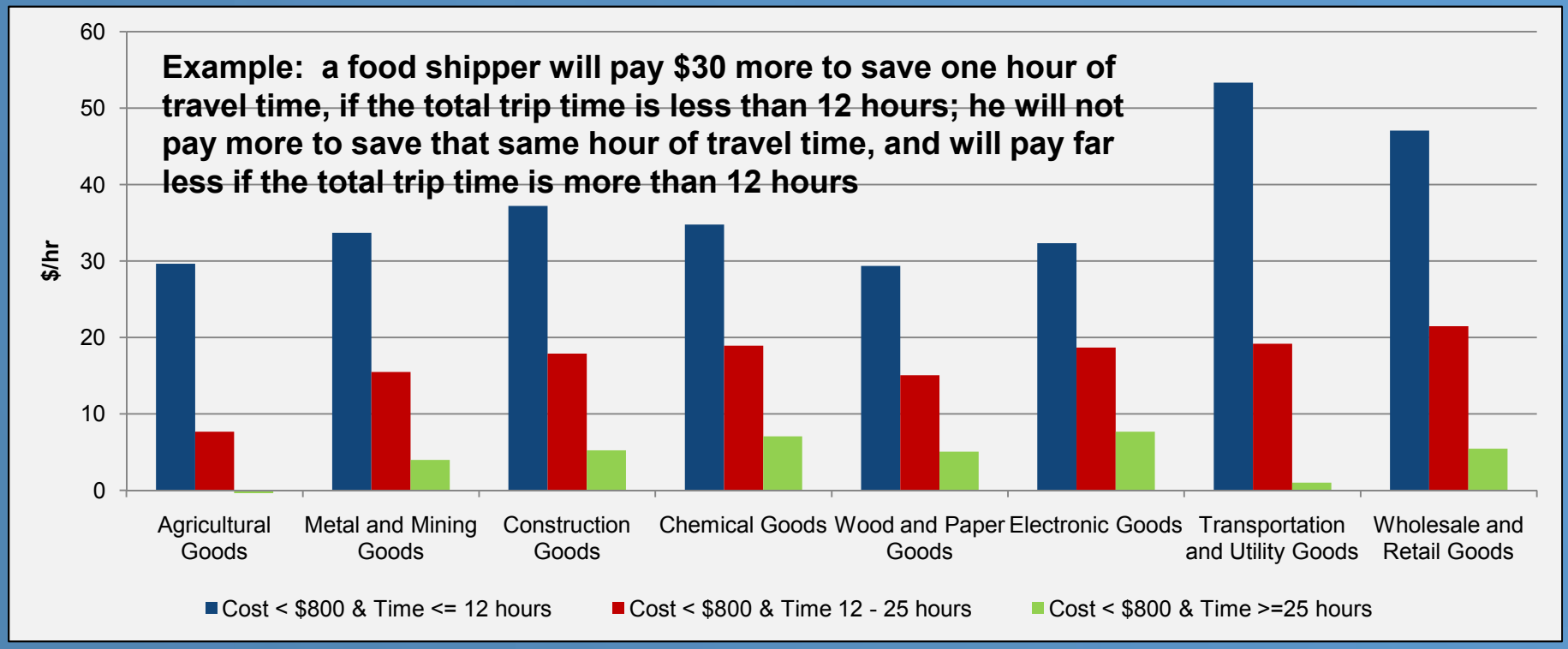
Your choices are...	OPTION A	OPTION B
		
	You ship/receive your goods in the New York Region on existing or new highways, tunnels and bridges The key characteristics of this option are as follows:	You ship/receive your goods in the New York Region on existing or new highways, tunnels and bridges The key characteristics of this option are as follows:
Mode of Transportation	Truck	Truck
Crosses Hudson on...	Existing bridges or new freight-only tunnel	Existing bridges or new freight-only tunnel
Transit Time (hours)	83	86
Transportation Cost (all inclusive)	$1,079	$1,932
Reliability (on-time)	93%	95%
Distribution (Transload) Center Location	East of the Hudson	West of the Hudson
Which of the two options above would you choose? (Please circle one)	OPTION A	OPTION B

Current Mode Analysis Results

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Very robust models with good "fit" and logical relationships

- Shorter trips willing to pay more to save travel time
- Higher-value goods generally willing to pay to save travel time



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Potential for Night-Time Delivery

Suppose these were your transportation options to ship your goods from:
Brooklyn, NY to Chicago, IL

Your choices are...	OPTION A	OPTION B
		
	You ship/receive your goods in the New York Region on existing or new highways, tunnels and bridges The key characteristics of this option are as follows:	You ship/receive your goods in the New York Region on existing or new highways, tunnels and bridges The key characteristics of this option are as follows:
Mode of Transportation	Truck during regular business hours	Truck during late night hours
Crosses Hudson on...	Existing bridges or new freight-only tunnel	Existing bridges or new freight-only tunnel
Transit Time (hours)	96	61
Transportation Cost (all inclusive)	$1,332	$1,079
Reliability (on-time)	88%	97%
Distribution (Transload) Center Location	East of the Hudson	West of the Hudson
Which of the two options above would you choose? (Please circle one)	OPTION A	OPTION B

Night Delivery Analysis Results

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Experimental assumptions

- Night travel times faster and more reliable than day-time options
- Night costs comparable to day-time costs (lower tolls, higher labor)

Slightly over 50% of respondents selected night-time option

Some chose day despite significant cost and time penalties

- Captive shippers and receivers
- Their input skewed the model so that higher costs and slower travel times were actually preferred

Important to segment these groups

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Potential for Alternative Modes

Suppose these were your transportation options to ship your goods from:
Brooklyn, NY to Chicago, IL

Your choices are...	OPTION A	OPTION B	OPTION C
			
	You ship/receive your goods in the New York Region on existing or new highways, tunnels and bridges The key characteristics of this option are as follows:	You ship/receive your goods in the New York Region on existing or new highways, tunnels and bridges The key characteristics of this option are as follows:	You ship/receive your goods in the New York Region on existing or new highways, tunnels and bridges The key characteristics of this option are as follows:
Mode of Transportation	Truck	Truck	Truck
Crosses Hudson on...	Existing bridges or new freight-only tunnel	Freight float (ferry)	New freight-only tunnel on rail cars
Transit Time (hours)	90	94	61
Transportation Cost (all inclusive)	$1,369	$1,449	$1,530
Reliability (on-time)	94%	98%	90%
Distribution (Transload) Center Location	East of the Hudson	East of the Hudson	West of the Hudson
Which of the three options above would you choose? (Please circle one)	OPTION A	OPTION B	OPTION C

Alternative Modes Results

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For comparable levels of service, truck users prefer:

- Trucks (known and loved)
- Truck crossing on rail ("Chunnel") or AGV (unknown but intriguing)
- Rail crossing on float (known quantity)
- Truck float, truck ferry, rail tunnel

Model results and factors vary by commodity type, length of haul, size of establishment

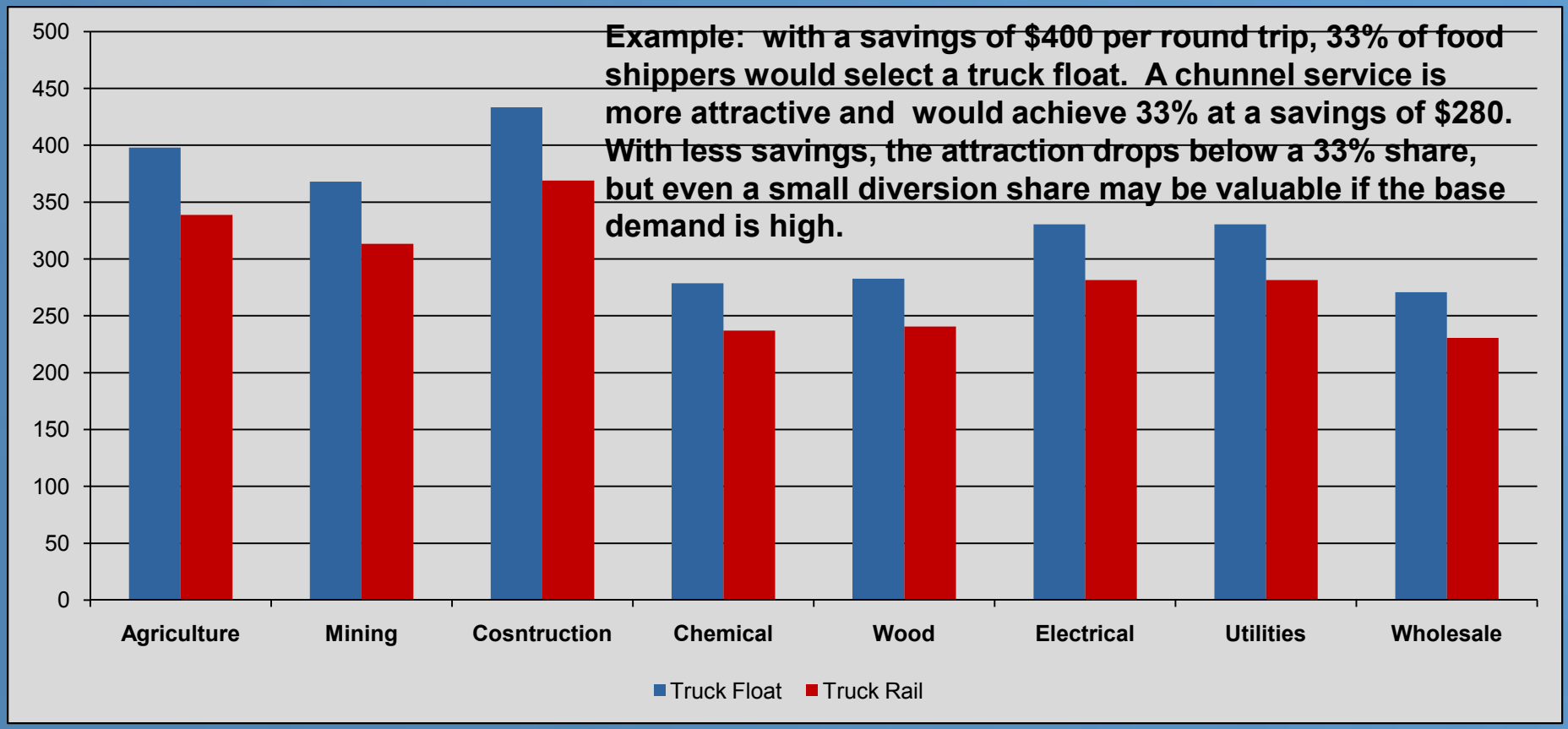
- In some cases, a modest LOS advantage can produce a mode change
- In other cases, a superior LOS is needed to overcome modal biases

Even low diversion can produce significant demand if base traffic is high - nothing ruled out at this point!

Modal Trade-off Example
Short-Haul Trips by Truck, Float, Chunnel

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Assuming equal service times, if we want to achieve equal mode shares (33% to truck, 33% to float, 33% to chunnel), what cost savings would float and chunnel need to provide?



Distribution Center Models

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Federal Highway Administration
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DC use is important in determining whether rail trips terminating West of Hudson can be relocated East of Hudson

User Model (840 establishments)

- DC use most likely for high-volume shippers
- Carriers most likely to use DCs; mining industry least likely
- NY establishments prefer NY distribution centers

Relocation model (137 establishments)

- Among industrial classes, carriers and agricultural product shippers are most likely to relocate
- Establishments with many employees least likely to relocate
- Users in third or fourth year of lease are most likely to relocate

Model Validation Underway

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For current conditions, do the mode choice models predict what is actually observed?

- Compare model results to existing market shares for truck and rail

Are model sensitivities reasonable?

- Reality-test to ensure changes in input variables produce proportionate changes in demand

Do the results make sense to people who make freight transportation decisions?

Final Choice Modeling Product

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Forecasting tool with spreadsheet inputs

- Coded with choice coefficients
- Inputs/links to analysis year freight flows
- Inputs/links to performance attributes of Cross Harbor alternatives

Generates demand estimates for each alternative

- By mode, by shipment type, by market segment
- Sensitive to user changes in input variables, especially LOS

Will be used to test and refine variations in location and performance of alternatives through the remainder of the study

Agenda

U.S.Department of Transportation
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- Project Overview
- Alternatives
- Freight Data and Forecasts
- Surveys and Mode Choice Models
- **Questions and Answers**

U.S.Department of Transportation
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Thank You!



Carmen Costa

From: Cross Harbor Freight Program [crossharborfreightprogram@ingroupinc.com]
Sent: Friday, May 06, 2011 2:32 PM
To: carmen@ingroupinc.com
Subject: Cross Harbor Freight Program SAFETEA-LU Meeting Invitation

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U.S.Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement SAFETEA-LU Meeting Invitation

You are invited to join us for a Cross Harbor Freight Program SAFETEA-LU meeting on:

Tuesday, May 17, 2011, 1:30 PM – 3:30 PM at
NJTPA, One Newark Center, 17th Floor
Newark, New Jersey

The team will provide an update on the project including feedback from recent scoping meetings held around the region, the finalized SAFETEA-LU plan, and preliminary results from the screening analysis.

Please notify us by email if you or a representative will be attending the meeting no later than Thursday, May 12, 2011 to feedback@crossharborstudy.com.

Thank you for your continued interest in the Cross Harbor Freight Program. We look forward to an informative and lively discussion.

Please note, the rsvp email has been updated to feedback@crossharborstudy.com. We apologize for any confusion.

225 PARK AVENUE SOUTH, 11th FLOOR • NEW YORK, NEW YORK 10003-1604 • feedback@crossharborstudy.com

This message was sent to carmen@ingroupinc.com from:

Cross Harbor Freight Movement Program | 225 Park Avenue South, 11th Floor | New York, NY 10003-1604

Unsubscribe

Carmen Costa

Subject: Cross Harbor Freight Program SAFETEA-LU Meeting: SAVE THE DATE
Location: NJTPA, Newark, NJ

Start: Tue 5/17/2011 1:30 PM
End: Tue 5/17/2011 3:30 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Cross Harbor Freight Program SAFETEA-LU Save the Date for a meeting on:

Tuesday, May 17, 2011, 1:30 PM – 3:30 PM at

NJTPA, One Newark Center, 17th Floor

Newark, New Jersey

The meeting will provide an update on the project including feedback from recent scoping meeting held in the region as well as presenting the finalized SAFETEA-LU plan and share preliminary screening analysis outcomes.

Sincerely,

Cross Harbor Outreach Team

Carmen Costa

From: Cross Harbor Freight Program [crossharborfreightprogram@ingroupinc.com]
Sent: Monday, May 23, 2011 11:51 AM
To: carmen@ingroupinc.com
Subject: Cross Harbor Freight Program SAFETEA-LU Post Meeting Follow-up

THE PORT AUTHORITY OF NY & NJ

U.S.Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program Tier I Environmental Impact Statement SAFETEA-LU Meeting Follow-up

Thank you for your continued participation in the Cross Harbor Freight Program.

Attached, please find the following materials from the Cross Harbor Freight Program SAFETEA-LU meeting held on May 17, 2011 at NJTPA.

- Meeting Agenda
- Presentation
- Revised SAFETEA-LU Plan
- List of Alternatives

Please email any questions or comments to feedback@crossharborstudy.com.

225 PARK AVENUE SOUTH, 11th FLOOR • NEW YORK, NEW YORK 10003-1604 • feedback@crossharborstudy.com

This message was sent to carmen@ingroupinc.com from:

Cross Harbor Freight Movement Program | 225 Park Avenue South, 11th Floor | New York, NY 10003-1604
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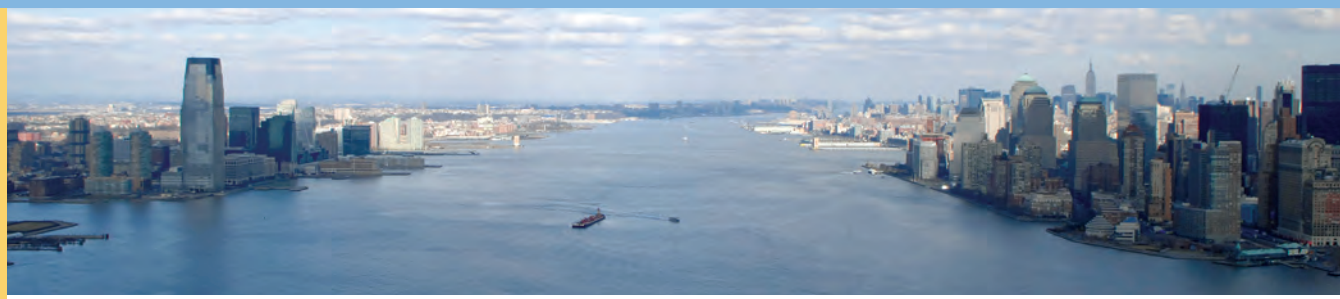
B-1.0 Other Materials

NEW YORK

CROSS HARBOR FREIGHT PROGRAM

NEW JERSEY

Frequently Asked Questions



Why is the Cross Harbor Freight Program needed?

In 2007, an estimated 1.1 billion tons of freight were moved by truck through the New York City and Long Island region, including northern and central New Jersey, western and southern Connecticut, and portions of southern New York and eastern Pennsylvania. By 2035, this demand is projected to increase to more than 1.5 billion tons as a result of forecasted growth in employment, personal income, and economic activity, creating unprecedented pressure on the region's transportation infrastructure.

The region's ability to serve its markets is increasingly threatened by its heavy reliance on trucking goods over an aging and congested roadway network, while non-highway freight modes, particularly rail and waterborne, remain underdeveloped and underutilized. In addition, the flow of freight in the region is complicated by the historic physical barrier of the Hudson River and New York Harbor, which separates the large consumer markets of New York City, Long Island, and New England (east of the Hudson River) from the nation's major centers of agricultural and industrial production, and the region's major freight facilities and distribution centers (west of the Hudson River).

Given the existing system, forecasted increases in freight demand translate directly into increased truck traffic in the freight distribution network. This will result in serious highway congestion, particularly on a number of regionally important and heavily used network connectors including the Verrazano-Narrows Bridge between Brooklyn and Staten Island, and the George Washington Bridge between Manhattan and New Jersey.

What are the goals of the Cross Harbor Freight Program?

The primary purpose of the project is to improve the movement of freight in the region by enhancing freight movement across New York Harbor between the east-of-Hudson and west-of-Hudson sub-regions. The project goals are derived from the project's purpose and need:

- Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.
- Provide Cross-Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.
- Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.
- Improve regional and local environmental quality.
- Support development of integrated freight transportation/land use strategies.

What areas are included in the study?

The Cross Harbor Freight Program includes 54 counties in New Jersey, New York, Pennsylvania and Connecticut with a focus on the regional and local freight corridors in the tri-state metropolitan area.

DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA

THE PORT AUTHORITY OF NY & NJ

What is the Scoping Process?

To assure that the full range of issues related to the proposed action is addressed and all significant issues are identified, the project will include an extensive public scoping process that will solicit the public and affected agencies to provide comments on the scope of the environmental review process. A Draft Scoping Document will be prepared that outlines the project purpose and need, the primary and secondary study areas, alternatives that will be studied in Tier I of the EIS, and the methodologies by which environmental impacts will be assessed. Public outreach activities during the public scoping process will include a series of meetings to discuss the Draft Scoping Document and the proposed scope of the EIS. Public scoping meetings will be held in New York and in New Jersey.

How does "Tiering" work?

"Tiering," is a staged process, applied to the environmental review of complex projects. A tiered EIS will allow the lead agencies to focus on broad, overall corridor issues, such as mode choice, general alignment, logical termini, and regional effects, within the Tier I EIS.

What alternatives will the program study?

A comprehensive set of alternatives will be developed and refined during the public scoping process, with input from stakeholders. Each alternative will then be evaluated for its ability to meet the project's goals. The following alternatives will be considered during the EIS:

- No Action Alternative
- TSM Alternative
- TDM Alternative
- Several Build Alternatives

What is the timeline for the Study?

Tier I of the Cross Harbor Freight Program concludes with the Record of Decision (ROD). The project timeline expects to have the ROD in August 2011.

How will the public be involved in the Program?

The public has an important role in the project, particularly during scoping, in providing input on what issues should be addressed in an EIS and in commenting on the findings in project documents. The public can participate by attending public meetings and by submitting comments.

How can I submit feedback about the Program?

Comments and feedback can be made by emailing feedback@crossharborstudy.com or at any scheduled public meeting.

THE PORT AUTHORITY
OF NY & NJ

U.S.Department of Transportation
Federal Highway Administration

Cross Harbor Freight Program

Comment Form

Contact Information Optional

Name: Affiliation:

Address:

City: State: Zip:

Telephone: Fax:

E-mail:

Please provide your comments in the space provided below:

Mail To: Cross Harbor Freight Program
c/o InGroup, Inc.
P.O. Box 206
Midland Park, NJ 07432

Fax: (201) 612-1232

E-mail: feedback@crossharborstudy.com

THE PORT AUTHORITY OF NY & NJ

NEW YORK CROSS HARBOR FREIGHT PROGRAM NEW JERSEY

U.S.Department of Transportation
Federal Highway Administration

Programa de Movimiento de Carga Tras el Puerto

PLANILLA DE COMENTARIO

Nombre: Afiliación:

Dirección:

Ciudad: Estado: Código postal:

Teléfono: Fax:

Correo Electrónico:

Escríbanos por favor con sus comentarios.

Correo: Cross Harbor Freight Program
c/o InGroup, Inc.
P.O. Box 206
Midland Park, NJ 07432

Fax: (201) 612-1232

Correo Electrónico: feedback@crossharborstudy.com



NEWS BULLETIN

Cross Harbor Freight Program Issue 1 • Fall 2011

Public Input and Comments Generated by Public Scoping Information Sessions

Public Information Sessions for the scoping period of the Cross Harbor Freight Program were recently held in the Bronx, Brooklyn, and Queens, New York, as well as Jersey City and Newark, New Jersey. These information sessions offered interested agencies and individuals a chance to learn more about our region's growing freight mobility challenges. It also provided an opportunity for the public to comment on the alternatives proposed by the Cross Harbor Freight Program study as a means to improve the movement of goods throughout the New York metropolitan area and to reduce truck congestion on the region's roadways. Copies of the Program Tier 1 EIS Documents including the Draft Scoping Document, EIS Methodology and the Needs Assessment were available at the meeting and can be found on the project website as well at **www.crossharborstudy.com.**

Responses to Comments Published

Responses to comments submitted during the comment period were published in early July. **Visit www.crossharborstudy.com to review this published document as well as to review other project information.**

What are the goals of the Cross Harbor Freight Program?

The primary purpose of the project is to improve the movement of freight in the region by enhancing freight movement across New York Harbor between the east-of-Hudson and west-of-Hudson sub-regions. The project goals are derived from the project's purpose and need:

- Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.
- Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.
- Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.
- Improve regional and local environmental quality.
- Support development of integrated freight transportation/land use strategies.

For more information about the Cross Harbor Freight Program, visit www.crossharborstudy.com.

Get Involved

Public involvement from the communities throughout the designated study area is very important to the project. Your comments are encouraged as they may impact the final decision-making process. **Get involved by providing input to feedback@crossharborstudy.com.**

Questions? Contact Laura Shabe, Manager, Cross Harbor Freight Program, Port Authority of New York and New Jersey at feedback@crossharborstudy.com

Long Island Learns More About the Project

In response to overwhelming interest from Long Island communities, a Public Information Session was held May 5, 2011 in Farmingdale, New York. With a great turnout, the project team spoke with many interested individuals, community organizations and government representatives and collected valuable ideas and comments.

To request a meeting in your community with the project team, please e-mail feedback@crossharborstudy.com.



For information about the project, or to join the mailing list please visit www.crossharborstudy.com.

Upcoming Topics:

- Maspeth Bus Tour
- Project Milestones
- Technical Advisory Committee

Fast Fact

Did you know that total truck traffic on Cross Harbor routes is expected to increase 35% by 2035? For more information, please review the **Needs Assessment** document at www.crossharborstudy.com.

address, a description and the location of the records requested, compliant tracking number, and verification of identity. FMCSA's requirement for verification of identify for NCCDB include the following:

- Complaint ID/tracking number of the complaint.
- Name address and telephone number.
- Date of compliant.
- Origin and destination of the complaint (If appropriate).
- Respondent's name and DOT number (If appropriate).
- Description of the complaint.

RECORD ACCESS PROCEDURES:

Individuals seeking access to information about them in this system should apply to the System Manager, following the same procedure as indicated under "Notification Procedure."

CONTESTING RECORD PROCEDURES:

Individuals seeking to contest the content of information about them in this system should apply to the System Manager, following the same procedure as indicated under "Notification Procedure."

RECORD SOURCE CATEGORIES:

NCCDB complaints are obtained from consumers, motor carriers, brokers, and consumers who contract with Hazardous Materials motor carriers and Cargo Tank Facilities.

EXEMPTIONS CLAIMED FOR THE SYSTEM:

Pursuant to subsection (k)(2) of the Privacy Act (5 U.S.C. 552a(k)(2)), portions of this system are exempt from the requirements of subsections (c)(3), (d), (e)(4)(G)–(I) and (f) of the Act, for the reasons stated in DOT's Privacy Act regulation (49 CFR Part 10, Appendix, Part II at A.8.

Dated: May 6, 2010.

Habib Azarsina,

Departmental Privacy Officer.

[FR Doc. 2010–11415 Filed 5–12–10; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2000–7257; Notice No. 61]

Railroad Safety Advisory Committee; Charter Renewal

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Announcement of Charter Renewal of the Railroad Safety Advisory Committee (RSAC).

SUMMARY: FRA announces the charter renewal of the RSAC, a Federal Advisory Committee that develops railroad safety regulations through a consensus process. This charter renewal will take effect on May 17, 2010, and will expire after 2 years.

FOR FURTHER INFORMATION CONTACT: Larry Woolverton, RSAC Administrative Officer/Coordinator, FRA, 1200 New Jersey Avenue, SE., Mailstop 25, Washington, DC 20590, (202) 493–6212; or Grady Cothen, Deputy Associate Administrator for Safety, FRA, 1200 New Jersey Avenue, SE., Mailstop 25, Washington, DC 20590, (202) 493–6302.

SUPPLEMENTARY INFORMATION: Pursuant to Section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92–463), FRA is giving notice of the charter renewal for the RSAC. The RSAC was established to provide advice and recommendations to FRA on railroad safety matters. The RSAC is composed of 54 voting representatives from 31 member organizations, representing various rail industry perspectives. In addition, there are non-voting advisory representatives from the agencies with railroad safety regulatory responsibility in Canada and Mexico, the National Transportation Safety Board, and the Federal Transit Administration. The diversity of the Committee ensures the requisite range of views and expertise necessary to discharge its responsibilities. See the RSAC Web site for details on pending tasks at: *http://rsac.fra.dot.gov/.* Please refer to the notice published in the **Federal Register** on March 11, 1996, 61 FR 9740, for additional information about the RSAC.

Issued in Washington, DC, on May 7, 2010.

Grady C. Cothen, Jr.,

Deputy Associate Administrator for Safety Standards and Program Development.

[FR Doc. 2010–11382 Filed 5–12–10; 8:45 am]

BILLING CODE 4910–06–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Multiple Counties, New York, and New Jersey

AGENCY: Federal Highway Administration (FHWA), USDOT.

ACTION: Revised Notice of Intent (NOI).

SUMMARY: The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ) are issuing this Revised Notice of Intent (NOI) to advise the public of modifications to the environmental review process for the Cross Harbor Freight Movement Program (Project Identification Number: X500.19). These revisions include a change in project sponsorship to the PANYNJ, the intent of FHWA and PANYNJ to use a tiered process to facilitate project decision-making, and the intent of FHWA and PANYNJ to utilize the environmental review provisions afforded under Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU). This notice revises the NOI that was published in the **Federal Register** on June 7, 2001.

The greater New York/New Jersey region is the financial center of the U.S. economy and the nation's largest consumer market. The regional economy relies on a goods movement system overwhelmingly dependent on trucking and an aging and congested highway network. Regional forecasts of truck growth vary depending on the source, year, and geography, but available sources agree that truck tonnage is anticipated to increase substantially, with some forecasts calling for a 36% increase in tonnage by 2035. In the absence of network or system improvements, this growth and the region's dependence on trucking for freight distribution will result in serious regional highway congestion and extended travel delays—a trend which could threaten the economic vitality of the greater New York/New Jersey region.

The EIS will analyze alternatives that would provide short-term and long-term strategies for improving the regional freight network, reducing traffic congestion, enhancing modal diversity and system redundancy, improving air quality, and providing economic benefits. The FHWA and PANYNJ are serving as joint-lead agencies for the preparation of the EIS and are issuing this notice to solicit public and agency input into the scope of the EIS and to advise the public that outreach activities will be conducted by FHWA and PANYNJ. New York State and New Jersey Departments of Transportation (NYSDOT and NJDOT) are serving as cooperating agencies for the preparation of the EIS.

The EIS analyses will be conducted using "tiering," as described in 40 CFR 1508.28, which is a staged process applied to the environmental review of complex projects. Tier I of the EIS will allow the agencies to focus on general transportation modes and alignments for the proposed project, including logical

termini and regional economic and transportation effects. Tier I of the EIS will include: A logistics and market demand analysis; a rail and highway operations and multimodal networks analysis; an economic and financial analysis; a capital investment estimation; an operations and maintenance cost estimation for each alternative; a transportation analysis; conceptual design criteria; general environmental impact assessments; and a data needs list for the preparation for Tier II analyses and preliminary design. Tier I of the EIS will result in a Record of Decision (ROD) that will identify the transportation mode or a combination of modes and alignments for the proposed project, with the appropriate level of detail for corridor-level decisions, or select the NEPA "No Action Alternative.". The ROD will also outline measures that are intended to avoid, minimize, or mitigate adverse impacts from the build alternatives. Tier II of the EIS will then further explore in greater detail those alternatives which fulfill the project purpose within the mode and alignment chosen in Tier I and will include analysis of refined engineering designs and their site-specific environmental impacts, development of site-specific mitigation measures, and cost estimates for the preferred alternatives. Input from the public and from reviewing agencies will be solicited during both tiers.

The EIS will be prepared in accordance with the provisions of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) of 1969 and all applicable regulations implementing NEPA, as set forth in 23 CFR part 771. The EIS will also address the provisions of Section 6002 of Public Law 104–59, "The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU)."

FOR FURTHER INFORMATION CONTACT: Mr. Jeffrey W. Kolb, Division Administrator, Federal Highway Administration, New York Division, Leo W. O'Brien Federal Building, 7th Floor, Clinton Avenue and North Pearl Street, Albany, NY 12207, Telephone: (518) 431–4127; or Ms. Laura Shabe, Manager, Cross Harbor Freight Program, Port Commerce Department, Port Authority of New York and New Jersey, 225 Park Avenue, South, 11th Floor, New York, NY 10003, Telephone: (212) 435–4441.

SUPPLEMENTARY INFORMATION: Several previous studies have been conducted to examine possible alternatives to improve freight movement across the Hudson River and New York Harbor. The Cross Harbor Freight Movement Major Investment Study (MIS) commissioned by the New York City Economic Development Corporation (NYCEDC) and completed in the spring of 2000, identified alternatives and strategies to improve regional freight mobility, expand shippers' choices of route and mode, enhance the region's environmental quality, and promote regional economic development. Fifteen alternatives, involving highway, rail, waterborne, and air systems, were initially evaluated, and the most promising strategies were advanced to a subsequent phase of refinement and evaluation. Four alternatives were advanced for study in a Draft EIS, which was published in April 2004 by FHWA and the Federal Railroad Administration (FRA), acting as co-lead agencies, and the NYCEDC, acting as the project sponsor. The 2004 Draft EIS considered: A No Action Alternative; a Transportation Systems Management (TSM) Alternative; an Expanded Float Operations Alternative, which involved the expansion of capacity for the existing railcar float system across New York Harbor; and a Rail Freight Tunnel Alternative with two possible alignments. Following publication of the 2004 Draft EIS, the PANYNJ, as the region's bi-state transportation agency, and the agency that controls most of the east-west connections between New York and New Jersey, accepted the role of project sponsor. The PANYNJ's mission to identify and meet critical, bi-state transportation infrastructure needs uniquely positions the agency to direct the Cross Harbor Freight Movement Program.

Scoping: To assure that the full range of issues related to the proposed action is addressed and all significant issues are identified, the PANYNJ will undertake an extensive public scoping process that will invite the public and affected agencies to provide comments on the scope of the environmental review process. A Draft Scoping Document will be prepared that will outline the project purpose and need, the primary and secondary study areas, alternatives that will be studied in Tier I of the EIS, and the methodologies by which environmental impacts will be assessed. The PANYNJ will lead outreach activities during the public scoping process and will conduct a series of meetings to discuss the Draft Scoping Document and the proposed scope of the EIS. To encourage public participation, public scoping meetings will be held in New York and in New Jersey. The public scoping meetings will be advertised separately. To adhere to the requirements of SAFETEA–LU, the lead agencies will send letters inviting agencies with an interest in or jurisdiction over the project to become involved as participating or cooperating agencies.

Purpose and Need for the Proposed Project: The greater New York/New Jersey region is the financial center of the U.S. economy, the nation's largest consumer market, and a major hub of entertainment, services, fashion, and culture. Consequently the region receives, processes, and distributes a significant amount of goods from all over the nation and the world. In 2007, an estimated 1.1 billion tons of freight were moved by truck into, out of, within, and through the 54-county region surrounding New York City and Long Island (including northern and central New Jersey, western and southern Connecticut, and portions of southern New York and eastern Pennsylvania). By 2035, this demand is projected to increase to more than 1.5 billion tons as a result of forecasted growth in employment, personal income, and economic activity, creating unprecedented pressure on the region's transportation infrastructure.

The region's ability to serve its markets is increasingly threatened by its heavy reliance on trucking goods over an aging and congested roadway network, while non-highway freight modes, particularly rail and waterborne, remain underdeveloped and underutilized. In addition, the flow of freight in the region is complicated by the historic physical barrier of the Hudson River and New York Harbor, which separates the large consumer markets of New York City, Long Island, and New England (east of the Hudson River) from the nation's major centers of agricultural and industrial production, and the region's major freight facilities and distribution centers (west of the Hudson River).

Given the existing system, forecasted increases in freight demand translate directly into increased truck traffic in the freight distribution network. This will result in serious highway congestion, particularly on a number of regionally important and heavily used network connectors including the Verrazano-Narrows Bridge between Brooklyn and Staten Island, and the George Washington Bridge between Manhattan and New Jersey. Currently, the George Washington Bridge carries an average of approximately 300,000 vehicles per day, and the Verrazano-Narrows Bridge carries an average of 195,000 per day. According to the New York Metropolitan Transportation Council's (NYMTC) Draft 2009 Congestion Management Process Status

Report, current vehicle demand on these two major east-west crossings already outweighs capacity, and their level of service will continue to worsen through 2035.

Tier I of the EIS will focus on goods movement throughout the greater New York/New Jersey region, including the major freight movement corridors leading to the Hudson River crossings identified above. Routes I–278, I–495, I–95, a number of highways serving northern New Jersey (such as New Jersey Turnpike/I–95, I–78, I–80, and I–287), and many state and local routes that are critical for local pickup and delivery activities, will be included in the EIS study area. The EIS will also investigate major freight rail lines and facilities west of the Hudson River (such as a variety of lines within the Conrail Shared Assets Area, the CSX River Line, the Norfolk Southern Lehigh Line, Chemical Coast Line and important rail yards at Croxton, Kearny, Oak Island, Greenville, Port Newark/Elizabeth in New Jersey) and strategic rail assets east of the Hudson River which may require improvements and/or capacity enhancement. Conditions at area marine terminals and airports will also be included in the Tier I EIS study area.

The primary purpose of the project is to improve the movement of freight in the region by enhancing freight movement across New York Harbor between the east-of-Hudson and west-of-Hudson sub-regions. Project goals, which will be refined during scoping with input from the public, elected officials, interested agencies and organizations will support the primary purpose and could include: A reduction in travel time for freight movement between the sub-regions; an increase in cross-harbor freight movement capacity; congestion relief on the major freight corridors associated with the Hudson River crossings; and an increase in the modal diversity of regional freight movement. Secondary purposes could include enhanced economic efficiency of the greater New York/New Jersey region through improved goods movement; a more environmentally beneficial and sustainable goods movement system; and the addition of strategic redundancy to existing Hudson River and interborough crossings.

Project Alternatives: A comprehensive set of alternatives will be developed and refined during the public scoping process, with input from stakeholders. Each alternative will then be evaluated for its ability to meet the project's goals, which are derived from the project's purpose and need. The EIS will consider a No Action Alternative, a TSM Alternative (which could include the repair or upgrade of existing float bridges and scheduling improvements to allow both freight traffic and passenger service to utilize the region's rail lines), and several build alternatives that will be designed to take advantage of under-utilized freight movement modes, such as regional and local rail networks and waterborne transport. The No Action Alternative will include planned upgrades to existing infrastructure, such as the full acquisition of the Greenville Yard Rail Float Facility, the rehabilitation of New York New Jersey Rail Float Operations and Assets, and committed and programmed improvements to New York City and Long Island rail lines and rail yards. The basic build alternatives may include an expanded railcar float alternative, several versions of a tunnel alternative, and a combination railcar float/tunnel alternative. In addition to evaluating multiple build alternatives, the EIS will consider variations of each build alternative that will analyze locating new or expanded rail yards that may be required for the proposed project.

Probable Effects of the Project Alternatives: The FHWA and PANYNJ will evaluate potential impacts from the proposed alternatives on: Transportation and traffic engineering; land use and social conditions; economic conditions; cultural and visual resources; air quality; noise; water and natural resources; energy and greenhouse gases; contaminated and hazardous materials; coastal zone management; environmental justice; section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966; and any indirect, secondary, or cumulative impacts. The Tier I of the EIS will include a general qualitative assessment of each of these environmental issues.

Environmental Review Procedures: The EIS will be prepared in accordance with the provisions of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) of 1969 and applicable FHWA regulations implementing NEPA, as set forth in 23 CFR part 771. In addition, the EIS will comply, as necessary, with Federal Transportation Conformity regulations (40 CFR parts 51 and 93); the National Historic Preservation Act; Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. 303); Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations;" the Clean Water Act (33 U.S.C. 1251 to 1387); Executive Order 11990 ("Protection of Wetlands"); the Clean Air Act of 1970; and other applicable Federal and State laws and regulations.

Tiered EIS: "Tiering," as described in 40 CFR 1508.28, is a staged process, applied to the environmental review of complex projects. A tiered EIS will allow the lead agencies to focus on broad, overall corridor issues, such as mode choice, general alignment, logical termini, and regional effects, within the Tier I EIS.

Tier I of the EIS will include the following:

- The development of comprehensive alternatives, designed to meet the goals of the Cross Harbor Freight Movement Program;
- Logistics and market demand, including the locations and capacities of intermodal facilities and warehouse/distribution clusters that could potentially benefit from the proposed project;
- Rail and highway operations and multimodal networks, including potential impacts on regional rail networks;
- Economic and financial analysis, including: economic impact analysis; market feasibility analysis; railroad financial analysis; cash flow analysis; and funding needs analysis;
- Capital investment estimation, to determine costs associated with the construction of the infrastructure required for each proposed alternative;
- Operations and maintenance cost estimation for each proposed alternative;
- Traffic screening analysis to determine whether the proposed project may result in significant traffic impacts on the road network leading to and from any proposed or existing rail yard site;
- Conceptual design criteria, such as right-of-way requirements, engineering requirements, and potential permits and approvals;
- Environmental impact assessments, including transportation and traffic engineering; land use and social conditions; economic conditions; historic, cultural and visual resources; air quality; noise and vibration; water and natural resources; energy and greenhouse gases; contaminated and hazardous materials; construction impacts; coastal zone management; environmental justice; Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966; and any indirect, secondary, or cumulative effects; and
- A general assessment of site conditions to identify gaps in the coverage and the need for additional data in preparation for Tier II analyses and preliminary design.

Tier I of the EIS will result in a Record of Decision (ROD) that will

identify the transportation mode and alignment for the proposed project with the appropriate level of detail for corridor-level decisions, or select the No Action Alternative. The Tier I EIS will also include a discussion of measures that could be implemented to avoid, minimize, or mitigate potential adverse impacts of the build alternatives. These measures would be developed to mitigate both short-term (construction phase) and long-term (operational) adverse impacts of the proposed build alternatives. The mitigation strategies that will be examined will be designed to specifically minimize any potential adverse effects on the local communities where new or expanded infrastructure is proposed or where the operational effects of increased freight movement are expected. Tier II will then further explore the selected alternative in greater detail to evaluate regional and localized environmental impacts and outline site-specific mitigation measures in project-level environmental documentation. The PANYNJ and FHWA intend to engage the community in devising mitigation measures for potential adverse impacts at both tiers of the EIS. The scope of the Tier I and Tier II analyses will be commensurate with the level of detail necessary for those documents. Input from the public and from reviewing agencies will be solicited during both tiers.

SAFETEA–LU: SAFETEA–LU provisions and NEPA regulations, in general, call for public involvement in the EIS process. Section 6002 of SAFETEA–LU requires that agencies: (1) Extend an invitation to other Federal and non-Federal agencies and Indian tribes that may have an interest in the proposed project to become "participating agencies;" (2) provide an opportunity for involvement by participating agencies and the public in helping to define the purpose and need for the proposed project, as well as the range of alternatives for consideration in the impact statement; and (3) establish a plan for coordinating public and agency participation in and comments on the Scoping Document. Letters will be sent to any agency with a fiduciary, regulatory, or permitting authority over the program as an invitation to be part of the coordination process. Any interested Federal or non-Federal agency or Indian tribe that does not receive an invitation to become a participating agency can notify the contact persons listed above.

A Coordination Plan will be developed to facilitate and document the lead agencies' structured interaction with the public and other agencies, and to inform the public and other agencies of the manner in which the coordination will be accomplished. The Coordination Plan prepared for the Cross Harbor Freight Movement Program will include: The Plan Purpose and Identification of Lead Agencies; Program History; List of Participating and Coordinating Agencies; Roles and Responsibilities of the Lead, Participating, and Coordinating Agencies; Agency Contact Information; Coordination Points; and the Program Schedule.

Comments or questions regarding this Notice of Intent should be directed to the FHWA or PANYNJ contacts identified above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research Planning and Construction. The regulations implementing Executive Order 12372, regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: April 23, 2010.

Jeffrey W. Kolb,

Division Administrator, Federal Highway Administration, Albany, New York.

[FR Doc. 2010–11452 Filed 5–12–10; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Record of Decision for Environmental Impact Statement: New Bedford Regional Airport, New Bedford, MA

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of availability.

SUMMARY: The FAA is issuing this notice to advise the public that a Record of Decision (ROD), resulting from an Environmental Impact Statement (EIS) has been prepared for a New Bedford Regional Airport, New Bedford, Massachusetts.

FOR FURTHER INFORMATION CONTACT: Richard Doucette, Environmental Program Manager, Federal Aviation Administration New England, 12 New England Executive Park, Burlington, MA. Telephone (781) 238–7613.

SUPPLEMENTARY INFORMATION: The FAA is making available a ROD regarding construction of Runway Safety Areas and other airfield improvements at New Bedford. The ROD documents the final Agency decisions regarding the proposed projects as described and analyzed in the EIS. The ROD is available for review during normal business hours at the following locations: FAA New England Region, Airports Division, 16 New England Executive Park, Burlington, MA. Telephone (781) 238–7613 and New Bedford Regional Airport, 1569 Airport Rd., New Bedford, Massachusetts. Telephone (508) 991–6161.

Issued on: April 27, 2010.

Bryon H. Rakoff,

Assistant Division Manager, Airports Division.

[FR Doc. 2010–11505 Filed 5–12–10; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

FTA Supplemental Fiscal Year 2010 Apportionments, Allocations, and Corrections

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice.

SUMMARY: The Hiring Incentives to Restore Employment Act, (Pub. L. 111–147), signed into the law by President Obama on March 18, 2010, authorized funds for all of the surface transportation programs of the U.S. Department of Transportation (DOT) for the remainder of the Fiscal Year (FY) ending September 30, 2010, and the first quarter of FY 2011. This Notice supplements the February 18, 2009 **Federal Register** notice to apportion the full amount of FY 2010 formula funds. In addition, this Notice revises the Job Access and Reverse Commute (JARC) and Alternatives Analysis program carryover tables, Small Transit Intensive Cities (STIC) performance data and Apportionments table, and Bus and Bus Facilities Extensions and Reprogramming table, and allocates the remaining FY 2010 funds made available to congressionally designated projects under the Alternative Analysis program.

FOR FURTHER INFORMATION CONTACT: For general information about this notice contact Henrika Buchanan-Smith, Office of Program Management, at (202) 366–2053. Please contact the appropriate FTA regional or metropolitan office for any specific requests for information or technical assistance. The appendix at the end of this notice includes contact information for FTA regional and metropolitan offices.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Overview
II. FTA Program Funding Tables
1. FTA Revised FY 2010 Appropriations and Apportionments for Grant Programs

Traffic Forecast: 2035

All of us who have sat in traffic waiting to cross the George Washington Bridge can attest to the number of freight trucks surrounding them. With only a few options to get across the Hudson, this freight adds to these already congested and aging crossings and connected roadways.

If you think it's bad today, just wait until 2035! Recent data suggests that for a 54-county New York/New Jersey planning area, nearly 690 million tons of freight moved to, from, and within the region by truck and rail – and 93% was by moved by trucks. By 2035, tonnage is forecast to increase to more than 860 million tons – an increase of 26% – and 92% will still be moved by trucks.



Without needed improvements to the region's highway and freight railroad networks and systems, the region will experience even worse regional highway congestion and even greater travel delays—a trend which could threaten the economic vitality of the greater New York/New Jersey region. The worst traffic day today will be the best day is 2035.

The Cross Harbor Freight Program is an important step in helping to keep the region's surface transportation system flowing, now and through the year 2035!

How Can I Be Informed?

- Visit the project website **www.crossharborstudy.com**
- Sign up for e-news/e-alerts related to the project
- Take part in public meetings – the PANYNJ plans to reach out to communities along the possible rail alignments throughout 2011
- Participate in public hearings for Draft EIS (anticipated Fall 2011)
- Questions? Contact: Laura Shabe
  Manager, Cross Harbor Freight Program
  Port Authority of New York and New Jersey
  E-mail: **feedback@crossharborstudy.com**

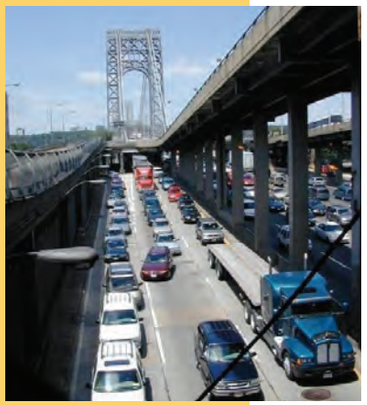


NEWSLETTER

Issue 1 • October 2010

In This Issue

- What is the Cross Harbor Freight Movement Program?
- What is a Tier I Environmental Impact Statement?
- Traffic Forecast: 2035
- How Can I Be Informed?



What is the Cross Harbor Freight Movement Program?

Today, it's common to experience 45 minute delays at the Lincoln and Holland Tunnels or the George Washington Bridge. The region's severe highway congestion undermines our economic prosperity and harms public health. If no action is taken the situation will worsen. Projected double-digit growth in consumer demand for goods movement and continued dependence on trucks using already overburdened roads will create additional energy consumption, air quality challenges, congestion gridlock, and safety concerns.

The Port Authority of New York and New Jersey (PANYNJ), in cooperation with the Federal Highway Administration (FHWA), are undertaking the Cross Harbor Freight Movement Program in an effort to improve the movement of goods across New York Harbor and the lower Hudson River. PANYNJ is the sponsor for a National Environmental Policy Act (NEPA) Tier I Environmental Impact Statement (EIS) study that will evaluate a range of alternatives to improve the movement of goods in the region by enhancing the transportation of freight across New York Harbor. FHWA serves as the lead Federal agency.

What is a Tier I Environmental Impact Statement?

Federal agencies must comply with NEPA before they make decisions about actions that result in adverse effects on the human and natural environment. NEPA requires Federal agencies to determine if their proposed actions may have significant adverse environmental effects and to consider the environmental and related social and economic effects of their proposed actions. The NEPA process calls for the evaluation of reasonable alternatives to a proposed Federal action; solicitation of input from organizations and individuals that could potentially be affected; and the presentation of direct, indirect, and cumulative environmental impacts.

(continued on page 2)

NEW YORK

CROSS HARBOR FREIGHT PROGRAM

NEW JERSEY

What is a Tier I Environmental Impact Statement? (cont.)

A Federal agency must prepare an EIS if it is proposing a major action significantly affecting the quality of the environment. "Tiering" refers to a staged process where general matters (such as program or policy statements) are first covered in broader environmental impact statements (referred to as Tier 1 or programmatic studies) and then subsequent narrower statements or environmental analyses (referred to as Tier 2) concentrate solely on individual site-specific projects. This approach is appropriate when the sequence of analyses is from a program, plan, or policy environmental impact statement to a program, plan, or policy statement of lesser scope or to a site- specific project. Tiering is appropriate for the Cross Harbor Freight Program to first focus on general transportation modes and alignments and regional economic and transportation effects in a Tier I EIS.



The Cross Harbor Freight Program alternatives include different modes of freight movement (rail, truck, waterborne) as well as management alternatives to maximize the utilization and efficiency of the existing freight transportation network. The Tier I process will focus on selecting the mode(s), alignment(s), and logical termini for those alternatives that best meet the stated goals and objectives. Therefore, the analyses in the Tier I EIS are mainly tailored to support corridor-level decision-making.

The Tier I EIS for the Cross Harbor Freight Program will result in a Record of Decision (ROD) which will identify the preferred alternative or alternatives that will advance and be analyzed in greater detail in Tier II. If the Tier II analyses identify significant environmental impacts, specific mitigation measures will be included.

How Will the Alternatives be Evaluated?



There are five major steps in the Cross Harbor Freight Program Tier I process before the ROD is issued. These are: scoping, fatal flaw analysis, screening analysis, detailed evaluation, and preparation of the Tier I EIS. The five steps are intended to winnow the number of alternatives through a comprehensive evaluation process in order to select the alternatives that will be further evaluated in Tier II.

During **scoping**, public information sessions are held to gather comments from the public and other agencies. This feedback helps determine the project goals and objectives, range of alternatives to be considered, and the scope of issues to be examined. The purpose and need will also be refined during this step based on input from all interested parties.





The list of alternatives identified after scoping then proceeds to the **fatal flaw analysis**. Each alternative is evaluated against criteria to determine its feasibility. Criteria include relationship to the goals, engineering and technical feasibility, institutional feasibility, and input from the public and agencies during scoping. Clearly infeasible alternatives are eliminated from further consideration.

Alternatives that are not fatally flawed advance to the **screening analysis**, where they are tested against the goals and objectives. A key component of the screening analysis for the Cross Harbor Freight Program will be the evaluation of alternatives in a mode choice model. This model will provide estimates of future freight flows by mode for each alternative—an important measure in determining a given alternative's ability to meet some of the project's key goals. Alternatives will also be screened based on other broad qualitative criteria.

The result of the screening analysis is the further reduction of alternatives, which are then carried forward for the **detailed evaluation**. The alternatives are evaluated for potential regional and localized effects based on more rigorous quantitative measures. Specifically, they will be evaluated to determine their potential effects on transportation networks (regional rail and highway networks), operational and engineering requirements (right-of-way, yard, facility, and infrastructure requirements), the environment (range of social and environmental conditions), and economic and financial conditions (cost and benefits, financial value to the railroads, various revenue streams, and funding needs).



Alternatives that are not eliminated by the fatal flaw analysis, screening analysis, or detailed evaluation will then become part of the Tier I EIS, the fifth and final step in the process. A draft of the EIS (DEIS) is first published for public review and comment. The Cross Harbor Freight Program Tier I DEIS is anticipated to be completed in summer of 2011, with public hearings in the fall of the same year. Public and agency comments and input will be evaluated and considered in drafting the Final EIS (FEIS). It is anticipated that the Tier I FEIS will be published in spring of 2012.

Lastly, a ROD will be published, with a selection of alternatives recommended for further evaluation in Tier II. The Cross Harbor Freight Program ROD is anticipated to be available in the summer of 2012.

Pronóstico del tránsito para 2035

Quienes alguna vez quedamos atascados en el tránsito a la espera de cruzar el puente George Washington, notamos la gran cantidad de camiones de carga que también esperaban para cruzar. Hay pocas opciones para cruzar el Hudson, y los camiones agregan una carga más para estos viejos caminos y vías de cruce, de por sí ya congestionados.

Si usted cree que hoy la situación es mala, imagine cómo será en 2035. Según pronósticos recientes para un área de planificación de 54 condados que abarcan New York y New Jersey, se han transportado 690 millones de toneladas de carga hacia, desde y dentro de la región, y el 93% se transportó en camiones. Para 2035, se estima que el tonelaje aumentará a más de 860 millones de toneladas --un aumento del 26%-- y el 92% se seguirá transportando en camiones.



Si no se realizan las mejoras necesarias a los sistemas de carga y las redes camineras y ferroviarias, la región sufrirá embotellamientos regionales aun peores, y demoras en el tránsito aun mayores. Esta tendencia puede amenazar la viabilidad económica de la región suburbana de New York y New Jersey. El peor embotellamiento de hoy será el más leve en 2035.

El Programa de Movimiento de Carga a Través del Puerto es un paso importante para mantener la fluidez del sistema de transporte de superficie de la región, ahora y hasta 2035.

Cómo obtener información

- Visite el sitio Web del proyecto en **www.crossharborstudy.com**
- Suscríbase a las noticias y alertas electrónicas del proyecto
- Participe de reuniones públicas. Durante todo 2011 PANYNJ contactará a las comunidades a lo largo de los posibles recorridos ferroviarios
- Participe en las audiencias públicas del borrador de la EIS (DEIS) previstas para otoño de 2011
- En caso de preguntas, contacte a

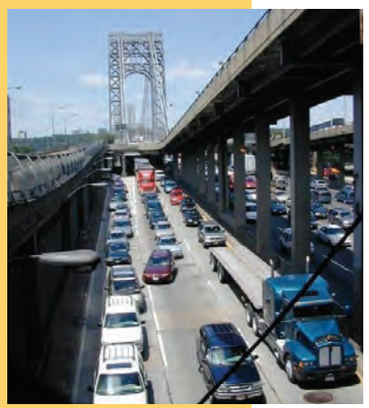
  Laura Shabe
  Gerente, Cross Harbor Freight Program
  Port Authority of New York and New Jersey
  E-mail: feedback@crossharborstudy.com



BOLETÍN INFORMATIVO

Nº 1, octubre de 2010

- ¿Qué es el Programa de Transporte de Carga a Través del Puerto (Cross Harbor Freight Movement Program)?
- ¿Qué es una Declaración de Impacto Medioambiental de Nivel I (Tier I Environmental Impact Statement)?
- Pronóstico del tránsito para 2035
- Cómo obtener información



¿Qué es el Programa de Transporte de Carga a Través del Puerto (Cross Harbor Freight Movement Program)?

Hoy en día, es común sufrir demoras de 45 minutos en los túneles Lincoln y Holland o en el puente George Washington. La grave congestión de tránsito en la región atenta contra nuestra economía y perjudica la salud pública. Si no se toman medidas la situación va a empeorar. Se pronostica un aumento de dos dígitos en la demanda de transporte de bienes de consumo, que depende de camiones que utilizan caminos que ya se encuentran saturados. Este aumento será causante de mayor consumo de energía, desafíos para mantener la calidad del aire, paralización total del tránsito y preocupaciones en torno a la seguridad.

La Autoridad Portuaria de New York y New Jersey (Port Authority of New York and New Jersey, PANYNJ), en cooperación con la Administración Federal de Carreteras (Federal Highway Administration, FHWA), emprenden el Programa de Transporte de Carga a Través del Puerto (Cross Harbor Freight Movement Program). Su objetivo es mejorar el movimiento de mercadería a través del Puerto de New York y el bajo Río Hudson. PANYNJ patrocina un estudio para elaborar una Declaración de Impacto Medioambiental de Nivel I (Tier I Environmental Impact Statement, EIS) que se desarrolla en el marco de la Ley de Política Nacional en Materia de Medio Ambiente (National Environmental Policy Act, NEPA). El estudio evaluará una gama de alternativas para mejorar el movimiento de mercadería en la región mediante la mejor implementación del transporte de carga en el Puerto de New York.

¿Qué es una Declaración de Impacto Medioambiental de Nivel I?

Para poder decidir sobre acciones que pudieran producir efectos adversos en el medio ambiente humano o natural, las agencias federales deben primero cumplir con lo establecido por NEPA. NEPA exige a las agencias federales que determinen si las acciones que proponen pueden producir efectos adversos significativos sobre el medio ambiente, así como que consideren los efectos medioambientales, sociales y económicos de dichas acciones.

Continuado en la página 2

NEW YORK

CROSS HARBOR FREIGHT PROGRAM

NEW JERSEY

¿Qué es una Declaración de Impacto Medioambiental de Nivel I? (cont.)

Para cada acción federal propuesta, el proceso de NEPA exige evaluar alternativas razonables, solicitar aportes de organizaciones e individuos que pudieran verse afectados, y presentar impactos ambientales directos, indirectos y acumulativos.

Si una agencia federal propone una acción importante que afecte significativamente la calidad del medio ambiente, debe preparar una EIS. La división de las EIS por niveles es parte de un proceso dividido en etapas. En primer lugar los aspectos generales, tales como declaraciones programáticas o de políticas, se definen mediante declaraciones de impacto medioambiental, que se conocen como declaraciones de Nivel I o estudios programáticos. Luego se elaboran declaraciones o análisis medioambientales más restringidos (llamados de Nivel II), que se concentran únicamente en proyectos individuales para un solo sitio. Este enfoque es adecuado cuando la secuencia de los análisis comienza por una declaración del impacto medioambiental de un programa, plan o política y termina en la declaración de un programa, plan o política de menor alcance, o bien en un proyecto específico para un solo sitio. Mediante la división por niveles, el Programa de Movimiento de Carga a Través del Puerto puede focalizar, mediante una EIS de Nivel I, en medios de transporte y alineaciones generales, así como en efectos económicos y de transporte a nivel regional.



Las alternativas del Programa de Movimiento de Carga a Través del Puerto incluyen diferentes medios de transporte (por tren, camión o embarcación), así como alternativas de gestión para maximizar el uso y la eficiencia de la red existente de transporte de carga. El proceso de Nivel I focalizará en seleccionar los medios, alineaciones y terminales de transporte lógicas para las alternativas que mejor cumplan con las metas y objetivos declarados. Por ello, los análisis contenidos en la EIS de Nivel I fueron diseñados principalmente para la toma de decisiones a nivel institucional.

La EIS de Nivel I producirá un Registro de Decisión (Record of Decision, ROD), que identificará la(s) alternativa(s) seleccionadas para ser analizadas con mayor detalle en Nivel II. Si los análisis de Nivel II identifican impactos medioambientales significativos, se incluirán medidas específicas para mitigarlos.



¿Cómo se evaluarán las alternativas?

El Programa de Movimiento de Carga a Través del Puerto contempla cinco pasos fundamentales previos a la emisión del ROD. Los pasos son: determinación de alcance, análisis de defectos fatales, análisis selectivo, evaluación detallada y preparación de la EIS de Nivel I. El objetivo de los cinco pasos es reducir la cantidad de alternativas mediante un proceso de evaluación exhaustiva, a fin de seleccionar las alternativas que se evaluarán con mayor detalle en Nivel II.



Durante la **determinación de alcance** se celebran sesiones de información pública a fin de recibir comentarios del público y otros actores. Estos aportes contribuyen a definir las metas y objetivos del proyecto, así como la gama de alternativas a considerar y el alcance de los temas a examinar. En este paso también se perfeccionarán el propósito y la necesidad, en base a los aportes de todos los interesados.



Las alternativas identificadas tras la determinación de alcance proceden a **análisis de defectos fatales**. Cada alternativa se evalúa contra criterios específicos para determinar su factibilidad. Los criterios incluyen la relación con los objetivos, la factibilidad técnica y de ingeniería, la factibilidad institucional, y los aportes recibidos del público y otros actores durante la determinación de alcance. En este paso se eliminan las alternativas que resultan claramente no factibles.

Las alternativas que no presentan defectos fatales avanzan al **análisis selectivo**, donde se las somete a prueba contra las metas y objetivos. Un elemento clave del análisis selectivo será la evaluación de alternativas dentro de un modelo de elección de medios de transporte. Este modelo brindará, para cada alternativa, estimaciones de futuros flujos de carga para cada medio de transporte. Estas estimaciones constituyen una medida importante a fin de determinar si una alternativa puede cumplir o no con objetivos clave del proyecto. Las alternativas también se seleccionarán en base a otros criterios cualitativos.

El análisis selectivo reduce aun más las alternativas, que avanzan a la **evaluación detallada**. Las alternativas se evalúan para determinar sus potenciales efectos regionales y localizados, en base a mediciones cuantitativas más rigurosas. Específicamente, se evalúan para determinar sus potenciales efectos sobre redes de transporte (redes regionales ferroviarias y de caminos), requisitos operativos y de ingeniería (requisitos de derecho de paso, depósito e infraestructura), medio ambiente (gama de condiciones sociales y ambientales), y condiciones económicas y financieras (costos y beneficios, valor financiero a los ferrocarriles, distintos flujos de ingresos y necesidades presupuestarias).

Aquellas alternativas que no hayan sido eliminadas durante el análisis de defectos fatales, análisis selectivo o evaluación detallada, pasarán a formar parte de la EIS de Nivel I, el quinto y último paso del proceso. Un borrador de la EIS (conocido como Draft Environmental Impact Statement, DEIS) se publicará para su revisión y comentario por parte del público. Se estima que el DEIS de Nivel I se completará en el verano de 2011; las audiencias públicas tendrán lugar en otoño del mismo año. Los comentarios y aportes del público se evaluarán y se tendrán en cuenta al redactar la EIS final (Final Environmental Impact Statement, FEIS). Se estima que la FEIS de Nivel I se publicará en primavera de 2012.



Por último, se publicará un ROD con una selección de alternativas recomendadas para su mayor evaluación en Nivel II. Se estima que el ROD se publicará en el verano de 2012.

CROSS HARBOR FREIGHT PROGRAM

Needs Assessment



U.S.Department of Transportation
Federal Highway Administration

THE PORT AUTHORITY OF NY & NJ

September 2010

Cross Harbor Freight Program
Needs Assessment

A. PROBLEM IDENTIFICATION AND OPPORTUNITIES

The greater New York/New Jersey/Connecticut region is the financial center of the United States economy, the nation's largest consumer market, and a major hub of entertainment, services, fashion, and culture. The region receives, processes, and distributes raw materials, intermediate products, and finished consumer goods, which move to and from the rest of the United States and countries around the world. To fully understand the existing freight market for the region and forecast its future conditions, a 54-county, multi-state Cross Harbor modeling study area has been established, comprising portions of southern New York, northern and central New Jersey, western and southern Connecticut, and a portion of eastern Pennsylvania (see Figure 1).

In 2007, more than 920 million tons of freight moved to, from, within, and through the 54-county Cross Harbor modeling study area by surface transportation modes (truck and rail). Excluding through traffic, nearly 690 million tons were handled, and 93.2 percent of this tonnage was handled by truck. By 2035, it is forecast that nearly 1.2 billion tons of freight will be moved to, from, within, or through the study area by truck and rail. Excluding through traffic, more than 860 million tons will be handled by truck and rail, and 92.5 percent of this tonnage will be handled by truck. Between 2007 and 2035, the study area truck tonnage will increase by around 160 million tons and rail tonnage will increase by around 18 million tons (excluding through traffic). This represents a total tonnage growth of around 26 percent compared to a 2007 base year.

The region's highway system, especially the bridge and tunnel crossings and connecting routes, suffers from significant peak period congestion which continues to expand in duration beyond the typical hours. Planned highway improvements will address some chokepoints, but will not significantly alleviate congestion. Because the region is so dependent on trucking, highway congestion has a tremendous impact on freight movement—it increases the costs and environmental impacts, while decreasing reliability, speed, and safety of goods movement. With future growth in freight movement, truck vehicle miles of travel (VMT) will increase, and the current impacts and inefficiencies will grow.

Overall, the region has a well-developed freight rail system, but it is far better developed west of the Hudson River than it is east of the Hudson River. Many historic and geographic reasons account for this condition, including that critical connections to the east-of-Hudson market are remote, inefficient, or have capacity restrictions, but the result is that east-of-Hudson counties are far more dependent on highway transportation.

This modal imbalance is a significant problem because east-of-Hudson counties comprise about one-third of total surface transportation tonnage, and about half of long-haul tonnage moving more than 500 miles. Six of the top ten freight receiving counties in the study area are located east-of-Hudson. As a result, a huge part of the region's freight demand essentially has limited choices in terms of how it is transported. Highways leading to and serving the east-of-Hudson counties, and the communities that traverse, will continue to receive the greatest proportion of surface freight transportation impacts and freight shippers, receivers, and carriers throughout the region will suffer the growing negative effects of highway congestion.

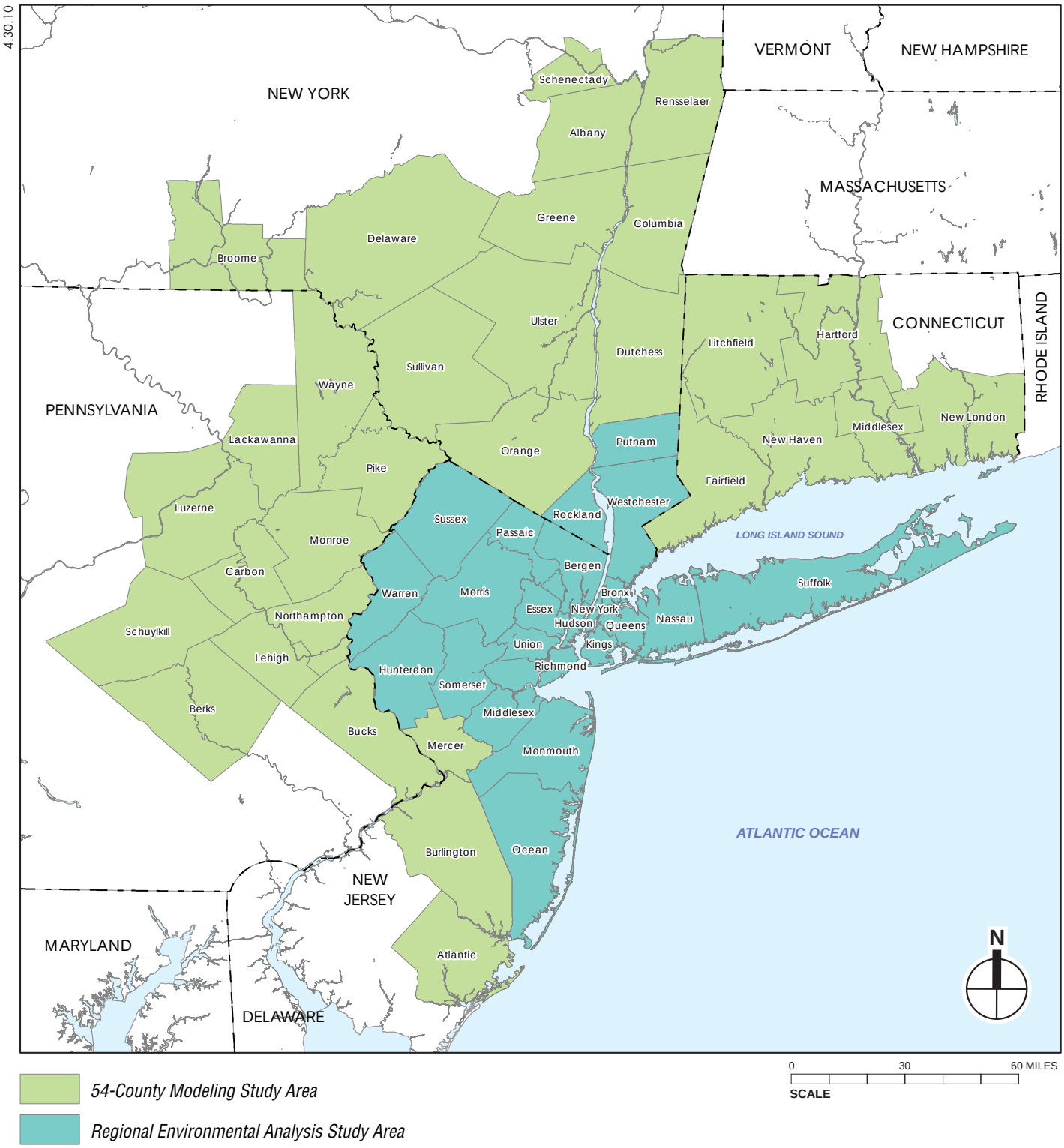


FIGURE 1

Study Areas

CROSS HARBOR FREIGHT PROGRAM

What actions can be taken to address this problem? Growing the share of surface transportation demand handled by non-highway modes is one significant opportunity. This idea is not new. Historically, the east-of-Hudson region was served by an extensive network of "railcar floats," where railcars were placed onto barges in New Jersey and floated across the Hudson to terminals in New York; a vestigial float service still operates today. A limited container barge also operates between Port Newark/Elizabeth and Brooklyn. Existing infrastructure accommodates a limited amount of freight rail service via the existing Hell Gate rail bridge over the East River, but significantly increasing the region's ability to accommodate freight using non-highway modes will require a new comprehensive multi-modal strategy. Possibilities include expanding and upgrading the service of waterborne modes, the introduction of regional Cross Harbor rail connections, and the upgrade of east-of-Hudson rail infrastructure.

These opportunities must be studied systematically and comprehensively, taking into account planning and growth over the entire 54-county Cross Harbor modeling study area, and also considering highway-related strategies (transportation system management, transportation demand management, safety and capacity enhancements) that could be implemented. The analysis must also recognize that freight movement is primarily a private commercial activity, contracted for and carried out between private partners, utilizing a combination of publicly and privately owned equipment and infrastructure. To be effective and sustainable, strategies to increase the contributions of non-highway modes must address the needs of freight shippers and receivers.

From previous studies and current thinking, four potential types of surface freight movement have emerged as potential candidates for greater freight handling by non-highway modes, providing benefits to study area counties both east and west of the Hudson:

1. Historic and current east-of-Hudson rail freight commodities. The opportunity is to serve commodity types that are generally most amenable to rail service, but do not fully utilize rail because of infrastructure or service limitations.
2. Long-haul rail trips that terminate at rail yards west-of-Hudson, and then continue by truck to destinations east-of-Hudson, and vice-versa. The opportunity is to move the transfer point between truck and rail to the east-of-Hudson region, reducing truck VMT and eliminating Hudson River truck crossings. The location and utilization of distribution centers, where truck and rail loads would be consolidated and de-consolidated, is a critical factor.
3. Long-haul truck trips (500 miles or more) that originate or terminate in the east-of-Hudson region. Typically, rail is most competitive for freight moving 500 miles or more. Many potential reasons explain why these trucks do not use rail today: rail infrastructure and service limitations, competitive pricing factors, and/or special handling requirements. The opportunity is to address as many of these factors as possible.
4. Shorter-haul truck trips (less than 500 miles). Rail "unit trains" comprise a single type of traffic that can be effective at shorter distances, provided that corridor volumes are high. Many regions, including New York/New Jersey, are investigating these "shuttle train" services.

Critical issues and considerations in moving forward are addressed in the following sections.

B. HIGHWAY SYSTEM

The limited role of rail for freight movement results in trucks accounting for approximately 93 percent of freight movements within the 54-county Cross Harbor modeling study area. Trucks hauling freight in the region share an extensive highway and roadway system with passenger cars, buses, and other non-freight vehicles. This condition contributes to high levels of traffic congestion leading to the New York Harbor/Hudson River crossings, as well as to and within the east-of-Hudson region. Northern and southern crossings of the Hudson River, as well as travel conditions on the regional highways in the east-of-Hudson region, generally are at or near a failing level of service. Moreover, highways in the east-of-Hudson region have numerous segments that are operating at 40 to 100 percent over capacity.

CONGESTION

In much of the region, where major highways are overly congested, long-haul trucks can use different alternate routes. This condition is not ideal, but it keeps freight and other traffic moving. However, it also results in localized congestion, environmental impacts, and excessive roadway wear and tear. In the study area, however, traffic traveling to and from New York City and Long Island or New England must funnel through a limited number of bridges, tunnels, and highway corridors. If these facilities are congested, no alternative local artery or crossing is available. These bridges and facilities are congested throughout most of the day and into the night. Delays of up to 45 minutes to enter the Lincoln and Holland Tunnels or to traverse the George Washington Bridge are common. The George Washington Bridge, which accommodates an average of 300,000 vehicles per day, is the only crossing that is part of the National Highway Network—the designated system of highways for 53-foot trailers[1]. Thus, it is the only option for these vehicles west of the Hudson River, bound for Long Island and New England. Tractor-trailer trucks can also travel from New Jersey to Staten Island and the Verrazano-Narrows Bridge, which carries approximately 196,000 vehicles per day to Brooklyn. However, this route entails negotiating narrow, substandard lanes on either the Outerbridge Crossing or Goethals Bridge, or the Bayonne Bridge to reach Staten Island. According to the New York Metropolitan Transportation Council (NYMTC) Draft 2009 Congestion Management Process Status Report, current vehicle demand at both crossings already exceeds capacity.

Ultimately, when trucks arrive in Brooklyn, the Gowanus Expressway, which connects to the Verrazano-Narrows Bridge, is severely congested and cannot accommodate 53-foot trailers. Continuing farther north, the Brooklyn/Queens Expressway has height limitations that force larger trucks on to local streets. The various tunnel crossings impose restrictions on vehicle height, weight, length, and cargo (hazardous materials prohibited), which effectively preclude their use by most long-haul freight carriers.

Based on NYMTC projections, total truck traffic on the Cross Harbor facilities are expected to increase by 35 percent by 2035. Specifically, truck volumes would increase from approximately

[1] All trucks carrying trailers 53 feet or longer, regardless of what they are carrying, are prohibited from traveling within or through New York City, except for a portion of the Interstate System that allows regional 53 foot trailers to travel through the New York City region to points north and south, and areas to the east in Long Island. These larger tractor-trailers must utilize portions of the New England Thruway and Bruckner Expressway (I-95), the Throgs Neck Expressway/Throgs Neck Bridge (I-295) and portions of the Long Island Expressway (I-495) to accomplish this movement.

10 million to 14 million by 2035 on the George Washington Bridge, and from 5.7 million to 7.4 million on the Verrazano-Narrows Bridge (see Figure 2). The total percentage of trucks on the Verrazano-Narrows Bridge is projected to increase from 10 percent to 16 percent in 2035.

According to the INRIX 2009 National Traffic Scorecard, the country's worst bottleneck since 2007 is the Cross Bronx Expressway/I-95 in the Bronx, which provides direct access to the George Washington Bridge. The segment leading to the Bronx River Parkway, Exit 4B interchange, was congested 94 hours of the week, with an average speed while congested of 11.4 miles per hour (mph). Between 4 and 5PM on Fridays, vehicles on this stretch averaged just 5 mph, i.e., the slowest location and time in the United States in 2009.

Increased congestion can be expected in the future due to growth in population, employment, and regional travel. Congestion on the major river crossings will be prolonged, and spatially extended to adjacent highways. In New York, most major roads will be congested, especially east-west-bound highways in geographic Long Island (see Figure 3). Currently congested roads will become "connected" as a congested network; this condition reduces the possibility of detouring in the system. In New Jersey, significant congestion increases will occur on north-south highways as well as their east-west-bound connectors.

Based on NYMTC's Best Practices Model (BPM), the daily VMT for the regional roadway system in 2010 is estimated at 131.6 million. This daily VMT is projected to increase by 16.4 percent, to 153.2 million by 2035[1]. NYMTC uses a roadway congestion index to identify total recurring delay on both freeways and arterials. A congestion index equal to or greater than 1.0 indicates that congested conditions exist area-wide; a congestion index less than 1.0 indicates that congestion is not a major problem. The advantage of using the congestion index is that it allows head-to-head comparison of areas with varying sizes and populations. The region-wide roadway congestion index for 2010 is 1.06—this value is projected to increase to 1.22 by 2035. This indicates that recurring delay on both freeways and arterials is projected to increase between 2010 and 2035.

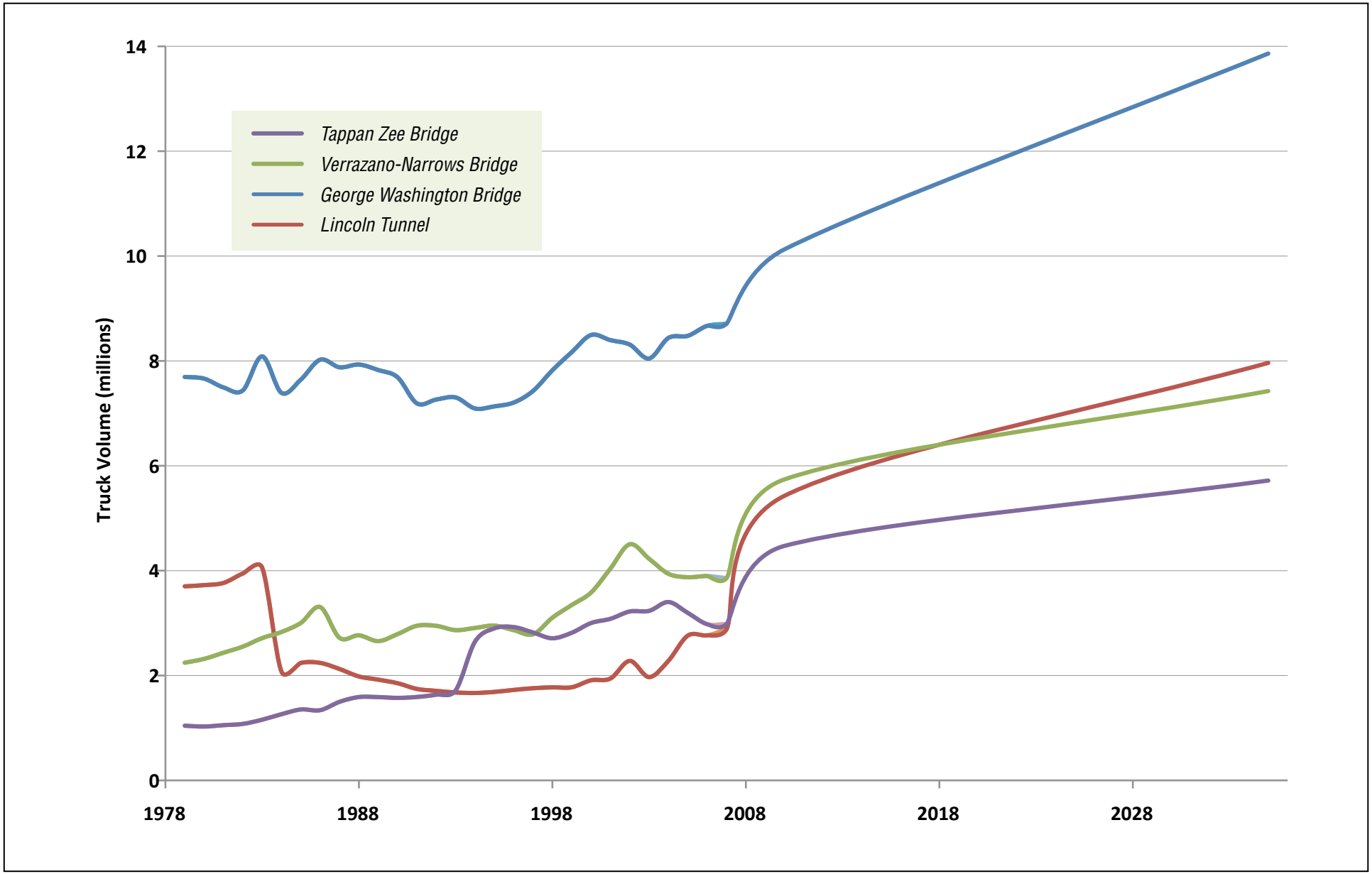
Daily vehicle hours of delay (VHD) estimates by NYMTC for 2010 is 2.35 million and projected to increase by 42.6 percent to 3.35 million by 2035[1]. According to the North Jersey Transportation Planning Authority (NJTPA), considering a typical weekday, approximately 1.6 million hours are spent in congestion by travelers in the NJTPA region each year. This average delay will increase approximately 46 to 54 percent over current levels, depending on future transportation funding for freight improvement.

INFRASTRUCTURE

The region's heavy dependence on trucks results in wear and tear on the region's roads, bridges, and tunnels, as well as severe chronic congestion and associated diminished air quality. For example, nearly two-thirds of the $2.5 billion allocated each year to the NJTPA region's transportation system is used for maintaining existing facilities in good working order. Many key transportation facilities in the region were built 50 years ago or more, and are due for major overhaul or replacement. Maintaining and improving these roads and bridges are exacerbated by the amount of travel in the region, since the heavy travel increases wear on roads and bridges, and increases repair costs, since work has to be conducted to avoid disruptions to key travel

[1] NYMTC Best Practice Model, "2005 Base Year Scenario" and NYMTC Best Practice Model, NYMTC "2035 Forecast Scenario"

6.10.10



Sources: NYMTC, 2007 Truck Toll Volumes
NYMTC, Regional Transportation Statistical Report, 2000-2001
NYMTC, 2035 BPM Model

FIGURE 2

Truck Volumes at Cross Harbor Facilities (1979-2035)

CROSS HARBOR FREIGHT PROGRAM

8.30.10



Source: NYMTC, 2035 BPM Model

2035 Congested Major Roads: V/C > 0.8

Major Road

Freeway

FIGURE 3

Projected Highway Congestion, 2035

CROSS HARBOR FREIGHT PROGRAM

routes. Approximately 33 percent of the NJTPA region's bridges are considered functionally obsolete, and approximately 11 percent are structurally deficient. State-of-good-repair projects collectively comprise the single largest category of investments in the NYMTC Regional Transportation Plan. Over the next 25 years, greater than $290 billion will be needed to maintain state-of-good-repair conditions through replacement and refurbishment of equipment and facilities. In addition, over $661 billion will be needed to maintain and operate the regional transportation system.

A 1997 Federal Highway Administration (FHWA) report estimated that the cost of pavement wear caused by trucks can be up to 100 times greater than that caused by passenger cars. With the projected increases in vehicle miles traveled over the next 25 years, pavement wear will increase.

C. FREIGHT RAIL SYSTEM

NATIONAL PERSPECTIVE

From the mid-1880s through the mid-20th century, railroads accommodated the majority of domestic freight throughout the country, and supported a thriving industrial base with ample access to rail.

After World War II, the creation of the Interstate Highway System in 1956 (authorized by the Federal-Aid Highway Act) resulted in the construction of new and improved highways and roadways which, combined with the explosive growth of suburban development and the decentralization of regional economies, fostered the rapid transition to personal automobile use and a decline in rail passenger traffic. Construction of the 42,500-mile Interstate Highway System, and federal law regarding truck weight limits initially set at 73,208 pounds, facilitated the use of larger trucks carrying heavier loads at a lower per-mile cost. Regions of the country that lacked efficient rail or water access, but were desirable for other reasons, experienced tremendous growth, creating new "truck-dependent" consuming and producing regions. As a result, the trucking industry experienced steady and rapid growth.

Rail freight responded to market share losses by contracting service on low volume lines and by consolidating into fewer business units, enabling them to focus on moving the most profitable rail-oriented commodities. Railroads were also successful in developing new markets and services, principally intermodal, which is now a significant share of their business. Many of the leading customers for rail intermodal services are trucking companies, and therefore this service is both a competition and a partnership.

Following deregulation of the industry (via the 1980 Staggers Act), the nation's rail industry has significantly grown its ton-mileage and sustained its profitability. Since 1980, rail freight ton-miles have steadily increased nationwide, from 932 billion annually in 1980 to over 1.5 trillion in 2006. This amount is expected to continue to rise as shippers seek more efficient and faster means of transporting their products, and as highways steadily become more congested. Railroading has experienced a recent renaissance, with profits and ton-mileage steadily increasing. Increased service levels associated with this renaissance have not been experienced since World War II. Freight ton-miles have more than doubled since the mid-1940s, with railroads hauling about 43 percent (the most) of the transportation types, and freight revenue reached approximately $57 billion in 2007.

WEST-OF-HUDSON FREIGHT RAIL SYSTEM

The west-of-Hudson freight rail system, as part of the national freight system, is included in this success story with significant intermodal and non-intermodal traffic and extensive facilities, many of which have been recently upgraded. Its success helps the region avoid hundreds of millions of truck vehicle VMT every year. Any discussion of rail improvements serving the study area counties east of the Hudson River must first consider conditions in the west-of-Hudson, because connections between the east-of-Hudson and the rest of the nation must traverse the west-of-Hudson infrastructure. Rail system issues and needs have been identified and, based on availability of funding, are being addressed by the railroads, the Port Authority of New York and New Jersey (PANYNJ), the State of New Jersey, and local and regional governments.

CAPACITY

Unlike the east-of-Hudson region, several freight-only mainlines serve the region as part of the national rail network. However, some of these lines are functioning near capacity during critical portions of each day. Terminals, yards, and connecting freight railroads in northern New Jersey are also operating at or near capacity. CSX Corporation (CSX) and Norfolk Southern Corporation (NS) have worked with PANYNJ, NJDOT, NYSDOT, NJ Transit, Conrail, AMTRAK, and other regional partners to identify and coordinate various improvement programs in the west-of-Hudson region. Some of the key bottlenecks and improvements are identified below**.**

Connecting Railroad

Consolidated Rail Corporation (Conrail) reports that significant portions of the freight-only connecting railroad network that links the serving yards, classification yards, and intermodal terminals in northern New Jersey are in need of upgrade. Service delivery would be enhanced if some segments were double-tracked with signal and speed improvements.

The New Jersey Department of Transportation (NJDOT) Statewide Freight Plan (2007) identified a lack of adequate capacity for such lines as the North Jersey Shared Assets Area (NJSAA) Lehigh Line, NS Lehigh Line, Passaic and Harsimus (P&H) Line, and Chemical Coast Line, with the CSX River Line close to capacity. Accommodation of forecasted growth in total freight traffic will require a significant increase in capacity along key rail lines and terminals in New Jersey if railroads are to maintain market share, let alone add service to increase it.

CSX and NS have formulated a program, including approximately 10 projects, to upgrade trackage in northern New Jersey. Based on availability of funding, it is expected that the private carriers, the Port Authority, the state of New Jersey, and NJ TRANSIT will work in public-private partnership to cooperatively fund these necessary enhancements. Projects underway include improvements to the River Line, New York Susquehanna and Western Railway, Belvidere Delaware Railroad, and Morristown and Erie Railway.

Yards and Terminals

Capacity at the main receiving and classification yards can be an issue when traffic levels are high, and with further growth will become an increasing challenge. The NJDOT Statewide Freight Plan (2007) recognized a need for terminal area throughput capacity improvements at Croxton Yard, Waverly Yard, and Oak Island Yard.

HIGHWAY ACCESS TO RAIL FACILITIES

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. Despite plans to improve rail connections and expand east-of-Hudson rail service, northern New Jersey is likely to remain the dominant rail transfer point for the immediate future. Because of this condition, access between rail terminals in northern New Jersey and New York is an integral part of the region's rail freight system. Highway access to support the planned expansion of rail freight activity at Greenville Yard will be particularly important. Cross Hudson drays experience constrained river crossings, and pay bridge tolls to access the point of final delivery. These additional barriers translate into higher overall prices for regional shippers to offset higher operator toll and congestion costs, as well as reduced delivery reliability in the face of chronic congestion on river crossings.

ACCESS TO EAST-OF-HUDSON FREIGHT CUSTOMERS

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 a cross harbor float railroad. Approximately one fifth of those intermodal shipments grounded in northern New Jersey are drayed to and from the east-of-Hudson service area. A substantial amount of carload freight waybilled from northern New Jersey is also produced or consumed in the east-of-Hudson subregion. With better access to the east-of-Hudson subregion, more traffic would be carried across the Hudson River by rail that could also benefit northern New Jersey. Less traffic would need to be drayed from intermodal yards, transload terminals, and warehouses by trucks crossing the George Washington and Verrazano-Narrows Bridges.

EAST-OF-HUDSON FREIGHT RAIL SYSTEM

BACKGROUND HISTORY

Beginning in the mid-19th century, freight movement throughout the New York and New Jersey region was extensively served by railroads. Trunk line railroads wanting to tap into the Port of New York, the largest in the United States since the 1820s, had difficulty getting across the Hudson River. Therefore, railroads established one or more waterfront terminals, and from them served every part of the region by waterborne modes. As shown in Figure 4, railroad terminals lined the New Jersey, Brooklyn, and Manhattan waterfronts. Major carriers into the New York/New Jersey area from the west had extensive fleets of tugs and barges moving from the New Jersey waterfront to the New York City waterfront. Some of these barges handled railcars to float bridges, and other barges lightered goods unloaded from railcars at docks in New Jersey directly to customers in New York City.

Railroad car floating was the predominant mode for transporting freight cars in New York Harbor in the 1930s, with approximately 5,300 cars per day moved in 1937. Notably, a terminal for the Long Island Rail Road (LIRR) Bay Ridge Branch was located at 65th Street in Bay Ridge, Brooklyn (65th Street Yard). From this facility, carfloats transported freight to Greenville in Jersey City, New Jersey. During World War II, the Greenville-Bay Ridge interchange operated 24 hours a day, handling 2,160 cars per day at its peak. The New York, New Haven & Hartford Railroad interchanged cars with the float service in Brooklyn, and provided direct service to/from Connecticut, Rhode Island, and Massachusetts and, through interchanges, provided service to the remainder of New England.

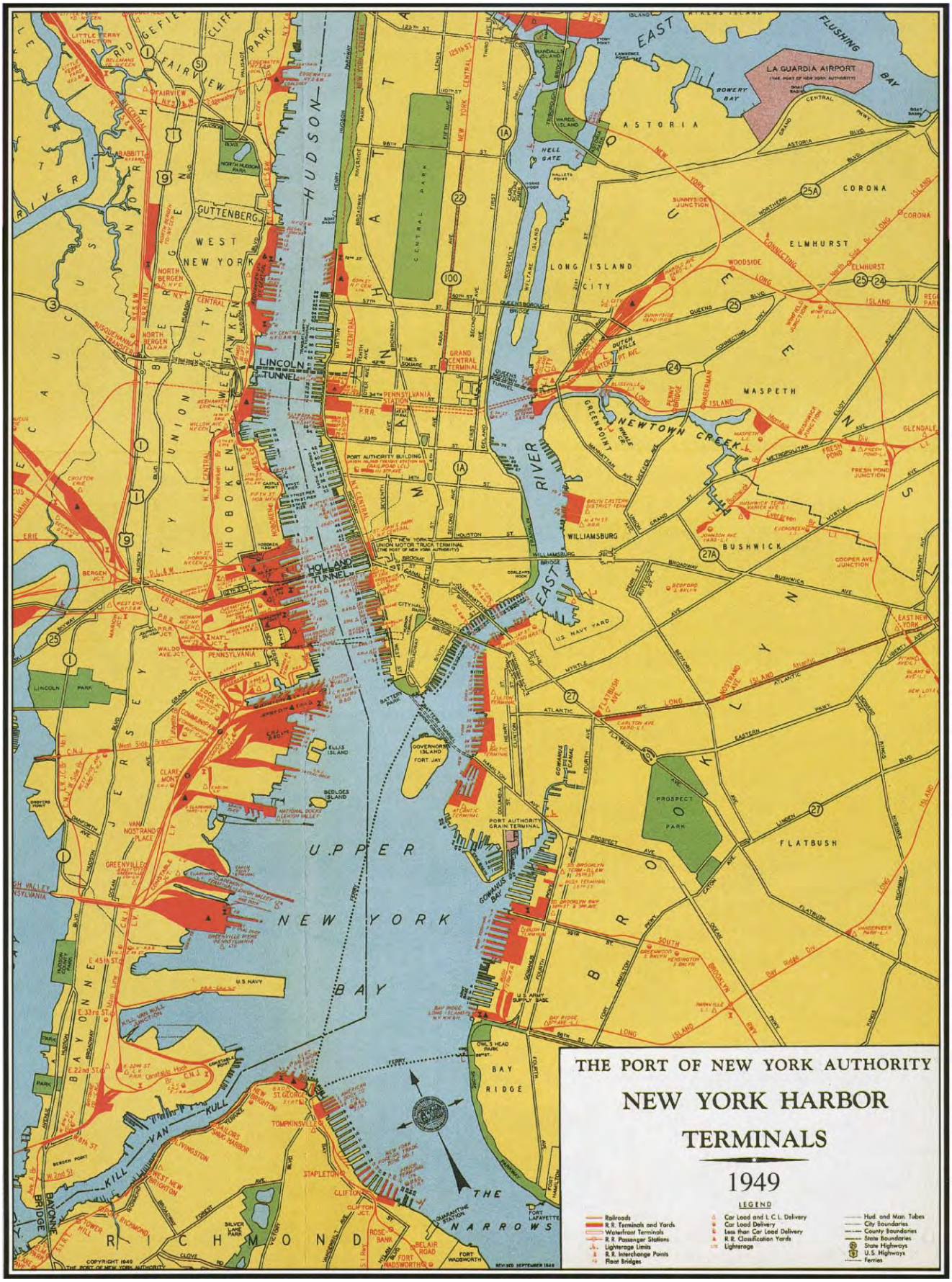


FIGURE 4

New York Harbor Terminals – 1949

CROSS HARBOR FREIGHT PROGRAM

A steep decline in float traffic began in the 1950s; within 25 years, only a single car float operation remained across New York Harbor—between Greenville Yard and Bush Terminal in Brooklyn, (a 6-acre facility located on the Brooklyn waterfront at First Avenue between 43rd and 51st Streets). A significant factor in the New York City railroad freight industry's decline was that public monies were invested in vehicular crossings of the harbor and the Hudson River, rather than in rail crossings. This investment included the construction of the Tappan Zee Bridge in 1955, the third tube of the Lincoln Tunnel in 1957, addition of a lower deck to the George Washington Bridge in 1962, and construction of the Verrazano-Narrows Bridge in 1964. Barge movement of railcars across the Hudson River has not advanced significantly in the last century, and has become slow, more sporadic (less than daily), and more expensive per car to provide, relative to trucking and intermodal options that operate on publicly provided infrastructure.

In 1983 a group of investors purchased the float operation between Greenville Yard and Bush Terminal that had once been owned by the Penn Central Railroad. It was named the New York Cross Harbor Railroad. Though ownership changed, the name was retained until the operation was purchased by the Port Authority of New York and New Jersey (PANYNJ) in 2008 and renamed New York New Jersey Rail (NYNJ). NYNJ now operates the only railcar float service in the New York region. It leases approximately 27 acres of Conrail's Greenville Yard in Jersey City, which provides connections with CSX and NS. In Bay Ridge, Brooklyn, Bush Terminal Yard connects to the New York and Atlantic Railway's Bay Ridge Branch and the South Brooklyn Railway.

Prior to World War II, the majority of freight that passed to and from the New York Metropolitan region moved by rail on some of the most storied railroads in U.S. history (including the Pennsylvania, the New York Central, and the Erie Railroads). However, based on the various national and local changes to the freight industry described above, the railroads began experiencing financial problems. The Pennsylvania Railroad sold LIRR to the state of New York in 1966 due to the lack of direct movement of rail freight to the east side of the Hudson River, as well as growing losses from the commuter service. In 1968, the merger of the Pennsylvania and New York Central Railroads (the Penn Central) failed as the company filed for bankruptcy. This event created a ripple effect throughout the entire northeast, as other railroads that depended on the Penn Central to haul traffic no longer had a means to move their freight.

Realizing the severity of the situation, the federal government established Conrail, which comprised the skeletons of several bankrupt northeast carriers, beginning operations on April 1, 1976. With federal backing, Conrail's financial position began to improve; by the late 1980s, it was a profitable railroad, although by that time, thousands of miles of excess trackage, primarily from Penn Central, were abandoned or sold.

The combined effect of these changes dramatically minimized rail freight access to New York City which was historically already quite isolated from national freight rail network due to its island location and limited rail crossings. The one rail tunnel under the Hudson was, and still is, used for passenger traffic and has never handled significant amounts of freight traffic. The nearest rail bridge across the Hudson River was the Poughkeepsie-Highland Bridge which formed a direct route to/from New England but was a bit circuitous for New York traffic. It added an additional carrier that took a division of revenue from the other carriers, and consequently most New York destined traffic was handled via marine services into the New York market. The Poughkeepsie Highland Bridge was permanently closed to rail traffic after a fire in 1974, leaving Albany as the only freight rail bridge crossing the Hudson River, increasing the circuity of all rail movements to New York, especially from the south.

The rise of intermodal traffic (first trailer-on-flatcar and then container-on-flatcar) resulted in the development of large intermodal terminals in New Jersey. Population growth, cheaper land prices, and the better transportation infrastructure west of the Hudson River shifted the "center of gravity" for distribution activities to New Jersey. The state of New York attempted to revitalize rail traffic across the Hudson through the Oak Point Intermodal Terminal and the Oak Point Link projects in the 1990s. Neither project dramatically increased rail traffic directly to/from New York, since the only direct rail route into and out of New York was via a circuitous Hudson River crossing at Albany and it included conflicts with passenger services and clearances on the Metro-North Railroad (MNR) Hudson Line. In addition, most of the distribution infrastructure for the New York area is located west of the Hudson River. A limited amount of direct traffic moves directly by rail or intermodal into the New York area without first being handled at a distribution facility on the west side of the Hudson. The most important rail growth area in the last 20 years has been outbound Municipal Solid Waste and Construction and Demolition Debris, which originates by rail east of the Hudson. The increase in this type of traffic has developed recently and taken advantage of the improved clearances and separation from passenger traffic afforded by the Oak Point Link project.

The Bay Ridge Branch is an example of a freight-only rail line through Brooklyn and Queens that is currently underutilized due to the difficulty in serving customers. The complexity of getting railcars to and from the Branch, as well as the associated time implications, causes difficulties for the customers on the Bay Ridge Branch line to secure competitive rates. While it is true that there has been a general decline in the demand for rail freight services over time, declines in railcar demand along the Bay Ridge Branch are in excess of nationwide averages. The Bay Ridge Branch was once a major rail freight corridor during the peak of rail float operations across the harbor. At one time the Bay Ridge Branch carried 600,000 railcar-loads per year, but now carries less than 3,000 carloads per year. The Bay Ridge Branch began as a narrow-gauge seasonal railroad serving Brooklyn beaches. It attained its highest state of service and capacity as a result of improvement projects (years 1914-to-1925) that featured high-voltage AC electrification and grade-separated multiple track. This upgrade was designed as a predominantly four-track facility, with intermittent sections of two-track right-of-way.

Today, the Bay Ridge Branch has only one active track, with passing sidings. It has no signals, with train movements controlled by track warrant (direct approval from a dispatcher). The existing yards of significance are at Bay Ridge 65th Street and at Fresh Pond. The existing East New York Tunnel on the line has four bores, but with only one tube in service. Two other tunnel tubes have tracks in place, but are not connected. The fourth tunnel tube is sealed and conveys a petroleum pipeline. The Bay Ridge Branch is entirely grade-separated, with 44 overhead structures or bridges in the segment of the line between East New York and Bay Ridge. Five of the 44 bridges have clearances of 17'6" or less (minimum clearance for trailer-on-flatcar), while 30 of these 44 bridges have a 20'6" or less clearance (minimum clearance for high-cube double-stack railcars). The LIRR freight service New York and Atlantic Railway (NY&A) operates the Bay Ridge Branch. Shippers and consignee demand on this rail line is generally on an as-needed basis, and averages only about one freight train per day.

CAPACITY BARRIERS

A review of the existing characteristics and needs for the east-of-Hudson rail system identified four types of barriers to growth of rail freight traffic:

1. **Conflicts with passenger service** limit the flexibility, reliability and transit times of freight operations;
2. **Clearance issues** prevent freight carriers from operating their most modern and efficient rail equipment in the study area;
3. **Weight restrictions** prevent freight carriers from operating their highest volume and lowest cost bulk equipment in the study area; and
4. **Yards and terminals** are adequate for current volumes of traffic, but would require additions to accommodate increased freight demand and provide more efficient service.

Conflicts with Passenger Service

Most of the rail lines east-of-Hudson are publicly owned and maintained. The public agencies that acquired the lines were primarily motivated to maintain (and later expand and improve) passenger rail services that are critical to the economy of this region. During the ensuing decades, public agencies have invested large sums of money in improving and expanding rail passenger services in the region. The government has been much less active in the freight arena, which has traditionally been a for-profit private enterprise.

The NY&A (New York and Atlantic Railway) was formed in May 1997 to handle the freight operations on Long Island Railroad infrastructure across Long Island, serving a total of 269 route miles. This privately-owned railway is headquartered in Glendale New York, and moves approximately 20,000 carloads per year utilizing its own fleet of locomotive and crew assets. CSX continues to own the Fremont Secondary which allows the Class 1 railroad to operate trains between their Oak Point Yard in the Bronx, and Fresh Pond Yard in Glendale, Queens, which is the interchange location with NY&A Railway.

The Metropolitan Transportation Authority (MTA)-LIRR owns and maintains most of the conventional railroad lines on geographic Long Island, and is the most heavily traveled commuter railroad in North America. The MTA-MNR owns and maintains most of the railroad lines in the Bronx, and in Westchester, Putnam, and Dutchess counties. It also maintains the rail lines owned by the State of Connecticut extending to New Canaan, Danbury, Waterbury, and New Haven. Amtrak owns the lines leading to New York's Pennsylvania Station from New Rochelle in the north, and Washington, DC in the south. The Amtrak tunnels are the only conventional railroad crossings of the Hudson River south of Albany.

The principal mission of the public agencies that own and control these critical regional railways is the prompt and safe movement of passenger trains, which are completed successfully. Only about 20 daily freight trains operate east-of-Hudson. Eighteen of these trains share tracks with the extensive network of passenger service, in excess of 250 passenger trains a day on some line segments, which are given scheduling priority over freight movements. This condition limits the capability of freight railroads to compete for certain time-sensitive commodities that must arrive or depart during passenger peaks. It also prevents freight railroads from serving customer industries on weekdays, when they are typically staffed, which is an important consideration for many rail shippers. In addition, if passenger operations become delayed or off-schedule, freight railroad reliability is severely impacted because freight trains are typically the lowest priority trains on the railroad, especially when the passenger railroad (in this case, Long Island Railroad) is in operational control of the rail infrastructure. If the window of operation is missed by the freight operator, due to a self imposed issue, a customer issue, or another train interference issue, it is oftentimes very difficult for the freight operator to regain access to the passenger railroad.

Clearances

The rail lines in the east-of-Hudson region were designed and engineered when the railcar fleet in the U.S. was lighter and less tall than many of today's cars. As recently as 30 years ago, the disparity in dimensions between freight and passenger rail vehicles was not great, and the rail lines east-of-Hudson accommodated most freight cars. Freight carriers, however, are increasingly relying on cars that are too tall to be operated east-of-Hudson.

- Clearance envelopes on Long Island range from 14'6" to single-level container-on-flatcar clearance (17'6").
- None of the track east-of-Hudson, except for a portion of the Hudson Line from Albany to Tarrytown, is cleared for enclosed auto racks. Similarly, double stacked containers (20'6") or higher will not clear rail lines.

Weight Restrictions

The maximum weights of commonly used freight cars are also growing. When fully loaded, the newest generation of bulk freight cars does not fit within maximum allowable weight restrictions in place for the LIRR.

- Class I freight carriers are increasing their reliance on heavier, 286,000-pound gross weight cars, and even starting to move to 315,000-pound gross weight cars in some markets.
- General maximum allowable weight for any railcars operating on the LIRR network is 263,000 pounds.
- CSX River Line, the NY&A First Avenue Line, and a short segment of the Fremont Secondary immediately north of Fresh Pond, are the only rail segments east-of-Hudson capable of handling 286K cars.

Yards and Terminals

Due to very low rail freight volumes east of the Hudson River, the few existing yards and terminals can accommodate current demand. However, freight traffic levels will not be able grow very much without some expansion and enhancement to terminal facilities.

For most yards and terminals in the downstate study area, some investments in trackage, connections, and control systems would be required to increase utilization rates of these underutilized yards to the levels of activity found west-of-Hudson. Support and leadership from public officials will almost certainly be required to expand these facilities. Required support will likely include assistance with permitting, negotiations with neighbors, environmental mitigation, and possible financing.

RAIL CONNECTION

The principal deficiency with respect to connections is the lack of a direct route between the east-of-Hudson region and the national rail hubs in northern New Jersey. The nearest conventional railroad crossings of the Hudson River are owned by Amtrak, and are restricted to passenger service. Freight to and from NY&A on Long Island, destined for customers across the Hudson, must either complete the 48-hour (300-mile) trip via Fresh Pond Yard in Queens and the old New York Central Bridge in Selkirk, New York, or travel via the New York Cross Harbor Railroad (NYCH) on a car float service between Bay Ridge (51st Street Yard) and Greenville. The CSX Corporation and Canadian Pacific Railway offer freight service from Albany directly to Queens and the Bronx. The only overland freight line connecting Long Island

to the continental United States is the Hell Gate Bridge in Astoria, Queens. Two other short-line carriers, the Providence and Worcester Railroad (P&W) and the Housatonic Railroad, operate service in Connecticut. The P&W relies on a CSX trackage agreement to operate freight service from New Haven to Fresh Pond Yard.

HIGHWAY ACCESS TO RAIL FACILITIES

One of the principal deficiencies for rail facilities east of the Hudson River is the lack of direct access to regional highways and major truck routes, requiring trucks to travel long and circuitous distances on the local street network. These indirect connections add to shipment time, cost, and potential for service interruptions. Large numbers of trucks maneuvering on local streets also create safety hazards, and increase the impact on surrounding communities. Specific examples of circuitous connections include:

- Rail facilities on the Brooklyn waterfront, such as the Bay Ridge 65th Street Yard, can only be served from the Gowanus Expressway via a roundabout route using heavily trafficked Third Avenue.
- Trucks accessing the rail facilities at Hunts Point and Oak Point Yard must use Bruckner Boulevard. Since this arterial runs in the footprint of the elevated Bruckner Expressway, it is difficult for trucks to negotiate left turns, U-turns, or other maneuvers around the expressway's support piers.
- Fresh Pond Yard is adjacent to a residential community, and is five miles from the Long Island Expressway and six miles from the Brooklyn/Queens Expressway. Immediate access is provided only by Metropolitan Avenue and Fresh Pond Road.
- Truck drays are also subject to general chronic regional congestion and price surcharges.

D. CURRENT AND FUTURE FREIGHT FLOWS IN THE STUDY AREA

Current and projected future freight flows to, from, and within the 54-county Cross Harbor modeling study area were developed from the TRANSEARCH database. TRANSEARCH, a commercial data product, draws information from public agencies, private survey research, and econometric forecasts. It is important to note that the TRANSEARCH forecasts assume current modal shares by commodity and trade lane—potential effects of policies to encourage non-highway surface transportation modes are not taken into account.

EXISTING FREIGHT FLOW

In 2007, more than 920 million tons of freight moved to, from, within, and through the 54-county Cross Harbor modeling study area by truck and rail. Excluding through traffic, nearly 690 million tons were handled, with approximately 93 percent handled by truck (see Table 1). Long-haul traffic entering the east-of-Hudson region largely includes chemicals and allied products, food and kindred products (required for the manufacture and processing of food), lumber/wood, primary metal, and transportation equipment.

Table 1
Existing 2007 Regional Truck and Rail Freight Flows by Weight (54 County Area)

Direction	Truck Tons	Carload Tons	Intermodal Rail Tons	Total Rail Tons	Total Truck and Rail Tons
Inbound/Outbound	266,825,782	33,430,961	12,493,980	45,924,941	312,750,723
Intraregional	374,133,348	794,248	560	794,808	374,928,156
Through	183,843,090	45,799,788	4,238,880	50,038,668	233,881,758
Total	**824,802,220**	**80,024,997**	**16,733,420**	**96,758,417**	**921,560,637**
Total Excluding Through	**640,959,130**	**34,225,209**	**12,494,540**	**46,719,749**	**687,678,879**
Mode Share Excluding Through	93.2%		6.8%		100.0%

Source: Global Insight; Preliminary Estimate Only.

2035 FUTURE FREIGHT FLOW

By 2035, it is forecast that nearly 1.2 billion tons of freight will be moved to, from, within, or through the study area by truck and rail. Excluding through traffic, more than 860 million tons will be handled by truck and rail, and 92.5 percent of this tonnage will be handled by truck. Between 2007 and 2035, the study area truck tonnage will increase by around 160 million tons and rail tonnage will increase by around 18 million tons (excluding through traffic). This represents a total tonnage growth of around 26 percent compared to a 2007 base year.

Table 2
Future 2035 Regional Truck and Rail Freight Flows by Weight (54 County Area)

Direction	Truck Tons	Carload Tons	Intermodal Rail Tons	Total Rail Tons	Total Truck and Rail Tons
Inbound/Outbound	365,091,457	46,694,285	17,660,402	64,354,687	429,446,144
Intraregional	435,190,454	788,530	693	789,223	435,979,677
Through	250,952,684	54,789,878	5,669,388	60,459,266	311,411,950
Total	**1,051,234,595**	**102,272,694**	**23,330,482**	**125,603,176**	**1,176,837,771**
Total Excluding Through	**800,281,911**	**47,482,816**	**17,661,095**	**65,143,910**	**865,425,822**
Mode Share Excluding Through	92.5%		7.5%		100.0%
Mode Share Excluding Through, Percentage Growth, 2007-2035	**24.9%**		**39.4%**		**25.8%**

Source: Global Insight; Preliminary Estimate Only.

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CROSS HARBOR FREIGHT PROGRAM

Environmental Impact Statement (EIS) Methodology



U.S.Department of Transportation
Federal Highway Administration

THE PORT AUTHORITY OF NY & NJ

September 2010

Cross Harbor Freight Program
Environmental Impact Statement (EIS) Methodology

INTRODUCTION

The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ), serving as co-lead agencies, are preparing an Environmental Impact Statement (EIS) to evaluate alternatives to improve the movement of goods in the region by enhancing the transportation of freight across New York Harbor. The Cross Harbor Freight Program EIS will analyze alternatives that would provide near-term and long-term strategies for improving the regional freight network, reducing traffic congestion, improving air quality, and providing economic benefits.

The greater New York/New Jersey/Connecticut region is the financial center of the U.S. economy and the nation's largest consumer market. Regional forecasts of truck growth vary depending on the source, year, and geography, but available sources agree that truck tonnage is anticipated to increase substantially by 2035. The overwhelming dependence on trucking in the freight distribution network is expected to remain, and will result in serious regional highway congestion, deleterious effects on environmental quality, and extended travel delays. The continuation of this trend without improvement will threaten the economic vitality of the greater New York/New Jersey/Connecticut region.

The following describes the process and methodology that will be undertaken for the development and evaluation of project alternatives and the preparation of the EIS, which will ultimately select a Preferred Alternative or Alternatives in the Tier I EIS Record of Decision. The process consists of five major steps—scoping, fatal flaw analysis, screening analysis, detailed evaluation, and the Tier I EIS—that are intended to winnow the number of alternatives through a comprehensive evaluation process. The 5-step process includes numerous tasks involving separate processes, decision points/action items, and analysis modeling that are described in this report (see Appendix A for a diagram illustrating the sequence of these individual tasks). Detailed technical and analytical methodologies associated with the tasks are provided in Appendices B and C. The following is an overview of the five major steps:

1. **Scoping** – Determines the project's goals and objectives, alternatives to be considered, and scope of issues to be examined in the Tier I EIS. Also refines the project purpose and need.
2. **Fatal Flaw Analysis** – Eliminates clearly infeasible alternatives from further consideration.
3. **Screening Analysis** – Reduces the range of reasonable alternatives that do not meet the goals and objectives based on freight demand forecasting and broad qualitative criteria.
4. **Detailed Evaluation** – Evaluates alternatives for potential regional and localized effects based on specific and more rigorous quantitative performance measures.



5. **Tier I EIS** – Documents and presents the results of the detailed evaluation, summarizes the process and results of Steps 1-4, and includes additional environmental analyses and compliance with environmental laws and regulations, as appropriate.

1. SCOPING

The first step is scoping, and it begins with the issuance of a Notice of Intent (NOI) and initiation of the public scoping process. A NOI for the Cross Harbor Freight Program was issued in the Federal Register on May 13, 2010; the Scoping Document is being issued concurrently with this document. As described in the NOI, the EIS analyses will be conducted using "tiering," as described in 40 CFR 1508.28, which is a staged process applied to the environmental review of complex projects. Several pre-scoping meetings were held with the Technical Advisory Committee and Stakeholder Advisory Committee prior to the issuance of the NOI. These initial agency coordination meetings included discussions regarding project goals, alternatives, and the process for the alternatives evaluation and Tier I EIS.

The purpose of the scoping process is to assure that the full range of issues related to the proposed action is addressed in the Tier I EIS, and that potential significant adverse impacts are identified and advanced for further study to Tier II, as appropriate. FHWA and PANYNJ are undertaking an extensive public scoping process that will allow the public and affected agencies to provide comments on the scope of the environmental review process. The Draft Scoping Document will frame the environmental review to follow, and will facilitate a public discussion of project alternatives and the environmental issues to be considered in the EIS.

The two major tasks associated with the scoping process, described below, are: (1) needs assessment; (2) identification of project goals and objectives and (3) development of a long list of alternatives.

NEEDS ASSESSMENT

As the first task, a needs assessment was undertaken to identify the need for the project and to develop a comprehensive statement of the project's purpose. The Cross Harbor Freight Program Needs Assessment, being issued concurrently with the Draft Scoping Document, identified substantial constraints and problems with the existing freight system, including rail, marine, and highway infrastructure, and its ability to accommodate future growth in freight movement across New York Harbor between the east-of-Hudson and west-of-Hudson regions. The scoping process allows for the refinement of the purpose and need.

GOALS AND OBJECTIVES

The primary purpose of the project is to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions. A project's goals and objectives are the foundation of its purpose and need under the National Environmental Policy Act of 1969 (NEPA). They are used as the basis for developing the criteria and methodology for evaluating the project alternatives. Four goals have been established for the Cross Harbor Freight Program. These goals

are intended to remedy some of the problems stated in the Needs Assessment. Objectives have also been identified that further define the goals and provide specific and measurable means by which to evaluate and compare project alternatives. The four project goals and respective objectives are as follows:

GOAL 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors relative to the No Build scenario.

Objectives:

A. Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.
B. Reduce the travel-time and delay on regional highway network.
C. Maximize efficient use of available capacity on existing transportation infrastructure.
D. Maintain or improve regional rail network performance.

GOAL 2: Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.

Objectives:

A. Increase the number of modal options available for Cross Harbor freight transportation.
B. Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.

GOAL 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.

Objectives:

A. Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in the event of a major interruption of service on existing interstate highway corridors serving the region.
B. Support contingency planning for emergency alternative Cross Harbor goods movement operations.
C. Reduce the number of freight vehicle related accidents.
D. Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.

GOAL 4: Support development of integrated freight transportation/land use strategies.

Objectives:

A. Maximize underutilized freight transportation infrastructure and related land uses.
B. Support services to existing freight distribution centers in the region.
C. Integrate rail freight services with local land use and transportation planning objectives.
D. Integrate rail freight development with statewide freight and passenger rail plans.

LONG LIST OF ALTERNATIVES

The alternatives evaluation begins with the development of a long list of alternatives comprising combinations of freight movement methods and existing or potential facility locations. This universe

of project alternatives is appropriate for a Tier I EIS, which aims to select a mode, alignment, and logical termini for the proposed project.

This list includes a variety of alternatives that were identified and studied in previous reports, including the Cross Harbor Freight Movement Major Investment Study (MIS), commissioned by the New York City Economic Development Corporation (NYCEDC) and completed in the spring of 2000. Four alternatives from the MIS were advanced for study in a Draft EIS, which was published in April 2004 by FHWA and the Federal Railroad Administration (FRA), acting as co-lead agencies, and NYCEDC, acting as the project sponsor.

A complete description with figures depicting the long list of alternatives for the Cross Harbor Freight Program is included in the Scoping Document. These alternatives generally fall into the following three classes:

1. No Action Alternative
2. Management Alternatives – Transportation System Management (TSM) and Transportation Demand Management (TDM)
3. Build Alternatives – Float Alternatives, Rail Tunnel Alternatives, and Rail/Vehicle Tunnel Alternatives.

2. FATAL FLAW ANALYSIS

The long list of alternatives will include a wide range of potential alternatives. To ensure a meaningful alternatives analysis and environmental review, NEPA requires consideration of project alternatives that are considered feasible and reasonable. Therefore, the second step in the process is to undertake a fatal flaw analysis, which is intended to eliminate alternatives that are not feasible early in the evaluation process. Basic feasibility criteria will be established for this project to eliminate non-viable alternatives from the long list. The feasibility criteria, or “fatal flaw” criteria, include:

- Clearly inconsistent with or unlikely to meet the project goals and objectives.
- Requires technologies, service concepts, etc., whose feasibility and effects cannot be reliably tested through the evaluation process.
- Requires the use of resources or properties which are highly unlikely to be available, or whose use would create a conflict with the project goals and objectives.
- Incompatible with existing or planned operations of current rail providers.
- Results in severe impacts and/or cost implications to existing rail or highway infrastructure.
- Results in severe adverse environmental effects that would make approval or permitting unlikely.

Public and agency input on the fatal flaw feasibility criteria will also be considered during the scoping process. From the long list of alternatives, each would be evaluated in relation to the feasibility criteria to determine if the alternative will be fatally flawed and eliminated, or it will be carried forward for further evaluation in the next step, the screening analysis.

3. ALTERNATIVES SCREENING PROCESS

As a result of the fatal flaw analysis, a range of potentially feasible project alternatives will be identified and then carried forward to Step 3—the alternatives screening process. The purpose of the screening process is to reduce the number of alternatives to be further analyzed in the detailed evaluation. If similar alternatives have comparable outcomes, the alternative with the best results will be carried forward and the other similar alternatives, with less favorable outcomes, will be eliminated.

The screening process begins with a market analysis to collect detailed information about existing freight logistics and demand. This information is then used to develop the mode choice model. The mode choice model will provide estimates of future freight flows by mode for each alternative. The resultant freight flows will enable a comparison of each alternative's ability to attract freight and provide an important measure in determining a given alternative's ability to meet the first two project goals. The alternatives will also be qualitatively evaluated to determine if they are consistent with the broad objectives associated with the project goals (described above).

The following describes the individual tasks in the screening process. The full extent of the technical methodologies that will be used to evaluate logistics and market demand for the screening analysis can be found in Appendix B.

MARKET ANALYSIS

The screening process and development of the mode choice model begins with a market analysis to understand freight logistics and demand throughout the 54-county Cross Harbor modeling study area. These are closely related issues, because decisions about how to move freight—by what mode, and what route—generate demand over the transportation system. The market analysis comprises three major tasks:

- Determine existing freight flows
- Identify freight markets
- Specify level of service parameters for proposed alternatives

To address freight logistics, research will be undertaken to identify and describe, in qualitative and quantitative terms, the types of existing freight movements that occur today to serve shippers and receivers in the east-of-Hudson market, emphasizing the critical differences between direct moves (from shipper to receiver via a single mode), intermodal moves (from shipper to receiver via multiple modes), and indirect moves (via intermediate warehouse and distribution facilities located in the NY/NJ region). The second task, freight market research, will be undertaken to gather information in order to understand the factors used by decision-makers to select a particular mode of transportation. Based on the information provided from the market research, the third task will be to specify key attributes or level of service parameters for each alternative.

POTENTIAL FREIGHT TRANSPORTATION MARKETS

To understand the market demand for each alternative, the analysis will first examine the four types of freight movements (listed below) that may be well served by Cross Harbor freight improvements. These freight movements are considered domestic moves, because international cargo that enters the country through the region's ports and airports are transported across the harbor in a secondary, domestic move.

1. **Existing rail markets** and services to the east-of-Hudson region, which could increase through normal business growth and improvements to rail services. This category also includes historic rail markets that might be recaptured, as well as emerging opportunities in commodity types that are typically well-served by traditional railcar service. Rail improvements within the market demand and forecasting study area may facilitate rail freight movement, but the specific origin/destination of rail freight moving to/from the east-of-Hudson region is also a critical factor. Some origin/destination regions are better served by rail than others, based on the availability of rail service at attractive prices and schedules, and/or the availability of service from multiple railroads.

2. **Long-haul trucking** (400 miles or more) of full truckloads from west-of-Hudson points to east-of-Hudson points. For freight moving more than 400 to 500 miles, rail is a competitive option because the distance is longer than a trucker can usually drive in a single 24-hour period. Long-haul freight that would otherwise move on truck could move by rail in a variety of ways: as intermodal shipping containers, either single-stacked or double-stacked; or as trailers-on-flatcars; or even as "piggyback" traffic, where the entire truck, including cab, is carried. Most importantly, long-haul truckload shipments already arrive in the east-of-Hudson region every day, and are already served by existing receiving facilities. If these shipments were to be handled by rail instead, they would not require new warehouse/distribution facilities in the east-of-Hudson region. New or expanded rail yards where freight could be lifted or rolled onto and off railcars would, however, be required.

3. **Rail drayage reduction**. Some current rail traffic terminates at rail yards in the west-of-Hudson region, and is broken down and trucked to its ultimate destination in the region. In cases where full rail containers are broken down into smaller truckloads, the operation typically occurs in major warehouse/distribution centers in northern New Jersey, or increasingly in Harrisburg or northeastern Pennsylvania. This operation cannot be relocated to the east-of-Hudson region without adequate investments in warehouse/distribution capacity. These operations also require adequate terminal space, whether the railcar is delivered directly to the customer, or whether its contents must be transferred to trucks, or possibly stored for an interim period. Railcar utilization is another significant factor. Simply put, the more loaded miles per year that railcars travel, the greater the revenues per year they generate. Railroads allocate their equipment to routes and services that generate higher revenues, and their willingness to serve lower-priority markets depends in part on railcar supplies. A final consideration would be whether rail schedules and services would actually provide faster end-to-end service by continuing on rail to east-of-Hudson points, or whether terminating traffic west-of-Hudson and trucking the remaining distance is more efficient. To fully understand this market opportunity, the analysis will consider the number of full loads on rail that are destined for east-of-Hudson today, the number of full loads likely to occur in the future, and the improvements necessary for alternatives involving enhanced cross harbor infrastructure to meet or beat current rail service.

4. **Short-haul trucking**. The region's marine terminals, warehouse/distribution facilities, and major shippers and receivers generate significant container, dry van (including full truckload and less-than-truckload), and bulk traffic. Local traffic is moving almost exclusively by truck due to the short distances. Using rail for these trips involves higher handling costs due to intermodal transfers, and slower end-to-end travel times. However, both old and new technologies could increase the potential to divert traffic from this market. Existing technologies, in addition to railcar floats, include truck floats, trailer-on-barge,

and container-on-barge. New technology includes trains carrying trucks through a tunnel and "automated guided vehicles" (AGVs). The requirements of capturing this market are more speculative at this time, but potentially feasible with existing technology. One benefit of this means of serving this market demand is that no additional warehouse/distribution space would be required, since the same truck moving across the harbor would serve both shippers and receivers.

For each of these types of freight movements, data will be collected regarding commodity and vehicle flows. Several sources of data will be used for this effort, including existing regional models, TRANSEARCH data, Rail Waybill data, as well as truck and rail surveys at key facilities. Detailed methodologies for this data collection effort are included in Appendix B.

FREIGHT MARKET RESEARCH

The second task for the market analysis is to clearly understand and describe the factors used by decision-makers to select a particular mode of transportation. Market research will be undertaken, through one-on-one interviews and focus groups. Specifically, the objectives of this research are to:

- Understand how Cross Harbor shippers make decisions regarding freight transportation, including mode and carrier choices, through a coordinated program of one-on-one interviews and focus groups.
- Understand the role of supply chain logistics on these decisions through a coordinated program of one-on-one interviews and focus groups.
- Obtain detailed information on actual recent shipments in the market demand and forecasting study area via revealed-preference surveys conducted via telephone.
- Obtain detailed information on the extent to which shipping decision-makers would change their choices under different hypothetical transportation scenarios, via stated-preference choice exercises.

Detailed methodologies for the specific efforts associated with the market research, including surveys, focus groups, and interviews, are included in Appendix B.

LEVEL OF SERVICE PARAMETERS

The last task for the market analysis is to specify key attributes or level of service parameters for each proposed alternative. These attributes will be used to test each alternative in the freight flow forecasting effort. These attributes include:

- **Reliability** – Ability to provide predictable delivery of goods within expected time windows.
- **Cost –** The end-to-end price paid by the shipper or receiver, reflecting labor costs, fuel costs, equipment costs, and the time lost to congestion or to the breakdown of efficient supply chains.
- **Speed** – Total end-to-end travel time for delivery of goods.
- **Safety/security/loss/breakage –** Safe and secure operation of freight vehicles and facilities to minimize loss and damage.
- **In-transit visibility** – Ability to track and locate goods throughout shipping process.

Table 1: Screening Criteria

Goals and Objectives	Broad Screening Criteria
Goal 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.	
Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.	Likely change in regional truck vehicle miles of travel (VMT).
Reduced travel-time and delay on regional highway network.	Not evaluated for screening analysis.
Maximize efficient use of available capacity on existing transportation infrastructure.	Qualitative comparison of alternative concepts plans.
Maintain or improve regional rail network performance.	Likely change in regional rail system demand.
Goal 2: Provide Cross-Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.	
Increase the number of modal options available for Cross Harbor freight transportation.	Qualitative comparison of alternative concepts plans
Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.	Comparison of market demand as measured by the Mode Choice Model
Goal 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.	
Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in event of a major interruption of service on existing interstate highway corridors serving the region.	Provision of new freight capacity other than existing interstate highway corridors.
Support contingency planning for emergency alternative Cross Harbor goods movement operations	Provision of new freight capacity other than existing interstate highway corridors.
Reduce the number of freight vehicle related accidents.	Likely change in regional truck VMT.
Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.	Qualitative comparison of alternative concepts plans
Goal 4: Support development of integrated freight transportation/land use strategies.	
Maximize underutilized freight transportation infrastructure and related land uses.	Qualitative comparison of alternative concepts plans
Support services to existing freight distribution centers in the region.	Qualitative comparison of alternative concepts plans
Integrate rail freight services with local land use and transportation planning objectives.	Not evaluated for screening analysis.
Integrate rail freight development with statewide freight and passenger rail plans.	Not evaluated for screening analysis.

- **Equipment availability** – Equipment required for the shipment and storage of goods is available at the appropriate location.

Information regarding these parameters will be obtained from the market research surveys. These parameters vary for a broad range of commodities and origin destinations. Any alternative that can be defined in terms of its level of service can be tested for its estimated potential demand in the mode choice model.

FREIGHT SHIPMENT MODE CHOICE MODEL

The data and information collected from the market analysis will be used to develop a model that predicts how shippers will react to corridor transportation improvements and alternatives. The mode choice model will relate the choice of shipment mode (truck, rail, waterborne) to specific characteristics of the shippers/receiver, the shipments made, and the level of service attributes of each mode. The detailed methodology for developing the mode choice model is included in Appendix B.

For each alternative, the mode choice model will calculate the diversion of freight flows to rail or waterborne modes, as compared to the base traffic moving by truck. This comparative process allows for a range of alternatives to be tested against a broader range of commodities and origin destinations. As a result of the model, the mode diversion of freight and the geographic distribution of freight will be identified for each alternative.

CRITERIA FOR ALTERNATIVES SCREENING

The output of the mode choice model will be freight flow by mode—how much freight will move by rail or waterborne as compared to trucks on the highway system. If similar alternatives result in comparable results, the alternative with the best results will be carried forward and the other similar alternatives with less favorable outcomes will be eliminated.

Alternatives will also be evaluated for consistency with the objectives associated with the project goals. This evaluation will be based on broad qualitative measures for each objective. For some objectives, such an evaluation may not be possible at the screening level since the alternatives and their potential effects have not been defined in enough detail. The proposed screening criteria are shown in Table 1. In this case, criteria will be developed in Step 4—the detailed evaluation. The following describes the broad screening criteria for each of the project goals and objectives.

4. DETAILED EVALUATION

The outcome of the screening analysis will be a limited list of alternatives. The next step in the process is the detailed evaluation that will consider both quantitative and qualitative performance measures and provide a comparative analysis to weight the relative benefits and detriments of each alternative and determine which alternative(s) best meets the project's goals and objectives. One purpose of the detailed evaluation is to analyze potential regional and localized effects based on more quantified measures. The results of the detailed evaluation will also identify the alternatives that will be carried forward in the Tier I EIS. For this step in the process, alternatives will be evaluated to determine their potential effects on:

- Transportation networks – regional rail and highway networks.
- Operational and engineering requirements – right-of-way, yard, facility, and infrastructure requirements.

- Environment – range of social and environmental conditions.
- Economic and financial conditions – cost and benefits, financial value to the railroads, various revenue streams, and funding needs.

For each alternative, the results of the analyses will be evaluated based on performance measures associated with the project goals and objectives. These performance measures will primarily be quantitative; however, some analysis areas will consider potential benefits or detriments that cannot be easily measured but must be characterized qualitatively, such as effects on surrounding land and consistency with local plans. Based on the results of the detailed evaluation, alternatives could be eliminated and therefore not carried forward for the Tier I Draft EIS. The full extent of the technical methodologies that will be used for the detailed evaluation can be found in Appendix C.

REGIONAL TRANSPORTATION EFFECTS

As described above, the screening analysis in Step 4 will result in a comparison of the amount of freight that will be diverted from trucks in the No Action Alternative to alternative modes. The transportation network will be further analyzed in Step 5, by determining how the resulting future freight flows would affect the regional rail and highway networks. The purpose of the transportation evaluation is to understand the impact of potential Cross Harbor improvements on specific rail lines, river crossings, and highway freight corridor segments.

RAIL OPERATIONS ANALYSIS

Cross Harbor rail infrastructure enhancements from the alternatives could lead to substantial changes in rail operations. At the same time, rail traffic growth over the regional rail freight network, absent the improvements, must be accommodated as well. Therefore, a rail operations analysis will be performed by developing high-level rail traffic density projections and evaluating the broad implications in terms of rail network capacity.

Current rail traffic flows will be used to initially set up and develop a regional rail network model. Future baseline growth will then be estimated and applied to the model. The effects from the alternatives—in terms of changes in volumes over existing infrastructure—will then be modeled. The modeling will address float and tunnel services and the lines serving them. Each section of rail line will be evaluated in terms of capacity, based on its physical characteristics, impact on existing operations, traffic mixes, service schedules, signaling, dispatching procedures, time-of-day peaking factors, and other similar attributes.

HIGHWAY NETWORK ANALYSIS

To assess the effects of the alternatives on the regional highway system, regional travel demand models will be used to assess the expected changes in truck trip volumes and origin-destination patterns. Regional model outputs, with and without the proposed alternatives, will be compared to estimate the net benefits to the regional highway system. It is expected that for most alternatives, truck trips over the Hudson River crossings and major corridors accessing these crossings would be somewhat reduced. However, local traffic at certain points, particularly truck to rail transfer facilities, could increase. The regional models provide a framework to evaluate these effects on a regional basis. They can not be used to evaluate the localized increases in trips. This needs to be done on a more micro-scale. The analysis will use a combination of two regional model systems—North Jersey Transportation Planning Authority's (NJTPA) North Jersey Regional Transportation

Model Enhanced (NJRTME) and New York Metropolitan Transportation Council's (NYMTC) Best Practices Model (BPM).

The results of the mode choice model—reductions in truck traffic on key corridors, as well as potential increased concentrations at local facilities—will be exported into the BPM and NJRTME models. Each alternative will be analyzed for its potential to divert truck traffic, as quantitatively measured by decreases in:

- Vehicle miles of travel (VMT)
- Vehicle hours of travel time (VHT)
- Vehicles hour of delay (VHD)
- Change in travel time
- Peak period traffic and truck volumes

OPERATIONAL AND ENGINEERING REQUIREMENTS

An operational analysis, based on conceptual engineering, will be undertaken during this step to determine operational needs, particularly as it relates to the existing rail network and costs associated with the proposed alternatives. For yards and facilities associated with the alternatives, the conceptual engineering will identify the location of yards and facilities, minimum sizes, and any infrastructure needs. The conceptual engineering will also identify any associated right-of-way requirements. Order of magnitude cost estimates for the construction, operation, and maintenance of the alternatives will also be developed.

ENVIRONMENTAL EFFECTS

Environmental analyses of alternatives will also be undertaken in this step. These analyses will consider both direct and indirect effects as well as cumulative effects for a range of social and environmental conditions and evaluate the potential for local environmental effects. The conceptual engineering and operational information described above will be used to consider potential environmental consequences for each alternative. The analyses will be a mix of both quantitative and qualitative, depending on the specific analysis and available information, and the detailed methodology for each of these analyses is included in Appendix C. Environmental analyses will be undertaken in the following areas:

- **Land use, zoning, and public policy** – compatibility with land use, neighborhood character, and development goals and regional public policy.
- **Cultural and historic resources** – direct effects on archaeological and historic resources and parkland.
- **Air quality** – regional (mesoscale) effects and potential local effects on ambient air quality.
- **Energy and greenhouse gases** – change in energy consumption and greenhouse gas emissions in the 54-county Cross Harbor modeling study area.
- **Noise and vibration** – effects from increased rail activity along rail freight routes, activity at rail yards.

- **Natural resources** – direct effects on aquatic biota, terrestrial biota, threatened or endangered species (and their associated habitats, such as wetlands), as well as other resources of special concern, such as essential fish habitat.
- **Contaminated and hazardous materials** – potential to encounter contaminated soil and groundwater during construction, especially those elements that would require excavation, storage, transport, or disposal of contaminated soil.
- **Environmental justice** – potential for disproportionate adverse effects on minority and low-income populations.

ECONOMIC AND FINANCIAL EFFECTS

The detailed evaluation will consider a series of economic and financial effects to address issues associated with the public and private benefits of the alternatives. The analyses will focus on evaluating the effects on economic activity in the 54-county Cross Harbor modeling area. The economic effects will be presented in terms of direct, indirect, and induced economic impacts. Alternatives may also attract local economic development along the alignments and in the vicinity of project elements, such as yards and float facilities. Localized adverse economic impacts may also occur from displacement and relocation of businesses.

As part the screening analysis in Step 4, alternatives are evaluated to estimate their market demand, relative utilization, and modal diversion potential. The alternatives will be further refined based on engineering, operational, environmental, and other considerations in Step 5 (as described above). These revised alternatives will be re-tested with respect to market demand, relative utilization, and modal diversion potential using the mode choice models.

The economic analyses include:

- **Economic impact analysis** – examine the broader implications of the alternatives on freight stakeholders, surrounding communities, and the larger statewide and national implications.
- **Benefit-cost analysis** – estimate benefits from a local, regional, and national perspective based on transportation efficiencies and social and environmental benefits.
- **Market feasibility analysis** – evaluate the acceptance and sustainability of alternatives within the private market world of transportation service providers and customers.
- **Railroad financial analysis** – estimate the potential operational value of alternatives to railroads.
- **Revenue stream and funding needs analysis** – estimate potential revenue streams to the public sector and identify overall funding needs, including needs unmet by revenue streams.
- **Displacement analysis** – identify potential direct displacement of residents and/or businesses.

CRITERIA FOR EVALUATION

For each alternative, the results of the analyses will be evaluated based on performance measures associated with the project goals and objectives. Although these performance measures have not

Table 2: Detailed Evaluation Analysis

Goals and Objectives	Detailed Evaluation Analysis
Goal 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.	
Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.	Transportation
Reduced travel-time and delay on regional highway network.	Transportation
Maximize efficient use of available capacity on existing transportation infrastructure.	Engineering and operational
Maintain or improve regional rail network performance.	Engineering and operational
Goal 2: Provide Cross-Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.	
Increase the number of modal options available for Cross Harbor freight transportation.	Economic and financial
Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.	Economic and financial
Goal 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.	
Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in event of a major interruption of service on existing interstate highway corridors serving the region.	Transportation
Support contingency planning for emergency alternative Cross Harbor goods movement operations	Engineering and operational
Reduce the number of freight vehicle related accidents.	Transportation
Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.	Engineering and operational
Goal 4: Support development of integrated freight transportation/land use strategies.	
Maximize underutilized freight transportation infrastructure and related land uses.	Transportation Environmental
Support services to existing freight distribution centers in the region.	Transportation
Integrate rail freight services with local land use and transportation planning objectives.	Environmental
Integrate rail freight development with statewide freight and passenger rail plans.	Environmental

yet been defined, Table 2 identifies how each of the project goals and objectives will be evaluated by the analyses described above.

5. TIER I DEIS

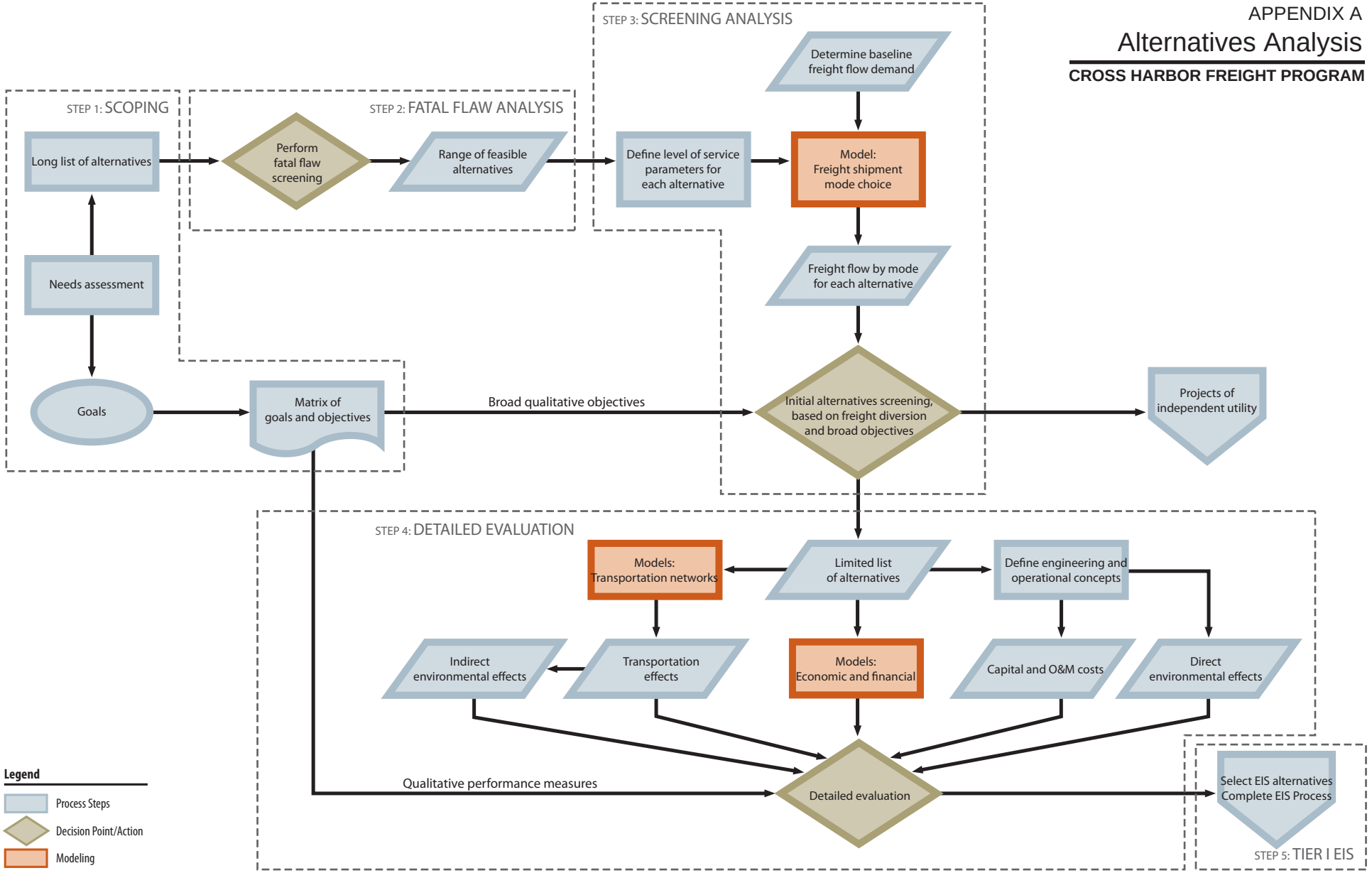
The final step in the process is the preparation of the Tier I DEIS. The results of all the previously described steps and assessments will be summarized in the Tier I DEIS. The environmental analyses undertaken for the detailed evaluation will be presented in the Tier I DEIS. Some of the environmental analyses may be further refined for the EIS. In addition, the Tier I DEIS will include analyses of visual resources, water resources, coastal zone management, and indirect and cumulative effects, as well as a Section 4(f) evaluation and Section 106 considerations, as appropriate.

The format and content of the Tier I EIS, as well as the review process is described in the Scoping Document. As the EIS process continues, alternatives may be revised, discarded, or added. The preparation of the EIS will ultimately select a Preferred Alternative or Alternatives in the Tier I EIS Record of Decision.

APPENDIX A

Alternatives Analysis

CROSS HARBOR FREIGHT PROGRAM



Appendix B: Technical Methodology – Screening Analysis

A. INTRODUCTION

As described in the Environmental Impact Statement (EIS) Methodology Report, as a result of the fatal flaw analysis, a range of potentially feasible project alternatives will be identified and then carried forward to Step 3—the alternatives screening process. The screening process begins with a market analysis to collect detailed information about existing freight logistics and demand. This information is then used to develop the mode choice model. The mode choice model will provide estimates of future freight flows by mode for each alternative. The following details the full extent of the technical methodologies that will be used to evaluate logistics and market demand for the screening analysis.

B. EXISTING FREIGHT FLOW RESEARCH

As described in the EIS Methodology Report, the market analysis begins by identifying the logistics patterns that are most likely to benefit from Cross Harbor freight enhancements.

OVERVIEW

This information will be gained from past studies, freight movement databases, industry interviews, and current industry trends. The EIS Methodology Report describes in detail the four types of freight movements that may be well served by Cross Harbor freight improvements.

ANALYSIS METHODOLOGY

Once the key logistics patterns are identified, the next step is the collection of best available data on commodity and vehicle flows relevant to these patterns. The goal is not to describe the universe of freight activity; rather, it is to develop a clear, focused, and easily communicated picture of the freight flows that are most critical for enhanced Cross Harbor rail infrastructure. The following sources will be utilized:

- *Existing regional models* (New York Metropolitan Transportation Council [NYMTC], North Jersey Transportation Planning Authority [NJTPA], New Jersey Department of Transportation [NJDOT], which contain truck movement information.
- *TRANSEARCH data* (acquired by the Port Authority of New York and New Jersey [PANYNJ])
- *Rail Waybill data* for key states
- *Truck origin-destination surveys at key facilities*: major truck crossings and regional intermodal rail yards. (Useful origin-destination data are already available for the region's marine terminals.) TRANSEARCH is useful for describing truck origin-destination pairs and commodity mixes, but less useful for estimating route-by-route truck volumes. Empirical data from on-the-ground surveys is therefore helpful to validate and, if necessary, adjust the TRANSEARCH data. This validation

step should significantly increase confidence in the underlying estimates of freight flows, and in the resulting estimates of potential utilization of enhanced Cross Harbor rail infrastructure. This information will provide best-practice estimates of full truck loads for the east-of-Hudson region.

- *Rail terminal and warehouse/distribution facility surveys* and observations aimed at developing defensible estimates of the volumes, types, and percentages of rail traffic that could proceed as full moves to the east-of-Hudson region, as opposed to rail traffic requiring handling in the west-of-Hudson region. Initially gate surveys will be used, performed by the railroads, which are on file with the Surface Transportation Board (STB), and then the need for any additional empirical information will be determined. If this information proves insufficient, the possibility of conducting gate surveys at the North Jersey intermodal terminals will be explored. From prior experience, the questionnaires must be short and answerable in a minute or less. This requirement will limit questions to a critical few, including origin and destination, load/empty, commodity, and equipment type. Approval to conduct the surveys would have to be obtained from the terminal operators, whose cooperation will likely vary depending on their perception of the potential benefits that they may accrue. Similarly, if the STB information proves insufficient, the possibility of collecting similar data at a cross-section of distribution/warehousing facilities in the region to supplement rail facility information will be explored.
- *One-on-one interviews* with knowledgeable individuals in the freight industry. A target list of potential interviewees and an interview guide will be developed. It is anticipated that approximately 20 interviews will be performed. These interviews will be performed with representatives of carriers, shippers, third-party logistics providers, and public agency stakeholders. The findings from the interviews will be used to help describe existing freight movements and to focus further analyses on the most important aspects of shipping decisions. In the process of selecting interviewees, individuals with a mix of responsibilities will be identified to ensure that the broad range of issues and perspectives is fully understood. For example, personnel at each of the railroads serving the region are expected to be interviewed. For the Class I carriers, interviews will be conducted with operations staff that is intimately familiar with how their railroad runs trains and terminals in the region, marketing officials that are selling transportation services, and strategic planners who are looking toward the future and their railroad's position in it.
- *Economic forecasts.* The TRANSEARCH Insight 30-year forecast links economic and demographic projections to increases in demand for specific commodity groups, and provides a baseline estimate of increases in freight movement by mode and origin-destination that would result from such increases. It is important to note that the TRANSEARCH forecasts assume no changes in the underlying mode shares. Therefore, a commodity in a given trade lane that is 10 percent by rail today, is assumed to be 10 percent by rail in the future. This represents a base case scenario, against which the effects of Cross Harbor freight improvements can be evaluated
- *International trade forecasts*. TRANSEARCH forecasts are driven primarily by demographic and economic trends. Those forecasts can be adjusted to reflect anticipated or potential changes in international trade, if desired, based on PANYNJ projections.

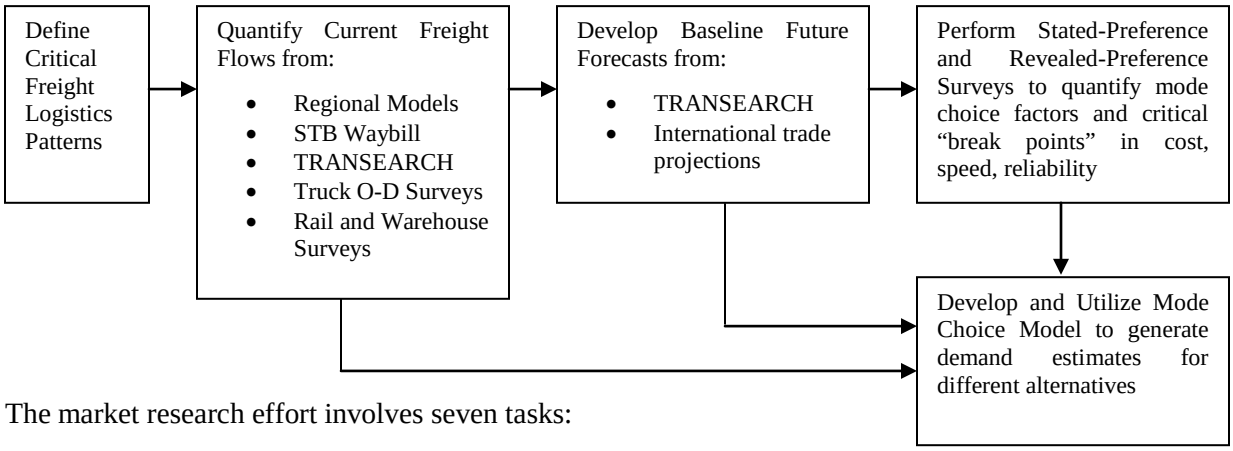
C. MARKET RESEARCH

OVERVIEW

To clearly understand and describe the factors used by decision-makers to select a particular mode of transportation, surveys of and qualitative research with freight shippers and receivers in the corridor will be developed, fielded, and analyzed. The objectives of this research are:

- Understand how Cross Harbor shippers make decisions regarding freight transportation, including mode and carrier choices, through a coordinated program of one-on-one interviews and focus groups.
- Understand the role of supply chain logistics on these decisions through a coordinated program of one-on-one interviews and focus groups.
- Obtain detailed information on representative actual recent shipments via revealed-preference surveys conducted via telephone.
- Obtain detailed information on the extent to which shipping decision-makers would change their choices under different hypothetical transportation scenarios, via stated-preference choice exercises.
- Construct a set of Mode Choice Models reflecting the critical logistics patterns, commodities and rail equipment, and trade lanes. The models are populated with best-practice data on current and future baseline forecast activity; modeling equations are constructed based on the preference surveys; and different level of service values are specified. As the level of service for rail is improved compared to trucking—in terms of cost, speed, and reliability—its attractiveness and its market share can be seen to increase, and the increase is quantified by the models. The forecasting tool will allow for various logistics adjustments as well. For example, the minimum shipment size required to "trigger" the availability of rail service can be adjusted to reflect likely rail marketing practices, which have increasingly targeted larger shippers and "mixing centers" in recent years. This tool allows a wide range of rail enhancement strategies to be tested, including simple or complex float networks, single-track or double-track tunnels, rail AGV services, "open technology" rail versus conventional technology, and other options. Essentially, any rail service that can be defined in terms of a particular cost, speed, and reliability can be tested and its potential demand estimated.

Overview of Proposed Logistics and Market Demand Methodology



The market research effort involves seven tasks:

1. Initial Survey Design
2. Focus Groups and Interviews
3. Sample Identification
4. Recruiting Interviews and Revealed-Preference Surveys
5. Stated-Preference Surveys
6. Freight Shipment Mode Choice Model Construction
7. Documentation

ANALYSIS METHODOLOGY

INITIAL SURVEY DESIGN

The design of the survey will be driven by the modeling needs and practical data collection considerations. A survey of shipping decision-makers is being proposed in which information will be gathered on actual and hypothetical shipping choices. The primary outputs of the initial survey design will include findings from the focus group sessions, finalized scripts of the telephone-based revealed-preference surveys, and a standard template for the follow-up Internet or faxed-based stated-preference surveys.

The survey plan will consist of four key elements:

- Defining Universe/Sampling Units – The survey results will be used to represent the total commodity flows of freight movements in each of the relevant logistics market areas. The total freight flows for each market area developed from the TRANSEARCH commodity flow database and other available commodity flow data sources will be used to define the shipment population of interest and to determine the expansion factors.
- Sampling Frame – The sampling unit will be the decision-maker of individual shippers/receivers and carriers. Sampling by individual company will allow each survey to be weighted based on relative contribution to total commodity flows. Therefore, the ideal sampling frame will be a comprehensive list of all businesses that make shipments within the logistics market areas in the New York/New Jersey region.
- Sampling Approach – The sample for this study will be stratified by logistics market area, commodity type, and trip distance. These variables are relevant with respect to mode choice characteristics of freight. The Standard Industry Classification code or the North American Industry Classification System code from the sampling database will be used to identify company business sectors that are most closely related to the STCC classifications within the TRANSEARCH database. If the shipper/receiver or carrier drawn from the sample has qualifying shipments, then it will be included. A shipping/receiving decision-maker at the selected sample establishment will be contacted during recruitment to determine if they should be included in the sample. This procedure will be followed until the desired number of surveys are collected for each logistics market area. For sampling purposes, approximate ranges for each stratum will be identified, to enable a reasonable distribution of business sectors and commodity shipment types to be captured in the surveys. The final sampling plan will be based on a review of the sampling frame and the variables that will be identified from the commodity flow data.
- Defining Survey Methods – A two-stage survey is anticipated, involving an initial telephone interview focusing on respondent revealed-preferences, followed by a mail/fax/Internet survey that will include stated-preference tradeoff exercises.

The revealed-preference survey will be designed to obtain more specific information about shipments within, into, or out of the region that can be used as bases for the stated-preference choice exercises, including: commodity details, including shipment size, shipment value, and special transportation considerations (hazardous materials, etc.); transportation mode level-of-service information, including travel time, freight shipping cost, delivery windows and requirements, origin and destination facility types, and reliability estimates; and respondents' assessments of the availability and levels-of-service of alternative freight modes. The revealed-preference survey will be administered by telephone, as discussed below.

The stated-preference technique is typically used to forecast consumer response to products and services that do not presently exist. Typical applications include a new public transportation service, such as a rapid transit system in a region with only bus service today; or innovative consumer products, such as new types of cellular telephones and paging devices. The advantage of this approach compared to standard survey techniques is that it tests respondent's choice preference against a range of future service attributes, and these results are then used to develop a model that can predict choices under a specific set of service attributes.

For the stated-preference surveys, the proposed design approach is to offer fully customized choice tradeoff exercises based on actual reported shipments for each participating respondent. In the choice exercises, the values of each of these attributes for each potential mode will be systematically varied according to a pre-established experimental design. Shipping decision-makers will be asked to choose alternatives under varying levels of service. Since the exercises are based on actual shipments, and the attribute levels (cost, speed, frequency, reliability, mode, etc.) are based on reasonable variations in the potential service levels, respondents are able to make realistic choices (see Table 1 for a sample trade-off exercise). By basing the hypothetical choices on reasonable variations of actual service conditions and actual potential improvements, responses will be obtained that are as realistic and relevant to each individual as possible. Furthermore, basing the choice exercises on actual recent shipments enhances the ability to combine the revealed and stated-preference data, improving the quality of the results.

To accomplish this customization, it is essential that each survey respondent participate at two stages of the process: the revealed-preference stage (at which information on actual reported shipments is obtained), and at the stated-preference stage (at which respondents are given custom-tailored choices reflecting a range of freight shipment options). Each stated-preference questionnaire will have four to eight different trade-off exercises.

Table 1
Stated Preference Survey—Sample Trade-Off Exercise

Choice Exercise 1				
	Suppose the following transportation options were available for shipping Non-Perishable Food Products from Thunder Bay to Quebec City			
	If these were your only options, which would you choose?			
	(Please Circle the letter of your preferred shipping option)			
	A	B	C	D
Shipment Option	Truckload Shipment	Intermodal Rail Shipment	Maritime Shipment	Railcar Shipment
Description	SAME AS NOW For-Hire Trucking Company picks up shipment at Thunder Bay and delivers it to the Quebec City destination	For-Hire Trucking Company picks up shipment in a container at a shipper, delivers it to a rail facility in Thunder Bay, where it is shipped by rail to Quebec City, and driven by truck to its destination	For-Hire Trucking Company picks up shipment in Thunder Bay, delivers it to the port facility, where it is shipped by Great Lakes/Saint Lawrence Seaway to Quebec, and driven by truck to its destination	Railroad picks up shipment in a railcar at Thunder Bay and delivers the railcar to the Quebec City destination
Standard Shipment Size	22 tons	22 tons	22 tons	70 tons
Shipping Cost	$1,850 CAD/truckload (22 ton) ($84 CAD/ton)	$1,650 CAD/truckload (22 ton) ($70 CAD/ton)	$650 CAD/truckload (22 ton) ($29 CAD/ton)	$2,940 CAD/truckload (70 ton) ($42 CAD/ton)
Shipping Time	34 hours	50 hours	190 hours	110 hours
Frequency of Available Service	Every Hour	Every Hour	Every 24 hours	Every 4 Hours
Rate of Turn-downs / lack of availability	1.0%	2.0%	0.6%	0.5%
Delivery Window	4 Hours	2 Hours	12 Hours	2 Hours
On-Time Delivery Reliability	88%	80%	95%	66%
Loss and Damage Rate	2%	1%	1%	2%

As an initial target, it is anticipated that a total of 400 completed stated-preference questionnaires will be collected. A survey response will be deemed useable if both the revealed-preference telephone survey and the stated-preference tradeoff survey are completed. The ultimate sample size may differ depending on the initial survey design and the survey costs as determined by the pre-test.

A cash incentive for completing both portions of the survey will be used as part of the data collection strategy to: increase the cooperation rate of potential respondents (reducing the cost of recruiting respondents); reduce biases associated with data collection by attracting a larger proportion of the total sample; and speed up the data collection effort.

FOCUS GROUPS AND INTERVIEWS

Three Focus Group sessions with shippers and other logistics professionals will be held to help develop and "pre-test" both the revealed-preference and stated-preference surveys. A cash incentive may be offered to secure appropriate numbers and types of participants.

The location for these sessions will be based on proximity to relevant business locations. Approximately 8 to 12 logistics managers will be invited to attend each session, with the expectation that each session will include 6 to 8 participants. Information about the needs and behaviors of shippers and receivers making freight shipments within the logistics market areas will be gathered. Question lists and discussion materials will be developed for the sessions.

The first two focus groups will take place prior to the detailed survey questionnaire design steps. The third group will be used as a means to test the validity of the survey and adjust the survey materials once the questionnaires are in place. As part of the third focus group, the revealed and stated-preference surveys will be presented to the participants, allowing further probing and understanding of their decision-making process, and to determine if refinements are needed to the survey design.

In addition to the qualitative focus group sessions, interviews with knowledgeable individuals in the freight industry will also be performed to supplement and enhance the information collected through the focus group process. These interviews will include carriers, shippers, and public agency stakeholders. Findings from these interviews may be used to refine the survey questionnaires.

SAMPLE IDENTIFICATION

A pool of regional shipping interests will be identified for purposes of conducting revealed-preference surveys (primarily conducted by telephone) and stated-preference surveys (primarily conducted via Internet or fax). The anticipated protocol, similar to previous efforts, is to:

- Assemble establishment data for the relevant geography from which a sample of businesses can be drawn.
- Draw a sample of establishments, stratified by geography and primary business definition (NAICS code).
- Send selected establishments pre-notification letters.
- Contact sampled establishments by telephone, and identify one or more shipping decision-makers (either within or external to the establishments, themselves).

The business establishment information for sample identification will be developed from a commercial business database, such as Global Insight's Freight Locator (recently acquired by PANYNJ), the Dun & Bradstreet Selectory database, the InfoUSA database, or SSI database. Using the establishment contact information in these or a similar database, a stratified random sample of establishments will be constructed, stratified by geographic grouping and primary industry grouping. Establishments in industry categories that are not likely to generate or attract divertible Cross Hudson freight shipments will be excluded from the survey population.

Note that the establishment is the sampling unit. As a result, the shipment commodity types and logistics market areas will only be obliquely controlled, through the oversampling of certain NAICS codes and through non-random selection of specific shipments to be included in the stated-preference surveys. While the expectation is to target a wide variation in specific commodity shipments, no formal quotas at the commodity level will be established.

RECRUITING INTERVIEWS AND REVEALED-PREFERENCE SURVEYS

Working from the sample identification data, interviewers will contact the key transportation managers of the businesses by telephone, ascertain whether they are shipping or receiving qualifying shipments, and seek their permission to be surveyed. The interviewers may need to make several calls before identifying the correct person within an organization, and this person may actually end up working for a different or related company. Therefore, these surveys often take more time and effort than more traditional telephone interviews.

The telephone survey is expected to last between 15 and 20 minutes, and will be designed to:

1. Screen out establishments that do not qualify for the survey (i.e., they do not make relevant Cross Hudson freight shipments).
2. Identify the appropriate freight shipment decision-maker either at the establishment, at another company location, or at another company.
3. Administer the revealed-preference survey and collect basic data (about the origins, destinations, quantities, and types of shipments to or from the establishment).
4. Collect more detailed data (about specific relevant shipments to or from the establishment) in order to construct choice experiments for the stated-preference survey.
5. Solicit the respondent's agreement to follow up with the stated-preference survey.
6. Obtain the respondent's email address, so he or she can receive the link to the Internet survey, or obtain the respondent's fax number.

State-of-the-art Computer-Assisted Telephone Interview processes will be employed to conduct the revealed-preference surveys. The survey script will be programmed and will be conducted by trained personnel to achieve higher response rates and good quality data. This process will enable compilation of revealed-preference data in a consistent manner that is easily readable and formatted for analyses. The process will also enable smooth transmission of the collected revealed-preference data, allowing the customization of stated-preference trade-off exercises to begin.

The telephone survey will include the collection of several data elements related to the overall shipping activity of the respondents' establishments, including: number of inbound and

outbound shipments by commodity type; origins and destinations of the inbound and outbound shipments; and logistics arrangements and transportation modes used for the shipments.

In addition, the survey will obtain more specific information about shipments that can be used as bases for the stated-preference choice exercises, including: commodity details, including shipment size, shipment value, and special transportation considerations (hazardous materials, etc.); transportation mode level-of-service information, including travel time, freight shipping cost, delivery windows and requirements, origin and destination facility types, and reliability estimates; and respondents' assessments of the availability and levels-of-service of alternative freight modes.

Prior to implementing the full revealed-preference survey, a two-stage pre-test will be conducted. As previously noted, in the first stage, focus group participants will review and respond to the survey questions. The second stage will be a full dress rehearsal of the survey, in which the survey procedures will be applied to a smaller sample (20 interviews) of the survey population. This will provide any information necessary to fine tune the Computer-Assisted Telephone Interview process and the revealed-preference survey itself.

STATED-PREFERENCE SURVEYS

Next, qualifying regional shipping decision-makers identified through the recruiting interview and revealed-preference survey process will be contacted to complete stated-preference surveys.

The main exercises in these surveys will describe alternative shipping options, including possible new services and improved service alternatives. In these choice exercises, different shipping alternatives will be defined in terms of their key attributes, such as mode, travel time, cost, reliability, frequency of service, delivery window, origin and destination facility types, and transportation access.

Initially, the telephone survey responses will be reviewed for each individual to be surveyed and develop customized stated-preference surveys reflecting a realistic range of choices. These stated-preference questionnaires will then be mailed or faxed or made available to respondents on the Internet. Finally, interviewers will then re-contact the participants by phone to collect the stated choice data or to clarify responses.

As with the Revealed-preference survey, there will be a two-stage pre-test. In the first stage, focus group participants will be asked to complete stated-preference trade-off exercises. Based on the results, and on results from fielding the revealed-preference survey, the stated-preference trade-off exercises will be customized for a small test sample of 20 participants. These trade-off exercises will be formatted and mailed or faxed to participants. The time elapsed between the retrieval of the revealed survey data and the commencement of the stated-preference surveys will be minimized to minimize attrition.

Once the survey procedures and content are finalized based on the pre-test results, the full surveys will be completed.

FREIGHT SHIPMENT MODE CHOICE MODEL CONSTRUCTION

The collected revealed-preference/stated-preference survey data will allow for the development of discrete choice (multinomial and nested logit) models that can be used to predict how shippers will react to corridor transportation improvements and alternatives.

The mode choice model development effort will involve the estimation and validation of a group of market-specific models. The key methodological issue for the mode choice models relates to the use of the available freight shipment data. For this modeling effort, the revealed-preference data will be relied on to the extent possible to estimate mode choice behavior for the base year. The data collected through the stated-preference surveys will be used to guide the assessment of the attractiveness of new and improved Cross Harbor rail and float services that might be available in the future-year horizon. The mode choice models will relate the choice of shipment mode to specific characteristics of the shippers/receivers, the shipments being made, and the level-of-service attributes of each mode.

For this program, a form of logit mode choice model will be estimated and applied. In the logit model, it is assumed that each available freight shipment alternative provides the shipper with a utility, and the decision-maker is modeled as selecting the alternative with the highest utility. However, the model recognizes these utilities as random variables, so rather than estimating a specific choice, it estimates the probability of a specific choice, under the given conditions. This probability is defined as the likelihood that an alternative has the highest utility among available alternatives.

In the logit model, the utility is usually specified as a linear combination of the different observed independent variables available from the survey, multiplied by unknown parameters. The process of model estimation involves finding the values of the parameters that result in the highest probabilities being assigned to actual observed choices from the revealed-preference surveys. Once the parameters are estimated, the model is used to estimate the choice probabilities of different alternatives with different characteristics.

The basic decisions in developing the mode choice models will include: (a) selection of the variables to be included in the utility function for each mode along with the mathematical forms of each variable; and (b) selection of the appropriate model structure (multinomial logit or nested logit) as allowed by the data and the nature of the choice behavior under study. The model estimation effort will be an iterative process. Different model specifications, with various combinations of variables and levels of complexity, will be tested until a set of final models is developed.

The percentage of total freight that would move by a particular mode (e.g., by truck or by rail) will not be estimated. The development of such a model would be impractical, given the size of the sample that would be required. Instead, the results of the logit choice model will be applied in a comparative process, to calculate how the relative utility of a change in rail service would compare to the relative utility of the base traffic moving by truck. This incremental approach, which "pivots" from the existing tons and shipments moved by truck to calculate the amount that might divert based on changes in the utility of competing modes, particularly rail service, allows for a more robust range of alternatives to be tested against a broader range of commodities and origin destinations, by maximizing the information from the stated-preference surveys.

The logistics of special handling, value of shipment, and size of shipment will be explicitly considered through the development of filters and equations for specific commodities. Previous studies found that while small amounts of annual diversion of freight might be consistent with the mode choice equation, such traffic rarely materializes in practice because rail is an inefficient handler of small quantities of traffic. Previous studies also found that the validation of freight mode choice was improved if utility equations were developed for classes of commodities with similar values per ton or similar handling requirements.

Once the best model specifications are identified, validation will be performed by applying the models to present conditions and comparing the results to available commodity flow data. Mode choice models will be re-calibrated as applicable. Validation will consist of the following steps: reasonableness checks; disaggregate validation; and aggregate validation.

- Reasonableness checks of model parameters and results to known or expected values, based on revealed-preference surveys and other data. This form of model validation is conducted throughout the model estimation process on each interim model result.
- Disaggregate validation, in which the model is applied to see whether the results match observed or expected values. The preferred approach is to apply each model to a disaggregate data set other than the one from which the model was estimated. We will investigate whether other disaggregate intercity freight data sets could be used for this purpose.
- Aggregate validation comparing model results to known aggregate data not used in model estimation, such as commodity flow data sets.

Appendix C: Technical Methodology – Detailed Evaluation

A. INTRODUCTION

As described in the Environmental Impact Statement (EIS) Methodology Report, the alternatives screening analysis will result in a limited list of alternatives to be carried forward to Step 4—the detailed evaluation. Since the Tier I process will focus on selecting the mode(s), alignment(s), and logical termini for those alternatives that best meet the project's stated goals and objective, the data that will be collected and analyzed for the detailed evaluation (Step 4) and the Tier I EIS, will be largely tailored to support corridor-level decision-making. At the same time, an understanding and assessment of the local effects of the proposed alternatives is necessary, since a complete description of any proposed alternative requires a discussion of specific project elements—e.g., rail yards, track and structural improvements, marine infrastructure, ventilation systems, roadway improvements—that may result in adverse social and environmental effects on local communities. These adverse effects and the ability to avoid, minimize or mitigate them could influence the ultimate selection of a preferred alternative(s).

One consideration in the development of the detailed evaluation framework is that various transportation network and environmental concerns, issues, and resources require varying spatial and temporal scales of analysis. Some effects of the proposed project may be regional, while others would only affect a particular community or neighborhood. Many potential impacts effects may only occur in areas of direct construction or on properties adjacent to project elements. The framework must also consider the temporal basis for any impact assessment. Typically, the analysis would include short-term effects, such as those that would occur during construction of the project. Potential impacts would also be assessed both at the initiation of project operation (i.e., at the year of the estimated time of completion [ETC]) and at a future analysis year (typically 20 to 30 years after the project ETC). This is intended to capture the project's effects, both beneficial and adverse, over the long-term, particularly since population and employment growth may change those adverse and beneficial effects in the future. Because the alternatives may have differing years of completion—some may be complete in 2012, others in 2020—the year 2015 has been chosen as a compromise between the earlier and later years of completion to represent the project ETC. This ETC also reflects the fact that 2035 is being used as the future analysis year to forecast freight conditions in the region, as described below.

STUDY AREA

To fully understand the origin and content of freight entering the New York/New Jersey region, and to forecast future conditions, the alternatives analysis and Tier I EIS will model goods movement in a 54-county multi-state area, comprising portions of southern New York, northern and central New Jersey, western and southern Connecticut, and a portion of eastern Pennsylvania (see Figure 1). The counties selected for this modeling study area reflect the following:

- The Port Authority of New York and New Jersey (PANYNJ) core planning region, which includes the five boroughs of New York City (Bronx, Kings, New York, Queens, Richmond Counties), Long Island (Nassau and Suffolk Counties), lower Hudson Valley (Westchester and Rockland Counties), and northern New Jersey (Passaic, Bergen, Morris, Essex, Hudson, Union, Somerset, and Middlesex Counties).
- Surrounding counties that are also part of the New York Metropolitan Transportation Council (NYMTC) and the North Jersey Transportation Planning Authority (NJTPA) planning regions.
- Counties that accommodate truck/rail terminals and freight corridors that are important in serving the region.
- Additional counties that accommodate important Hudson River crossings that are, or may be, used to bypass infrastructure in the core planning region.

A model of goods movement in this area will provide a clear and focused picture of the freight flows between the west-of-Hudson and east-of-Hudson regions, including an understanding of ways that shippers choose to use a particular mode of transportation. This insight will allow the alternatives analysis and Tier I EIS to evaluate the economic costs and benefits of a new harbor crossing and to study the potential for diversion of freight. A full description of the methodology used to conduct the travel demand analyses and forecasts is included in this document.

Framed by this understanding of freight flows into, out of, within, and through the larger 54-county area, the alternatives analysis and Tier I EIS analyses will focus on the project's potential regional impacts in the greater New York/New Jersey region. This regional study area will comprise a combination of counties served by NYMTC, which encompasses New York City, Long Island and the lower Hudson Valley, and NJTPA, which serves 13 counties in northern New Jersey and the cities of Newark and Jersey City (see Table 1). The extent of the regional study area may be refined as project elements are defined and freight demand modeling is conducted and will be confirmed as appropriate for each analysis.

The regional study area will include: major interstate highways leading to the existing cross-harbor connections (I-278, I-495, I-95); a number of highways serving northern New Jersey (such as New Jersey Turnpike/I-95, I-78, I-80, and I-287); and many state and local routes that are important for local freight movement. The alternatives analysis and Tier I EIS will also investigate major freight rail lines and facilities west of the Hudson River (such as lines within the Conrail Shared Assets Area, the CSX River Line, the Norfolk Southern Lehigh Line, Chemical Coast Line and important rail yards at Croxton, Kearny, Oak Island, Greenville, Port Newark/Elizabeth in New Jersey) and strategic rail assets east of the Hudson River, which may be affected by the proposed alternatives (such as the 65th Street Yard, the Bay Ridge Branch, Montauk Branch, the Oak Point and Harlem River yards, and railcar float facilities at 51st and 65th Streets in Brooklyn). Conditions at area marine terminals and airports will also be included in the regional study area.

While much of the alternatives analysis and Tier I EIS will focus on broad, corridor-level impacts, some analyses will probably require an evaluation of local impacts from proposed or altered rail yards, rail lines, and/or intermodal facilities. The study areas for the evaluation of local impacts will depend greatly on the elements of each specific alternative and, to a lesser extent, on the environmental analysis in question. Therefore, for Tier I of the EIS, local study areas will be determined as appropriate before each analysis, for each potential project site, and will probably vary among alternatives.

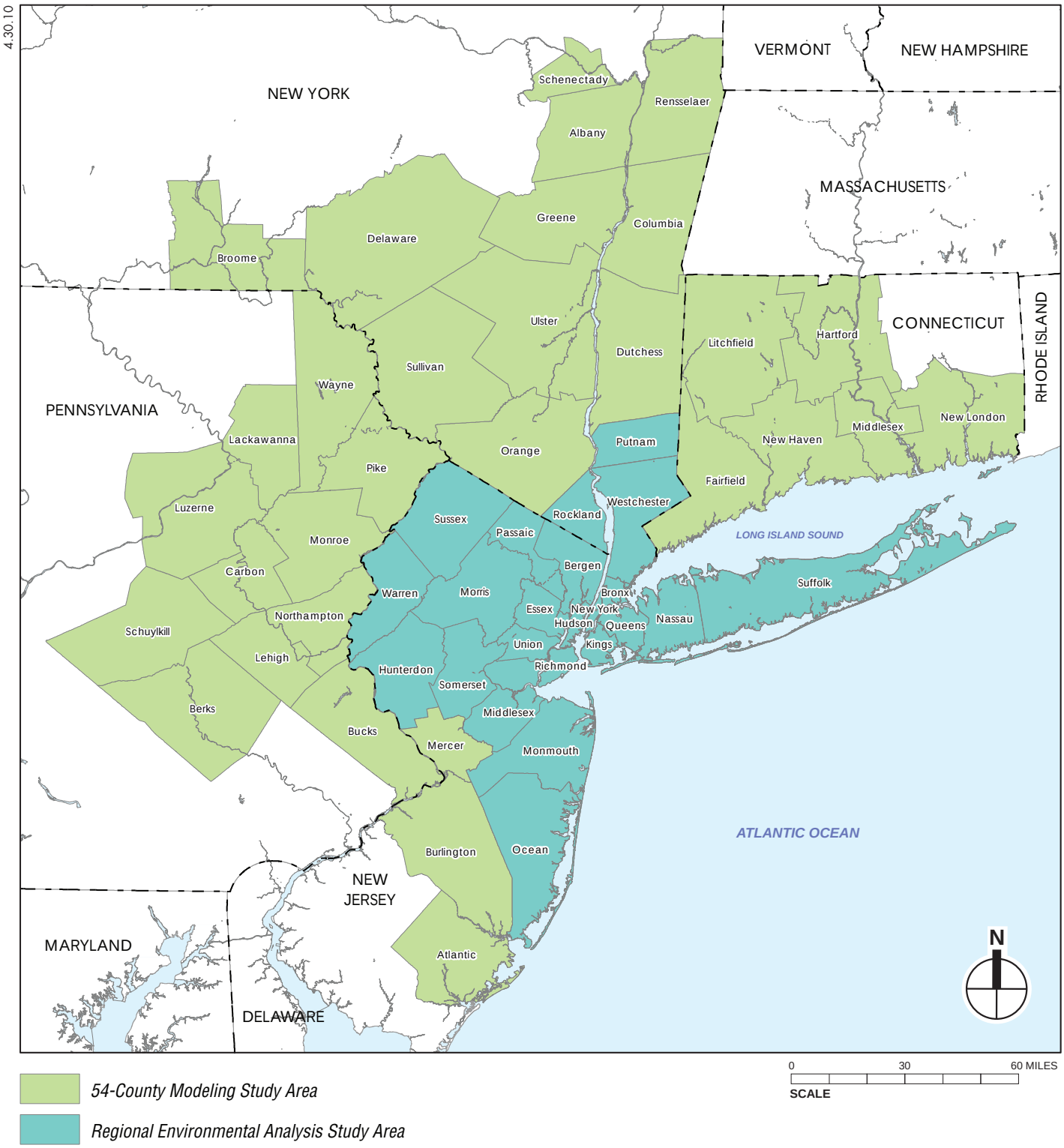


FIGURE 1

Study Areas

CROSS HARBOR FREIGHT PROGRAM

Table 1
Study Area Counties

State	Counties	54-county Modeling Area	Regional Study Area	
			NYMTC	NJTPA
NY	Albany	✓		
NY	Bronx	✓	✓	
NY	Broome	✓		
NY	Columbia	✓		
NY	Delaware	✓		
NY	Dutchess	✓		
NY	Greene	✓		
NY	Kings	✓	✓	
NY	Nassau	✓	✓	
NY	New York	✓	✓	
NY	Orange	✓		
NY	Putnam	✓	✓	
NY	Queens	✓	✓	
NY	Rensselaer	✓		
NY	Richmond	✓	✓	
NY	Rockland	✓	✓	
NY	Schenectady	✓		
NY	Suffolk	✓	✓	
NY	Sullivan	✓		
NY	Ulster	✓		
NY	Westchester	✓	✓	
CT	Fairfield	✓		
CT	Hartford	✓		
CT	Litchfield	✓		
CT	Middlesex	✓		
CT	New Haven	✓		
CT	New London	✓		
NJ	Atlantic	✓		
NJ	Bergen	✓		✓
NJ	Burlington	✓		
NJ	Essex	✓		✓
NJ	Hudson	✓		✓
NJ	Hunterdon	✓		✓
NJ	Mercer	✓		
NJ	Middlesex	✓		✓
NJ	Monmouth	✓		✓
NJ	Morris	✓		✓
NJ	Ocean	✓		✓
NJ	Passaic	✓		✓
NJ	Somerset	✓		✓
NJ	Sussex	✓		✓
NJ	Union	✓		✓
NJ	Warren	✓		✓
PA	Berks	✓		
PA	Bucks	✓		
PA	Carbon	✓		
PA	Lackawanna	✓		
PA	Lehigh	✓		
PA	Luzerne	✓		
PA	Monroe	✓		
PA	Northhampton	✓		
PA	Pike	✓		
PA	Schuylkill	✓		
PA	Wayne	✓		

Notes: NJTPA study area also focuses specifically on the cities of Newark (within Essex County) and Jersey City (within Hudson County)
Sources: http://www.nymtc.org/, http://www.njtpa.org/Plan/Subregion/Default.aspx

B. RAIL OPERATIONS ANALYSIS

Rail infrastructure enhancements within the study area, required for some of the project alternatives, would lead to potentially significant changes in rail operations. At the same time, expected rail traffic growth over the regional rail freight network, absent the enhancements, must be accommodated as well.

OVERVIEW

A rigorous methodology will be deployed to perform this assessment, using a train scheduling and line capacity simulation tool. Although the set-up will take considerable effort, evaluation of different scenarios can then be quickly accomplished. The minimum required work plan for the rail operations tool is focused on developing a high-level traffic density projection, and evaluating the broad implications in terms of rail network capacity.

- To start, a model representation of the rail network will be developed in the 54-county Cross Harbor market demand and forecasting study area, plus extensions over key corridors where changes in traffic density arising from the program might be reasonably expected to have an impact on traffic densities.
- A current year traffic database, utilizing the Surface Transportation Board's Full Waybill Sample, and "flow" this traffic over the network to develop estimates of current rail traffic densities by line will be developed. Simple methods will be used to translate these densities into estimated peak train densities.
- Future-year baseline growth will be estimated using the TRANSEARCH Insight growth forecasts, and traffic over the network will be re-estimated.
- Next, the effects of changes in rail infrastructure and services—in terms of changes in volumes over existing infrastructure, as well as volumes over new infrastructure—will be modeled. Model alternatives will address float and tunnel services and the lines serving them.
- Each section of rail line will be graded in terms of current capacity, based on its physical characteristics, traffic mix, service schedules, signaling, dispatching procedures, time-of-day peaking factors, and other similar attributes. Current and projected line densities will then be used to identify where line capacity issues may arise in the future, and where possible, will reflect the extent to which these issues arise from general economic growth versus the impacts of the specific project under study.
- Current and projected intermodal unit origination/termination counts will also be estimated for key facilities in the terminal area. This information may also be estimated for other selected railcar types, such as multilevel automobile carriers.

ANALYSIS METHODOLOGY

1. Develop updated data on rail network volumes to understand the impact of potential rail infrastructure improvements on specific rail lines and highway segments. As a starting point, an understanding of current rail system volumes will be developed.

    a. Obtain the STB's Full Waybill Sample. The Full Waybill Sample contains a 2.5 to 3.0 percent sampling rate of all carloads and intermodal containers/trailers moved in the entire country, with specialized alternative sampling rates for unit trains. While it does have some shortcomings, it provides a single source for

traffic moving on all of the carriers in the area of interest, and has a long history of being a defensible source for rail-related statistical analysis. Two major caveats apply to the sample. First, the sample only contains loaded movements, and requires that the empty movements be estimated. Second, some small short-lines may be missing or under-represented in the sample. In the past, a third issue also applied, which was that carloads terminating in Canada or Mexico were not reported (carloads originating in Canada/Mexico and terminating in the U.S. are fully included in the sample); however, this issue has been corrected, starting with the 2002 sample. For this study, an adjusted carload sample for the most recent year available at the time the project is undertaken (most likely 2006) will be used, where the primary adjustments and new traffic additions will be provided by other team members. Year 2006 was a peak year, with 2007 and 2008 generally representing contractions in volumes. Recent shifts in fuel prices and the value of the U.S. dollar have also impacted the patterns of rail shipments, particularly intermodal, which may require some adjustments to the traffic. The Full Waybill Sample can only be obtained under certain circumstances. Individual states may obtain a subset of the sample without a full review and approval process for "any waybill record pertaining to traffic that was originated, terminated, interchanged in, or that passed through" the state. Requests outside the scope of the above guidelines must go through a formal publication, comment, and approval process, which increases the time and expense for obtaining the sample, and introduces the possibility that the request will be denied. For this reason, it is recommended that the request focus on traffic originating, terminating or interchanged in New Jersey or New York. Once obtained, certain restrictions apply to the use of the data. To meet these restrictions, it is assumed that no individual O-D level traffic data will be publicly disseminated as part of this study. Instead, the results will be presented as aggregate line densities, perhaps broken out by major traffic types (international intermodal, domestic intermodal, carload/merchandise, and unit/bulk).

b. Validate and/or adjust the STB Full Waybill line density assignments, based on discussions with the region's freight railroads and comparison with other recent regional studies (NJTPA Freight System Performance Assessment Study, etc.) and multi-state studies (Mid-Atlantic Rail Operations Study, etc.).

c. Obtain current data on passenger train volumes over the regional freight network from NJ TRANSIT, Amtrak, Long Island Rail Road, and Metro-North Railroad.

2. Perform rail system capacity analysis for local rail freight corridors based on prior studies and available information to assemble, synthesize, and update, as appropriate, existing knowledge related to rail network capacity potentially impacted by Cross Harbor alternatives.

    a. Update previous studies of rail network capacity. Previous studies included analysis of the major freight rail network elements in evaluating capacity and traffic (freight and passenger) demands that may impact Cross Harbor freight mobility. The analysis included the CSX Corporation, Norfolk Southern, Conrail Shared Assets, NJ TRANSIT, New York & Atlantic, and Long Island

Rail Road operations. Specific attention was paid to the capacity of the Lehigh Valley Main Line, Chemical Coast Secondary, River Line, National Docks Secondary and Greenville Running Track in New Jersey, and the Hudson Line in New York. A service plan was specifically developed to incorporate future traffic levels. This plan was then subjected to a manual simulation of these lines to identify and assess the infrastructure improvements that may be necessary to assure the reliable flow of freight and passenger train movements throughout the study area, which was defined as North Bergen to the north, Port Reading Junction to the south, LIRR Fresh Pond Yard to the East, and Oak Island Yard to the west. The specific study data was then integrated with available data on rail freight operations from Harrisburg, Selkirk, and Boston. Key factors considered included long-distance freight traffic, local freight operations in New Jersey and Long Island, successful integration with NJ TRANSIT Raritan Valley trains, operations at major freight yards (Oak Island, Fresh Pond, North Bergen, Croxton, Meadows, the New York Cross Harbor Railroad, and Greenville) and Amtrak service on the Northeast Corridor. These analyses will be reviewed and updated to reflect the most current available information.

b. Incorporate findings and data from other recent studies as applicable. Relevant capacity studies include: (1) analyses of the Brooklyn waterfront (New York Cross Harbor), Bushwick Terminal (NY & Atlantic) and Oak Point (CSX and Conrail Shared Assets) yard facilities for feasibility of constructing waste transfer facilities; (2) analyses of New Jersey rail network capacity developed for NJTPA; (3) analyses of multi-state rail network capacity developed for the I-95 Corridor Coalition as part of the Mid-Atlantic Rail Operations Study; and (4) information from the New York State Department of Transportation's (NYSDOT) Hudson Line Joint Users Study, which included a full network simulation between the Capital District and New York City; (5) Ulster County's study of River Line grade crossing blockages; and (6) other information from regional freight and passenger railroads;

3. Perform rail network capacity and demand analysis and modeling, addressing the larger regional and national freight system to expand the analysis geography beyond the boundaries of local conditions. This will capture critical interchange points between the regional and national networks, helping us understand how national flows feed to and from the project, and to identify any critical issues or impediments beyond the immediate project boundaries. The product is a comprehensive analysis tool for assigning and documenting rail network flows.

    a. Develop network representation of relevant rail infrastructure. Using proprietary Traffic Flow Analyzer software, a network representation of relevant existing rail infrastructure will be developed. This network will be highly detailed in the areas near and potentially feeding into rail infrastructure improvements, and become more aggregate in nature as the distance from the project area increases. Thus, rail lines of any relevance will be represented in the northern New Jersey area and southern New York area. As the distance from the study area increases, only the main lines will be represented, and the various branch lines will be largely omitted. The network will include the key data needed to properly assign the waybill sample to the network. This data will include line ownership and trackage rights by carrier, station names, Freight Station Accounting Codes

(FSACs), and Standard Point Location Codes (SPLCs). While the base network will initially contain information for the rail lines spanning the entire Eastern U.S., this network will be reduced to focus on only those elements that are relevant to the program. This work will be largely driven by the extent to which projected related volume changes impact the line densities of more distant parts of the rail network. The greater the distance from the study area, the smaller the impact of the project in terms of the percentage of traffic it represents traversing a particular line. We are suggesting a minimum study area to include: Framingham, MA; New Haven, CT; the New York/Montreal border; Buffalo, NY; Allentown and Harrisburg, PA; Hagerstown, MD; and Wilmington, DE to the south. This network could include rail traffic that does not "touch" New Jersey or New York, and would have to be omitted or information obtained through other means.

b. Geo-code waybill data and calibrate rail network flows. Once the network design is complete, the next step will be to "geo-code" the waybill data, and "flow" the traffic over the network. This process consists of the following steps: determining the exact location on the network where the traffic movement begins; assigning the origin of the traffic to that network location; repeating this process for the traffic destination; determining how the traffic will be routed over the network from origin to destination; assigning the traffic to the various network links that are traversed; and deriving the resulting line densities. This process will be done using the advanced traffic routing (flowing) capabilities in the Traffic Flow Analyzer computer model. The calibration process is designed to address limitations inherent in the source data. One limitation is that waybill origins and destinations are often not the "true" origins or destinations of the traffic. Key commodity groups will be directly researched, particularly in the Northern New Jersey area, and assignment adjustment rules will be developed where needed. Another limitation is that intermodal traffic is most reliably reported in terms of containers and trailers; these need to be converted into railcar movements, considering the types of rail equipment used. Another issue is the need to consider which rail carrier handled a given traffic movement, and the operational practices of that carrier. The Traffic Flow Analyzer supports the specification of the carriers that handle each leg of a rail car's route, and it will "flow" the traffic in a manner that respects the operating territories of each carrier. In addition, the Traffic Flow Analyzer supports the specification of routing preferences for traffic at both a general level, and at a very specific level. For example, the route determination process can take into account which lines are preferred for various types of movements (e.g., intermodal versus general merchandise), and also supports the specification of operating rules to further refine the car routings. These additional operating rules can take the form of either specifying that particular traffic movements must traverse specific lines or pass through specific facilities. In the most advanced approach, we can take into account the "switching" rules that dictate how cars are grouped together and routed for train movement (this last approach would likely be beyond the scope of this study). These techniques will be used as time, budget, and supporting information to achieve a reasonably accurate picture of how the various traffic movements will be routed.

c. Develop supplemental rail network traffic estimates on movements not covered by the Waybill. The waybill contains only loaded movements, and thus requires the estimation of empty movements. Also, if only New Jersey and New York "participatory" waybill traffic is used, it may be necessary to "bulk up" the line densities on lines in Pennsylvania or other states. The normal practice for empty movements is to obtain statistical "empty/load ratios" for the industry or specific carriers, and apply these on a "reverse route" basis. For example, one might know there are 0.9 empty miles generated for every loaded mile of a box car on a particular carrier. One would then take each loaded O-D boxcar pair, and generate a new movement in the opposite direction with a car volume of 0.9 times the loaded movement's volume. These "e/l" ratios are available from a variety of sources, including the Association of American Railroads, and statistical reports filed by the individual carriers known as "R-1s." This information can be used, but judgment must be applied, particularly with respect to whether the number of loaded plus empty terminating cars is approximately equal to the number of loaded plus empty originating cars. Where significant balance issues exist, we may adjust the empty movements to more accurately reflect local conditions. To correct for waybill limitation on traffic outside of New Jersey and New York, publicly available sources will be used, and any materials directly supplied by the carriers to determine the current densities on each relevant line. These base volumes will then be added to the general traffic database, and thus will be available for "scaling" as part of any forward projections.

d. Perform high-level rail network density/capacity analysis for the existing system and for future baseline conditions. Once the traffic densities have been developed, these densities will be converted into estimated peak train densities. Estimated capacities will also be developed for each line. The peak train densities will be computed by converting the average carloads per day into estimates of the number of trains per day by type. Densities for five different train types will be determined: container-on-flatcar/container-on-flatcar, double-stack trains, merchandise trains, bulk/unit trains, and local service trains. Automotive trains could also be considered separately. The first four types of trains will be estimated based on the traffic mix over the line, the operating practices of the carrier involved, and estimates of the average length of trains operated by that carrier. This information will come from a combination of general industry knowledge, publicly available information, and any information directly obtained from the carriers. To reflect peak situations, the annual carload volumes will be divided by a value that is lower than 365, perhaps as low as 200 or 250. If information is available to support estimating the distribution of trains by time of day, it will be performed. For example, it would be useful to estimate the number of trains by type on the "River Line" (Northern New Jersey – Albany) for the time periods 4 PM to midnight, midnight to 8 AM, and 8 AM to 4 PM. This single-track line tends to have heavy northbound intermodal flows in the late evening and morning periods, southbound in the late afternoon and early morning, and very little mixed freight. Because the Cross Harbor freight movement program may have specific impacts on intermodal operations, estimating the peak train operations by eight-hour periods would provide more insight into the potential for line capacity issues. Such a breakout would be

based on general industry knowledge and current carrier timetables to the extent they are available. Each major line segment will be characterized by its current configuration and estimated capacity. This information will include the number of tracks, the length and spacing of passing sidings, the signaling or control system, track quality, and typical operating speeds. Based on information obtained from the carriers and public data sets, each line will be graded as to its approximate capacity in terms of trains per hour or day. The actual capacity is affected by the mix of trains operated, the directionality of the operations, and the peaking factors. These capacity rankings will then be used to determine where capacity issues currently exist or may arise in the various alternative scenarios. In addition, the number of originating and terminating intermodal units will be computed for each major facility in the study area. This information will be used to create a baseline for identifying possible rail intermodal expansion requirements. Finally, estimated future volumes (based on growth factors developed in the demand analysis and projections obtained from passenger railroads) will be flowed over the network to identify changes in routings and system performance in the absence of Cross Harbor alternatives.

e. Prepare the model for high-level rail network density/capacity analysis of future system and demand assumptions, based on Cross Harbor alternatives.

4. Develop highway system capacity and demand analysis tools to develop a comprehensive understanding of capacity and demand over the regional highway network related to freight movement, as a basis for evaluating the impacts of Cross Harbor strategies.
    a. Consult with the PANYNJ and other study partners to determine the preferred highway network model(s). Obtain the most current versions of model control files, networks, and trip tables.
    b. Review and evaluate models for strengths, weaknesses, known deficiencies, and inconsistencies. If necessary or warranted, combine elements of different models to maximize their strengths within an integrated tool.
    c. Use the preferred highway network model(s) to develop baseline estimates of truck traffic under current conditions and future no-build conditions. Review with PANYNJ and other study partners to identify an agreed-upon starting point for the analysis of changes in truck traffic related to Cross Harbor improvements.

C. HIGHWAY NETWORK ANALYSIS

To assess the effects of potential freight improvements on the regional highway system, the expected changes in truck trip volumes and origin-destination patterns using regional travel demand models will be tested. Regional model outputs, with and without freight improvements, will be compared to measure the net benefits of the improvements to the highway system.

OVERVIEW

For most improvements, truck trips over the Hudson River crossings, and major corridors accessing these crossings, would be reduced, but at the same time, local truck activity at certain points—particularly truck to rail transfer facilities served by the improvements—could be increased. The regional models provide a framework to evaluate these effects.

The highway network analyses will consist of initial validation and adjustment of truck travel components of the available regional travel demand models, and then application of the model systems to reflect potential truck shipment demand changes that the various improvement plans might cause. These activities are discussed below.

ANALYSIS METHODOLOGY

Two regional model systems cover portions of the study area: NJTPA's North Jersey Regional Transportation Model Enhanced (NJRTME); and NYMTC's Best Practices Model (BPM).

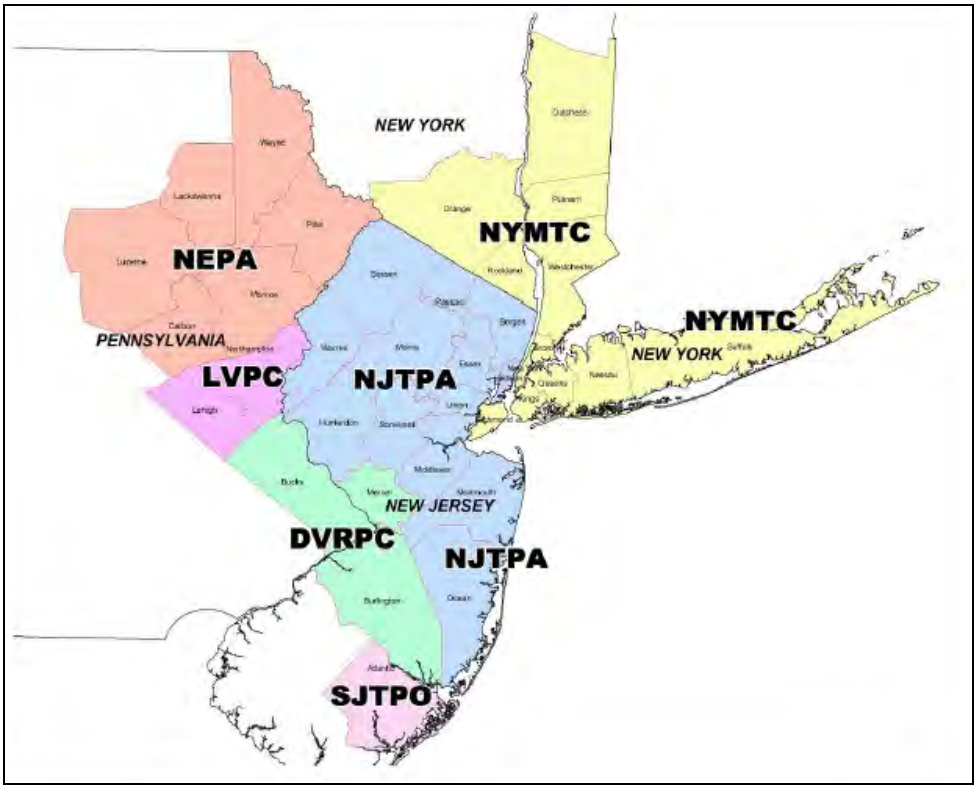
Both model systems include truck travel as special modules within their modeling processes, but neither delineates commodity truck trips from other types of truck trips that would not be captured in commodity flow analyses, such as the TRANSEARCH database. While the two models forecast trucks differently, both approaches appear to represent good quality state-of-the-practice modeling.

Both of the model systems include their core Metropolitan Planning Organization (MPO) region, as well as several adjacent counties. By including these adjacent counties, the models are better able to provide forecasts within their core regions. The model coverage areas of these model systems are shown in Figures 2 and 3 following.

Although the model study areas are largely overlapping, the models do not maintain the same level of zone detail for non-core areas as they do for their core counties. In particular, the NJTPA model has very little detail about the east-of-Hudson region, except for in Manhattan. Because of these zonal differences, the current plan for the modeling for the Cross Harbor analyses is to rely on a combination of the two model systems:

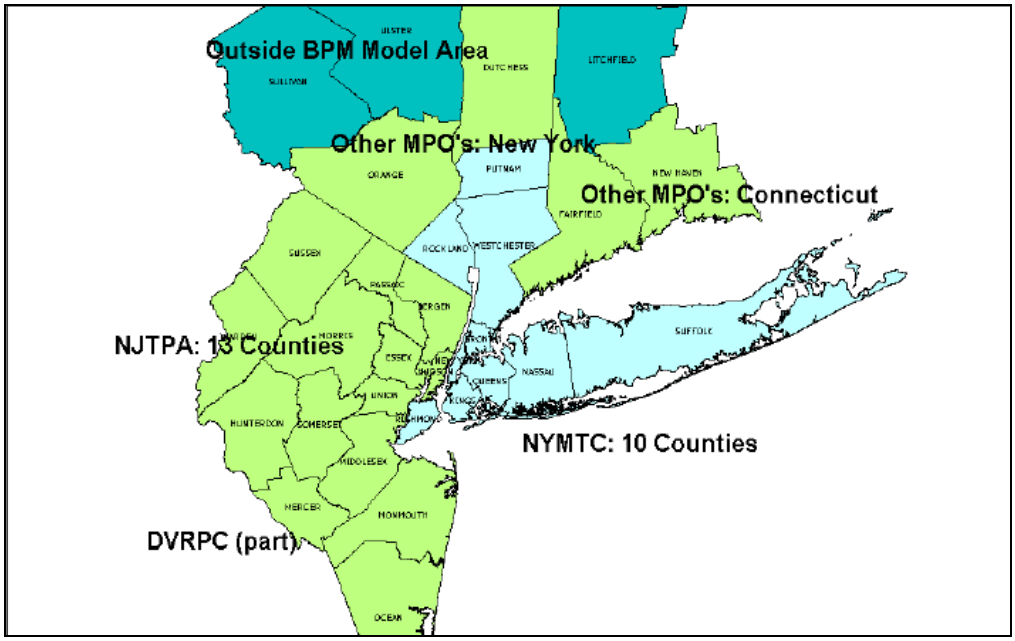
- Truck trips with both trip ends west-of-Hudson (except Staten Island) will be analyzed with the North Jersey Regional Transportation Model-Enhanced (NJRTM-E); and
- Truck trips with both trip ends east-of-Hudson or in Staten Island and truck trips that cross the Hudson will be analyzed with the BPM.

Figure 2. NJTPA NJRTME Model Area



Source: NJRTME Model Development Report, November 2008.

Figure 3. NYMTC BPM Model Area



Source: NYMTC 2005 Update and Recalibration of the BPM, December 2008.

The models have been initially reviewed and evaluated for strengths, weaknesses, known deficiencies, and inconsistencies (with respect to network attributes, base year demand, future forecast demand, level of detail to which truck flows are addressed, etc.). This process will be continued, the model systems' base year truck trip estimates will be compared to PANYNJ truck toll figures and other truck count data, and the models will be re-calibrated as necessary.

Initial work suggests that in terms of total traffic, the BPM matches PANYNJ river crossing data quite well. However, the truck trip percentage estimates for these facilities are not consistent. The truck trip models will be adjusted to improve the fit with these important counts. The models' county-to-county, internal-external, and external-external truck trip tables will be compared to the TRANSEARCH data to ensure important commodity flows are captured with the regional model truck estimates. Commodity truck trips are generally only a percentage of shorter truck trips, because there are many trips by service trucks (waste haulers, construction trucks, etc.) which are not engaged in goods movement. Some adjustment of longer-distance truck trip tables may be necessary to ensure consistency with the TRANSEARCH data. As the PANYNJ truck origin-destination data become available, and as intermodal facility origin-destination data is obtained, the baseline model trip table estimates will be updated.

Once the baseline estimates of truck traffic under current conditions and future No Build conditions have been developed, the proposed changes will be reviewed with NYMTC and NJTPA to identify an agreed-upon starting point for the analysis of changes in truck traffic related to Cross Harbor improvements.

Lastly, the potential regional impacts from operation of the alternatives will be assessed. Each alternative's potential to divert truck traffic to rail, as measured by a decrease in overall vehicle miles and hours of travel, and changes in traffic volume on the major highways leading to the cross harbor crossings and associated operational changes on these crossings will be analyzed.

D. OPERATIONAL AND ENGINEERING REQUIREMENTS

For yards and facilities associated with the alternatives, the conceptual engineering in this task of the detailed evaluation will identify the location of yards and facilities, minimum sizes, and any infrastructure needs. The conceptual engineering will also identify any associated right-of-way requirements. Order of magnitude cost estimates for the construction, operation, and maintenance of the alternatives will also be developed.

A set of engineering guidelines will be compiled into a design handbook for the project to provide a uniform basis for preliminary design and will undergo continuous refinement and expansion during the preliminary engineering process and final design. The design handbook will:

- Identify and define relevant project criteria.
- Identify regulations, standards and guidelines applicable to the design process.
- Provide a means and mechanism to identify, assess and resolve project technical issues.
- Provide a mechanism for systematically developing and recording the appropriate design criteria for the project.
- Provide documentation of the development and evolution of the project design criteria.
- Clarify and aid in the development of the project technical memos and design reports.

An operational analysis, based on conceptual engineering, will be undertaken during this step to determine operational needs of each alternative, particularly as it relates to the existing rail network and costs associated with each alternative.

E. ENVIRONMENTAL EFFECTS

Environmental analyses of alternatives will consider both direct and indirect effects, as well as cumulative effects, for a range of social and environmental conditions. The potential for local environmental effects and the relationship between local, short term impacts and the maintenance and enhancement of long-term regional productivity will also be evaluated, to the extent possible in a Tier I EIS. The conceptual engineering and operational information described above will be used to consider potential environmental consequences for each alternative.

OVERVIEW

Because Tier I will focus on potential regional and corridor-level impacts, it will be a mix of both quantitative and qualitative environmental analyses, depending on the specific analysis and available information; however, some discussion of local impacts around project elements will also be included, as far as the design development of alternatives will allow. Each area of analysis will also identify data needs for Tier II, when site-specific analyses will be performed.

The environmental methodology is divided as follows:

- Land Use, Zoning, and Public Policy
- Cultural and Historic Resources
- Air Quality
- Energy and Greenhouse Gases
- Noise and Vibration
- Natural Resources
- Water Quality
- Contaminated and Hazardous Materials
- Environmental Justice

Each section below will discuss issues of each particular subject area, the extent of the regional and local study areas, and the methodology for conducting an analysis for the detailed evaluation and subsequently for the Tier I EIS.

ANALYSIS METHODOLOGY

LAND USE, ZONING, AND PUBLIC POLICY

This analysis will include both a regional and a local examination of issues. On a regional basis, Tier I of the EIS will discuss regional land use development trends and various regional government plans and policies. Where appropriate, the analysis will identify regional concentrations of industrial and commercial activity, since these areas may create additional demand for improved freight movement. The analysis will also include a general description of land use, zoning, and demographic characteristics in local study areas, where specific project elements may be located. The consistency of the alternatives with local land use will be

evaluated. Potential impacts from the construction (short-term) and operation (long-term) of project elements on community facilities and neighborhood and community cohesion will be described.

1. Confirm the extent of the regional study area. The regional study area for land use will comprise the 10 counties served by NYMTC and the 13 counties served by NJTPA.
2. Define the extent of the local study areas. The study areas for the evaluation of local impacts will depend greatly on the alignment, extent, and termini of each project alternative. Screening for local impacts will be conducted around specific project elements where construction or operational activities may occur. The potential for noise impacts around project elements will be used as a worst-case scenario for environmental impacts to determine the extent of the local study areas. Therefore, the Federal Transportation Administration (FTA) guidance manual, Transit Noise and Vibration Impact Assessment (May 2006) will be used as guide where practical.
    a. **Rail yards** – land use and zoning will be described within 1000 feet from the boundaries of existing and proposed sites
    b. **Intermodal yards** – land use and zoning will be described within 1000 feet from the boundaries of the proposed yard sites, and within 400 feet from any truck routes connected to the regional highway network.
    c. **Float facilities (rail or truck)** – land use and zoning will be described within 1000 feet from the boundaries of existing or proposed sites.
    d. **Rail lines** – land use and zoning will be generally identified within 400 feet of each line. The longer rail line study areas may be divided into segments to aid in the analysis.
    e. **Tunnel alignments** – for the bored portions of the tunnel alignments, land use and zoning will be described within 400 feet of the proposed alignment. Since the physical effects of cut-and-cover and open-cut construction are more extensive, a local study area of 1000 feet will be used for those sections.
    f. **Road segments** – land use and zoning will be described within 400 feet of road segments where roadways improvements are proposed.
    g. **Tunnel entrances** – land use and zoning will be described within 1000 feet from the boundaries of proposed sites.

Local study areas will be refined after considering the potential for other impacts in the vicinity of the project elements, such as traffic or noise, and will be expanded as appropriate.

3. Describe existing regional public policy goals and development plans. Documents compiled by the Regional Plan Association (RPA), NYMTC, and NJTPA will be used to describe public policy goals for the greater New York/New Jersey region, and to identify areas in the region that are targeted for growth and development. Identify land use where appropriate. Secondary sources, such as geographic information systems (GIS), will also be utilized to identify areas within the region where industrial and manufacturing activity is concentrated. These areas may ship and/or receive freight, and may generate demand for the proposed project.

4. Discuss existing conditions around project elements, within the study areas identified above. The discussion of existing conditions will identify land use and neighborhood character around project elements, existing zoning, and will include a limited discussion of community facilities (e.g., libraries, schools, hospitals, places of worship) and open spaces (e.g. parks and other recreational areas) that may be affected by the proposed project. The existing demographic characteristics within the local study areas will also be described to identify low-income and minority communities. The description of local existing conditions will be based on information available from local government agencies (such as the New York City Department of City Planning); county planning agencies (such as the Hudson County Division of Planning), the 2000 Census of Population and Housing (updated as appropriate using available data); field surveys; and secondary sources.

5. Discuss future trends and growth expected by 2035 for the regional study area, independent of the project. The analysis will identify future large development projects (committed to or proposed) and public policy changes proposed in the region. Projections prepared by RPA, NYMTC, and NJTPA, and well as county and city master plans, will be used to prepare this section.

6. Discuss future trends and growth expected within local study areas, independent of the proposed project. The analysis will identify land use and/or zoning changes that are committed to or proposed within the local study areas. Information available from county and local planning agencies, as well as secondary sources, will be used to prepare this section.

7. Assess potential regional impacts from the operation of the project alternatives. On the regional level, the discussion of impacts will be centered on the project's compatibility with land use and development goals and regional public policy.

8. Assess potential local impacts from construction and operation of the project alternatives. The analysis will begin by discussing the compatibility of project elements with existing land use, zoning, and neighborhood character and whether project elements would significantly alter the character of local study areas or block access to area amenities. The analysis will discuss whether acquisition of property would be required for new or expanded project elements (such as rail yards), the potential for direct or indirect displacement of residents and businesses, and whether any required displacement would disproportionately benefit or harm certain populations. The need for relocation, where appropriate, will be discussed generally, since it will be addressed more specifically in Tier II of the EIS.

9. Identify the range of mitigation measures that would be available for potential project impacts.

CULTURAL AND HISTORIC RESOURCES

The archaeological and historic resources analysis will be conducted in accordance with Section 106 of the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), Section 4(f) of the United States Department of Transportation Act (DOTA), the New York State Historic Preservation Act of 1980 (SHPA), and the New Jersey Register of Historic Places Act of 1970 (NJSA).

1. Delineate areas of potential effect (APEs) for the project alternatives. APEs will be delineated in consultation with the New York State Historic Preservation Office (NYSHPO) and the New Jersey Historic Preservation Office (NJHPO). Where appropriate, APEs delineated as part of the Cross Harbor Freight Movement Project Draft Environmental Impact Statement, published in April 2004 (2004 DEIS) will be used for this analysis. Where project elements have been added, new APEs will be delineated using methodology consistent with that of the 2004 DEIS. It is expected that different APEs will be established for archaeological and historic resources, with the archaeological APE focusing on areas of physical disturbance and the historic resources APE including areas where visual and secondary impacts may occur.
2. Compile inventory of archeological and historic resources in the project APEs. The inventory compiled to assess the potential effects of the project alternatives will include:
    a. **Resources identified as part of the 2004 DEIS –** Resources inventoried as part of the 2004 DEIS included National Historic Landmarks (NHLs), properties listed on or determined eligible for listing on the State and National Registers of Historic Places (S/NR), designated New York City Landmarks (NYCLs) or properties considered for NYCL designation, properties designated by the Newark Landmark and Historic Preservation Commission or the Jersey City Historic Preservation Commission ("known historic resources"), as well as previously identified, but unevaluated, archaeological resources. Archaeological resources were surveyed for the 2004 DEIS through completion of a series of archaeological documentary studies (Phase 1A Studies). A Phase 1A Study uses documentary sources such as local histories, historic maps, census and property records, archaeological site files and other documents to present a detailed history of the project site, assess modern ground disturbance, and evaluate the potential for archaeological resources to exist in locations that could be affected by the proposed project. A field survey of the project APEs was also conducted by an architectural historian as part of the 2004 DEIS process; those properties that appeared to meet the criteria for S/NR listing and/or NYCL designation were flagged. New York State and/or New Jersey historic resource inventory forms were completed for each of these potential historic resources, and were submitted to NYSHPO, NJHPO, and the New York City Landmarks Preservation Commission (LPC), as appropriate, for determinations of eligibility.
    b. **Resources located within APEs not included in the 2004 DEIS –** A list of known archaeological and historic resources in Tier I EIS APEs that were not included in the 2004 DEIS will be compiled, and the resources described and mapped. In addition to identifying known resources, a reconnaissance-level walkover survey of the APEs not previously included in the 2004 DEIS will be conducted by an archaeologist and architectural historian. Properties that appear to meet the criteria for listing on the S/NR, or for designation as NYCLs or Newark or Jersey City local landmarks, will be flagged as potential historic resources. Areas of archaeological potential will also be flagged. Historic structure inventory forms or additional Phase 1A studies will not be prepared as part of the Tier I EIS process; this work would be completed as part of the future Tier II EIS process.

3. Assess the potential for the project alternatives to impact inventoried archeological and historic resources within the delineated APEs, including potential visual impacts. Both construction and operational impacts will be assessed.
4. Identify the range of mitigation measures that would be available for potential project impacts.

AIR QUALITY

This analysis will assess potential regional (mesoscale) effects and potential local effects from the proposed project on ambient air quality. The proposed project is expected to provide significant regional air quality benefits by shifting freight movement from truck to the more efficient and underutilized rail, thereby reducing future truck vehicle miles traveled (VMT), and easing congestion on study area roadways. The various project alternatives will generate emissions primarily from non-road sources, such as freight locomotives, ferries, and/or new or expanded intermodal facility activities. Some local increases in emissions from trucks on roadways in the vicinity of proposed bulk or intermodal yards may also occur.

1. Confirm the extent of the regional study area. The regional study area will comprise the 10 counties served by NYMTC and the 13 counties served by NJTPA.
2. Define the extent of the local study areas. Local study areas will be defined in terms of the presence of potential receptors in the vicinity of project elements.
3. Identify pollutants of concern. Potential pollutants of concern may include:
    a. **Carbon monoxide (CO)**. CO is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. Elevated concentrations are usually limited to locations near crowded intersections, along heavily traveled and congested roadways, or at parking lots or garages, but may also be associated with diesel engines such as ferries and locomotives.
    b. **Nitrogen dioxide and ozone precursors.** Nitrogen oxides (NO_2, and NO calculated as NO_2, together referred to as NO_x) are of principal concern because of their role, together with volatile organic compounds (VOCs), as precursors in the formation of ozone. Effects of NO_x and VOC emissions from mobile sources are generally examined on a regional basis, together with emissions of these pollutants from stationary sources. NO_2 is also a criteria pollutant. These pollutants are emitted from both on-road and non-road sources such as ferries and locomotives as well as stationary sources.
    c. **Particulate Matter (PM).** PM is a broad class of air pollutants, composed of discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets or solids suspended in the atmosphere (aerosols). PM emissions are associated with diesel-powered vehicles, such as heavy trucks and buses, locomotives, and ferries as well as stationary sources.
4. Determine the project's conformity with the New York and New Jersey State Implementation Plans (SIPs). The Clean Air Act requires a conformity determination for federal actions, directing that "no department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an implementation plan after it has been approved or promulgated…" (42 U.S.C. §7506.(c).1).

Transportation conformity determinations are required for the approval, funding, or implementation of any Federal Highway Administration (FHWA) project. The Cross Harbor Freight Movement Program's current status, relative to the Transportation Improvement Programs (TIPs) and Regional Transportation Programs (RTPs) in New York and New Jersey, will also be documented. The need for a Transportation Conformity Hot-Spot $PM_{2.5}$ analysis, using criteria in Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas, issued March 2006 by FHWA and United States Environmental Protection Agency (USEPA), or later guidance if available, will be evaluated. If an analysis is required, guidance from this document would be followed.

5. Assess the potential regional (mesoscale) air quality effects from the proposed project. Potential regional (mesoscale) effects on air quality will be assessed to determine the proposed project's effect on air quality in each non-attainment area. This effort would consider the proposed project within the framework of region-wide emissions and efforts to attain the National Ambient Air Quality Standards (NAAQS), such as NYSDEC and New Jersey Department of Environmental Protection (NJDEP) SIPs and NYMTC and NJTPA TIPs and RTPs. The change in VMT and in rail/ferry operations would be analyzed (on a daily and annual basis) to calculate the net change in emissions from the build alternatives.
6. Mobile Source Air Toxics (MSATs) will be assessed, using criteria in Interim Guidance on Air Toxic Analysis in NEPA Documents, issued February 2006 by FHWA and the September 2009 update. This assessment would include region-wide (mesoscale) emissions and potential local increases near intermodal yards or other hotspots. If detailed analysis is required, guidance from this document would be followed.
7. Assess the potential for local air quality impacts from operation of project alternatives:
    a. **Rail traffic associated with the proposed project.** Potential impacts will be estimated based on the number of locomotives passing sensitive receptors. The latest emission factors available from USEPA will be utilized.
    b. **Intermodal facilities and bulk yards.** Potential impacts will be estimated based on the size of yards and their location near sensitive receptors.
    c. **Truck traffic associated with project elements.** A screening of impacts for the rail yards, located in the east-of-Hudson region, will be conducted utilizing procedures outlined in the New York State Department of Transportation (NYSDOT) Environmental Procedures Manual (EPM).
8. Identify the range of mitigation measures that would be available for potential project impacts.

ENERGY AND GREENHOUSE GASES

This analysis will look at potential impacts from the construction and operation of the project alternatives on greenhouse gas emissions and energy consumption in the regional study area. The proposed project aims to enhance the movement of freight through the region and, as a result, may shift some freight movement from trucks to rail, a more energy-efficient mode of transportation. This shift would reduce roadway congestion, resulting in a reduction in associated greenhouse gas emissions. The analysis will be performed based on the draft Energy

and Greenhouse Gas Analysis Guidelines for Project-Level Analysis (NYSDOT, February 2003) and will utilize NYSDOT's MOVES Roadway and Rail Energy and Greenhouse Gas Analysis Extension (MOVES-RREGGAE, NYSDOT 2009). MOVES-RREGGAE is a tool that combines the use of EPA's MOVES model for calculating on-road emissions and the procedures specified in NYSDOT's draft guidelines for modeling emissions from construction and rail components of a project or plan. The analysis will also follow the general guidelines in the Guide for Assessing Energy Use and Greenhouse Gas Emissions in an Environmental Impact Statement (New York State Department of Environmental Conservation (NYSDEC), July 2009) for determining the boundaries of analysis and the examination of GHG mitigation options.

1. Identify the state and federal energy policies and greenhouse gas emission reduction goals relevant to the project. Examples of relevant policies are:
   - New York State Climate Action Plan (expected publication late 2010)
   - 2009 New York State Energy Plan
   - New York State Governor Executive Order No. 24
   - New Jersey Global Warming Response Act, 2007 (and Draft Recommendation Report 2008)
   - The Energy Independence and Security Act of 2007
   - USEPA Renewable Fuel Standard Program
   - The proposed American Clean Energy and Security Act
2. Assess the potential for greenhouse gas emissions from operation of project alternatives. The analysis will identify whether each alternative is expected to create a change in freight movement (a reduction in truck traffic or an increase in rail or ferry movement), the expected change in fuel consumption, and the associated change in greenhouse gas emissions. The change in emissions due to operation of project alternatives will be discussed in comparison to the No Action Alternative. The analysis will utilize the MOVES–RREGGAE tool based on current project data and information from analyses previously conducted for the 2004 DEIS. If additional information or analysis is required, data sources may include information published by the US Department of Energy (USDOE), Energy Information Administration (USDOE-EIA), FHWA, USEPA, Federal Railroad Administration (FRA), NYSDOT, and similar sources.
3. Evaluate the consistency of the proposed project with relevant state and federal policies and goals, as identified above.
4. Identify the range of mitigation measures that would be available for reducing energy consumption and greenhouse gas emissions. This section will include a discussion of potential mitigation measures that could be taken during construction and operations to further reduce greenhouse gas emissions and energy consumption. Potential measures will be divided into those already included in project design, measures that should be under consideration, and those that would be impracticable to implement for the proposed project. Where practicable, the benefits of such measures will be quantified.

NOISE AND VIBRATION

This analysis will look at the project's potential to generate noise and vibration impacts due to increased rail activity along rail freight routes, activity at rail yards (such as loading and classification of freight, truck activity, equipment operation, and truck and employee vehicular

trips on local streets), tunnel ventilation equipment, and construction activities. The Noise and Vibration analysis will consist of a screening-level assessment for potential impacts in the vicinity of project elements.

1. Define the extent of the local study areas. The analysis will follow the FTA guidance manual, Transit Noise and Vibration Impact Assessment (May 2006), and where applicable will include the CREATE Railroad Noise Model and the FRA Train Horn Noise Model, to assess noise and vibration impacts in the vicinity of project elements. Potential impacts would be described within 1000 feet of intermodal yards, float facilities, and tunnel entrances and within 400 feet from rail lines and tunnel alignments.
2. Describe existing noise levels in the vicinity of the project elements. Measurements conducted for the 2004 DEIS will be used to generally describe existing conditions in the vicinity of project elements, updated to reflect land use that has changed in the interim.
3. Assess potential impacts from freight rail sources. A Screening and General (where necessary) Noise Assessment will be performed using FTA/CREATE/FRA Train Horn Noise Model guidance. Some rail freight routes that would be included as project elements are in active operation, while some experience little activity. Noise and vibration from new or expanded rail service operations would be, therefore, more perceptible at locations that currently experience little activity. Potential noise impacts may also occur from rail activity at these rail yards located near residential or other sensitive uses.
4. Assess potential impacts from vehicular sources. Noise from vehicular sources would be limited to those project elements that would experience increased truck traffic. Noise would be generated by truck activity in the rail yards, and by truck and employee vehicles traveling to/from the rail yards along local streets. A screening analysis using proportional modeling would be used to identify those locations that the more detailed Tier II studies should examine further. The cumulative effects of rail and vehicular noise at the rail yards will also be studied.
5. Assess adverse vibration and ground-borne noise impacts. The analysis will be conducted in accordance with methods presented in FTA guidance. A Screening Assessment would be performed for operational activities along rail lines and rail yards. Residential, commercial, institutional and other uses in the areas above the proposed tunnel, along rail lines, and adjacent to rail yards could be potentially impacted by vibration and ground-borne noise.
6. Assess potential impacts from construction of the project elements, qualitatively. Construction noise and vibration would be discussed.
7. Identify the range of mitigation measures that would be available for potential project impacts.

NATURAL RESOURCES

Natural resource issues associated with project alternatives would be limited to local effects on terrestrial resources from construction and operation of the project alternatives. Existing natural resources within each local study area may include terrestrial biota, threatened or endangered species (and their associated habitats, such as wetlands), as well as other resources of special

concern, such as essential fish habitat (EFH). The analysis will determine potential short- and long-term impacts to these resources, with emphasis on potential impacts to sensitive resources or other resources of special concern. Aquatic resources, such as surface waterbodies and navigable waters will be discussed in this section, however potential impacts from the construction and operation of the project alternatives on water quality and sediments will be analyzed in the Water Quality section, as described below.

1. Confirm the extent of the regional study area for terrestrial natural resources. The regional study area for this analysis will center on Upper New York Harbor. Identification of the regional study area will take into consideration the land cover and coastal resources in the vicinity of project elements, specifically whether these resources are also regional in nature and are connected to the Upper New York Harbor habitat. Major waterbodies in the regional study area will be described.
2. Define the extent of the local study areas. Natural resources will be described within 400 feet of the project elements. Where appropriate, local study areas may be expanded to account for sensitive habitats and potential project impacts.
3. Describe existing conditions for natural resources in the regional study area. This section will present a regional overview of habitats and associated wildlife present in the vicinity of New York Harbor.
4. Describe existing natural resources in the vicinity of project elements. Aquatic and terrestrial resources will be described by identifying habitat types (e.g. state freshwater and tidal wetlands, federal jurisdictional wetlands) and plant and animal communities known to occur in these areas. Description of existing conditions from the 2004 DEIS will serve as the basis for this section, expanded and updated as necessary with a review of literature and available electronic data. Potential sources of available documents and data will include:
    a. State GIS portals, such as NYSDEC Environmental Resource Mapper and NJDEP I-Map. Each portal contains a variety of data layers pertaining to environmental resources.
    b. Literature prepared by New York City Department of Parks and Recreation (NYCDPR), NYSDEC, NJDEP, New York City Department of Environmental Protection (NYCDEP), US Fish and Wildlife Service (USFWS), U.S. Army Corp of Engineers (USACE), and the National Marine Fisheries Service (NMFS), among others.

    Potential areas of concern that could include endangered or threatened species will be generally identified, and used to assess potential impacts from the project alternatives. Federal, state and local resource and regulatory agencies may be contacted to discuss any resources of concern in the vicinity of specific project elements; however, most coordination regarding specific habitats will occur in Tier II of the EIS.
5. Discuss future conditions and trends for natural resources in the vicinity of the project elements by 2035, independent of the proposed project. Programmed and proposed habitat restoration activities in the vicinity of project elements will be described. Large development projects that may disturb sensitive habitats in the vicinity of proposed project elements will also be discussed.

6. Assess potential local study area impacts from the construction and operation of the proposed alternatives. The assessment of impacts will be divided into temporary impacts, which may occur during construction, and permanent impacts, which may occur from the operation of the project alternatives.

   To evaluate the project alternatives' potential impacts on terrestrial resources, the analysis will consider:

   a. Temporary impacts to habitats adjacent to areas of disturbance associated with land clearing, grading, and other upland activities associated with construction.

   b. Long-term impacts associated with permanent loss or modification of habitats, including wetlands, due to construction of project elements, such as roads, tracks, rail yards, and tunnel sections.

   c. Potential shoreline erosion and loss of shoreline habitat from the expansion of the existing float bridges and construction of new float bridges, and construction of tunnel sections.

   d. Potential indirect effects to terrestrial resources, such as the disturbance of normal feeding or nesting patterns near tunnel alignments or rail lines, due to increased human presence, increased rail traffic, nighttime lighting, and noise associated with the rail operation, float bridges and tunnel vents.

   These potential impacts will be identified generally, with an expanded, site-specific analysis to be completed in Tier II of the EIS.

7. Identify the range of mitigation measures that would be available for potential project impacts.

WATER QUALITY

This analysis will consider the potential effects to water quality from dredging and other in-water construction activities that may be required for the construction of the tunnel and float alternatives. The section will focus on Upper New York Harbor as the study area for the description of existing conditions and the analysis of potential impacts from project alternatives.

1. Describe the existing water quality and sediment characteristics within the Upper New York Harbor. Materials compiled by the New York-New Jersey Harbor Estuary Program, including a database of existing information on water, sediment quality, and biota within the estuary system, will be utilized for this section. Water quality data collected by NYSDEC, NJDEP, and USACE and PANYNJ (as part of dredging and channel maintenance efforts) will also be used to describe existing water quality and sediment quality conditions.

2. Discuss future conditions of the water quality and sediments in the harbor by 2035, independent of the proposed project. On-going improvements and activities impacting water quality and sediments proposed by other agencies, such as navigational channels and dredging activities, will be identified in the study area.

   Assess potential impacts from the project alternatives on water and sediment quality. The analysis will assess potential impacts from dredging and other in-water construction activities that may be required for the construction of the tunnel or float alternatives. For alternatives that require in-water construction, the analysis will consider:

a. Temporary adverse impacts to aquatic organisms during sediment-disturbing construction, such as dredging, pile driving, or installation of shoreline stabilization features, or other bottom-disturbing activities required for construction of a tunnel, float facility or other waterfront or in-water structures. In-water construction of these project elements have the potential to result in:

   i. Temporary increases in suspended sediment and release of contaminants during sediment disturbance—potential risks to aquatic biota from the resuspension of bottom sediments and redeposition of contaminants during construction and operation will be qualitatively assessed on the basis of the existing sediment conditions

   ii. Temporary loss of fish breeding or nursery habitat, or EFH identified by NMFS from temporary water quality changes and impacts associated with pile driving, dredging, tunneling, or other in-water construction activities

   iii. Temporary impacts to aquatic resources from the discharge of stormwater during construction of upland components of the project alternatives.

b. Potential shading impacts to aquatic organisms caused by new or modified over-water structures, such as additional float bridges or tunnel vents

c. Potential shoreline erosion and increased suspended sediment from the operation of project elements along the waterfront, such as float facilities.

The analysis will also assess potential operational impacts from the proposed alternatives such as impacts associated with the operation of the railcar float system (fuel spills from barges or accidental discharges of material from barges), or water quality impacts from stormwater runoff derived from rail yards, tunnel sections, rail lines, or float facilities. The analysis will also discuss future conditions within the study areas associated with global climate change and the potential for sea level rise and flooding. The latest data available from the New York State Sea Level Task Force and from the New York City Climate Change Task Force will be examined to determine expected future conditions in the vicinity of project elements.

3. Identify the range of mitigation measures that would be available for potential significant project impacts.

CONTAMINATED AND HAZARDOUS MATERIALS

This analysis will discuss the potential to encounter contaminated soil and groundwater during construction of project elements, especially those elements that would require excavation, storage, transport, or disposal of contaminated soil. The project alternatives will be designed to utilize areas with previous maritime, industrial, or transportation uses, such as existing railroad tracks, which may have been contaminated by past or current uses. The analysis will be limited to the local study areas in the vicinity of project elements.

1. Identify contaminants of concern. Some of the potential contaminants of concern may include:

a. **Polychlorinated Biphenyls (PCBs).** Commonly used as a dielectric fluid in train-mounted or yard transformers, PCBs are of special concern at rail yards and train maintenance locations.

b. **Heavy metals, including lead, cadmium, chromium, and mercury.** These contaminants have been widely used in many industries, including printing, foundries, and metal working facilities, and are found in paint, ink, petroleum products, and coal ash. Lead is also a common component of paint on bridges and/or other steel structures, and can be found in elevated concentrations in soil near roadways as a result of the historic use of leaded gasoline.

c. **Volatile Organic Compounds (VOCs).** These contaminants include aromatic compounds (such as benzene, toluene, ethyl benzene, and xylene (BTEX)), which are found in petroleum products used in fuels, vehicle repair and metal works, as well as many other industries; and chlorinated compounds (such as tricholoroethene and tetrachloroethene, common ingredients in solvents and cleansers) used in degreasing, dry cleaners, and other industrial facilities. Groundwater can become contaminated with VOCs and vapors can be released, especially during excavation activities. In addition, some VOCs can be flammable if the vapors are confined.

d. **Semivolatile Organic Compounds (SVOCs).** These contaminants include PAHs (which are common constituents of partially combusted coal or petroleum-derived products); coal-derived products, such as creosote used as a protective coating on rail ties; and coal and coal ash used as fill material.

e. **Pesticides and Herbicides**. These contaminants are commonly used to control rodents and/or insects, and vegetation in rail yards and along rail lines, particularly between the tracks.

f. **Fuel Oil and Gasoline Storage Tanks.** Many of the rail yards, businesses, and industries once located in the vicinity of potential project elements contained aboveground storage tanks (ASTs) or underground storage tanks (USTs) for fuels. Soils and groundwater near fuel oil and gasoline storage tanks may be contaminated because of ongoing or past leaks or spills. Fuel oil and gasoline from off-site sources may have migrated to within the local study areas, contaminating soil and groundwater on-site.

g. **Asbestos.** Potentially asbestos-containing materials may be located within buildings or on underground steam pipes, within or on existing float lifts where box cars are transferred from rail to barge, or at illegal dump sites within the rail yards and rail lines.

2. Define the extent of the local study areas. The local study areas will include land within the boundaries of each project element where construction activities that may include subsurface disturbance would occur.

3. Describe existing conditions within the boundaries of each local study area. Preliminary site assessments performed for the 2004 DEIS and other relevant studies will be updated as necessary and will form the basis of this analysis. Each assessment will include a past and current land use review; a contaminated materials database search and records research; a site inspection; and a review of previous investigations. For project elements

not previously identified in the 2004 DEIS, existing conditions will be described though a past and current land use review, with more extensive investigations to be performed, as necessary, during Tier II of the EIS.

4. Describe future conditions in the local study areas, independent of the proposed project. This section will identify any remediation activities planned for any contaminated areas identified above.
5. Determine the potential impacts from the construction and operation of the project alternatives. Potential impacts on contaminated or hazardous materials from construction activities will be based on general construction extent and methods. The analysis will also describe the potential for operational impacts from each alternative, such as the accidental release of contaminated or hazardous materials during freight transport.
6. Identify the range of mitigation measures that would be available for potential project impacts. The mitigation measures will be refined during Tier II of the EIS when site-specific impacts are identified.

ENVIRONMENTAL JUSTICE

As required by Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," this analysis will identify any disproportionate adverse impacts on minority and low-income populations in the vicinity of project elements. This analysis will be conducted in accordance with the Executive Order, FHWA Actions to Address Environmental Justice in Minority Populations and Low Income Populations (December 2, 1998), and any relevant guidance from the states of New York and New Jersey. The local study areas for this analysis will follow those of the Land Use analysis.

1. Identify the thresholds for determining the presence of minority or low-income populations. Where several analysis thresholds may apply, the most stringent definitions will be used.
2. Identify minority and low-income populations within the local study areas, based on the demographic information presented in the Land Use, Zoning, and Public Policy section.
3. Identify potential project impacts on minority and low-income populations in the vicinity of project elements, based on the screening conducted on the various technical sections. The impacts described may be direct—such as acquisition or displacement of residences—or indirect, such as increased air pollution from diesel truck traffic destined to rail facilities. Once impacts are identified, determine whether they would disproportionately affect low-income and minority populations.
4. Identify the range of mitigation measures that would be available for potential project impacts.

F. ECONOMIC AND FINANCIAL ANALYSIS

The detailed evaluation will consider a series of economic and financial effects to address issues associated with the public and private benefits of the alternatives. The analyses will focus on evaluating the effects on economic activity in the regional study area. The economic effects will be presented in terms of direct, indirect, and induced economic impacts. Alternatives may also attract local economic development along the alignments and in the vicinity of project elements,

such as yards and float facilities. Localized adverse economic impacts may also occur from displacement and relocation of businesses.

OVERVIEW

Data will be collected and analytical tools will be developed to conduct the following series of analyses:

- Economic impact analysis will examine the broader implications of the cross harbor investment on freight stakeholders, surrounding communities and the larger statewide and national implications.
- Benefit-Cost analysis will estimate project benefits from a local, regional and national perspective based on transportation efficiencies and social and environmental benefits.
- Market feasibility analysis will evaluate the acceptance and sustainability of project alternatives within the private market world of transportation service providers and customers.
- Railroad financial analysis will estimate the potential operational value of project alternatives to railroads.
- Revenue stream and funding needs analysis will estimate potential revenue streams to the public sector and identify overall funding needs, including needs unmet by revenue streams.
- Displacement analysis will identify potential direct displacement of residents and/or businesses.

ANALYSIS METHODOLOGY

ECONOMIC IMPACT ANALYSIS

Economic impact refers to effects on the economic activity in a given region, as reflected by a change in the flow of money (output, GDP or the income generated in the region).

Economic impact analysis quantifies the monetized dollar value of transportation system benefits and the direct, indirect, and induced monetized benefits of program-related increases in economic activity. Key factors to be quantified and translated into monetary terms for the economic benefits analysis include transportation-related benefits, shipper cost savings, and business attraction and retention. The monetized benefits will be run through an economic simulation model to generate the multiplier benefits of the program. The travel efficiency and shipper cost savings will also be used as a foundation for the Benefit-Cost Analysis. Estimating the economic effects of the Cross Harbor project require an understanding of who is being affected and the manner in which they are affected.

In general, freight projects can affect four types of stakeholders:

- Asset Providers, which develop, lease, maintain, or finance freight investments (both fixed and mobile). Asset Providers may be in the private or public sectors.
- Service Providers, which provide transportation or logistics services for freight shipments such as railroads and trucking companies.
- End Users, which include both shippers/consignees, as well as end customers for finished goods.

- Other Impacted Parties, which include neighborhood/community interests, non-freight users of the infrastructure; environmental/land use interests, business interests, and others.

It is important to describe the interest points and perspectives of different stakeholder types—essentially, what "stake" these stakeholders have in the success of a freight improvement project. Understanding the perspectives of different stakeholders—and how they can change depending on the type of project and/or role the stakeholder is playing in the project development—is important in developing an understanding of which benefits matter most, and how best to measure them. Four types of stakeholder interest/perspectives have been identified for the Cross Harbor project:

- Parties with a Direct Financial Stake in the development and performance of a freight investment. These are primarily asset providers (both development and ongoing maintenance/operation) with a vested financial interest in a freight improvement project. These stakeholders are providing capital (public funding, in the case of a state or local DOT; private capital in the case of a concessionaire or developer) in the hope of attaining particular goals, missions, or mandates.
- Parties that have an Indirect Financial Stake in the result of a freight investment. These stakeholders typically consist of service providers that operate transportation services on freight infrastructure, as well as shippers who are the true "users" of freight infrastructure capacity and services. In practice, these two groups are connected because service carriers pass on a significant share of their net costs to shippers. Together, these parties have a financial interest in the project outcome, but no direct investment stake in the project itself. However, the interests of these parties are an important consideration for investment decisions, because impacts and benefits to these stakeholders can influence the net benefit-cost calculation made by those with direct financial stakes.
- Parties that have a Major Nonfinancial Stake in the result of a freight investment. These parties typically include nearby land owners and occupants affected by access, noise, safety, or livability impacts; or community organizations or resource agencies concerned about broader environmental impacts related to the construction or operation of facilities. Their concerns need to be considered as factors in the economic analysis, both quantitatively and qualitatively.
- Parties that have a Tangential Stake in the result of a freight infrastructure project, either financial or nonfinancial. These stakeholders may include private companies (or a consortium of companies) affected by indirect and induced economic growth impacts; or local or regional taxpayers affected by project financing strategies. Many of their interests are likely to be in the form of concerns (that can potentially be addressed) and more general policy interests, rather than measurable direct effects of an individual project. Therefore, the impacts will be discussed qualitatively, as opposed to being part of the quantitative analysis.

Using the definition of the four stakeholder types developed for this project, we will identify benefits of concern to the broader set of freight stakeholders, including infrastructure developers, industrial site developers, supply chain professionals, and others. In general, the types of benefits that are meaningful to these freight stakeholders can be summarized in two categories: cost factors, and benefit and other impact factors.

Cost factors include:

- Facility Capital Costs – up-front costs to acquire property, improve sites, develop infrastructure, and purchase equipment.

- Facility Maintenance Costs – ongoing costs of maintaining a facility to ensure safe operations and upkeep.
- Operating Costs – labor costs, fuel costs, equipment costs, and the time lost to congestion or to the breakdown of efficient supply chains.

Benefit and other impact factors include:

- Capacity – alleviating the impact of highway and rail system bottlenecks, as well as the throughput attainable on any transportation infrastructure or facility access point.
- Productivity – ability to operate a supply chain from start to finish with maximum efficiency.
- Loss and Damage – maximizing the safety and security of freight operations and movements to minimize loss to the shipper, carrier, or community.
- Scheduling/Reliability – ability to have predictable and timely delivery of goods allows for streamlined inventories, less disruption in the manufacturing or supply process, and a more efficient supply chain.
- Tax Revenue – taxes paid from expanded or new freight-related business activity.
- Wider Economic Development – increased jobs resulting from increased freight activity, as well as the multiplier effects to the regional economy.
- Safety – minimizing of impacts of freight land uses on neighboring communities, and the safe operation of freight vehicles and facilities.
- Environmental Quality – mitigation of air or water quality impacts, reduction of truck VMT, reduction of noise or vibration or other impacts.

These benefits will be grouped into four primary categories of benefits or impacts: (1) Transportation-related benefits; (2) Shipper costs savings; (3) Business attraction and retention benefits; and (4) Multiplier benefits. Approaches for estimating the benefits within each of these categories are described below.

Transportation-Related Benefits

The diversion of freight traffic from truck to rail may lead to significant congestion relief and other benefits on specific segments of the region's transportation system. The region's travel demand model will be used to project changes in highway system performance arising from this diversion. Outputs from the regional highway network model can be translated into monetized metrics—user costs, accident costs, emissions costs, maintenance costs, and new highway capacity costs—using tools originally developed by Consultant Team members. These tools include the HERS (Highway Economic Requirements System), IDAS (ITS Deployment Analysis System), and STEAM (Surface Transportation Efficiency Analysis Model), each originally developed under contract to the U.S. Department of Transportation (USDOT).

Shipper Cost Savings

Rail service, when available, is often less expensive than trucking. Reduced transportation costs translate directly into higher profits, competitive advantage, and other similar benefits. Transportation rates are changing rapidly, particularly in light of ongoing fuel price fluctuations, and our team will survey public rate sources, as well as private industry contacts, to develop best available estimates of typical rates for major commodities and trade lanes, for truck versus rail.

A detailed mode choice model will be developed for this project. Cost factors are one of the inputs to the model, which then estimates diversion and demand among different transportation choices that offer different ranges of cost, speed, reliability, and frequency.

Sometimes cost is the deciding factor; other times, speed or frequency or reliability are the deciding factors. The model outputs provide important information on shippers' willingness to pay, and the degree to which cost savings are a factor in their decisions. The accurate estimation of shipment costs is therefore essential. Some of the tools available for this analysis include the following:

- The Intermodal Transportation and Inventory Cost (ITIC) Model is a freight mode choice model from FHWA's Office of Freight Management and the FRA. It attempts to calculate the logistics cost and decision tradeoffs seen by shipper logistics managers, and then assigns the truck/rail diversion to alternatives that minimize total logistics cost. It is based on an earlier model developed for FRA in 1995.
- The MIT Spreadsheet Logistics Model estimates the truck/rail mode choice for 48 typical types of customers, based on customer characteristics (use rate and trip length); commodity characteristics (value/pound) and mode characteristics (e.g., price, trip time, and reliability) for rail, truck, and intermodal options.
- The Uniform Rail Costing System (URCS) Model (Surface Transportation Board) can estimate the changes in shipper productivity associated with rail system performance changes. The URCS model uses data on average carrier cost and performance measures to estimate the cost of providing service, and can estimate how a change in facility capacity or speed (affecting rail cars per day) would translate into average shipper dollar savings per ton-mile.

Industry and stakeholder interviews will also be critical in accurately estimating current and representative price structures.

Business Attraction and Retention

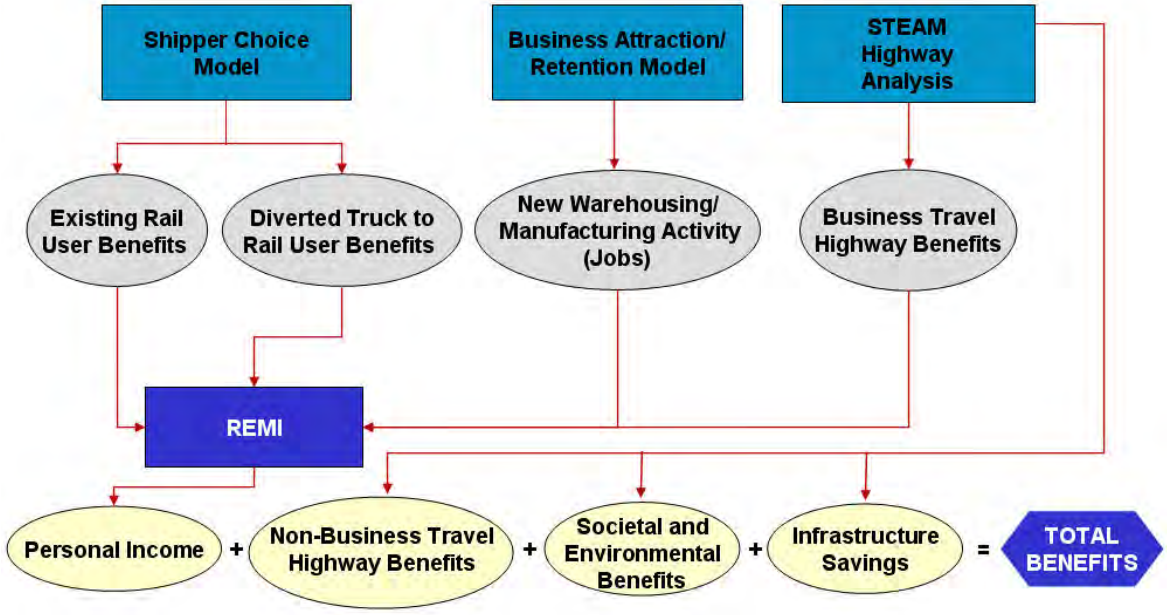
Cross Harbor rail improvements can be expected to generate certain types of new jobs in the east-of-Hudson region—not only temporary construction jobs, but also permanent jobs in the transportation carriage, warehouse/distribution, manufacturing, and other industry sectors. A critical element of this study is the evaluation of regional economic development strengths, weaknesses and opportunities for the Cross Harbor investment to impact economic prosperity over the next three decades.

The core analysis requires a comprehensive "economic development assessment" process rather than reliance on any single economic model. Core issues for each of the economic regions are: (1) economic performance, (2) competitiveness factors that explain performance results, and (3) relative roles of transportation in changing future competitiveness and performance. The economic development assessment process is the most appropriate way to address these issues. Traditional economic forecasting and impact models focus mostly on industry trends and cost factors, while this assessment will expand to assess workforce issues, supply chain infrastructure, multimodal connectivity, market access, and related factors that also affect economic growth opportunities.

Multiplier Benefits

The Regional Economic Models, Inc. (REMI) economic simulation model will be used to estimate multiplier benefits. The REMI analysis utilizes as inputs the estimates of transportation-related benefits, shipper cost savings, and business attraction and retention (see Figure 4).

Figure 4. Framework for Evaluating Multiplier Benefits



BENEFIT-COST ANALYSIS

Benefit-cost analysis addresses two main categories of benefit: (1) the economic value of a program or a project's net benefits; and (2) the effect of a transportation program or project on the economic growth of a region, which is usually referred to as the economic development impact. Benefit-cost analysis usually includes certain categories of impacts that are not addressed by economic impact analysis, and excludes others, as shown in Table 2 following.

Table 2
Difference in the Coverage of Impacts Between Benefit-Cost Analysis and Economic Impact Analysis

Form of Impact	Benefit-Cost Analysis	Economic Impact Analysis
Business cost savings	Yes	Yes
Business-related time savings that generate cost savings	Yes	Yes
Personal and household cost savings	Yes	Yes
Personal time savings (not affecting money flows)	Yes	--
Environmental impacts (not affecting money flows)	Yes	--
Attractions (relocations) of business activity into area	--	Yes
Income generated by business suppliers and vendors	--	Yes

Benefits may be presented in terms of "traveler benefits" (also referred to as "transportation system user benefits") or in terms of wider "societal benefits" (also referred to as "social benefit"). Either way, some benefits reflect real money cost or income changes, while others have a value to people, although no actual transfer of money may take place. Major benefit categories for which the monetary transfers take place include travel time benefits, safety benefits, environmental quality benefits, and increases in choices of destinations or of travel modes or of the times at which travel can occur. Travel time benefits themselves can occur due to normal everyday reductions in travel times, and due to reductions in the uncertainty of travel times (reliability benefits). In some instances, travel time reliability benefits can be of higher value than the value of regular travel time benefits.

Typically, benefit-cost analysis is broken down into several basic categories of the benefits that are calculated for the economic impact analysis discussed above. Benefits included in BCA usually include:

- Direct user benefits – travel time savings, vehicle operating cost and other out-of-pocket cost savings
- Indirect user benefits – benefits to the users of the rest of the highway or transit systems from reduced congestion and delay throughout the system
- Safety improvements – mainly fatality and other accident reductions
- External or environmental benefits – emissions reductions, noise reductions, etc.

Because the project will potentially have significant impacts on freight movements, travel time benefits could be expanded to incorporate reliability benefits as estimated under shipper cost savings. In addition, given the emerging priority on reducing greenhouse gas (GHG) reductions, the economic analysis of air quality benefits or other types of benefits and measures of value could be expanded to include not only the local value of emissions reductions, but also the broader benefit with respect to global climate change.

Benefits are usually estimated for the entire project study period and discounted to obtain the net present value (NPV). Costs are usually supplied by engineering and operational investigations, and discounted and reported as net present value.

MARKET FEASIBILITY ANALYSIS

Market feasibility analysis considers whether a particular Cross Harbor rail enhancement makes sense from the standpoint of a railroad. It should be assumed that railroads will not want to use rail infrastructure unless it provides revenues sufficiently in excess of their costs to operate. The degree to which a facility fits into a carrier's operations, marketing, and financial models will affect the level of "buy-in" by potential users, as well as their level of commitment to successfully marketing the services. The importance of this issue is illustrated clearly by the contraction of the U.S. railroad system since the early 1900s—the number of rail system miles has declined, as railroads have shed less profitable routes and services. Our team will provide insights into the likely market feasibility of various alternatives through an understanding of carrier economics and market strategy. The economics can be evaluated by estimating the profitability for the different traffic segments using available carrier cost data. Market strategy is driven by a variety of factors, and is not wholly limited to quantifiable financial measures. These

factors will be addressed through interviews with motor and rail carrier managers, and practical railroad industry knowledge among the project team members.

RAILROAD FINANCIAL ANALYSIS

Railroads do not typically share confidential financial information as part of public infrastructure studies, and in cases where they may be asked to contribute to the capital or operating costs of a project, their ability and willingness to pay is usually closely guarded, since it bears directly on their negotiating leverage. Nevertheless, it is possible to "reverse engineer" a reasonable approximation of a railroad's potential willingness to pay. Some of our team members recently employed such a methodology in analyzing the Norfolk Southern "Crescent Corridor" project paralleling I-81 between Harrisburg and the Southeastern U.S. The key elements are: determining average gross revenue per rail unit (distinguishing intermodal and non-intermodal traffic); determining the percent of gross revenue typically devoted to infrastructure investment; determining the share of infrastructure investment typically devoted to new capacity projects, rather than maintaining existing infrastructure; and estimating the amount of new railroad business over an analysis period that would directly result from the proposed improvement. This analysis yields the dollars per rail unit that should typically be available for investment in new infrastructure. Multiplying this number by the number of units of new rail business associated with different Cross Harbor rail enhancements, as determined from the Mode Choice Model, provides estimates of potential railroad contributions over the analysis period.

REVENUE STREAM AND FUNDING NEEDS ANALYSIS

Revenue stream analysis considers a different type of economic benefit: direct revenues that might be realized from Cross Harbor rail infrastructure improvements, in the form of user tolls on traffic, access fees charged to railroads, etc. Two important questions must be answered. First, what level of annual revenues, on a per unit basis, would be needed to fully fund each of the Cross Harbor alternatives? Second, what level of revenues on a per unit basis might be reasonably expected, based on railroad "willingness to pay" and the potential imposition of traffic surcharges or tolls on freight using the Cross Harbor improvements? The potential effect of tolls and surcharges on traffic forecasts can be tested by re-running the Mode Choice Model for a given alternative, with incrementally higher shipper costs assumed.

Funding needs analysis weighs project costs against revenue streams that might be reasonably anticipated. It identifies funding gaps, if any, that would appear to require other sources. We recognize that the PANYNJ has extensive financial analysis capabilities and resources, and is not proposing to conduct bonding analyses as part of this program. However, if desired, these services could be provided.

DISPLACEMENT ANALYSIS

Localized adverse economic impacts may also occur from displacement and relocation of businesses from construction or expansion of project elements. The analysis will be performed in conjunction with the land use, zoning, and public policy analyses.

1. Define the extent of the local study areas. The study areas for the evaluation of local impacts will depend greatly on the alignment, extent, and termini of each project alternative. Screening for local impacts will be conducted around specific project elements where construction or operational activities may occur.

2. Describe existing economic characteristics of local study areas. GIS and other secondary sources will be used to identify key businesses in the local study areas that may be affected by construction and operation of the proposed alternatives. Discuss major future development projects within the local study areas, independent of the proposed project. This section will identify development projects in the vicinity of proposed project elements that may affect economic conditions in the local study areas by encouraging the retention of existing businesses or attracting additional businesses. The inventory of future projects developed for the Land Use, Zoning, and Public Policy analysis will be used.

3. Assess potential local impacts from construction and operation of the project alternatives. The analysis will also discuss the economic impacts from potential direct or indirect displacement of residents and/or businesses as a result of construction and operation of project elements.

4. Identify the range of mitigation measures that would be available for potential project impacts.

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CROSS HARBOR FREIGHT PROGRAM

Draft Scoping Document
Tier 1 Environmental Impact Statement



U.S.Department of Transportation
Federal Highway Administration

THE PORT AUTHORITY
OF NY & NJ

September 2010

DRAFT SCOPING DOCUMENT
Cross Harbor Freight Program
Tier I Environmental Impact Statement

A. INTRODUCTION

The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ) are preparing an Environmental Impact Statement (EIS) to evaluate alternatives to improve the movement of goods in the region by enhancing the transportation of freight across New York Harbor. The Cross Harbor Freight Program EIS will analyze alternatives that would provide near-term and long-term strategies for improving the regional freight network, reducing traffic congestion, improving air quality, and providing economic benefits.

FHWA and PANYNJ are serving as co-lead agencies for the preparation of the EIS, with New York State and New Jersey Departments of Transportation (NYSDOT and NJDOT) serving as cooperating agencies. The development of this EIS began with the publication of a Revised Notice of Intent (NOI) in the Federal Register on May 13, 2010. The notice revised the original NOI published on June 7, 2001. The revision included a change in project sponsorship to the PANYNJ and the intent of FHWA and PANYNJ to use a tiered process to facilitate project decision-making. A more detailed description of the tiering process is described below.

FHWA and PANYNJ are now undertaking an extensive public scoping process to assure that the full range of issues related to the proposed action is addressed in the Tier I EIS and all significant issues and potential adverse impacts are identified. The Draft Scoping Document has been issued to frame the environmental review to solicit public and agency input regarding the project alternatives and environmental issues currently under consideration in the EIS. This Draft Scoping Document outlines the project's purpose and need, the goals and objectives, the project study areas, the alternatives that will be studied in Tier I of the EIS, and introduces the methodologies by which environmental, economic, and transportation impacts will be assessed. The full extent of the process and methodology that will be used to evaluate alternatives and prepare the EIS, and all supporting analyses can be found in the report, *Cross Harbor Freight Program Environmental Impact Statement (EIS) Methodology*, being issued concurrently with the Draft Scoping Document. The *Cross Harbor Freight Program Needs Assessment* is also being issued concurrently with the Draft Scoping Document.

PANYNJ is leading outreach activities during the public scoping process, and will conduct a series of public scoping information sessions to solicit input on the Draft Scoping Document, the *Needs Assessment*, and the *EIS Methodology*. Five public scoping information sessions have been scheduled:

Bronx, New York
Tuesday, October 5, 2010, 6:00PM – 8:00PM
Bronx Borough Hall
Veteran's Memorial Hall, 1st Floor (located on the main level)
Bronx Supreme Court
851 Grand Concourse
Bronx, NY 10451

Newark, New Jersey
Thursday, October 7, 2010, 1:00PM – 3:00PM
NJTPA
One Newark Center, 17th Floor
Newark, NJ 07102

Jersey City, New Jersey
Thursday, October 7, 2010, 6:00PM – 8:00PM
City Hall
280 Grove Street, 2nd Floor—Chambers
Jersey City, NJ 07302-3610

Brooklyn, New York

Tuesday, October 12, 2010, 6:00PM – 8:00PM
Brooklyn Borough Hall
209 Joralemon Street—Courtroom
Brooklyn, NY 11201

Queens, New York
Wednesday, October 13, 6:00PM – 8:00PM
Queens Borough Hall
120-55 Queens Boulevard—Room 213
Jamaica, NY 11424

FHWA and PANYNJ invite the general public and interested groups to participate in the scoping process. Comments are encouraged and may be provided in writing either at the public scoping information sessions, via email to feedback@crossharborstudy.com or in writing to the following address:

Cross Harbor Freight Program
c/o InGroup, Inc.
PO BOX 206
Midland Park, NJ 07432

The public comment period will remain open until November 15, 2010.

REGULATORY CONTEXT

The Tiered EIS will be prepared in accordance with the provisions of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.) of 1969 and all applicable FHWA regulations for implementing NEPA, as set forth in 23 CFR Part 771. The Tier I EIS will utilize FHWA Guidance for Preparing and Processing Environmental and Section 4(f) Documents (October 30, 1987). The EIS will also address the provisions of Section 6002 of Public Law 104-59, "The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

(SAFETEA–LU)" and will utilize FHWA Final Guidance on the SAFETEA-LU Environmental Review Process (Public Law 109-59; November 15, 2006).

In addition, the Tier I EIS will comply, as necessary, with:

- Federal Transportation Conformity regulations (40 CFR 51 and 93).
- Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended.
- Section 106 of the National Historic Preservation Act of 1966.
- Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations").
- Executive Order 11990 ("Protection of Wetlands").
- Clean Water Act (33 USC §§ 1251 to 1387), Sections 401 and 404.
- Coastal Zone Management policies. The Coastal Zone Management Act of 1972 (16 USC §§ 1451 to 1465) requires that activities within a state's coastal zone be consistent with that state's coastal zone management plan. The New Jersey Department of Environmental Protection (NJDEP) administers New Jersey's coastal zone management program under N.J.A.C. Section 7:7E, Coastal Zone Management Policies. The New York State Department of State (NYSDOS) administers the New York State Coastal Zone Management Program, which, in turn, encourages local governments to adopt local waterfront revitalization programs. The New York City Department of City Planning (NYCDCP) administers the New York City Waterfront Revitalization Program.

TIERED ENVIRONMENTAL IMPACT STATEMENT

The Cross Harbor Freight Program EIS is being conducted using "tiering," as described in 40 CFR 1508.28, which is a staged process applied to the environmental review of complex projects. The EIS will consist of two tiers: Tier I of the EIS allows the agencies to focus on general transportation modes and alignments for the proposed action, including logical termini and regional economic and transportation effects. Tier I of the EIS includes: a logistics and market demand analysis; a rail and highway operations and networks analysis; an economic and financial analysis; a capital investment estimation for each alternative; an operations and maintenance cost estimation for each alternative; a transportation analysis; and environmental impact assessments.

Tier I of the EIS will result in a Record of Decision (ROD) that will identify the transportation mode or a combination of mode(s) and alignment(s) for the proposed action, with the appropriate level of detail for corridor-level decisions. The ROD will also outline measures that are intended to avoid, minimize, or mitigate adverse impacts from the selected Build Alternatives. Tier II of the EIS will then explore in greater detail those alternatives that fulfill the project purpose within the mode(s) and alignment(s) chosen in Tier I, and will include analyses based on engineering designs and site-specific environmental impacts, development of site-specific mitigation measures, and cost estimates for the Preferred Alternatives as appropriate. Input from the public and from reviewing agencies will be solicited during both tiers.

B. PROJECT PURPOSE AND NEED

The greater New York/New Jersey/Connecticut region is the financial center of the United States economy, the nation's largest consumer market, and a major hub of entertainment, services, fashion, and culture. The region receives, processes, and distributes raw materials, intermediate

products, and finished consumer goods, which move to and from the rest of the United States and countries around the world.

The region's highway system, especially the bridge and tunnel crossings and connecting routes, suffers from significant peak period congestion which continues to expand in duration beyond the typical hours. Planned highway improvements will address some chokepoints, but will not significantly alleviate congestion. Because the region is so dependent on trucking, highway congestion has a tremendous impact on freight movement—it increases the costs and environmental impacts, while decreasing reliability, speed, and safety of goods movement. By 2035, total freight tonnage into, out of, and within the region is expected to grow by approximately 26 percent. With future growth in freight and passenger movement, vehicle miles of travel (VMT) will increase, and the current truck-related impacts and inefficiencies will grow.

Overall, the region has a well-developed freight rail system, but it is far better developed west of the Hudson River than it is east of the Hudson River. Many historic and geographic reasons account for this condition, including that critical rail connections to the east-of-Hudson market are remote, inefficient, or have capacity restrictions, but the result is that east-of-Hudson counties are far more dependent on highway transportation for moving freight. For all surface transportation tonnage, east-of-Hudson counties have a rail share of just 1.6 percent, which is significantly lower than the west-of-Hudson counties rail share of 6.7 percent and the national average of 4.2 percent.

The primary purpose of the project is to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions. A detailed analysis of the need for the project can be found in *Needs Assessment*, being issued concurrently with the Draft Scoping Document. A glossary of terms pertaining to freight can be found in Appendix B.

C. PROJECT BACKGROUND

PROJECT HISTORY

Several previous studies have been conducted to examine possible alternatives to improve freight movements across the Hudson River and New York Harbor. The Cross Harbor Freight Movement Major Investment Study (MIS), commissioned by the New York City Economic Development Corporation (NYCEDC) and completed in 2000, identified alternatives and strategies to improve regional freight mobility; expand shippers' choices of route and mode; enhance the region's environmental quality; and promote regional economic development. Fifteen alternatives—involving highway, rail, waterborne, and air systems, and a combination of these modes—were initially evaluated, with the most promising strategies advanced to a subsequent phase of refinement and evaluation. Four alternatives were advanced for study in a Draft EIS, which was published in April 2004 by FHWA and the Federal Railroad Administration (FRA), acting as co-lead agencies, and NYCEDC, acting as the project sponsor. The 2004 Draft EIS considered: a No Action Alternative; a Transportation Systems Management (TSM) Alternative; an Expanded Float Operations Alternative, which involved the expansion of capacity for the existing railcar float system across New York Harbor; and a Rail Freight Tunnel Alternative with two possible alignments and two potential tunnel designs.

The 2004 DEIS was the subject of public hearings in May and June in 2004 and an extended public comment period, with many substantive submittals by public agencies as well as stakeholder interests. Subsequent to the hearings, NYCEDC suspended active work on the DEIS.

In 2007 the Board of Commissioners of the Port Authority authorized the agency to assume responsibility for completion of the environmental review process**.** PANYNJ is the region's bi-state transportation agency, and the agency that controls the cross harbor connections between New York and New Jersey. PANYNJ's mission to identify and meet the critical transportation infrastructure needs of the bi-state region uniquely positions the agency to direct the Cross Harbor Freight Program.

CURRENT PLANNING CONTEXT

In addition to PANYNJ, a number of planning and transportation agencies in the greater New York/New Jersey/Connecticut region continue to identify the need for improved freight transportation in the region, and are studying (or have previously studied) strategies to alleviate congestion in the region's major freight corridors.

NEW YORK METROPOLITAN TRANSPORTATION COUNCIL

The New York Metropolitan Transportation Council (NYMTC) is an association of governments and transportation providers that serves as the metropolitan planning organization (MPO) for ten counties comprising New York City, Long Island, and the lower Hudson Valley. NYMTC explores transportation-related issues from a regional perspective, develops long-range transportation plans and decides on the use of federal transportation funds. In recognition of the importance of streamlined freight movement to regional goals and objectives, NYMTC created a members' Freight Committee and a public Freight Transportation Working Group (FTWG) and developed a Regional Freight Plan. The Plan points out that the region suffers from a high level of congestion that "impacts the predominant mode of freight travel in the region—trucks," increasing the cost of living for residents and the cost of freight services for businesses. This congestion is a result of poor intermodal coordination, modal dependence (on highway infrastructure), and infrastructure and operational limitations (including vertical and horizontal clearances). The plan lays out strategies for improving regional freight movement, which include reducing barriers to east-of-Hudson rail service (via clearance and operational improvements), expanding east-of-Hudson yard facilities, and exploring expanded or new harbor crossings.

NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

The North Jersey Transportation Planning Authority (NJTPA) is the MPO for a 13-county northern New Jersey region, comprising Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren Counties. NJTPA also has an active Freight Initiatives Committee chaired by a Board Member. NJTPA has recently adopted *Plan 2035: The Regional Transportation Plan for Northern New Jersey*, its federally mandated long-range transportation plan. Plan 2035 states that growth in population and freight—which is expected to double or more than double by 2035, in spite of the country's economic recession—places heavy demands on the region's roads and rails. The plan "recognizes the importance of freight to the region's economy, and calls for investments and policies that will help the region handle a projected doubling of cargo with multiple transportation modes, including more efficient truck shipment and a greater role for rail, air, and marine freight."

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

NYSDOT—charged with ensuring the state's safe, efficient, balanced, and environmentally sound transportation system—prepares the state's transportation plan. The most recent plan, *Strategies for a New Age: New York State's Transportation Master Plan for 2030*, acknowledges that the "reliability and predictability of the freight transportation system is essential to the health of the State's and the nation's economy," and that congestion and capacity constraints are problems that must be addressed to keep New York State freight terminals' cost and service competitive. The plan also advocates corridor-based transportation management, designating the New York Harbor crossing as one of the primary New York State Trade Corridors. Two years ago, NYSDOT completed a comprehensive statewide Rail Plan that encompasses passenger and freight conditions and state policy objectives.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

NJDOT developed its first Comprehensive Statewide Freight Plan in 2007. The plan confirms that congestion, bottlenecks, and other system deficiencies on the state's major freight corridors—which include I-78, the New Jersey Turnpike, I-80, I-287, I-295, and Route 17—negatively impact users of the transportation system in New Jersey. The plan recommends that NJDOT undertake a multi-modal corridor study of these primary freight corridors to encompass land use, Intelligent Transportation Systems (ITS), modal alternatives, and shifting freight to off-peak periods. This study, currently underway, would be used to identify maintenance and capital projects within the major freight corridors that would have positive implications on freight and commuter travel.

D. GOALS AND OBJECTIVES

The primary purpose of the project is to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions. A project's goals and objectives are the foundation of its purpose and need under NEPA. They are used as the basis for developing the criteria and methodology for evaluating the project alternatives. Four goals have been established for the Cross Harbor Freight Program. These goals are intended to remedy some of the problems stated in the *Needs Assessment* described earlier. Objectives have also been identified that further define the goals and provide specific and measurable means by which to evaluate and compare project alternatives. The four project goals and respective objectives are as follows:

GOAL 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors relative to no build conditions.

Objectives:

a. Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.
b. Reduce the travel-time and delay on regional highway network.
c. Maximize efficient use of available capacity on existing transportation infrastructure.
d. Maintain or improve regional rail network performance.

GOAL 2: Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.

Objectives:

a. Increase the number of modal options available for Cross Harbor freight transportation.

b. Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.

GOAL 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.
Objectives:

a. Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in the event of a major interruption of service on existing interstate highway corridors serving the region.
b. Support contingency planning for emergency alternative Cross Harbor goods movement operations.
c. Reduce the number of freight vehicle-related accidents.
d. Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.

GOAL 4: Support development of integrated freight transportation/land use strategies.
Objectives:

a. Maximize underutilized freight transportation infrastructure and related land uses.
b. Support services to existing freight distribution centers in the region.
c. Integrate rail freight services with local land use and transportation planning objectives.
d. Integrate rail freight development with statewide freight and passenger rail plans.

E. PROJECT STUDY AREAS

To fully understand the origin and content of freight entering the New York/New Jersey/Connecticut region, and to forecast its future conditions, the Tier I EIS is modeling goods movement in a 54-county multi-state area (depicted on Figure 1) comprising portions of southern New York, northern and central New Jersey, western and southern Connecticut, and a portion of eastern Pennsylvania. The counties of this modeling study area have been selected by PANYNJ to reflect the following:

- PANYNJ core planning region, which includes the five boroughs of New York City (Bronx, Kings, New York, Queens, and Richmond Counties), Long Island (Nassau and Suffolk Counties), lower Hudson Valley (Westchester and Rockland Counties), and northern New Jersey (Passaic, Bergen, Morris, Essex, Hudson, Union, Somerset, and Middlesex Counties)
- Surrounding counties that are also part of NYMTC and NJTPA planning regions
- Counties that accommodate truck/rail terminals and freight corridors that are important in serving the region
- Additional counties that accommodate important Hudson River crossings that are or may be used to bypass infrastructure in the core planning region.

Framed by this understanding of freight flows into, out of, within, and through the larger 54-county area, the Tier I EIS analyses will focus on impacts to the regional study area depicted in Figure 1. This regional study area comprises counties served by NYMTC, which encompasses New York City, Long Island and the lower Hudson Valley, and NJTPA, which serves 13 counties in northern New Jersey and the cities of Newark and Jersey City. The regional study area includes: major interstate highways leading to the existing cross harbor connections (I-278, I-495, I-95); a number of highways serving northern New Jersey (such as New Jersey Turnpike/I-95, I-78, I-80, and I-287); and many state and local routes that are important for local

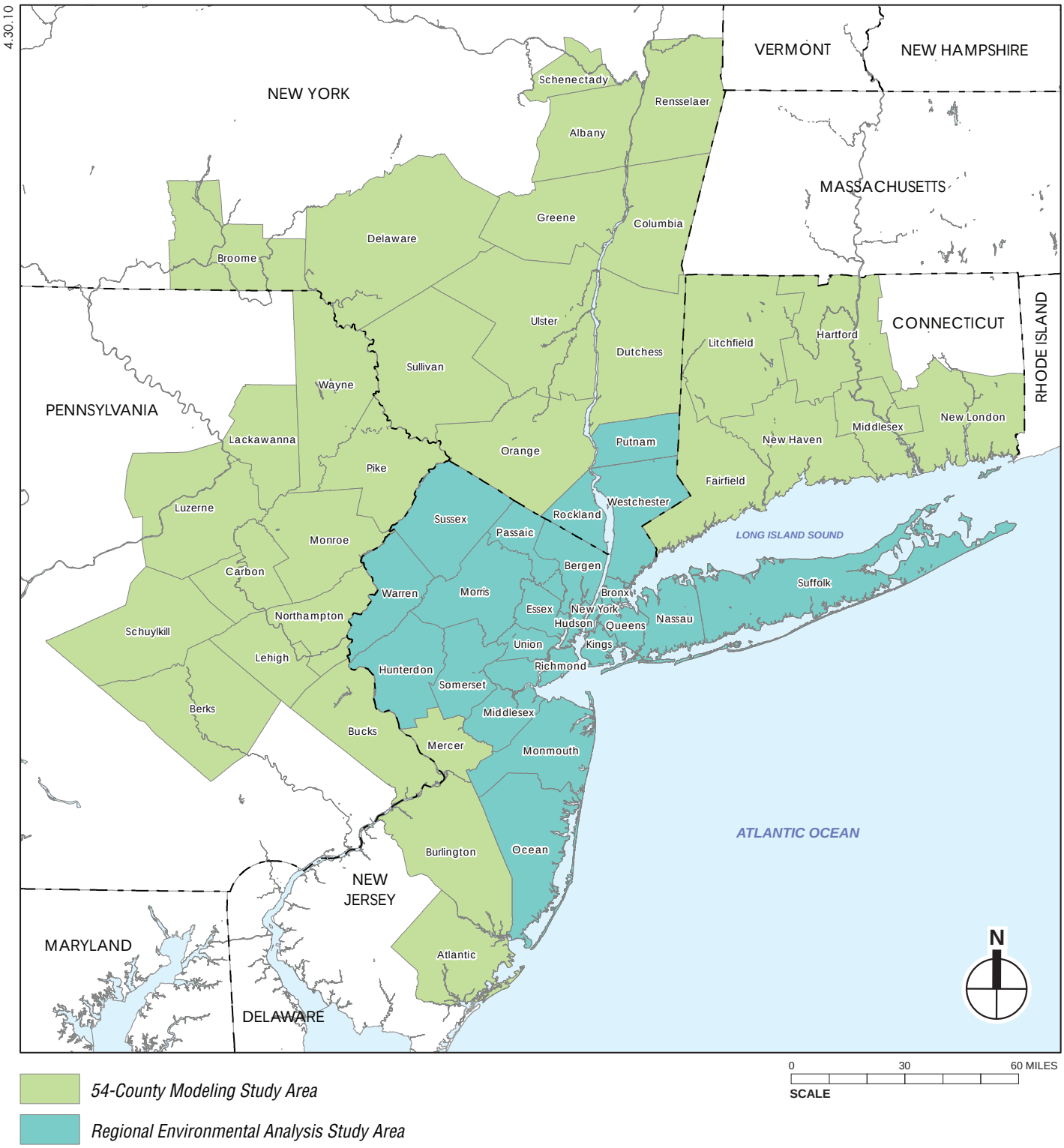


FIGURE 1

Study Areas

CROSS HARBOR FREIGHT PROGRAM

freight movement (see Figure 2). The Tier I EIS will also investigate major freight rail lines and facilities west of the Hudson River (such as lines within the Consolidated Rail Company (Conrail) Shared Assets Area, the CSX River Line, the Norfolk Southern Lehigh Line, Chemical Coast Line and important rail yards at Croxton, Kearny, Oak Island, Greenville, Port Newark/Elizabeth in New Jersey), as well as strategic rail assets east of the Hudson River, which may be affected by the proposed alternatives (such as the 65th Street Yard, the Bay Ridge Branch, Montauk Branch, Oak Point and Harlem River yards, and railcar float facilities at 51st and 65th Streets in Brooklyn; see Figure 3). The extent of the regional study area may be refined as project elements are defined and freight traffic demand modeling is conducted, and will be confirmed as appropriate for each technical analysis.

While much of the Tier I EIS is focusing on broad, corridor-level impacts, some analyses require an evaluation of local impacts from proposed or altered rail yards, rail lines, and/or intermodal facilities. An understanding and assessment of the local effects of the proposed alternatives is necessary, since a complete description of any proposal requires a discussion of specific project elements—e.g., rail yards, track and structural improvements, marine infrastructure, ventilation systems, and roadway improvements—that may result in adverse social and environmental effects on local communities. These adverse effects and the ability to avoid, minimize or mitigate them could influence the ultimate selection of a Preferred Alternative(s). Therefore, the study areas for the evaluation of local impacts will depend greatly on the elements of each specific alternative and, to a lesser extent, on the environmental analysis in question. For each analysis in the Tier I EIS, appropriate local study areas will be identified before each analysis, for each potential project site, and will likely vary among alternatives. The *EIS Methodology* describes the methodology by which local study areas will be chosen.

F. ALTERNATIVES

As described in *EIS Methodology*, the alternatives evaluation process begins with a long list of alternatives comprising combinations of freight movement methods and existing or potential facility locations. This universe of project alternatives is appropriate for a Tier I EIS, which aims to select a mode, alignment, and logical termini for the proposed action. The alternatives included in the long list generally fall into the following three classes:

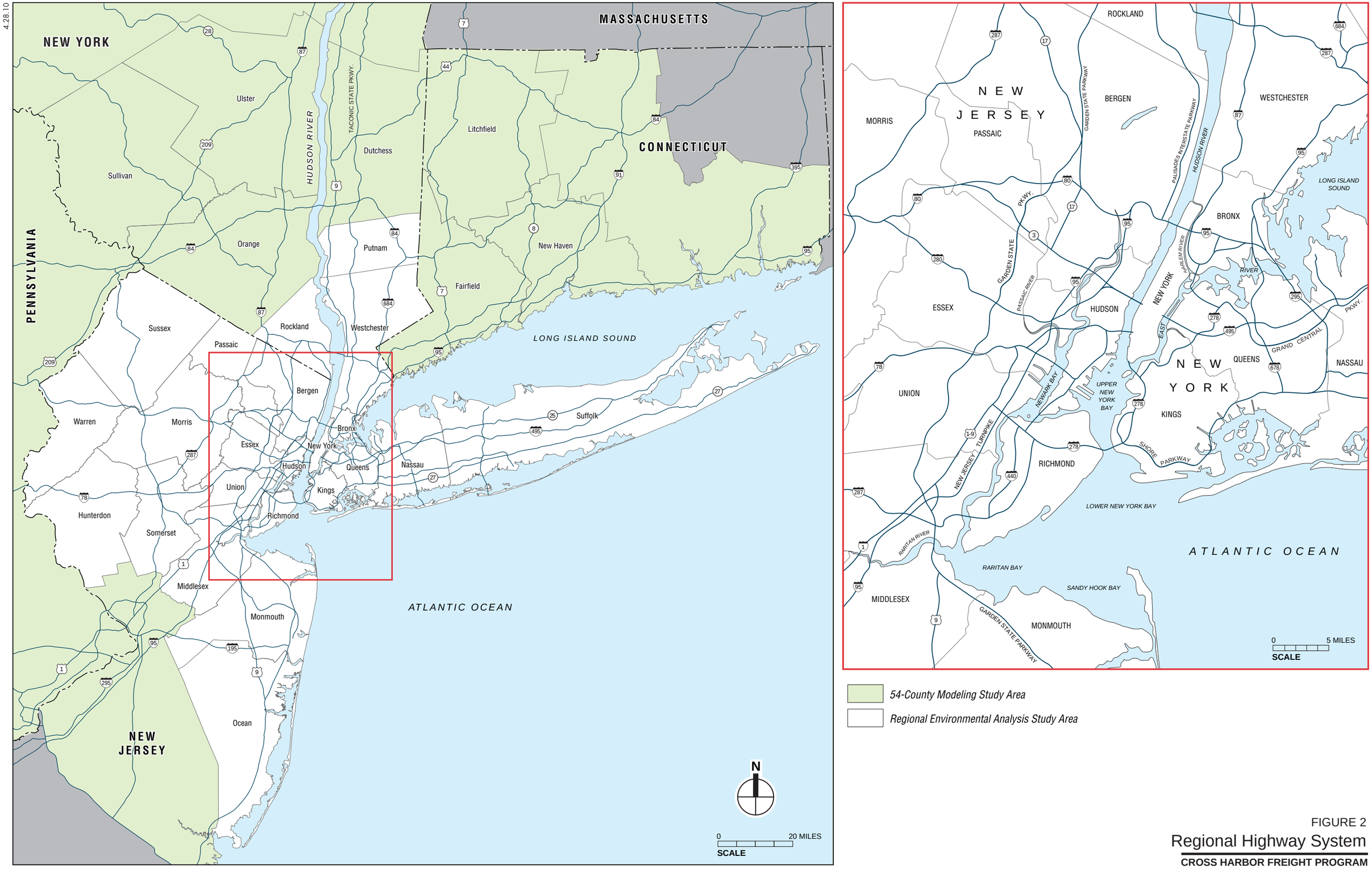
1. No Action Alternative
2. Management Alternatives – TSM and Transportation Demand Management (TDM)
3. Build Alternatives – Float/Ferry Alternatives, Rail Tunnel Alternatives, and Rail/Vehicle Tunnel Alternatives.

The Build Alternatives may also include a combination of float/ferry and tunnel elements, possibly phased over a period of time. Some alternatives may be eliminated, modified, or combined as a result of agency or public comments received during the scoping process, or as the list of alternatives is moved though the various screening and analysis steps described in the *EIS Methodology*.

NO ACTION ALTERNATIVE

The No Action Alternative includes projects that are currently programmed, planned, or reasonably expected for the study area, independent of the Cross Harbor Freight Program.

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54-County Modeling Study Area

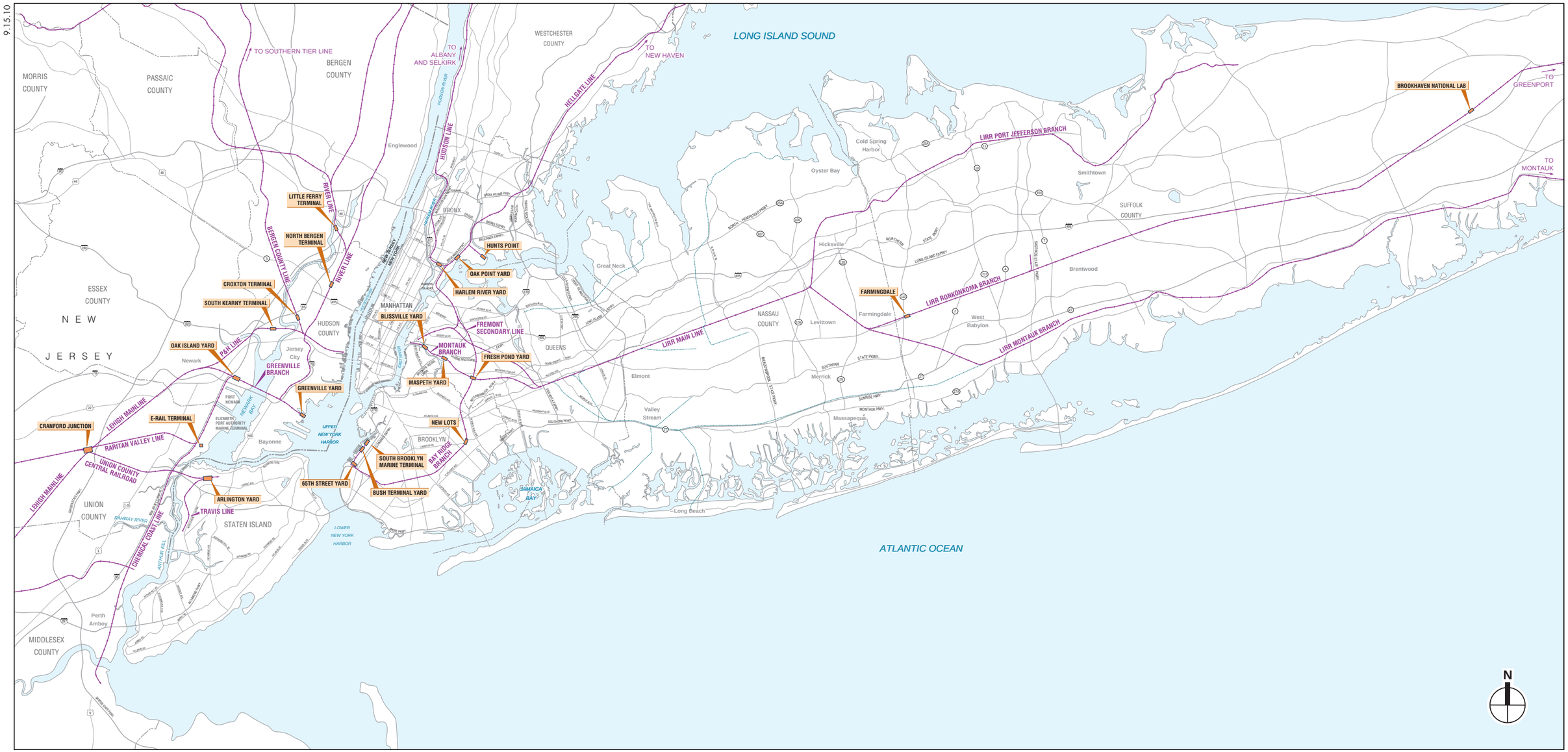
Regional Environmental Analysis Study Area

FIGURE 2

Regional Highway System

CROSS HARBOR FREIGHT PROGRAM

9.15.10



Freight Rail Line

Existing Freight Facility Location

0 2 4 6 8 10 MILES

SCALE

FIGURE 3

Existing Regional Rail Freight Facilities

CROSS HARBOR FREIGHT PROGRAM

- For highways, it includes improvements represented in the year 2035 "existing and committed" Build scenarios from NYMTC and NJTPA regional highway transportation models, as well as any project updates or adjustments identified by NYMTC, NYSDOT, NJTPA, NJDOT, or other responsible agencies.
- For rail, it includes any remaining improvements on PANYNJ east-of-Hudson and west-of-Hudson rail program lists that have not been constructed; other "independent utility" projects being advanced by PANYNJ, particularly at Greenville Yard; programmed or planned rail improvements with the participation of NJDOT or NYSDOT; and anticipated improvements from the region's freight and passenger railroads.
- Port projects may also impact the generation and/or distribution of truck and rail traffic within the region; therefore, these projects should also be defined for purposes of the No Action Alternative to enable highway and rail network models to be "tuned" accordingly.

To arrive at a list of No Action Alternative projects for the Tier I EIS, the No Action rail and other elements described in the 2004 Cross Harbor Freight Program DEIS served as a starting point. These elements (projects) were discussed with representatives of PANYNJ, NJTPA, and NYMTC, with agreement sought as to their status: completed and in operation; under construction; not constructed, but probably implemented by 2035; and not likely to be implemented by 2035. These agencies also identified other rail projects in the study area, from the respective State Rail Plans or other sources, which would be implemented by 2035 by NJDOT, NYSDOT, freight and passenger railroads, or PANYNJ.

Also reviewed were the NJTPA and NYMTC long-range transportation plans dealing with roadway improvements, and the assumptions regarding these planned or programmed improvements that were input to their respective transportation models. Meetings with these two agencies were again held to confirm the modeling assumptions. Also investigated with PANYNJ were any port or airport projects that could impact the generation and/or distribution of truck and rail traffic within the region. Based on this interactive process, a potential list of projects that will comprise the No Action Alternative has been compiled and is included in Appendix A. Figure A-1 depicts railroad projects in New York and New Jersey and Figure A-2 depicts highway projects.

MANAGEMENT ALTERNATIVES

TRANSPORTATION SYSTEM MANAGEMENT

TSM aims to maximize the utilization and efficiency of the existing transportation network with relatively low-cost improvements that can improve its functional capacity. These improvements would provide additional freight movement capacity beyond those committed projects that are included in the No Action Alternative described above.

In relation to the above definition, the TSM alternative could include (see Figure 4):

- Increased capacity of the Oak Island Rail Yard in Newark, NJ with additional tracks.
- Improvements to the existing Lehigh Valley Line, beyond the improvements that are proposed by NJDOT.
- Additional improvements to the Chemical Coast Line in New Jersey, in the vicinity of its junction with the Staten Island Rail Line, including increased storage capacity along the tracks.

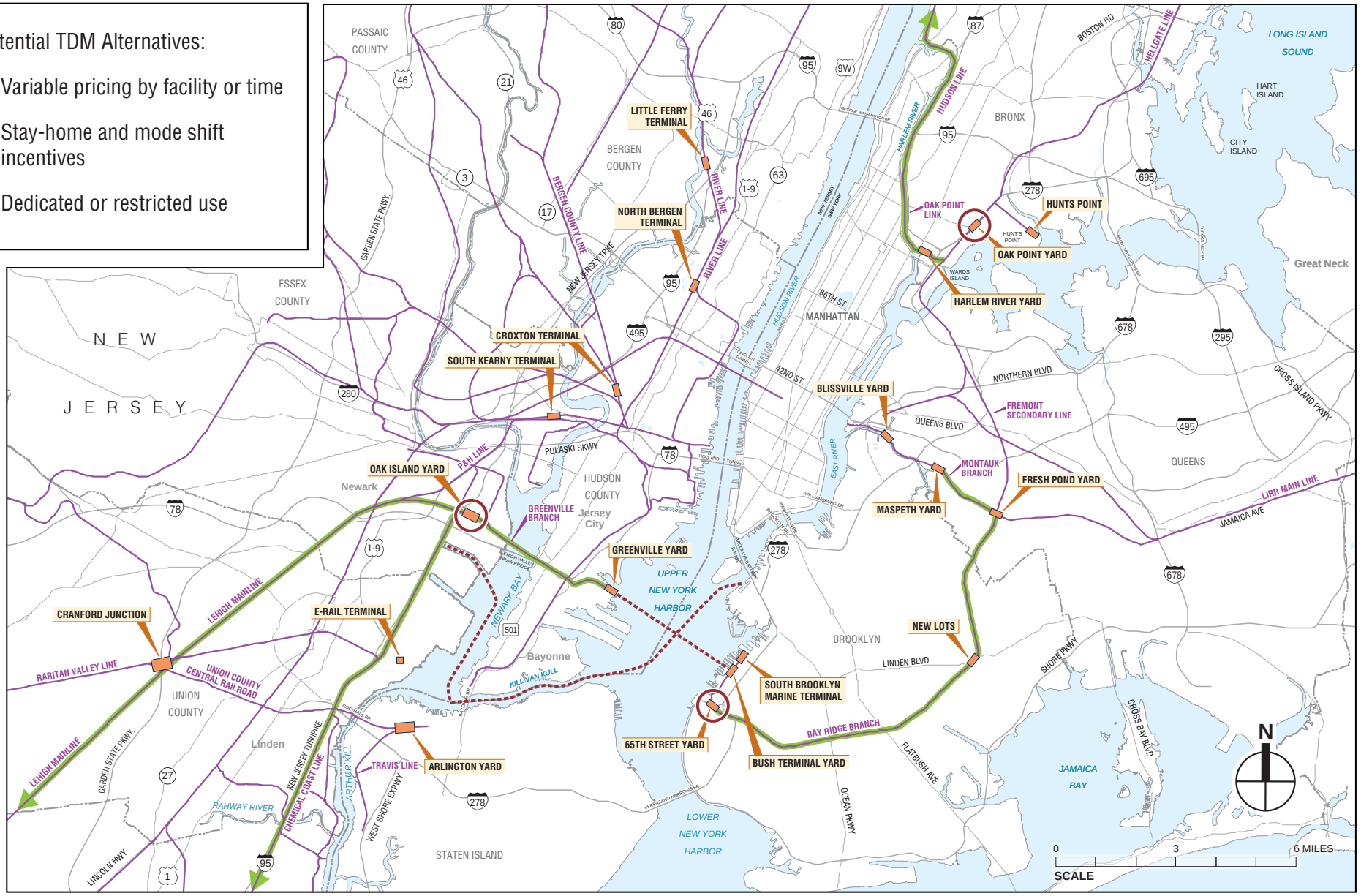
TDM Alternative

TSM Alternative

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Potential TDM Alternatives:

- Variable pricing by facility or time
- Stay-home and mode shift incentives
- Dedicated or restricted use



Freight Rail Line

Potential Railroad Improvement

Potential Float Improvement

Potential Rail Yard Improvement

FIGURE 4

Management Alternatives – TSM and TDM

CROSS HARBOR FREIGHT PROGRAM

- Improved rail freight movement along the Hudson Line through better coordination of rail operators using the line, as well as upgraded signaling to enable tighter spacing between trains.
- Upgrading the existing rail bridge at Selkirk, NY, some 140 miles north of New York Harbor.
- Upgrading the existing railcar float service between Greenville Yard in Jersey City and 51st Street rail yard in Brooklyn, including rehabilitation of two Greenville float bridges and new track work in Greenville Yard.
- Upgrading the existing container float (the Red Hook Container Barge) between American Stevedoring facilities at Red Hook, Brooklyn, and Port Newark.
- Improving the existing rail yard at 65th Street in Brooklyn, and service to and from the 65th Street float bridge.
- Track and signal improvements to the Bay Ridge Branch and Montauk Branch rail lines.
- Expansion of intermodal facilities at the Oak Point Yard in the Bronx.
- Consideration traffic management strategies for vehicular crossings and connecting roadway corridors related to existing truck crossings, particularly Intelligent Transportation Systems applications.

TRANSPORTATION DEMAND MANAGEMENT

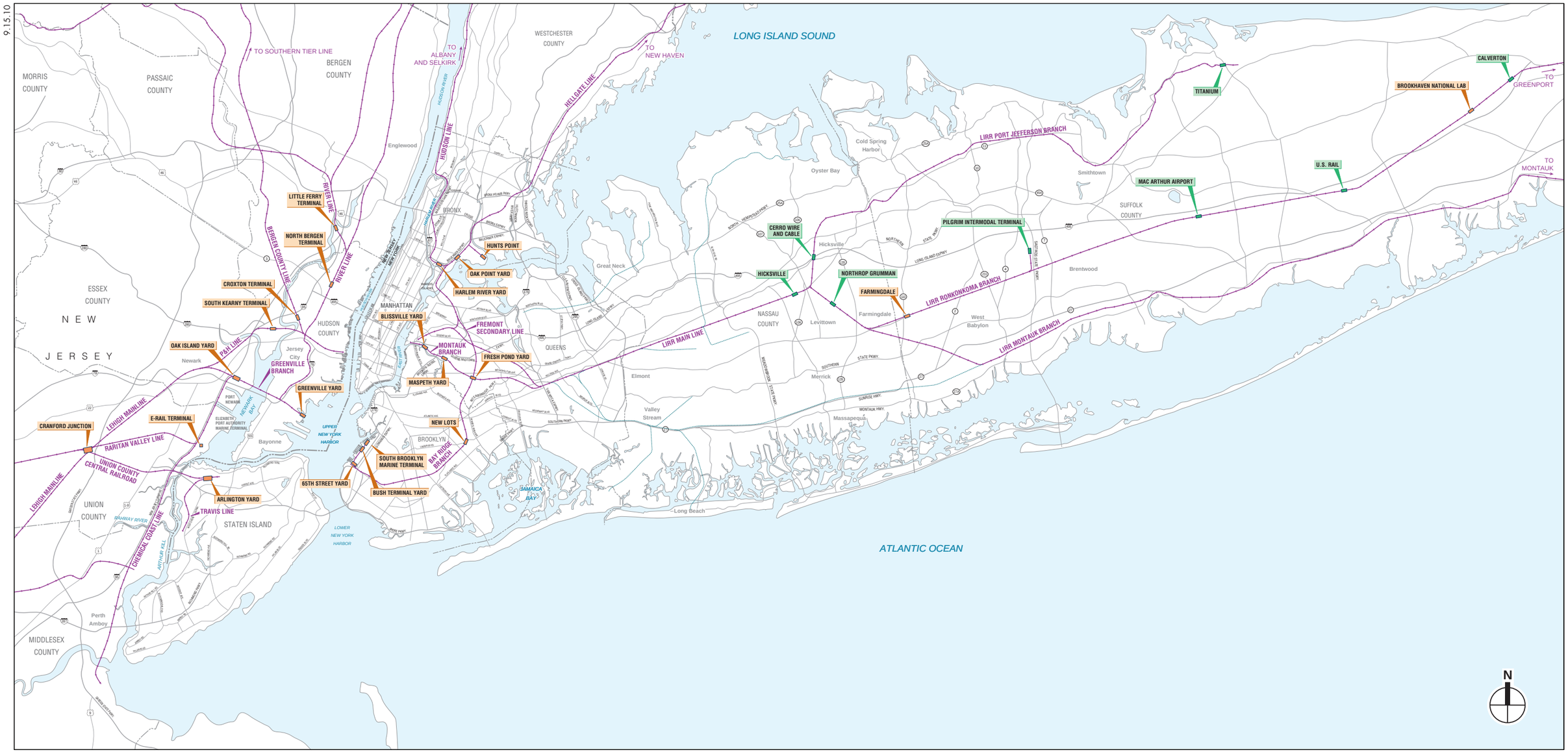
TDM aims to reduce, redistribute or "better fit" the amount of demand to the available capacity. To achieve a better relationship between demand and capacity, TDM alternatives could include:

- Truck congestion pricing and improved tolling to optimize the magnitude of freight movement demand, its geographic distribution, and time-of-day distribution.
- Passenger vehicle congestion pricing and improved tolling, to move cars "out of the way" of trucks.
- Capacity management strategies that provide priority treatment for truck movements where and when appropriate and feasible.
- Other fees, regulations, or policies affecting transportation behavior and choices.

BUILD ALTERNATIVES

As mentioned above, complete descriptions of the Build Alternatives will include the number, location, and size of required intermodal transfer facilities (i.e., float and ferry landings and rail yards and/or terminals) to process the bulk and/or intermodal shipments that are conveyed across New York Harbor. Based on field reconnaissance, secondary source data review, and coordination with local railroad operators and planning agency representatives, a list of 20 locations have been identified for potential yards and terminals in the east-of-Hudson region (Bronx, Queens, Brooklyn, and Long Island). Some of the locations currently support freight rail yards but would require expansion to accommodate the Build Alternatives; other locations are currently accessible by rail but would require the construction of a freight yard and supporting facilities. These 20 locations, which include 12 existing yards and 8 proposed sites, are shown on Figure 5 and summarized below.

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Freight Rail Line

Existing Freight Facility Location

Potential Freight Facility Location

0 2 4 6 8 10 MILES

SCALE

FIGURE 5

Existing and Potential Regional Rail Freight Facilities

CROSS HARBOR FREIGHT PROGRAM

BROOKLYN

- **Bush Terminal Yard** – a 6-acre facility located on the Brooklyn waterfront at First Avenue between 43rd and 51st Streets.
- **65th Street Yard** – a 33-acre facility located on the Brooklyn waterfront between 65th and 63rd Streets.
- **South Brooklyn Marine Terminal** – located on the Brooklyn waterfront between 29th and 39th Streets.
- **New Lots** – an approximately 30-acre facility along, and connected to, the Long Island Rail Road (LIRR) Bay Ridge Branch, on Foster Avenue between East 83rd and East 87th Streets in Brooklyn.

QUEENS

- **Maspeth Yard and Phelps Dodge/West Maspeth** – Maspeth Yard is located adjacent to the Montauk Branch LIRR tracks. The yard runs along Rust Street near its intersection with Maspeth Avenue. The 37-acre Phelps Dodge site is located to the west of Maspeth Yard.
- **Blissville Yard** – located adjacent to the Montauk Branch LIRR tracks, and approximately one mile from Yard A in Sunnyside.
- **Fresh Pond Yard** – Fresh Pond Yard and Junction are located in Glendale, Queens, at the intersection of the LIRR's Montauk Branch and the Conrail freight tracks, approximately three miles east of Maspeth Yard. The 20-acre Fresh Pond Yard consists of a west yard and an east yard, divided by the Conrail Bridge.

BRONX

- **Harlem River Yard** – located at 132nd Street in the South Bronx.
- **Oak Point Yard** – located in the South Bronx, along the East River waterfront.
- **Hunts Point** – located in the South Bronx, along the East River waterfront.

LONG ISLAND

- **Hicksville** – a 16-acre Post Office site, located off the LIRR Main Line in Hicksville, Nassau County.
- **Cerro Wire & Cable** – located between the Hicksville and Syosset Stations along the Port Jefferson Branch of the LIRR.
- **Northrop Grumman** – a 91.3 acre property, located near the LIRR Main Line, in Bethpage, Nassau.
- **Farmingdale** – an approximately 12-acre site, located on the LIRR Main Line, in the vicinity of the former Republic Station.
- **Pilgrim** – The Pilgrim Hospital site is located approximately one mile north of the LIRR right-of-way, about ½ mile east of the Deer Park LIRR Station, in the Town of Brentwood, Suffolk County, on the Main Line/Ronkonkoma Branch.
- **MacArthur Airport** – located just south of the LIRR Main Line in Ronkonkoma.

- **Titanium Site at Port Jefferson** – known as the Lawrence Aviation Industries (LAI) site, located in the Town of Brookhaven, in Suffolk County. This site is close to the LIRR Port Jefferson Branch and Port Jefferson Station.
- **US Rail's Brookhaven Rail Terminal (BRT) at Yaphank** – The 28-acre site is bounded by I-495 to the north, County Road 101 to the west, the Long Island Rail Road to the south, and a utility easement and a vacant parcel to the east. There are two other sites at this location: one site called Yaphank West, on the Main Line/Ronkonkoma Branch in Yaphank, and located on undeveloped land west of the existing Yaphank Station; and a second site, called Yaphank East, occupies the eastern portion of the Suffolk Country Department of Public Works facility and part of a privately owned tree farm.
- **Brookhaven National Laboratory** – a site bounded by William Floyd Parkway to the west, the Long Island Expressway and LIRR to the south, Peconic River Park to the east, and Brookhaven State Park to the north.
- **Calverton** – an approximately 50-acre site, located along a railroad siding near the LIRR Main Line, owned by the Town of Riverhead.

FLOAT AND FERRY ALTERNATIVES

Both float and ferry alternatives describe the movement of freight, by water, across New York Harbor. The main difference is that ferry service also carries the truck driver who stays with the truck for the duration of the trip. Alternatives involving these modes could include:

- **Expanded Railcar Float System.** The existing railcar float system operates between Greenville Yard in Jersey City and Bush Terminal Yard at 51st Street in Brooklyn. Alternatives for an expanded railcar float operation would include expanding this existing service, as well as offering new service routes to and from 65th Street in Brooklyn, South Brooklyn Marine Terminal, Long Island City in Queens, Oak Point Yard or Hunts Point in the Bronx, or other sites. This alternative might also involve operation of new vessel types. The current railcar float system pushes railcars onto a specially designed deck barge (with rail tracks), which is towed across the harbor by a tug boat; however, larger, faster, self-powered rail-carrying vessels could be employed.
- **Expanded Container Float System.** Containers on barges are currently moved across New York Harbor between Red Hook and Port Newark. Alternatives for an expanded container float operation would include a similar system provided at other marine cargo terminals. System expansion could provide an alternative for international container traffic arriving on one side of the harbor to move to the other side without involving truck transport; however, these moves represent a very small share of the total cross harbor freight movement.
- **Truck Float System**. This alternative could move truck trailers or integrated "single unit" trucks across the harbor, without their drivers. Only one example of this type of service operates in North America, between Detroit, Michigan and Windsor, Ontario. It is an "on demand" service typically chartered for shipments requiring special handling (e.g., oversize/overweight). Trucks are driven onto a simple deck barge and towed by a tug boat. As with railcar floats, larger and faster self-powered vessels are available. This type of system requires the coordination of two different drivers, one on each end of the trip, and reduces the total amount of driver hours devoted to the move, since some of the mileage is traversed without any driver "on the clock." This alternative would require truck staging areas and access.

- **Truck Ferry.** This traditional vehicle ferry service involves a truck that is driven onto a ferry boat and both the truck and driver are carried across the water body. The advantage of this mode is that it does not require the coordination of two drivers. The disadvantage is that the driver remains "on the clock," and unless ferry transit times can meet or beat the highway times, a net loss to the driver is experienced, and, therefore, it is unlikely that such service would be used. Truck ferries are most attractive in cases where they provide a "shortcut" between two points that would otherwise require a circuitous route, such as the ferry between Bridgeport, Connecticut and Port Jefferson, New York. This alternative would require truck staging areas and access.

  Potential float and/or ferry service routes across New York Harbor are shown in Figure 6.

RAIL TUNNEL ALTERNATIVES

Previous studies conducted for the project, including the 2000 MIS and the 2004 DEIS, evaluated various alignments for a rail tunnel spanning New York Harbor. The 2004 DEIS selected a preferred alignment, spanning from Greenville Yard in Jersey City, New Jersey to the 65th Street Yard in Brooklyn (see Figure 7). The Tier I EIS will revisit this preferred alignment to confirm that all current socioeconomic and environmental factors have been considered.

All the rail tunnel alternatives for the Tier I EIS will assume the Greenville Yard to Brooklyn 65th Street Yard alignment. The rail tunnel alternatives consider different options for both construction and operation, which are described below. By considering various potential construction options (i.e., single track versus double track; single stack clearance versus double stack clearance) and uses (i.e., a rail-only tunnel versus a rail/vehicle tunnel), the proposed set of rail tunnel alternatives take into account the capital and operational costs and extensive regulatory coordination and approvals required for building and operating a rail tunnel in New York Harbor.

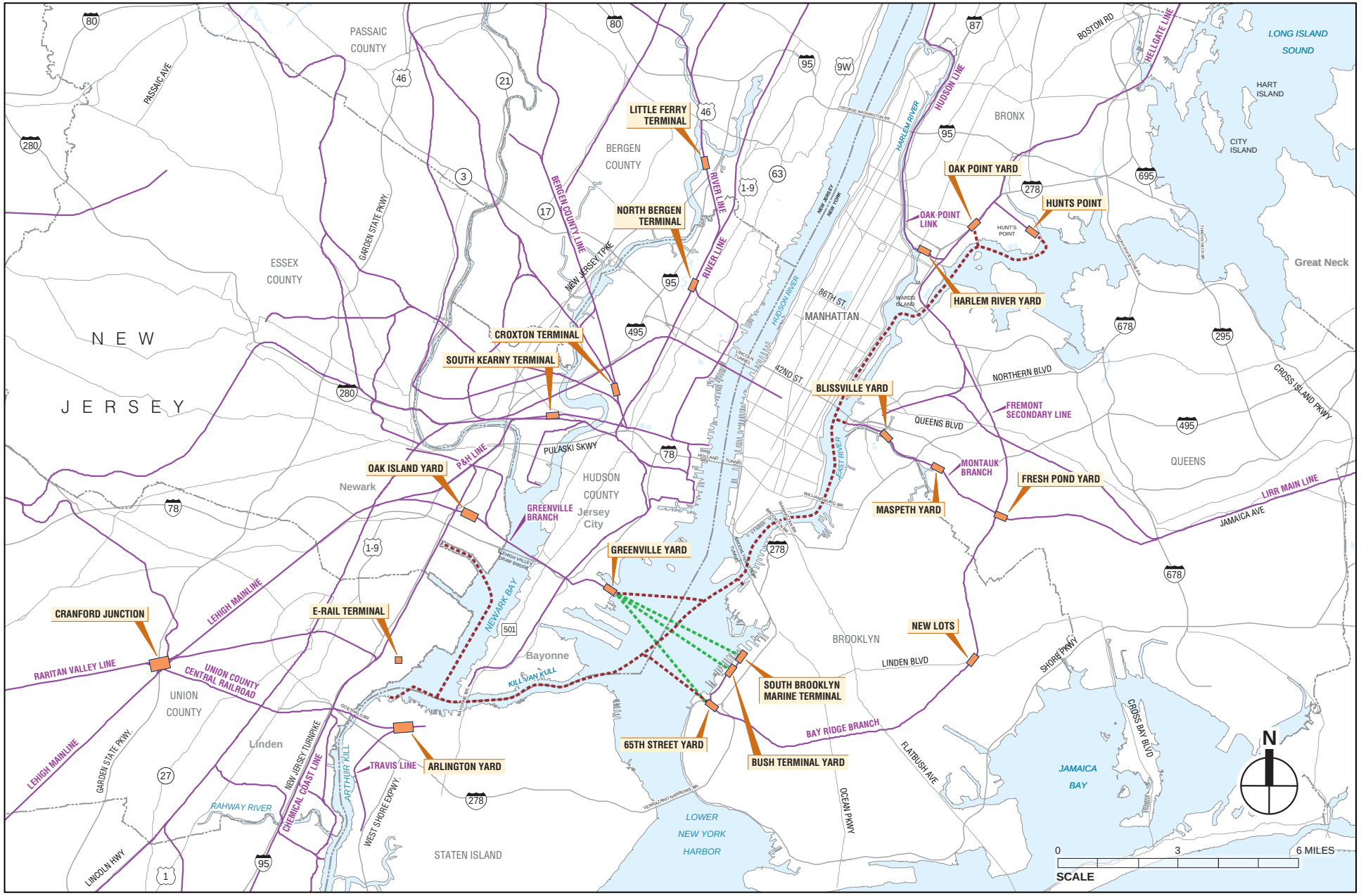
Each rail tunnel alternative would require intermodal terminals and logistics support facilities. As discussed above, some existing freight facilities may have to be expanded to accommodate increased freight traffic and other new facilities may need to be constructed.

Rail Tunnel

As mentioned above, the rail tunnel alternatives would generally accommodate rail equipment within a tunnel below the New York Harbor, running from New Jersey to Brooklyn. The rail tunnel alternatives vary with respect to dimensions, the number of tracks provided, and the types of railcar equipment and services accommodated:

- **Rail tunnel with single versus double track.** A two track tunnel would provide more flexibility in scheduling rail traffic, and would provide additional capacity to the system in case of emergency. With a double track tunnel, the design could comprise a single underwater tube or two separate tubes. The difference in construction is not important from a market demand or service standpoint, but may be important from engineering, safety, and cost perspectives.
- **Rail tunnel with single versus double stack clearance.** A double stack clearance rail tunnel would accommodate railcars carrying two stacked intermodal containers. Double stack containers require additional clearance (a total height of 20 feet, 6 inches) which increases tunnel construction costs.

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Freight Rail Line

Greenville Yard Hub Services

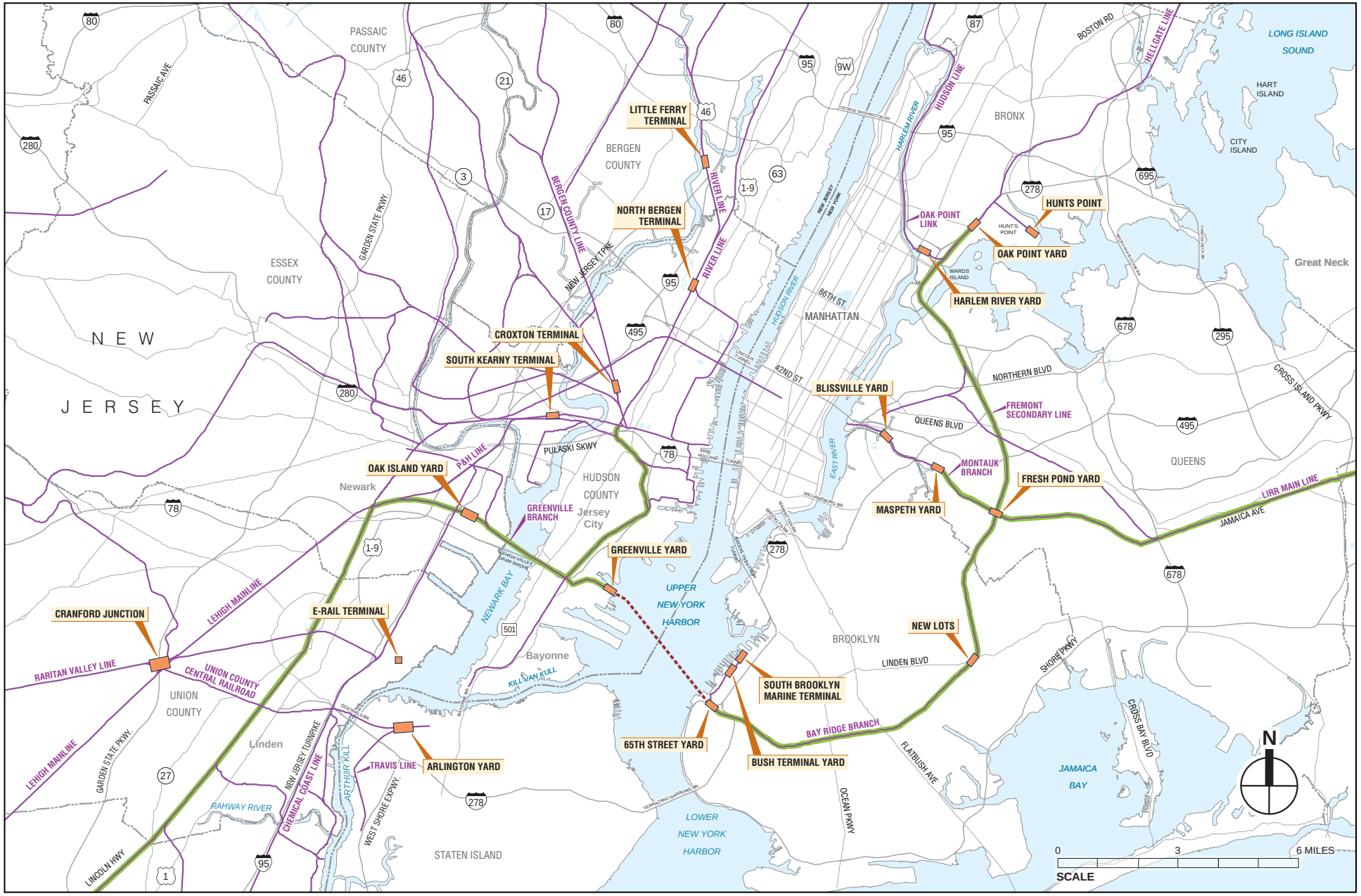
Harbor-Wide Intermodal Services

FIGURE 6

Expanded Railcar Float and Truck Float/ Ferry Alternatives — Potential Routes

CROSS HARBOR FREIGHT PROGRAM

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Freight Rail Line

Potential Rail Tunnel Alignment

Potential Railroad Improvements Required for Tunnel Alignments

FIGURE 7

Rail Tunnel Alternatives

CROSS HARBOR FREIGHT PROGRAM

- **Rail tunnel with "Open Technology" equipment and service.** "Open technology" describes a specialized type of rail equipment that allows trucks, truck chassis, and truck trailers to be driven onto and off of railcars, rather than being lifted on and off of railcars as in traditional intermodal services. This change in loading technology allows more types of trucks and trailers to be handled on rail. Open technology requires specially designed rail terminals at both ends of the rail trip, and may also require upgrading tracks.
- **Rail tunnel with roll-on/roll-off vehicle trains.** The Chunnel in Europe is a good example of this type of tunnel. For the vehicle trains, trucks and cars are driven onto the railcars at one end, vehicles and drivers are carried through the Chunnel, and trucks and cars drive off at the other end. The tunnel operates similarly to a ferry boat, except in a tube. This alternative might be attractive compared to a rail tunnel with emergency vehicle or scheduled truck access.

Rail/Vehicle Tunnel

Any of the rail tunnel alternatives described above could also be modified to accommodate non-rail traffic. The degree of design and operational modification required, and the corresponding impacts on performance, engineering, safety, and cost, will depend on the specific alternative. Generally, three types of rail/vehicle tunnel alternatives, combining rail and non-rail traffic in a tunnel, would be studied in the Tier I EIS:

- **Rail tunnel with access for emergency vehicles.** The tunnel floor would be designed to allow passage by rubber-tired vehicles during emergency conditions, during which time rail traffic would be prohibited. Such a design might accommodate evacuations or other emergency response activities. The design of the rail bed, ventilation systems, and vehicle access at each end of the tunnel could be significantly different than with an all-rail tunnel.
- **Rail tunnel with scheduled truck access.** This alternative may be similar to Alaska's Whittier Tunnel, in which a one-track/one-lane tunnel is shared by vehicles and trains. Each hour of the day is divided among access for eastbound vehicles, access for westbound vehicles, and access for trains. With higher levels of vehicle traffic than an emergency-use-only tunnel, the highway systems at each end would require considerably more attention relative to truck operations and capacity.
- **Rail tunnel with Automated-Guided-Vehicle service.** This alternative to scheduled truck access involves Automated Guided Vehicles (AGVs), which are self-guided power units that can carry loads or drag loads. Fleets of alternative-fuel AGVs could be used as truck cabs, hooking themselves to over-the-road truck chassis at designated transfer yards and dragging the chassis through a tunnel to transfer yards on the other side. The system might be very attractive for truckers, since they could drop off and pick up their loads outside of congested core areas. The system also avoids double handling of the cargo, since the cargo does not have to be lifted onto or off of its chassis. Several hurdles would have to be overcome with this alternative such as designing and locating the transfer yards, siting required guideways between the tunnel portals and the transfer yards, the cost of AGV equipment, and the management and scheduling of AGV traffic with conventional rail traffic.

G. ALTERNATIVES EVALUATION PROCESS

Starting with the long list of alternatives, a series of evaluations will be undertaken to select a limited list of alternatives that will be carried forward for detailed evaluation in the Tier I EIS. The development and evaluation of project alternatives is central to the NEPA process. The

alternatives selection process will consist of five major steps—scoping, fatal flaw analysis, screening analysis, detailed evaluation, and the Tier I EIS—that are intended to winnow the number of alternatives through a comprehensive evaluation process. The 5-step process includes numerous tasks involving separate processes, decision points/action items, and analysis modeling that are described in full in *EIS Methodology.*

The following is an overview of the five major steps:

1. **Scoping** – Determines the project's goals and objectives, alternatives to be considered, and scope of issues to be examined in the Tier I EIS. Also refines the project purpose and need.
2. **Fatal Flaw Analysis** – Eliminates clearly infeasible alternatives from further consideration.
3. **Screening Analysis** – Reduces the range of reasonable alternatives that do not meet the goals and objectives based on freight demand forecasting, mode choice, and broad qualitative criteria.
4. **Detailed Evaluation** – Evaluates alternatives for potential regional and localized effects based on specific and more rigorous quantitative performance measures.
5. **Tier I EIS** – Documents and presents the results of the detailed evaluation, summarizes the process and results of Steps 1-4, and includes additional environmental analyses and compliance with environmental laws and regulations, as appropriate.

H. SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS

As discussed above, the analyses being performed during Tier I are mainly tailored to support corridor-level decision-making, to determine the mode, alignment, and termini of the proposed action. At the same time, an understanding and assessment of the local effects of the proposed alternatives is also required, since a complete description of any proposal requires a discussion of specific project elements that may result in adverse social and environmental effects on local communities.

The regional study area, as described above in Section E, "Project Study Areas," will include major interstate highways and many state and local routes that are important for local freight movement, major freight rail lines and facilities east and west of the Hudson River. The study areas for the evaluation of local impacts will depend greatly on the elements of each specific alternative and, to a lesser extent, on the environmental analysis in question. For Tier I of the EIS, local study areas will be determined as appropriate before each analysis, for each potential project site, and may vary by alternative. In Tier I, mitigation measures would be presented as a range of options that would be available to avoid, minimize, or mitigate potential adverse impacts of the Build Alternatives. The analysis years for the assessment of these impacts will be determined during the scoping process.

TRANSPORTATION

The transportation analysis for the Tier I EIS will consider the impacts from the project alternatives on the regional freight transportation network and on specific local components of the network in the vicinity of project elements as well as passenger rail services. Important elements of the regional highway network will be described in terms of Annual Average Daily Traffic (AADT) and peak traffic periods, and will include a characterization of vehicles utilizing

these roadways. The proposed action would likely provide an overall regional benefit by enhancing the movement of freight between the west-of-Hudson and east-of-Hudson regions. On the local level, the project could result in impacts on specific elements of the regional transportation system, such as the introduction of capacity constraints on local roadways in the vicinity of existing or proposed freight yards and potential local traffic impacts resulting from expanded rail activity on routes with at-grade crossings.

The analysis will create a representation of the relevant national rail infrastructure and—by combining factors, such as the number of tracks, track quality, operating speeds, and signaling systems on each line—will describe the capacity of the existing rail network. The results of the demand estimation process (described in the *EIS Methodology*) would serve as input to determine the volumes of traffic on each rail line or to each rail network element if each alternative would be implemented. A conceptual rail operations plan would be created for each alternative to evaluate the movement of freight on a network that includes the given alternative, and to assess whether each alternative can operate with acceptable operational impacts.

LAND USE, ZONING AND PUBLIC POLICY

This analysis for the Tier I EIS will include both a regional and a local examination of issues. On a regional basis, broad issues and trends will be discussed related to regional land use and, where appropriate, regional concentrations of industrial and commercial activity will be identified, since these areas may create additional demand for improved freight movement. The regional portion of the analysis will evaluate the project's compatibility with land use and development goals and regional public policy. The analysis will also include a general description of land use, zoning, and demographic characteristics in local study areas, where specific project elements may be located. The analysis will discuss the compatibility of project elements with existing land use, zoning, and neighborhood character, and whether project elements would significantly alter the character of local study areas or block access to area amenities. The analysis will discuss whether acquisition of property would be required for new or expanded project elements (such as rail yards), and the potential for direct displacement of residents and businesses. Potential impacts from the construction (short-term) and operation (long-term) of project elements will be described.

ECONOMIC CONDITIONS AND DISPLACEMENT

This analysis will focus on evaluating the direct, indirect, and induced effects of the project alternatives on the economic activity in the regional study area. The project stakeholders—asset providers, service providers, end users, and other parties that may be affected by the proposed action—will be introduced, along with the manner in which they may be affected. It is expected that on the regional basis, the project's potential impacts may be grouped into three categories: transportation-related benefits (which include congestion relief and increased highway performance), shipper cost savings, and business attraction and retention.

The project may also attract local economic development along the alignments of each alternative and in the vicinity of project elements, such as yards and float facilities. Localized adverse economic impacts may also occur from displacement and relocation of businesses due to construction or expansion of project elements. The analysis will be performed in conjunction with the land use, zoning, and public policy analyses. The regional and local study areas for the economic conditions analysis will be the same as the land use study areas.

CULTURAL RESOURCES

The archaeological and historic resources analysis will be conducted in accordance with Section 106 of the National Historic Preservation Act (NHPA), Section 4(f) of the United States Department of Transportation Act, the New York State Historic Preservation Act of 1980 (SHPA), and the New Jersey Register of Historic Places Act of 1970 (NJSA). Areas of potential effect (APEs) will be delineated in consultation with the New York State Historic Preservation Officer (NYSHPO) and the New Jersey Historic Preservation Officer (NJHPO). It is expected that different APEs will be established for archaeological and historic resources, with the archaeological APE focusing on areas of potential physical disturbance and the historic resources APE including areas where visual and indirect impacts may occur. The analysis will compile an inventory of archeological and historic resources in the project APEs and assess the potential for the project alternatives to impact these inventoried archeological and historic resources.

VISUAL RESOURCES

The visual resources analysis will assess the potential effects of the Tier I alternatives on the visual character and aesthetic conditions of the study area. It will be prepared in accordance with the guidelines for visual analyses contained in federal documents prepared by FHWA, including *Guidance for Preparing and Processing Environmental and 4(f) Documents* (1987), *Environmental Impact Statement Visual Impact Discussion* (undated), and *Guidance Material on the Preparation of Visual Impact Assessments* (1986), which is the standard U.S. Department of Transportation (USDOT) methodology for assessing potential impacts on visual and aesthetic resources. The assessments will be based on the degree of change anticipated in the characteristics of the visual environment, and whether changes would affect visual quality or specific visual resources.

AIR QUALITY

This chapter of the Tier I EIS will assess potential regional (mesoscale) effects and potential local effects from the proposed action on ambient air quality. The proposed action is expected to provide regional air quality benefits by shifting freight movement from truck to the more efficient and underutilized rail, thereby potentially reducing future truck VMT and congestion on study area roadways as compared with no build condition. The various project alternatives will generate emissions primarily from non-road sources, such as diesel-powered freight locomotives, marine engines, and/or new or expanded intermodal facility activities. Some local increases in emissions from trucks on roadways or diesel-powered rail locomotives in the vicinity of proposed yards may also occur. The analysis will determine pollutants of concern and then consider potential regional (mesoscale) effects on air quality to determine the proposed action's effect on air quality in the defined airshed. The analysis will also determine the project's conformity with the New York and New Jersey State Implementation Plans (SIPs), as required by the Clean Air Act and amendments. Transportation conformity determinations are required for the approval, funding, or implementation of any FHWA project. The Cross Harbor Freight Program's current status, relative to the Transportation Improvement Programs (TIPs) and Regional Transportation Programs (RTPs) in New York and New Jersey, will also be documented.

ENERGY AND GREENHOUSE GASES

The Tier I EIS will analyze potential impacts from the construction and operation of the project alternatives on greenhouse gas emissions and energy consumption in the regional study area. The proposed action aims to improve the movement of goods in the region by enhancing the transportation of freight through the region and, as a result, may shift some freight movement from trucks to rail, a more energy-efficient mode of transportation. This shift may also contribute to a reduction in roadway congestion and associated greenhouse gas emissions. The analysis will identify the state and federal energy policies and greenhouse gas emission reduction goals relevant to the proposed action and the action's consistency with these policies.

NOISE AND VIBRATION

The Tier I EIS will analyze the proposed action's potential to generate noise and vibration impacts due to increased rail activity along rail freight routes, activity at rail yards (such as loading and classification of freight, truck activity, equipment operation, and truck and employee vehicular trips on local streets), tunnel ventilation equipment, and construction activities. The Noise and Vibration analysis will consist of a screening-level assessment for potential impacts in the vicinity of project elements. The analysis will generally follow the FTA guidance manual, *Transit Noise and Vibration Impact Assessment* (May 2006), particularly as it relates to rail yards and lines. The analysis will consider potential noise impacts from rail freight and vehicular sources (such as rail yards), and also potential vibration and ground-borne noise impacts from construction and operation of project alternatives.

NATURAL RESOURCES

Natural resource issues associated with project alternatives would be limited to local effects on aquatic and terrestrial resources from construction and operation. Through the use of New York State and New Jersey Geographical Information Systems (GIS) resources and a review of literature compiled by relevant federal, state, and local agencies, existing natural resources within each local study area will be identified. These resources may include aquatic biota, terrestrial biota, threatened or endangered species (and their associated habitats, such as wetlands), as well as other resources of special concern, such as essential fish habitat. The analysis will determine potential short- and long-term impacts on these resources, with emphasis on potential impacts on sensitive resources or other resources of special concern.

WATER RESOURCES

The Tier I EIS will analyze the potential effects to water quality from dredging and other in-water activities that may be required for the construction of the tunnel and float alternatives. The chapter will also assess impacts on resources located within the 100-year floodplain from the construction and operation of the project, as well as any proposed stream or river crossings. The study area for water quality will be the same as that developed for aquatic resources, and is expected to focus on Upper New York Harbor.

CONTAMINATED AND HAZARDOUS MATERIALS

This analysis of the Tier I EIS will discuss the potential to encounter contaminated soil and groundwater during construction of project elements, especially those elements that would require excavation, transport, and disposal of contaminated soil. The project alternatives will focus on utilizing areas with previous maritime, industrial, or transportation uses, such as

existing railroad rights-of-way, which may have been contaminated by past or current uses. The analysis will be limited to the local study areas in the vicinity of project elements.

INDIRECT AND CUMULATIVE EFFECTS

This chapter of the Tier I EIS will evaluate indirect and cumulative effects of the proposed action as required under NEPA. Indirect effects are "caused by an action and are later in time or farther removed in distance but are still reasonably foreseeable" (40 CFR 1508.8), and are generally induced directly or indirectly by the proposed action. Cumulative impacts result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions (40 CFR 1508.7). Cumulative effects of an action may be undetectable when viewed in an individual context but, when added to other actions, could eventually lead to a measurable environmental change.

ENVIRONMENTAL JUSTICE

Executive Order 12898 requires federal agencies to consider whether actions they might fund or approve may have any disproportionately high human health or environmental effects on communities containing low-income or minority populations. The Tier I EIS will consider both short-term and long-term impacts and their potential risk to such communities.

COASTAL ZONE MANAGEMENT

Each project alternative will be reviewed for consistency with the Coastal Zone Management programs of New York (administered by NYSDOS) and New Jersey (administered by NJDEP), as well as New York City local waterfront revitalization program policies, which are administered by NYCDCP.

SECTION 4(f) EVALUATION

Section 4(f) of the USDOT Act (49 U.S.C. Section 303(c)) of 1966, as amended, compels the Secretary of USDOT to cooperate with other federal departments and states in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. It states that the Secretary of USDOT shall not approve any program or project that requires the "use" of any land from a public park, recreation area, wildlife and waterfowl refuge, or historic site, unless there is no feasible and prudent alternative, and such project or program includes all possible planning to minimize harm. The analysis will identify historic and archaeological resources, public parks, recreation areas, and wildlife and waterfowl refuges that may be affected by construction of project elements. The analysis will determine potential impacts or "use" of resources from construction of project elements. "Use" may be direct (i.e., direct impact, disturbance, or demolition) or indirect (effects on context, setting, or access, which is known as a "constructive" use).

The Tier I EIS will include a consideration towards avoidance of 4(f) properties. A full section 4(f) analysis, including an examination of avoidance alternatives, would be conducted in the Tier II EIS.

I. REVIEW PROCESS

Following the scoping process, a Tier I DEIS will be completed, and made available for public and agency review and comment. Public hearings will be held on the Tier I DEIS, and a

minimum of 45 days will be established for interested parties to formally submit comments. A Tier I Final EIS (FEIS) will be prepared on the basis of these comments. The co-lead agencies will issue a Tier I Record of Decision (ROD) to select a Preferred Alternative(s).

SAFETEA-LU COORDINATION

The EIS will also address the provisions of Section 6002 of Public Law 104-59, "The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU)." SAFETEA–LU provisions and NEPA regulations, in general, call for public involvement in the EIS process. Section 6002 of SAFETEA–LU requires that agencies: (1) extend an invitation to other Federal and non-Federal agencies and Indian tribes that may have an interest in the proposed action to become "participating agencies"; (2) provide an opportunity for involvement by participating agencies and the public in helping to define the purpose and need for the proposed action, as well as the range of alternatives for consideration in the impact statement; and (3) establish a plan for coordinating public and agency participation in and comments on the Scoping Document. Letters were sent to those agencies with a fiduciary, regulatory, or permitting authority over the freight program as an invitation to be part of the coordination process.

A SAFETEA–LU Coordination Plan has been developed to facilitate and document the lead agencies' structured interaction with the public and other agencies, and to inform the public and other agencies of the manner in which the coordination will be accomplished. The plan includes: the plan purpose; project history; a list of lead, cooperating, and participating agencies and their responsibilities to the project; agency contact information; coordination points; and the project schedule.

PUBLIC PARTICIPATION

FHWA and PANYNJ invite the public to participate throughout the environmental review process for the Cross Harbor Freight Program. To this end, several forums have been or will be established to communicate information and to elicit public comments.

WEBSITE

The project's website contains project information, published documents, public meeting notes, and contact information. The website also serves to keep the public notified of upcoming public meetings. It is the primary resource for public information about the project, as well as for contacting the project. The website address is: http://www.crossharborstudy.com

E-NEWSLETTERS

FHWA and PANYNJ plan to distribute electronic newsletters ("E-newsletters") throughout the NEPA process. The E-newsletters will communicate project status, progress, and other pertinent issues. Persons interested in receiving project E-newsletters must provide contact information via the website, public meetings, or written request at the address noted above.

PUBLIC MEETINGS

Public meetings will be held during the scoping process and after the publication of the DEIS. As noted above, the scoping meetings will be held:

- Bronx, Tuesday, October 5: Bronx Borough Hall
- Newark, New Jersey, Thursday, October 7: NJTPA
- Jersey City, New Jersey, Thursday, October 7: City Hall
- Brooklyn, Tuesday, October 12: Brooklyn Borough Hall
- Queens, Wednesday, October 13: Queens Borough Hall

A notice for the public hearings on the DEIS will be published with the Notice of Availability in the Federal Register. Advertisements will appear in local publications and on the project website.

PROJECT SCHEDULE

A preliminary schedule for key milestone dates in the environmental review process is presented below. The schedule is subject to change as the project progresses.

Preliminary Schedule

Activity	Estimated Date
Publication of Notice of Intent	May 13, 2010
Publication of Draft Scoping Document; Beginning of public comment period	September 16, 2010
Public Scoping Information Sessions	October 5 – October 13, 2010
Close of public comment period	November 15, 2010
Publish Tier I Draft EIS; Beginning of public comment period	Summer 2011
Close of public comment period on Tier I DEIS	Fall 2011
Response to comments on Tier I DEIS; Completion of Tier I Final EIS	Spring 2012
Anticipated Record of Decision	Summer 2012

APPENDICES:

Appendix A: No Action Alternative Projects.

Appendix B: Glossary. ✷

Appendix A: No Action Alternative Projects

The No Action Alternative includes projects that are currently programmed, planned, or reasonably expected to be completed and operational for the study area by the analysis year of 2035, independent of the Cross Harbor Freight Program.

NO ACTION ALTERNATIVE – RAILROAD PROJECTS IN NEW JERSEY

(see Figure A-1)

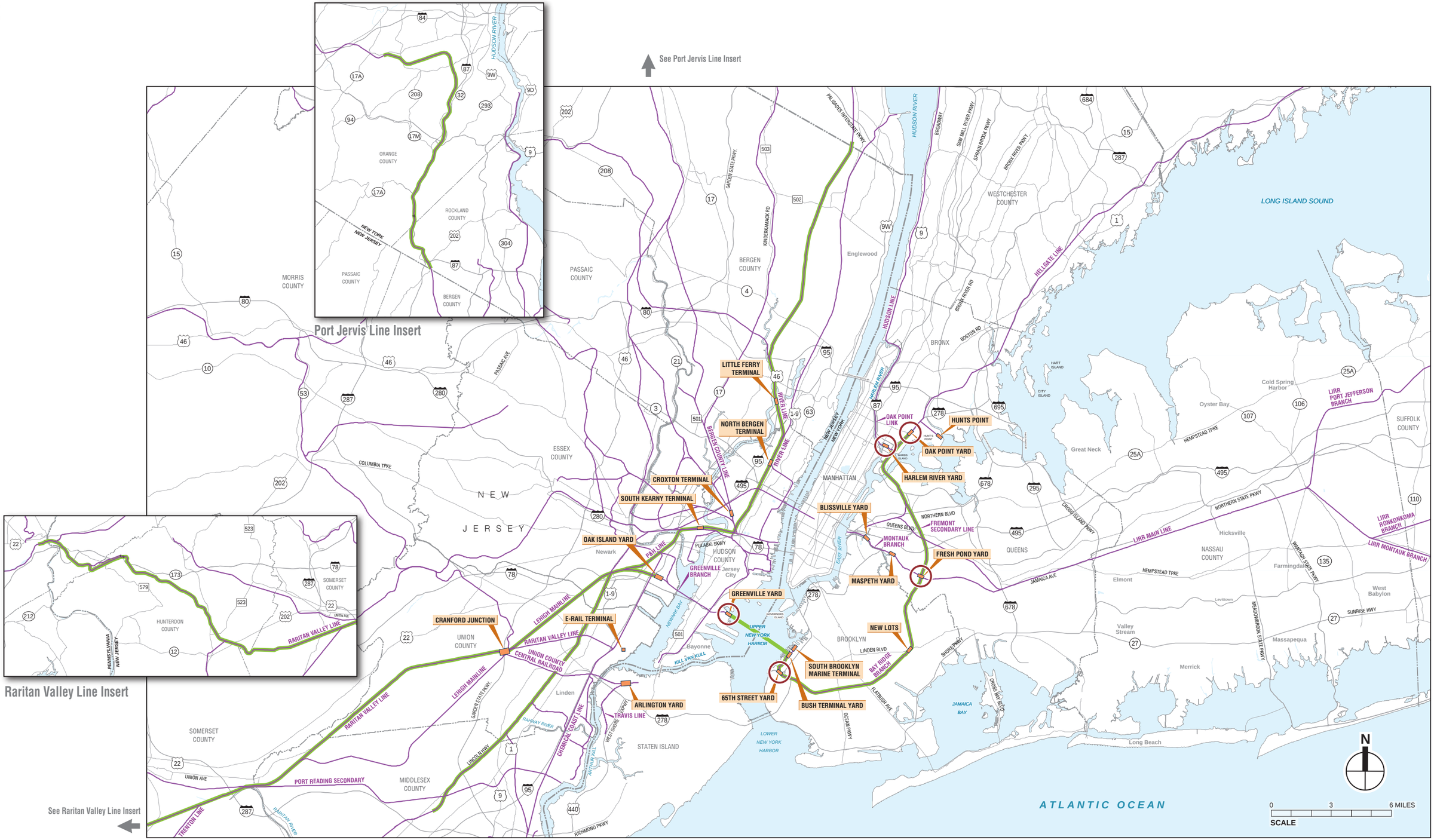
- Double track route in some portions from NY border/Northvale, NJ to Phillipsburg, NJ, including the following component projects:
  - Double track Northern Branch and River Line between NY border and Teaneck.
  - Second Mainline Track on Consolidated Rail Company (Conrail) through the Marion Connection.
  - Second track along the Passaic & Harsimus Line at South Kearny Yard.
  - Conrail Lehigh Line – Construct third, and possibly a fourth track between Hunter interlocking Aldene Connection in Roselle Park.
- Raising clearances of tunnels on National Docks Railroad, part of Liberty Corridor initiative (Port Authority of New York and New Jersey [PANYNJ] interview).
- Northeast Corridor improvements
  - Signal, track straightening, and bridge improvements for high speed passenger service (Amtrak).
  - Establish 286K capability between Metuchen and Oak Island Yard (NJTPA interview).
- PANYNJ Greenville Yard Master Plan – Global Terminal expansion; marine container terminal and new Express Rail link for connection to National Docks Railroad (PANYNJ interview).
- PANYNJ Port Newark and Port Elizabeth rail capacity improvements (PANYNJ interview).

NO ACTION ALTERNATIVE – RAILROAD PROJECTS IN NEW YORK

(see Figure A-1)

- 65th Street Rail Yard improvements (PANYNJ interview).
- First Avenue Line track curvature improvements (PANYNJ interview).
- Bay Ridge Branch rail line – tracks (for storage) and signals improvements (NYMTC interview).
- New track connections between the Bay Ridge Branch and Montauk Branch (NYMTC interview).
- CSX (Fremont Secondary) tracks over Fresh Pond rail interchange (NYMTC interview).
- Extended siding on the Fremont Secondary Line (NYMTC interview).

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Freight Rail Line

No Action Railroad Projects

Potential Rail Yard Improvement

FIGURE A-1

No Action Alternative – Railroad Projects

CROSS HARBOR FREIGHT PROGRAM

5.12.10

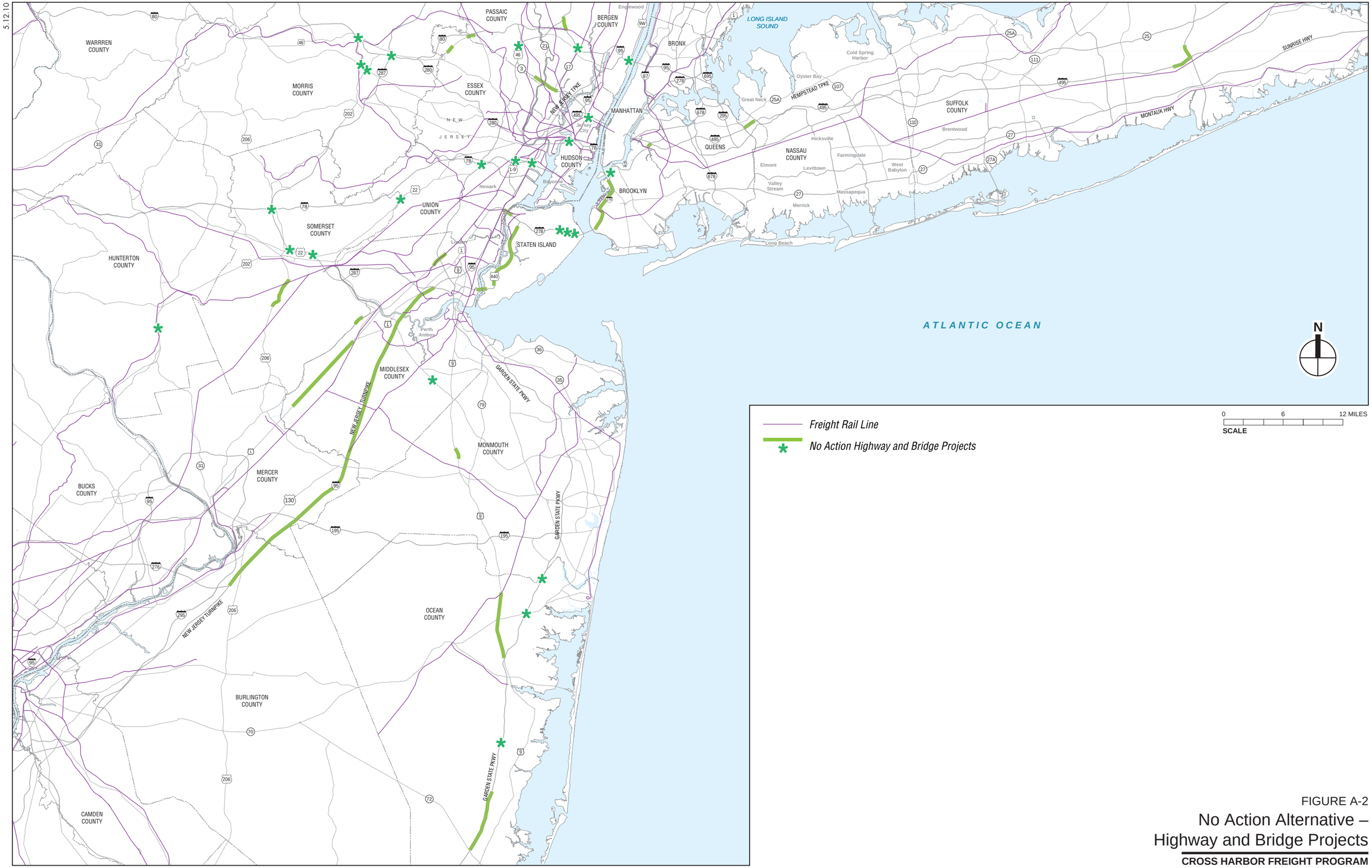


FIGURE A-2

No Action Alternative – Highway and Bridge Projects

CROSS HARBOR FREIGHT PROGRAM

- Lower Montauk Branch rail line – track and signals improvements (NYMTC interview).
- Oak Point Yard (Bronx) expansion (track additions and reconfiguration, increased clearances, and possible land acquisition) (NYMTC interview).
- Second intermodal track at Harlem River Yard (NYMTC interview).
- LIRR Mainline additional third track (NYMTC interview).

NO ACTION ALTERNATIVE – HIGHWAY AND BRIDGE PROJECTS IN NEW JERSEY

(see Figure A-2)

- I-278, Goethals Bridge: 1 additional lane in each direction (NJTPA RTM-E).
- NJ Turnpike: expansion to 6 lanes in each direction between Exit 10 and Exit 6 (NJTPA RTM-E).
- Garden State Parkway: 1 additional lane between Exits 63 and 69 (NJTPA RTM-E).
- US 1: 1 additional lane in each direction between Middlesex CR 682 and College Road (NJTPA RTM-E).
- US 1/9: 2 additional lanes in area around Tonnele Circle (NJTPA RTM-E).
- US 9: 1 additional lane in vicinity of Craig Road intersection in Freehold (NJTPA RTM-E).
- US 9: 1 additional lane between Indian Head Road and Ocean CR 528 (NJTPA RTM-E).
- US 46: 1 additional lane between Horseneck Road and Fairfield Road in Fairfield (NJTPA RTM-E).
- US 46: 1 additional lane between Passaic Avenue in Fairfield and NJ 23 in Wayne (NJTPA RTM-E).
- US 202: 2 additional lanes between Flemington Circle and Copper Hill (NJTPA RTM-E).
- US 202: 1 additional lane in vicinity of NJ 10 (NJTPA RTM-E).
- US 206: 1 additional lane between Belle Mead-Griggstown Road and Brooks Boulevard in Hillsborough (NJTPA RTM-E).
- NJ 3: 1 additional lane between NJ 17 in Rutherford and Passaic Street in Clifton (NJTPA RTM-E).
- NJ 7: one additional lane in each direction near Whitpenn Bridge and Charlotte Circle vicinity (NJTPA RTM-E).
- NJ 17: One additional lane in each direction between I-80 and NJ 4 (NJTPA RTM-E).
- NJ 17: One additional lane between I-80 and Williams Avenue in Hasbrouck Heights (NJTPA RTM-E).
- NJ 27: Reduction of one lane between Bennets Lane and Somerset Street in New Brunswick (NJTPA RTM-E).
- NJ 27: 2 additional lanes for ½ mile south from GSP, one additional lane for .8 mile north of GSP (NJTPA RTM-E).
- NJ 440: Additional ramp lane at Outerbridge Crossing (NJTPA RTM-E).
- Interchange/Intersection improvements (NJTPA RTM-E):
  - I-287 at I-78

- I-287 at I-80
- I-287 at US 22
- I-80 at US 46/NJ 23
- I-78 at GSP
- I-78 at NJ 21
- I-95 NB to PIP NB ramp
- GSP at Exit 74
- GSP at Exit 88
- GSP at Exit 91
- US 22 at North Bridge Street in Somerville
- US 22 at Park Avenue in Scotch Plains
- US 46 at NJ 3 in Clifton
- NJ 10 at NJ 53
- NJ 18 at CR 527 in Old Bridge

NO ACTION ALTERNATIVE – HIGHWAY AND BRIDGE PROJECTS IN NEW YORK

(see Figure A-2)

- West Shore Expressway – widening by two lanes in each direction (NYMTC BPM).
- Staten Island Expressway – widening by one lane on ramps at Clove Road, Richmond Road, and Hylan Boulevard (NYMTC BPM).
- Gowanus Expressway/Brooklyn-Queens Expressway – conversion of one existing lane to HOV lane from the Verrazano-Narrows Bridge to the Brooklyn Battery Tunnel (NYMTC BPM).
- Brooklyn-Queens Expressway: Kosciuszko Bridge Replacement Project – widening by two lanes north bound and one lane southbound over Newtown Creek to the Long Island Expressway (NYMTC BPM).
- Long Island Expressway – widening by one lane in each direction east of Cross Island Parkway to Little Neck Parkway (NYMTC BPM).
- Long Island Expressway and William Floyd Parkway – increased capacity in the vicinity of Yaphank (NYMTC BPM).
- Columbia Street (Brooklyn) – widening by two lanes between Atlantic Avenue and Kane Street (NYMTC BPM).

NO ACTION ALTERNATIVE – SEAPORT PROJECTS

- Dredging harbor to 50’.
- Expansion of ExpressRail.
- Howland Hook Marine Terminal Berth Four – a 38-acre expansion of an existing container terminal on Staten Island.
- South Brooklyn Marine Terminal – a 74-acre modernization project, which includes the auto terminal, a breakbulk cargo facility, and Sims recycling facility.

✷

Appendix B: Glossary

The following is a glossary of terms related to freight.

Backhaul—Return transportation movement, usually at less revenue than the original move; to move a shipment back over part of a route already traveled.

Bogie—A set of highway wheels built specifically to be used as rear wheels under the container. Also an overseas term for a railroad car "truck" or wheel assembly.

Bored Tunnel—A method for constructing a tunnel. A tunnel-boring machine drills through rock and compacted soil to create a bored tunnel.

Boxcar—An enclosed railcar, typically 40 to 50 feet long, used for packaged freight and some bulk commodities.

Breakbulk—To reduce a large shipment of a single commodity to many small shipments, which are then dispersed to various buyers.

Bulk Transfer Facility—A facility for transferring liquid or solid bulk commodities, such as petroleum or gravel, between transport modes, typically between rail and truck. (See also "Transloading").

Carfloat—A barge with a railtrack fixed to the deck for carrying rail cars across a body of water. Typically, the carfloat is towed by a tugboat.

Chassis—A special trailer or undercarriage on which containers are moved over the road by truck.

Choice Model—Models are developed to help predict the amount of freight that could be diverted to alternative modes of freight transportation. After conducting a quantitative survey of shippers and receivers, the Project Team will develop a series of "demand curves" for each alternative mode of shipment. This demand depends on travel time, cost, reliability, commodity type, origin/destination and the current travel route. These findings are then compared to the service characteristics for the region to indicate the mode by which freight would move.

Classification Yard—A railroad terminal area where train units are assembled (as opposed to an intermodal yard).

Clean Air Act (CAA) of 1970—A United States law that created national air pollution standards. Under the regulations promulgated as the Clean Air Act, areas that do meet the clean air standards are classified as Non-Attainment Areas.

The Clean Air Act Amendments of 1990—These regulations contain stringent and rigorously-defined legislative mandates for dealing with air quality and transportation issues in areas that have not attained the EPA-established National Ambient Air Quality Standards.

Commodity Flows—Data that describes the movement of goods. This information is used for transportation planning and decision-making.

C.O.F.C. (Container-on-Flatcar)—The transport of containers on railroad flatcars, either single-stack or double-stack.

Container—A box for transporting cargo, constructed with varying dimensions to withstand shipment conditions in transportation. (See "TEU").

Diversion—A shift from one transportation mode to another. For example, diversion can refer to the shift from goods moving by truck to goods moving by rail.

Double-Stack—A type of train service that utilizes two intermodal containers stacked one on top of another. This service requires a vertical clearance of 20'-6".

Drayage—Transporting freight by truck, typically for short distances.

East-of-Hudson Sub-Region—To better analyze the movement of goods across the Hudson River, the New York region has been split into the West-of-Hudson sub-region and the East-of-Hudson sub-region. The East-of-Hudson sub-region is comprised of the five boroughs of New York City (Manhattan, Queens, Bronx, Brooklyn and Staten Island), Nassau and Suffolk counties on Long Island, New York, mainland downstate counties (Westchester, Putnam, and Dutchess) and Fairfield County in Connecticut.

Float Bridge—A bridge for rolling rail cars on and off carfloats to a railyard.

Freight Forwarder—An individual/company that accepts shipments and consolidates them into truckloads. An agent who helps expedite shipments by preparing necessary documents and making other arrangements for moving freight.

Immersed-Tube Tunnel—A method for constructing a tunnel involving laying pre-constructed tunnel sections in a deep trench dug in the bottom of a water body.

Intelligent Transportation Systems (ITS)—A generic term for advanced technology applications that provide real-time monitoring and information to enable the more efficient and safer use of transportation systems, such as highways.

Intermodal—As broadly defined within the commercial transportation industry, the transfer of freight between and among those modes involved in general cargo transportation (e.g., ship, rail and truck). This term is also commonly used to mean the movement of passengers between transportation modes (e.g., from train to bus).

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)—The landmark federal transportation legislation that implemented broad changes in transportation planning and funding. ISTEA and its successor, Transportation Equity Act for the 21st Century (TEA-21) of 1998, emphasize use of a diversity and balance of modes and the preservation of existing systems over the construction of new facilities, especially roadways.

Intermodal Yard—A rail facility designed to accommodate intermodal transfers with trucks and containers.

International Flows—Waterborne trips that have either an origin or destination in the region's port.

Interregional Flows—Trips that have either an origin or destination within a region.

Intra-regional Flows—Trips that have both an origin and destination within a region.

Just-in-Time Delivery (JIT)—A growing practice of minimizing warehousing costs by delivering goods for manufacturing, assembly or wholesale/retail replenishment. Refers to the growing premium placed on reliability, transit time and efficiency by the shipping industry.

Level of Service—A measure of the quality of operation of a transportation facility, with Level of Service ”A” being very good operation with few traffic delays, and Level of Service “F” being severely congested operation with significant traffic delays.

Major Investment Study—A federal process for identifying, evaluating and selecting transportation alternatives that address specific problems.

Metropolitan Planning Organization (MPO)—As specified in TEA-21 and ISTEA, a federally-mandated organization required to carry out the transportation planning process for urbanized area with a population of more than 50,000.

Modal Split—The relative use of the modes of transportation; the statistics used include ton-miles, passenger-miles and revenue.

Multimodal—Using more than one transportation mode to move a load of goods.

Pallet—A platform on which cargo is loaded, which can be stacked and be handled by forklift or sling, usually constructed of wood.

Piggyback—The hauling of road vehicles and containers on wheels or railroad flatcars.

Railhead—End of the railroad line or point in the area of operations at which cargo is loaded and unloaded.

Reefer (refrigerated container)—A specialized container that holds perishable goods at controlled temperatures.

Road Railer—A specialized truck chassis that either has retractable rail wheels or is lifted onto bogies that allows it to operate directly on rail.

Roll-on/Roll-off (ro/ro)—A specially constructed ship that allows cargo to be rolled in and out doors on wheeled loading devices or under the cargo’s own propulsion, such as motor vehicles.

Selkirk Hurdle—The 280-mile detour necessary for a freight train to travel from New Jersey to New York City. Selkirk is located just south of Albany, New York, and is the closest freight rail bridge across the Hudson River to the New York/New Jersey/Connecticut region.

Surface Transportation Board (STB)—An independent adjudicatory body within the U.S. Department of Transportation that is responsible for the regulation of interstate surface transportation, primarily railroads.

Third-party Logistics Provider—An intermediary who manages the transportation or arranges the logistics for the movement of goods.

Through Flows—Trips that have neither an origin or destination within the region, but are simply passing through the region

TEU—Twenty-foot equivalent unit. A standard unit for counting containers of various lengths. One standard 40-foot container equals two TEU’s.

T.O.F.C. (Trailer-on-Flatcar)—A transportation arrangement in which a truck trailer is moved by train to a destination. Also called “Piggybacking.”

Trailer—The truck unit that carries freight in a tractor-trailer combination. Trailers are commonly seen as the cargo unit of an "18-wheeler" or five-axle "truck."

Transportation System Management (TSM)—Methods to improve the operation of a transportation system without expanding capacity.

Transloading—The practice of breaking (transferring) bulk shipments from the vehicle/container of one mode to that of another, at one or a series of terminal interchange points.

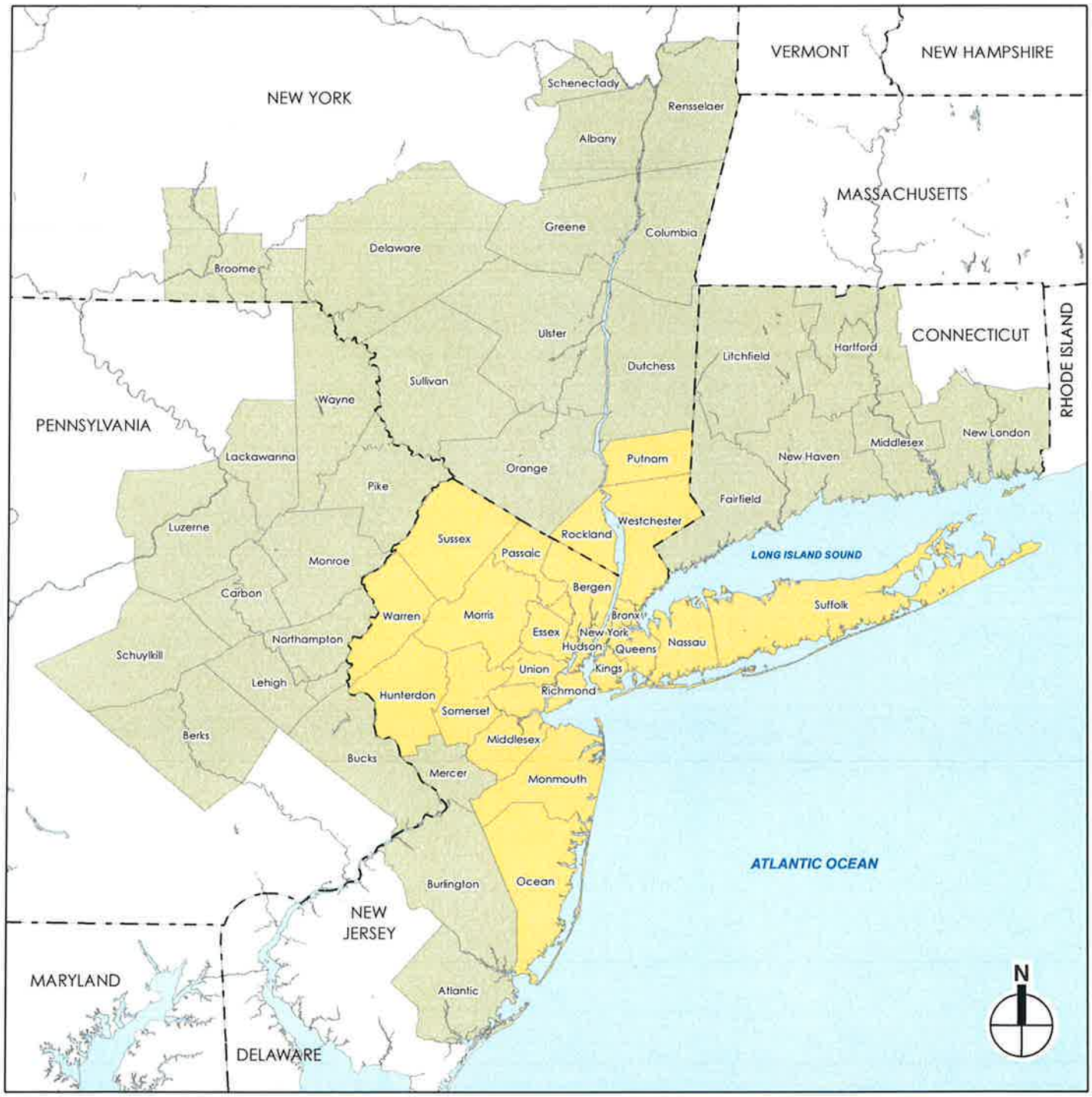
West-of-Hudson Sub-Region—To be able to better analyze the movement of goods across the Hudson River, the New York region has been split into the West-of-Hudson sub-region and the East-of-Hudson sub-region. The West-of-Hudson sub-region is comprised of the following counties in northern New Jersey: Ocean, Monmouth, Mercer, Middlesex, Somerset, Union, Hunterdon, Warren, Morris, Essex, Hudson, Bergen, Passaic, Sussex, and the following counties in southwestern New York: Pike, Sullivan, Ulster, Orange and Rockland. ✶

Cross Harbor Freight Movement Program

Project Milestones

Last Updated: June 23, 2011

Activity	Estimated Date
Publication of Notice of Intent	May 13, 2010
Publication of Draft Scoping Document; Beginning of Public Comment Period	September 16, 2010
Public Scoping Information Sessions in Bronx, Brooklyn, Queens and New Jersey	October 5, 2010 – October 13, 2010
Close of Public Comment Period	November 15, 2010
Public Information Session in Farmingdale, NY	May 5, 2011
Publish Response to Scoping Comments	July 2011
Publish Tier I Draft EIS; Beginning of Public Comment Period	Late Fall 2011
Close of Public Comment Period on Tier I DEIS	Winter 2011
Response to Comments on Tier I DEIS; Completion of Tier I Final EIS	Summer 2012
Anticipated Record of Decision	Fall 2012



Study Areas

CROSS HARBOR FREIGHT PROGRAM

1. Reduce the contribution of Cross Harbor truck trips to congestion along the region's roadways.

2. Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.

3. Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.

4. Support development of integrated freight transportation and land-use strategies.





5-Step Alternatives Evaluation Process

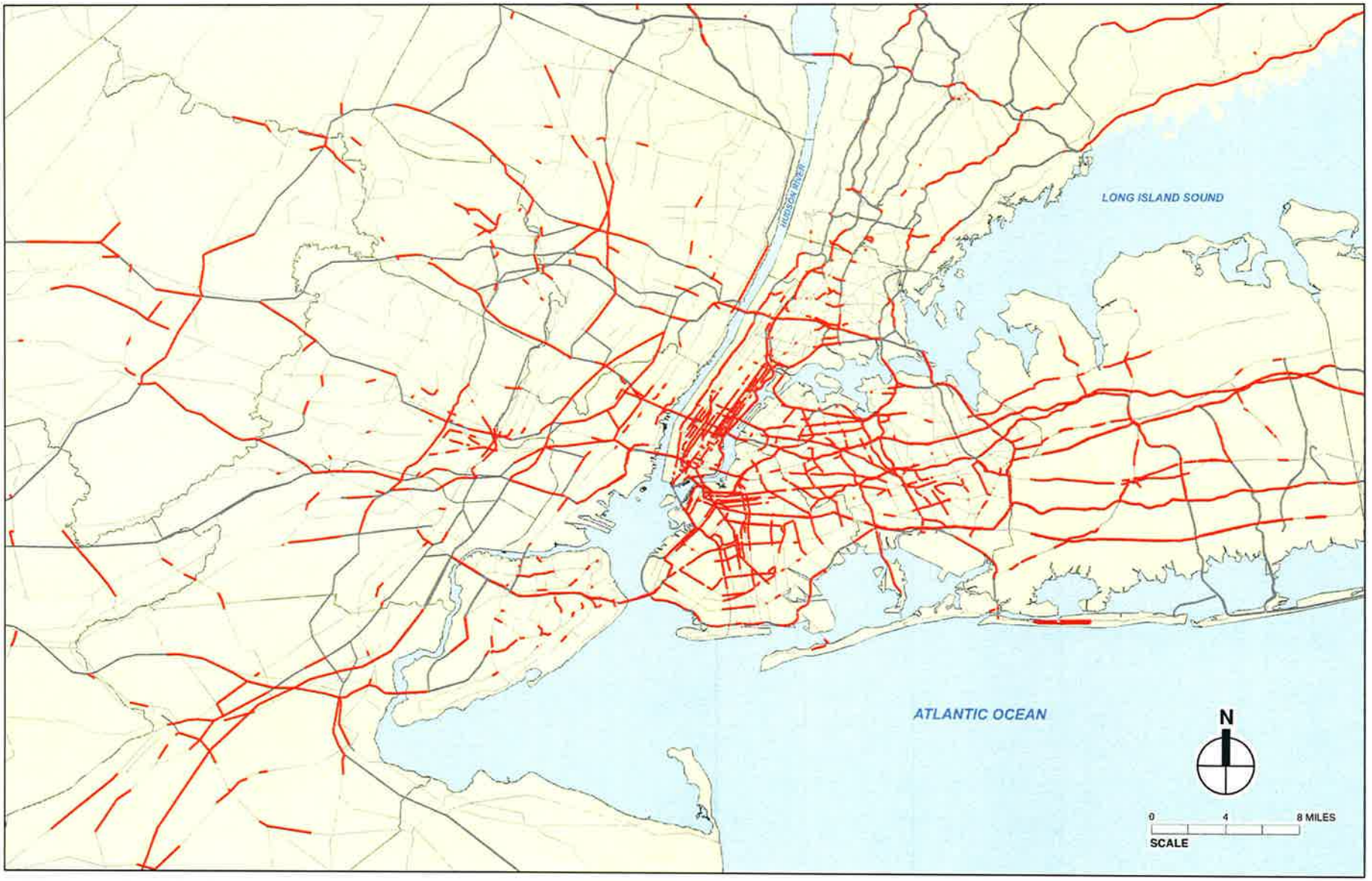
CROSS HARBOR FREIGHT PROGRAM

- **"Tiered EIS"** - Staged Process for Comprehensive Environmental Review of Complex Projects

  Tier 1: *Corridor-Level Regional Analysis of Alternatives*
  Tier 2: *Site Specific Assessment of Impacts and Mitigation*

- **Tier 1**: Focus on General Transportation Modes and Alignments, Including Logical Termini and Regional Effects

- **Tier 1:** Results in Record of Decision (ROD) that Identifies Alternatives to Evaluate in Greater Detail Tier 2.



Source: NYMTC, 2035 BPM Model

2035 Congested Major Roads: Volume/Capacity (V/C) > 0.8

Major Road

Freeway

Projected Highway Congestion, 2035

CROSS HARBOR FREIGHT PROGRAM

NO ACTION ALTERNATIVE

*Projects **currently programmed, planned or reasonably expected** for study area, independent of the Cross Harbor Freight Program.*

Highway and Bridge

2035 Build Year projects from:

- NYMTC
- NJTPA
- NYSDOT
- NJDOT

Rail

Existing network improvements and independent utility projects by 2035 from:

- PANYNJ
- NYSDOT
- NJDOT
- Freight Railroads
- Passenger Railroads

Seaport

- Dredging
- Berth Expansions
- Facility Modernization

Airports

- New Roads and Garages
- Facility Modernization

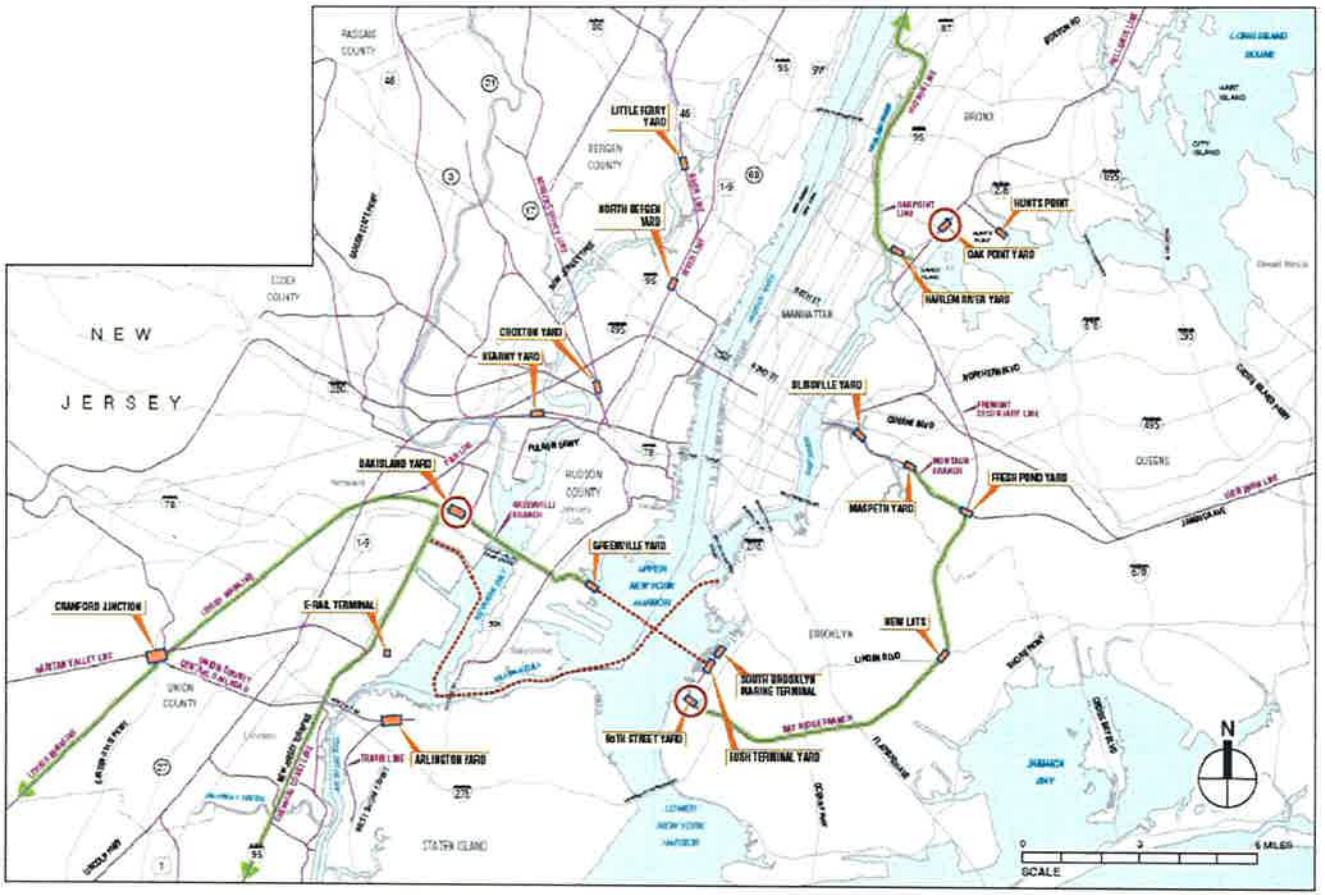
TRANSPORTATION DEMAND MANAGEMENT (TDM)

***Reduce** or **redistribute** amount of demand to available capacity.*

- Truck Congestion Pricing and Improving Tolling
- Passenger Vehicle Congestion Pricing and Improved Tolling
- Work-from-Home and Mode Shift Incentives

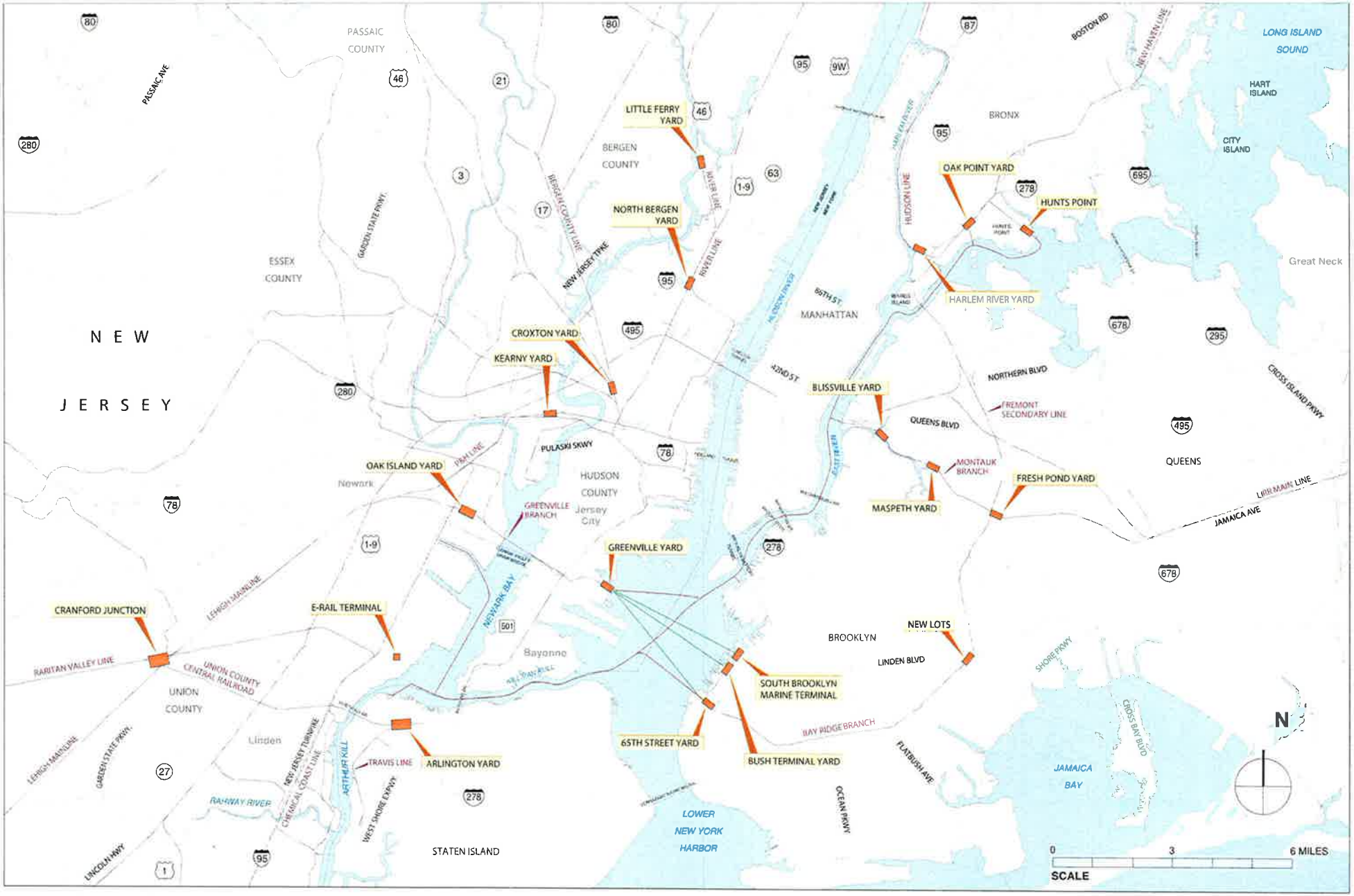
TRANSPORTATION SYSTEM MANAGEMENT (TSM)

*Maximize utilization and efficiency of existing network with **low-cost improvements.***



No Action, TSM and TDM Alternatives

CROSS HARBOR FREIGHT PROGRAM



Freight Rail Line

Greenville Yard Hub Services

Harbor-Wide Intermodal Services

Expanded Railcar Float and Truck Float/ Ferry Alternatives — Potential Routes

CROSS HARBOR FREIGHT PROGRAM



Float: Railcar



Float: Container



Float: Truck



Ferry: Truck and Driver

Build Alternatives:
Examples of Floats and Ferry Options

CROSS HARBOR FREIGHT PROGRAM



Freight Rail Line

Existing Freight Facility Location

Potential Freight Facility Location

Existing and Potential Regional Rail Freight Facilities

CROSS HARBOR FREIGHT PROGRAM



Freight Rail Line

Potential Rail Tunnel Alignment

Potential Railroad Improvements Required for Tunnel Alignments

Rail Tunnel Alternatives

CROSS HARBOR FREIGHT PROGRAM

(13)



Rail Tunnel: Single Track



Rail Tunnel: Double Track



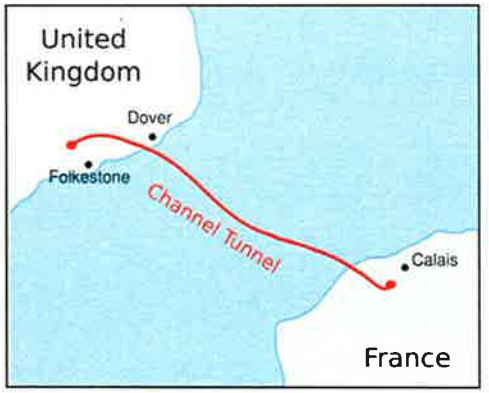
Rail Tunnel: Single vs. Double Stack



Rail Tunnel: Shuttle Service



Rail Tunnel: Shuttle Service



Rail Tunnel: Shuttle Service



Rail Tunnel: Open Technology



Rail Tunnel: Open Technology

Build Alternatives:
Examples of Rail Tunnel Options

CROSS HARBOR FREIGHT PROGRAM



Rail/Vehicle Tunnel: Scheduled Tracks



Rail/Vehicle Tunnel: Scheduled Tracks



Rail/Vehicle Tunnel: Scheduled Tracks



Rail/Vehicle Tunnel: Automated Vehicles



Rail/Vehicle Tunnel: Automated Vehicles

Build Alternatives:
Examples of Rail/Vehicle Tunnel Options

C-1.0 Databases

First	Last	Organization
Peter	Abbate Jr.	New York State Assembly, 49th District
Ruth	Acker	Women's City Club
Marie	Adam-Ovide	Queens Community Board 8
Kendra	Adams	New York State Motor Truck Association
Tom	Adamski	First Coast Logistics Services
Senator Joseph	Addabbo	
John	Ahern	NYC Central Labor Council
Farouk	Ahmad	
Maura	Aimette	
Gloria	Alston	Bronx Community Board 3
Richard	Anderson	New York Building Congress
Brady	Anderson	Norfolk Southern
David	Antonio	
Brian	Appezzato	Warren County
Vincent	Arcuri, Jr.	Queens Community Board 5
John	Armstrong	Columbia Group
Michael	Armstrong	
Walter	Arsenault	Waterfront Commission of NY Harbor
Jeffrey Alan	Bader	Association of Bi-State Motor Carriers
Bob	Bailey	Port Jersey Railroad
Kathleen	Barbian	I.L.A Local 1235
Crystal	Barnes	Hunterdon County
Richard	Barone	Regional Plan Association
Bennett	Baruch	Office of Councilmember Diana Reyna
Philip	Beachem	NJ Alliance for Action, Inc.
Chuck	Beck	CTDOT
Josephine	Beckmann	Brooklyn Community Board 10
Robert J.	Benfatto	Manhattan Community Board 4
Dan	Benjoya	Manhattan Borough President
Alvin	Berk	Brooklyn Community Board 14
Liza	Betz	
Marilyn	Bitterman	Queens Community Board 7
Bryan	Block	Queens Community Board 13
David	Boate	
Maria	Boile	Rutgers Center for Advanced Infrastructure & Transportation - Freight & Maritime Program
Eileen	Boland	Assemblywoman Markey
J. Christian	Bollwage	City of Elizabeth
Tara	Bono	
Cory	Booker	City of Newark
Nathan	Bradley	Brooklyn Community Board 5
Mike	Brasky	
Elizabeth	Braton	Queens Community Board 10
James	Brennan	New York State Assembly, 44th District
Debbie	Brill	Brooklyn Borough President
Richard	Brundage	NJ Turnpike Authority
Stephen	Buente, PE	NJ Turnpike Authority
Alex	Bultovski	alexiou-hida
Alex	Bultovski	New York State Assembly, 60th District
Pearl	Burg	Brooklyn Community Board 15
Patricia	Burkhat	
Henry	Butler	Brooklyn Community Board 3
Modia	Butler	City of Newark
Joan	Byron	Pratt Center for Development
Robert P.	Bzik	
Walter	Campbell	Brooklyn Community Board 5
Shawn	Campbell	Brooklyn Community Board 14
Gordon	Canary	
Mary Ann	Carey	Queens Community Board 9
Toni	Carlina	Manhattan Community Board 6
Dominic	Carrino	T&M Associates
Joseph	Carroll	Staten Island Community Board 1

First	Last	Organization
Michael	Carter	U.S. Department of Transportation Maritime Administration
John	Casellini	
John	Casey	Waterfront Commission of NY Harbor
Dominic	Castore	Bronx Community Board 11
Marina	Castro	EPARZ
Robert	Cataldo	New York State Senate, 23rd District
Donald	Chesley	
Jonathan	Chew	Housatonic Valley Council of Elected Officials
Anthony	Chiappone	New Jersey State Assembly, District 31
C.	Church	Brooklyn Community Board 2
James	Cobb	New York Shipping Association
Greg	Cohen	American Highway Users Alliance
Joseph	Conley	Queens Community Board 2
Elena	Conte	Move NY & NJ
Sam	Cooper	Office of Senator Gillibrand
Sam	Crane	Crane Consulting LLC
Andrea	Crawford	Queens Community Board 9
Rick	Crawford	Norfolk Southern
Matthew	Crosson	Long Island Association, Inc.
Rep. Joseph	Crowley	
Council Member Elizabeth	Crowley	
Evelyn	Cruz	
Brian	Cuccia	
Lawrence	Cullari	
Jim	Cunniff	Swift Transportation
Sandra	Cunningham	New Jersey State Senate, District 31
Sam	Cunninghame	Association of Bi-State Motor Carriers, Inc.
Josh	Curley	NJIT
Deena	Cybulski	
Ted	Dahlburg	DVRPC
Alex	Dambach	City of Newark Central Planning
Roe	Daraio	
Erica	Daughtrey	U.S. Congress, 13th District
Matt	Davis	
Michael	Decataldo	Amtrak
David	Dech	
Steve	Decker	
Thomas	DeGise	Hudson County Executive
Eileen	Della Volle	
Angela	DenDekker	Office of Congressman Joseph Crowley
Julie	Dent	Brooklyn Community Board 4
Luke	Depalma	Brooklyn Borough President
Debra	Derrico	Staten Island Community Board 2
Eugene J.	Destefano	
George	DeVanney	Union County Manager
John	Dew	Brooklyn Community Board 2
Ralph	Di Fabio	Champion Services
Ruben	Diaz Jr.	Bronx Borough President
Doreen	DiDomenico	Hudson County, Freeholder District 1
Joseph	DioGuardi	NY Task Force for Port, Rail and Industrial Development
Ella	Dodson	
Vinicio	Donato	Queens Community Board 1
Roger	Doon	
Bonnie	Doon	
Nancy	Doon	
Melinda	Dower	NJ Department Environmental Protection
Tom	Drabic	Sussex City Planning Dept
Michael	Drulis	NJ SEED
Jeffrey	Dublin	Hudson County, Freeholder District 3
Alan	Dubrow	Brooklyn Community Board 12
John	Dudley	Bronx Community Board 3

First	Last	Organization
Brian	Dunlap	Hudson County Chamber of Commerce
Dick	Durina	
Sue	Dziamara	
Frank	Eadie	
Marnee	Elias-Pavia	Brooklyn Community Board 11
Inkyung	Englehart	
Larry	English, Esq.	Manhattan Community Board 9
Roland	Ericsson	
Gerald	Esposito	Brooklyn Community Board 1
Adrienne	Esposito	
Maria	Esteban	
Angel	Estrada	
Joseph M.	Ettore	
Al	Faella	Union County Manager
Michele	Farrell	New York/New Jersey Foreign Freight Forwarders and Brokers Association, Inc.
Oluseyi	Fayanju	Environmental Defense Fund
Beverly	Fedorko	NY Shipping Association
Carolyn	Fefferman	Office of Senator Robert Menendez
Carolyn	Fefferman	U.S. Senate
Bruce	Fenimore	Columbia Intermodal
David	Fitzgerald	Providence and Worcester Railroad
Will	Florentino	Office of Councilmember Diana Reyna
Colin	Foley	MTA New York City Transit
Paul	Foster	Bronx Community Board 7
John	Fowler	Advisory Council on Historic Preservation
Jennifer	Frame	Environmental Advocates of New York
Sherif	Fraser	Brooklyn Community Board 17
Janeene	Freeman	Community Service Society
Richard	Friedman	Port Authority of NY & NJ
Jack	Friedman	Queens Chamber of Commerce
Sharon	Fuchs	New York State Assembly, 48th District
Wellano	Fuller	Office of Assemblywoman Margaret Markey
John	Fusa	Bayonne Planning Dept
Jeanne	Futuyma	
Kim	Gaddy	Clean Water Fund of New Jersey
Ivine	Galarza	Bronx Community Board 6
Frank	Gallagher	Liberty State Park
William	Galligan	East of Hudson Task Force
Frank	Galluscio	Queens Community Board 6
Anthony	Gambilonghi	
Sandra	Garib	
Jonathan	Gaska	Queens Community Board 14
Adam	Gaus	
Tom	Gawley	PB
Jesse	Gelbum	MTA New York City Transit
Michael	Gelin	
Michelle	George	Brooklyn Community Board 8
Senator Michael	Gianaris	
Brendan	Gill	Office of Senator Frank Lautenberg
Kirsten	Gillibrand	Office of Senator Gillibrand
Gary	Giordano	Queens Community Board 5
Emi	Goda	
Martin	Golden	New York State Senate, 22nd District
Phillip	Goldfeder	U.S. Senate
Nicholas	Goldsack	New Jersey State Assembly, District 32
Amy	Goldsmith	Clean Water Fund of New Jersey
Jacob	Goldstein	Brooklyn Community Board 9
Francisco	Gonzalez	Bronx Community Board 9
Sam	Goodman	Bronx Borough
Leon	Goodman	
Lou	Gordon	Business and Labor Coalition of New York

First	Last	Organization
Jason	Gordon	
Richard	Gorman	Bronx Community Board 12
Bob	Gormley	Manhattan Community Board 2
Rob	Gottheim	U.S. Congress, 8th District
Deborah	Gramiccioni	
Nizjoni	Granville	Brooklyn Community Board 8
Viola	Greene-Walker	Brooklyn Community Board 16
James C.	Greller	
Richard	Gualtieri	NYSDOT
William	Guarinello	Brooklyn Community Board 11
Richard	Gundlach	
Joe	Gurinko	
Adjoa	Gzifa	Queens Community Board 12
George	Haikailis	Institute for Rational Urban Mobility/Auto Free New York
Chip	Hallock	Newark Regional Business Partnership
Jo	Hamilton	Manhattan Community Board 2
Don	Hamm	PNCT
Craig	Hammerman	Brooklyn Community Board 6
Lucille	Hartman	Queens Community Board 1
Stewart	Hauser	The New York/New Jersey Foreign Freight Forwarders & Brokers Association, Inc
Jerramiah	Healy	Jersey City
Tom	Heimgartner	Best Transportation, Inc
Joseph	Hennessy	Queens Community Board 6
Roger	Herz	TIME/To Improve Municipal Efficiency
Dov	Hikind	New York State Assembly, 48th District
Andrew	Hollweck	New York Building Congress
John	Horst	
Ryoichi	Hosokawa	HZ USA
Naomi	Hsu	
Walter	Hughes	RCC
Donald	Hutton	
Janele	Hyer-Spencer	New York State Assembly, 60th District
Patrick	Hyland	U.S. Congress, 13th District
Patrick	Hyland	U.S. Congress, 13th District
Jerry	Iannece	Queens Community Board 11
Richard	Italiano	Queens Community Board 4
Wenzell	Jackson	Bronx Community Board 4
Bill	Jayne	Hall's Corporation
Mark F.	Jehnke	
Ken	Johanson	New Jersey Sierra Club
Dick	Jones	Association of Bi-State Motor Carriers, Inc.
Alexander	Jordan	NY Port Terminal Development Company
Gene	Karpinski	League of Conservation Voters
John	Karras	New York City Department of Transportation
Gerard	Kassar	New York State Senate, 22nd District
Steven	Katz	
Andrew	Kaufman	
Kenneth	Kearns	Bronx Community Board 10
Stephen	Kehayes	NJDEP
Ed	Kelly	Maritime Association of the Port of New York and New Jersey
Eugene T.	Kelty, Jr.	Queens Community Board 7
Joe	Kenton	
Joel	Kleinberg	
Debra M.	Kleinert	Queens Community Board 2
Andrew	Kossowicz	ACL
Maya	Kremen	Office of Congressman Nadler
Mark	Krugel	Rapid Express Freight
Susan	Krystopl	
Anne	Krzyzanowski	Office of Assemblywoman Catherine Nolan
David	Kuhn	

First	Last	Organization
Katie	Kulpa	Office of Senator Charles Schumer
Daniel	Kummer	Brooklyn Community Board 6
Alan	Lambiase	River Terminal Development Co.
Walter	Lane	
J	Lanigan	
Steve	Lanset	New Jersey Sierra Club
Jeremy	Laufer	Brooklyn Community Board 7
Frank	Lautenberg	U.S. Senate
Grace	Lawrence	Queens Community Board 3
Mark	Lbyez	New Jersey State Senate, District 33
Marc	Lebovitz	Romark Logistics
Anthony	Lee	Federal Transit Administration
Carol	Legard	Advisory Council on Historic Preservation
Tom	Leonardis	President of Local 1235 of the ILA
Susan	Leung	Office of State Senator Montgomery
Steve	Levy	Suffolk County Executive
Elaine	Lew	New York Shipping Association
Steve	Liberti Sr.	Harbor Freight Transport Corp
Bob	Liff	MRSS, Campaign for New York's Future
Thomas	Liggio	Hudson County, Freeholder District 8
August	LoBue	FAPS, Inc.
Paimaan	Lodhi	Manhattan Community Board 10
Cedric	Loftin	Bronx Community Board 1
Thomas	Long	
Mark	Longo	International Union of Operating Engineers LOCAL 825
Donald	Lotz	Port Authority of NY & NJ
Jackie	Ludorf	Manhattan Community Board 8
Michael	Lysicatos	
Kevin	Mack	Columbia Coastal Transport
Suzanne	Mack	City of Bayonne
Kelvin	MacKavanagh	Port Jersey Railroad
Uehenna	Madu	NYSDOT
Russell	Maffei	
Dana	Magee	Staten Island Community Board 2
Ali	Maher	Center for Advanced Infrastructure and Transportation (CAIT)
John	Maier	
Charles	Mainor	New Jersey State Assembly, District 31
Ed	Mangano	Nassau County Executive
John	Marano	Bronx Community Board 10
Orlando	Marin	Bronx Community Board 2
Eddie	Mark	Brooklyn Community Board 13
Assembly Member Marge Margaret	Markey	
Marty	Markowitz	Brooklyn Borough President
Helen	Marshall	Queens Borough President
Sam	Martinovic	Cosco Container Lines Americas, Inc
Tom	Marturano	NJ Meadwolands Commission
Steve	Marx	Hudson County Planning
Bari	Mattes	City of Newark
Tom	Maziarz	CT DOT
Nick	Mazzaterro	
Lawrence	McClean	Queens Community Board 13
Frank M.	McDonough	New York Shipping Association
John	McGettrick	Coalition to Revise Our Waterfront Now
John	McHugh	East of Hudson Task Force
Michael	McMahon	U.S. Congress, 13th District
Joe	McNamara	NJ Alliance for Action, Inc.
James	McNamara	Atlantic Container Line
Dennis	McNerney	
Damian	McShane	Bronx Community Board 8
Robert	Menendez	U.S. Senate
Julie	Menin	Manhattan Community Board 1

First	Last	Organization
Steve	Merman	Union County
Pearl	Miles	Brooklyn Community Board 9
Benjamin	Miller	City Institute for Urban Systems
Lloyd	Mills	Brooklyn Community Board 17
Ted	Mills	U S Rail of New York, LLC Brookhaven Rail Terminal
Dan	Miner	Sierra Club- New York City Group
Sayed M.	Moafi	
Mehdi	Mohammadish	City of Newark Engineering
James	Molinaro	Staten Island Borough President
Velmanette	Montgomery	New York State Senate, 18th District
Robert	Moore	Environmental Advocates of New York
Frank	Morano	Staten Island Community Board 3
Anthony	Moreno	Queens Community Board 4
Caren	Morgan	AECOM
Mike	Morrow	Judge Organization Companies Port Elizabeth Terminal & Warehouse
Wade	Mosefield	
W	Mueller	
William	Mullen	NJ Building and Construction Trades Council
Thomas	Murawski	
Gerard	N. von Dohlen	Port Newark Refrig Warehouse
Jerrold	Nadler	U.S. Congress, 8th District
Michele	Nardo	Seafarer's International Union
Joyce	Nastasi	NYC Building Trades
Jack	Nata	
Saul	Needle	Brooklyn Community Board 18
Jim	Newell	U S Rail of New York, LLC
J.D.	Nolan	Manhattan Community Board 4
Catherine	Nolan	New York State Assembly, 37th District
William	O'Dea	Hudson County, Freeholder District 2
Christopher	Olechowski	Brooklyn Community Board 1
Michael	O'Loughlin	MRSS
Bola	Omotosho	Bronx Community Board 5
Donna	Orbach	
Dolores	Orr	Queens Community Board 14
Felix	Ortiz	New York State Assembly, 51st District
Josh	Osowski	Liberty State Park
Michelle	Pak	PB
Peter	Palmer	
Mary	Parisen	
Scott	Parker	Jacobs Engineering
Joe	Pasarello	
Frank	Patetta	
Vicki	Pecchioli	
Pamela	Pelanque-North	Manhattan Community Board 12
Jack	Peluso	NYK Group Americas, Inc.
Stacy	Perrine	
Robert	Perris	Brooklyn Community Board 2
W. Franc	Perry	Manhattan Community Board 10
Karyn	Petersen	Queens Community Board 10
Dominique	Petrillo	New Jersey State Senate, District 32
Noah	Pfefferblit	Manhattan Community Board 1
Charlene	Phillips	Brooklyn Community Board 3
Mark	Pintauro	PSE&G
Stephanie	Pinto	East of Hudson Task Force
Dominic	Pisciotta	Manhattan Community Board 3
Irving	Poy	Queens Borough Hall
Thomas	Prendergast	MTA New York City Transit
Vincent	Prieto	New Jersey State Assembly, District 32
Eutha	Prince	Manhattan Community Board 9
Stefan	Pryor	City of Newark Central Planning
John	Quaglione	New York State Senate, 22nd District

First	Last	Organization
Joan	Quigley	New Jersey State Assembly, District 32
Leticia	Ramauro	Staten Island Community Board 1
Phillip	Ramos	
Ruben	Ramos Jr.	New Jersey State Assembly, District 33
Yvonne	Reddick	Queens Community Board 12
Bill	Redl	
Chuck	Reichenthal	Brooklyn Community Board 13
Giovanna	Reid	Queens Community Board 3
Raymond	Richard	
Denise	Richardson	General Contractors Association of NY
Eliu	Rivera	Hudson County, Freeholder District 4
Richard	Roberts	
George	Rodriguez	Bronx Community Board 1
Jose	Rodriguez	Bronx Community Board 4
Xavier	Rodriguez	Bronx Community Board 5
Wendy	Rodriguez	Bronx Community Board 6
Caridad	Rodriguez	New Jersey State Assembly, District 33
Honorable Robert	Roe	Robert Roe Associates
Liam	Rogers	Hudson Tank Terminals
Anthony	Romano	Hudson County, Freeholder District 5
William	Ronda	Bronx Borough
Alexandra	Rosa	Queens Borough President
Gary	Rozmus	Gannett Fleming
Wally	Rubin	Manhattan Community Board 5
Fernando	Rubio	City of Newark Dept of Engineering
Matthew	Rudikoff	
Penny	Ryan	Manhattan Community Board 7
Nicholas	Sacco	New Jersey State Senate, District 32
Rafael	Salamanca	Bronx Community Board 2
Joe	Salvatore	CTDOT
Joellen	Sanders	NYS AFL-CIO
Jeffrey	Sanoff	
Ida	Sanoff	
George	Sarkissian	Manhattan Community Board 11
Diane	Savino	New York State Senate, 23rd District
Frank	Scarantino	
Theresa	Scavo	Brooklyn Community Board 15
Lewis	Schatz	
Jeffrey	Schoen	
Charles	Schumer	U.S. Senate
Lynn	Schwalje	NJ Alliance for Action, Inc.
Dennis	Sedaille	
Michael	Seeve	Mountain Development Corp and NJNAIOP
Susan	Seinfeld	Queens Community Board 11
David	Seisko	Manhattan Community Board 5
Joanne	Seminara	Brooklyn Community Board 10
Wolf	Sender	Brooklyn Community Board 12
Eyal	Shapira	Raritan Central Railway LLC
Marjorie	Shea	Women's City Club
Nora	Shepard	
William	Sheppard	Atlantic Rail Service
David	Shlomovich	Brooklyn Community Board 12
Constantine	Sidamon-Eristoss	NY Port Terminal Development Company
Aaron	Singer	PANYNJ
Albio	Sires	U.S. Congress, 13th District
David	Slaukin	Assemblyman Mike Miller
Lydon	Sleeper	Office of Councilmember Elizabeth Crowley
Kate	Slevin	Tri-State Transportation Campaign
Mark	Smith	City of Bayonne
Ebenezer	Smith	Manhattan Community Board 12
Herbert	Smith	Norfolk Southern

First	Last	Organization
Jim	Snyder	IEW Construction
Joseph	Soresi	Seafarer's International Union
Michael	Sottolano	
Ken	Spahn	Port Authority of NY & NJ
Lazar	Spasovic	
Brian	Stack	New Jersey State Senate, District 33
David	Stein	Nation's Port
Jaime	Stein	Sustainable South Bronx
Marci	Steinberg	Newark Regional Business Partnership
Nicole	Stent	Bronx Community Board 8
Steve	Stern	Suffolk County
Susan	Stetzer	Manhattan Community Board 3
Scott	Stickel	
Anne	Strauss-Wieder	AS-W Inc
Scott	Stringer	Manhattan Borough President
Jennifer	Stuart	
Daniel P.	Sullivan	
Charles J.	Sutter, Jr.	Westchester County Department of Transportation
Chris	Swendsen	
Vahan	Tanal	PB Ports & Marine, Inc
Olen	Taremae	Lehigh valley Planning Comm
Ellie	Tarlow	Natural Resources Defense Council
Russell	Tepper	
M	Thatcher	
Sotiris	Theofanis	Rutgers Center for Advanced Infrastructure & Transportation - Freight & Maritime Program
Mark	Thompson	Manhattan Community Board 6
Latha	Thompson	Manhattan Community Board 8
Fernando	Tirado	Bronx Community Board 7
Jeff	Tittle	New Jersey Sierra Club
Ray	Tomczak	HNTB
Gail	Toth	New Jersey State Motor Truck Association (NJMTA)
Ralph	Tragale	Port Authority of NY & NJ
James	Tripp	Environmental Defense
Babatunde	Tugbobo	New York State Department of Transportation
Dorothy	Turano	Brooklyn Community Board 18
Richard	Turner	U.S. Congress, 13th District
Council Member James	Van Bramer	
Helga E.	van Eckert	Economic & Community Development
Christopher	Van Norden	
Irene	Van Slyke	Office of State Senator Montgomery
Veronica	Vanterpool	Tri-State Transportation Campaign
Enrique	Vega	Bronx Community Board 9
Nydia	Velazquez	U.S. Congress, 12th District
Michael	Venezia	Office of Senator Frank Lautenberg
Joan	Verplanck	New Jersey State Chamber of Commerce
Karl	Vilacoba	NJTPA
Charlene	Wagner	Staten Island Community Board 3
Brian	Wahler	NJ Turnpike Authority
Thomas	Wakerman	Center for Maritime Systems, Stevens Institute of Technology
Robert	Walker	Nassau County Executive
Kurt	Ward	Staten Island Community Board 1
Christopher O.	Ward	
Jeremy	Warneke	Bronx Community Board 11
Alvin	Warshaviak	Queens Community Board 8
Matthew	Washington	Manhattan Community Board11
Ronald S.	Weening	AS-W Inc
Rep. Anthony	Weiner	
Roberta	Weisbrod	Partnership for Sustainable Ports
Marge	Whigger	Railroads of New York
Judy	White	BRT
Nadine	Whitted	Brooklyn Community Board 4

First	Last	Organization
Hubert	Wiesenmaier	American Import Shippers Association, Inc.
Daniel	Wiley	Congresswoman Velazquez
Lucille	Winsko	
Kyle	Wiswall	
Steven	Wood	Citigroup
Pippa	Woods	
Jonathan	Woolley	
Thomas	Wospil	
Kathryn	Wylde	Partnership for New York City
Mel	Wymore	Manhattan Community Board 7
Fred	Xuereb	Brooklyn Community Board 7
Robert	Yaro	Regional Plan Association
Hazel	Younger	Brooklyn Community Board 16
Peter	Zantal	PANYNJ
Bridget	Zellner	City of Elizabeth
Mary Anna	Zero	
Laura	Zimmer	
Xi	Zou	STV
Greg	Zubrycki	FedEx and NIAACC
Bill		
Ann Marie		
		International Union of Operating Engineers
		NYC District Council of Carpenters

First	Last	Agency
Brady	Anderson	Norfolk Southern
Charles	Barker	Norfolk Southern
Richard E.	Barone	Regional Plan Association Inc.
Mike	Bednardz	Port Authority of NY & NJ
Jeff	Berna	Federal Highway Administration
Allen	Biehler	Pennsylvania Department of Transportation
Robin	Bramwell-Stewart	Port Authority of NY & NJ
Jonathan	Broder	Conrail Corp.
Steve	Brown	Port Authority of NY & NJ, Planning
Majorie	Bryant	NYC Department of Transportation
Michael	Carter	Dept. of Transportation - Maritime Administration
Subimal	Chakraborti	NYS Department of Transportation/Region 10
John	Choe	Office of the Comptroller City of New York
Victor	Chung	Port Authority of NY & NJ
Bob	Cotter	City of Jersey City
Jennifer	Cox	MTA- Long Island Rail Road
Rick	Crawford	Norfolk Southern
Sam	Cunninghame	Association of Bi-State Motor Carriers, Inc.
Pasquale	Cuomo	New York & Atlantic Railway Company
Michael	Davies	New York Division of the Federal Highway Administration
Andy	Davis	Connecticut Department of Transportation
Talvin	Davis	New Jersey Department of Transportation
Dave	Dawson	North Jersey Transportation Planning Authority
Jack	Dean	MTA
Gary	DeBerry	Pennsylvania Department of Transportation

First	Last	Agency
James	DeRose	NJDOT
Michael	Dougherty	CSX
Tom	Egan	New York and Atlantic Railway
Phillip	Eng	NYS Department of Transportation/Region 11
Steve	Fisk	Canadian Pacific Railway
Colin	Foley	MTA New York City Transit, Operations Planning
John	Formosa	Federal Highway Administration- New York
Richard	Friedman	Port Authority of NY & NJ
William B.	Galligan	East of Hudson Rail - Freight Task Force
Stanley	Gee	NYS Department of Transportation
Andrew	Genn	New York City Economic Development Corporation
William	Goetz	CSX
Todd	Goldman	Port Authority of NY & NJ
Robert	Gottheim	United States Representative Jerrold Nadler
Glenn	Greenberg	MTA- Long Island Rail Road
Karen	Greene	National Marine Fisheries Service - Habitat Conservation Division
Doug	Greenfeld	City of Jersey City
Sarah	Gulick	Pennsylvania Department of Transportation
Chris	Guzzi	Providence and Worcester Railroad
David	Head	Connecticut Department of Transportation
Tom	Heimgartner	Best Transportation, Inc
Jeanne	Herb	New Jersey Department of Environmental Protection
Paul	Higgins	Port Authority of NY & NJ, Cross Harbor
Stacey	Hodge	NYC Department of Transportation
Mark	Hoffer	Port Authority of NY & NJ

First	Last	Agency
Naomi	Hsu, AICP, PP	City JC
Charles	Huang	Port Authority of NY & NJ
Donald	Hutton	New York New Jersey Rail
Bob	James	Port Authority of NY & NJ, Port Commerce Department
Dick	Jones	Association of Bi-State Motor Carriers, Inc.
Colleen	Kissane	Connecticut Department of Transportation
Joel	Kleinberg	NYS Department of Transportation/Region 10
Lingard	Knutson	U.S. EPA - Region 2
Miki	Krakauer	New Jersey Department of Transportation
John	Lane	Hudson County Division of Engineering
Venetia	Lannon	New York City Economic Development Corporation
Floyd	Lapp	South Western Regional Planning Agency
Rick	Larrabee	Port Authority of NY & NJ
John	Madden	NYS Department of Transportation
Eric	Madden	Pennsylvania Department of Transportation
Howie	Mann	New York Metropolitan Transportation Council
Vince	Mantero	Port Authority of NY & NJ
Joseph	Marie	Connecticut Department of Transportation
Stephen	Marks	Hudson County Division of Planning
Stephen	Marks, PP, AICP, CFM	Hudson County Planning
Albert	Martin	Connecticut Department of Transportation
David	Matsuda	Federal Maritime Administration
Suzanne	Mattei	New York State Department of Environmental Conservation, Region 2
Ted	Matthews	North Jersey Transportation Planning Authority
Chris	Mazzei	M & E Railway

First	Last	Agency
Jonathan D.	McDade	New York Division of the Federal Highway Administration
Dennis	Merida	Federal Highway Administration- New Jersey
Scott	Muir	Norfolk Southern Corporation
Edward	Munoz	United States Coast Guard
Mary K.	Murphy	North Jersey Transportation Planning Authority
Joshua	Nelson	New York City Economic Development Corporation
Howard	Permut	MTA- Metro-North Railroad
Desiree	Ramos	Port Authority of NY & NJ
Naim	Rasheed	NYC Department of Transportation
Rich	Roberts	NJ Transit
Richard	Roberts	
Rob	Robinson	Norfolk Southern Corporation
Richard	Roper	Port Authority of NY & NJ
Jakub	Rowinski	North Jersey Transportation Planning Authority
Diane	Rusanowsky	National Marine Fisheries Service - Habitat Conservation Division
Tony	Sabidossi	FHWA – NJ Div
Huajing	Shi	Port Authority of NY & NJ
Jay	Shuffield	PANYNJ – TB & T
Aaron	Singer	Port Authority of NY & NJ
Herbert	Smith	Norfolk Southern
Ken	Spahn	Port Authority of NY & NJ
Gerald	Stoughton	Port Authority of NY & NJ
Andrew	Swords	New Jersey Department of Transportation
Andrew R.	Swords	NJDOT Bureau of Systems Planning
Richard	Tomer	US Army Corps of Engineers

First	Last	Agency
Melissa	Toni	Federal Highway Administration
Paul	Truban	New Jersey Department of Transportation, Trucking Services
Babatunde	Tugboso	NYS Department of Transportation
Ian	Van Praagh	Port Authority of NY & NJ
Lou	Venech	Port Authority of NY & NJ
Orlando	Ventura	New Jersey Department of Transportation
Paul	Victor	New York & Atlantic Railway Company
Karl	Vilacoba	NJTPA
Jay	Walder	Metropolitan Transportation Authority
J.D.	Wallace	New York & Atlantic Railway Company
Jeff	Wenger	City of Jersey City
Michael	White	Long Island Regional Planning Council
Helena	Williams	MTA- Long Island Rail Road
Madelyn	Wils	New York City Economic Development Corporation
John	Winkle	Federal Railroad Administration
Rich	Wisneski	NJ Transit
Jeff	Yunker	United States Coast Guard
Joseph	Zacharia	NYS Department of Transportation/Region 10
Peter	Zantal	PANYNJ

First Name	Last Name	Agency
Mary	Ameen	North Jersey Transportation Planning Authority
Allen	Biehler	Pennsylvania Department of Transportation
Sandra	Brillhart	DOT FHWA
Steve	Brown	PANYNJ
Marjorie	Bryant	NYC Department of Transportation
David J.	Burney	NYC Dept of Design and Construction
Rosemary	Bussi	NYC Dept of Design and Construction
Salvatore J.	Cassano	NYC Fire Department
Subimal	Chakraborti	NYS Department of Transportation-Region 10
Deborah E.	Collins	Economic Development Corporation of Essex County
Jennifer	Cox	Long Island Rail Road
Curtis	Cravens	NYS Office of Coastal, Local Government, and Community Sustainability
John	Cryan	NYS Department of Environmental Conservation
Carl	Czaplicki	Jersey City Department of Housing, Economic Development and Commerce
Nancy	Danzig	Federal Transit Administration
Michael	Davies	Federal Highway Administration
Talvin	Davis	New Jersey Department of Transportation
David	Dawson	North Jersey Transportation Planning Authority
Christa L.	Dean	Surface Transportation Board - Section of Environmental Analysis
Charlotte	DeFilippo	Union County Improvement Authority
Sandra	Dixon	Empire State Development Corporation
John K	Donohue	NYC Police Department
Tom	Eagan	NY & Atlantic
Phillip	Eng	NYS Department of Transportation-Region 11
Jeff	English	DOT - NY
Terrell	Estesen	NYC Department of Environmental Protection
James	Ferrara	MTA Bridges and Tunnels
David	Fogel, AICP	MTA Metro-North Railroad - Capital Planning and Programming
Colin	Foley	MTA New York City Transit, Operations Planning
John	Formosa	Federal Highway Administration- New York
Ian	Francis	NYS Department of Transportation

First Name	Last Name	Agency
Richard	Friedman	Port Authority of NY & NJ
Lisa	Fuerst	NYC Department of Environmental Protection
Stanley	Gee	NYS Department of Transportation
William	George	
Joseph	Graziano	Union County Department of Engineering & Public Works
Karen	Greene	National Marine Fisheries Service - Habitat Conservation Division
Douglas	Greenfeld	City of Jersey City
Rodney	Hadley	Jersey City Department of Public Works
Ray	Hessinger	NYSDOT
Stacey D.	Hodge	New York City Department of Transportation
Mark	Hoffer	Port Authority of NY & NJ
Megan	Jadrosich	FEMA Region II - Mitigation Division
Bob	Jasek	Hudson County Engineering
Charles S.	Kammerdener	NYC Police Department
Raymond W.	Kelly	NYC Police Department
Kathleen	Kisco	State of New Jersey Department of State
Colleen	Kissane	Connecticut Department of Transportation
Lingard	Knutson	U.S. EPA - Region 2
Miki	Krakauer	New Jersey Department of Transportation
Robert R.	Kulikowski, Ph.D.	NYC Mayor's Office of Environmental Coordination
John	Lane	Hudson County Engineering
Floyd	Lapp, FAICP	South Western Regional Planning Agency
Anthony	Lee	Federal Transit Administration
Philip A.	LiVecchi	Essex County Department of Public Works
Eric	Macfarlane	NYC Dept of Design and Construction
Cheryl	Malerba	Connecticut Department of Transportation
Cheryl	Malerba	Connecticut Department of Transportation
Howie	Mann	New York Metropolitan Transportation Planning Council
Joseph	Marie	Connecticut Department of Transportation
Stephen	Marks	Hudson County Division of Planning
Bob	Martin	State of New Jersey Department of Environmental Protection

First Name	Last Name	Agency
David	Matsuda	Federal Maritime Administration
Ted	Matthews	North Jersey Transportation Planning Authority
Thomas J	Maziarz	Connecticut Department of Transportation
Dennis	Merida	Federal Highway Administration- New Jersey
Michael	Moriarty	Federal Emergency Management Agency, Region 2
Mary K.	Murphy	North Jersey Transportation Planning Authority
Grace	Musumeci	U.S. EPA - Region 2 Environmental Review Section
Joshua	Nelson	New York City Economic Development Corporation
Alicia	Nolan	FHWA
Joseph	Palmieri	Brooklyn Borough Commissioner's Office NYC – Department of Transportation
Howard	Permut	MTA- Metro-North Railroad
Ruth	Pierpont	New York State Office of Parks, Recreation & Historic Preservation
Brian	Quinn	Office of Permit Coordination & Environmental Review
Doyle	Raines	Transportation Security Administration
Naim	Rasheed	NYC Department of Transportation
Richard T	Roberts	NJ Transit
Jakub	Rowinski	North Jersey Transportation Planning Authority
Diane	Rusanowsky	National Marine Fisheries Service
Victoria	Rutson	Surface Transportation Board
Tony	Sabidussi	FHWA – NJ Div
Kamal	Saleh, PP, AICP	Union County Department of Parks and Community Renewal Division of Planning and Community Development
John P.	Sammon	Transportation Security Administration
Gina	Santucci	NYC Landmark Preservation Commission
Daniel	Saunders	State of New Jersey Department of Environmental Protection, Division of Natural and Historic Resources
Patrick	Sbano, P.E.	Metropolitan Transportation Authority Bridges and Tunnels
Jack	Schmidt	NYC Department of City Planning
Steven	Schumach	U.S. Army Corps of Engineers - NY District
Charles	Scott	State of New Jersey Department of Environmental Protection, Division of Natural and Historic Resources
Laura	Shabe	Port Authority of NY & NJ

First Name	Last Name	Agency
James	Simpson	NJ Department of Transportation
Steve	Sinkevich	US Fish and Wildlife Service
Ronald	Spadafora	NYC Fire Department
Kenneth	Spahn	Port Authority of NY & NJ
Elizabeth	Spinelli	Hudson County Economic Development Corporation
George	Stafford	NYS Department of State Division of Coastal Resources
Joseph	Szabo	Federal Railroad Administration
Anthony	Tedesco	FDNY-Transit Liaison Public Transportation Safety Unit
Robert B.	Tierney	NYC Landmark Preservation Commission
Richard	Tomer	US Army Corps of Engineers
Lou	Venech	Port Authority of NY & NJ
George M.	Ververides	Middlesex County Department of Planning
Jay	Walder	Metropolitan Transportation Authority
Robert	Weinman	Fire Department - City of New York
Michael	White	Long Island Regional Planning Council
Helena	Williams	MTA- Long Island Rail Road
Madelyn	Wils	New York City Economic Development Corporation
John	Winkle	Federal Railroad Administration
Rich	Wisneski	NJ Transit
Jeff	Yunker	CG Sector NY United States Coast Guard
Jeff	Zappieri	Department of State
Gerald	Rohsler	Morris County DOT
Erik	Deline	NJDOT
Scott	Douglas	NJDOT

First Name	Last Name	Agency/Affiliation
Gregg	B	PANYNJ
Lance	Andersaon	Long Island Railroad
Sandra	Garib	
Bernie	Martin	BP
Steve	Lanset	NJ Sierra Club
AJ	Wright	
Louis	Kleinman	Metropolitan Waterfront Alliance
Michael	Armstrong	
Lisa	Hutchins	HEC
Gail	Toth	NJMTA
Richard	Levin	
William	George	US Coast Guard
Donald	Chesley	Stevens Inst. of Tech.
JP	Magron	
Arthur	Schiff	
Stephanie	Tatham	Kaplan Kirsch & Rockwell
Darryl	Johnson	
Frank	Eadie	Community Board 2, Manhattan
John	Maier	Queens Community Board 5
TOM	MURPHY	
Brian	May	NOAA/NMFS/NERO
Suzanne	Mack	NJ Transit Advisory Board Chair
Christina	Wilkinson	
Denis	Byrne	
David	Martin	
Michael	Armstrong	Armstrong & Associates
Anna	Souza	
Jean	Tanler	Maspeth IBZ
		Hitachi Zosen Corporation
Capt. Jeffrey	Flumignan	Maritime Administration
Cecelia	Maloney	
Paul	Werther	Bayonne Local Redevelopment Authority

First Name	Last Name	Agency/Affiliation
Janice	Jacobsen	
Alice	Cheng	
SAMUEL	NEWTON	DOT-DBE
Cecelia	Maloney	
Mary	Habstritt	Roebling Chapter, Soc for Industrial Archeology
Arnold	Reinhold	
Jeff	Standart	XRT,INC/CID,LLC
Meredith	Staton	Community Board 8
Rickey	Crawford	Norfolk Southern Railway
Daniel	Reiss	
Matthew D.	Rudikoff	Matthew D. Rudikoff Associates, Inc. US Rail of New York, LLC
Margaret	Olness	League of Women Voters of Brookhaven
Laura	Stockstill	
Amy	Bucciferro	
Orrin	Getz	New Jersey Association of Railroad Passengers
Raymond	DiBiase	L.K. McLean Associates
Noah	Corwin	Judlau Contracting, Inc.
Raul	Vega Herrera	
Marsha	Manley	
Christina	Sun	Metropolitant Waterfront Alliance
Chris	Swendsen	
Arnold	Reinhold	A G Reinhold
Chuck	Lundt	
Daniel	Reiss	ntelexwebex
Matthew	Faruolo	Part Time NYC Resident

DRAFT SCOPING DOCUMENT
Cross Harbor Freight Program
Tier I Environmental Impact Statement

A. INTRODUCTION

The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ) are preparing an Environmental Impact Statement (EIS) to evaluate alternatives to enhance the movement of freight across New York Harbor. The Cross Harbor Freight Program EIS will analyze alternatives that would provide near-term and long-term strategies for improving the regional freight network, reducing traffic congestion, improving air quality, and providing economic benefits. FHWA and PANYNJ are serving as co-lead agencies for the preparation of the EIS, with New York State and New Jersey Departments of Transportation (NYSDOT and NJDOT) serving as cooperating agencies.

The EIS scoping process began with the Notice of Intent (NOI) to prepare an EIS, published in the Federal Register on May 13, 2010. The purpose of the scoping process is to assure that the full range of issues related to the proposed project is addressed in the Tier I EIS, and that potential significant adverse impacts are identified and advanced for further study to Tier II of the EIS, as appropriate. A more detailed description of the tiering process is described below. FHWA and PANYNJ are undertaking an extensive public scoping process that will allow the public and affected agencies to provide comments on the scope of the environmental review process.

The co-lead agencies are issuing this Draft Scoping Document to frame the environmental review to follow, and to solicit public and agency input regarding the project alternatives and the environmental issues to be considered in the EIS. This Draft Scoping Document has been prepared to outline the project's purpose and need, its goals and objectives, the project study areas, alternatives that will be studied in Tier I of the EIS, and to introduce the methodologies by which environmental, economic, and transportation impacts will be assessed. The full extent of the process and methodology that will be used to evaluate alternatives and prepare the EIS, and all supporting analyses can be found in the report, *Cross Harbor Freight Program Environmental Impact Statement Methodology* (May 2010), being issued concurrently with the Draft Scoping Document.

PANYNJ will lead outreach activities during the public scoping process, and will conduct a series of meetings to discuss the Draft Scoping Document and the proposed scope of the Tier I EIS. Five public scoping meetings will be held:

Bronx
Tuesday, September 28, 2010, 6:00PM – 8:00PM
Bronx Borough Hall
851 Grand Concourse
Bronx, NY 10451

Newark, New Jersey
Thursday, October 7, 2010, 1:00PM – 3:00PM
NJTPA
One Newark Center, 17th Floor
Newark, NJ 07102

Jersey City, New Jersey
Thursday, October 7, 2010, 6:00PM – 8:00PM
City Hall
280 Grove Street
Jersey City, NJ 07302-3610

Brooklyn

Tuesday, October 12, 2010, 6:00PM – 8:00PM
Brooklyn Borough Hall
209 Joralemon Street
Brooklyn, NY 11201

Queens
Wednesday, October 13, 6:00PM – 8:00PM
Queens Borough Hall
12055 Queens Boulevard
Jamaica, NY 11424

FHWA and PANYNJ invite the general public and interested groups to participate in the scoping process. Comments can be offered orally at a public meeting, via email to feedback@crossharborstudy.com or in writing to the following address:

Cross Harbor Freight Program
c/o InGroup, Inc.
PO BOX 206
Midland Park, NJ 07432

The period for public comments on this Draft Scoping Document will remain open until November 15, 2010.

REGULATORY CONTEXT

The Tiered EIS will be prepared in accordance with the provisions of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.) of 1969 and all applicable FHWA regulations for implementing NEPA, as set forth in 23 CFR Part 771. The Tier I EIS will utilize FHWA Guidance for Preparing and Processing Environmental and Section 4(f) Documents (October 30, 1987). The EIS will also address the provisions of Section 6002 of Public Law 104-59, "The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU)" and will utilize FHWA Final Guidance on the SAFETEA-LU Environmental Review Process (Public Law 109-59; November 15, 2006).

In addition, the Tier I EIS will comply, as necessary, with:

- Federal Transportation Conformity regulations (40 CFR 51 and 93).
- Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended.
- Section 106 of the National Historic Preservation Act of 1966.

- Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations").
- Executive Order 11990 ("Protection of Wetlands").
- Clean Water Act (33 USC §§ 1251 to 1387), Section 401.
- Coastal Zone Management policies. The Coastal Zone Management Act of 1972 (16 USC §§ 1451 to 1465) requires that activities within a state's coastal zone be consistent with that state's coastal zone management plan. The New Jersey Department of Environmental Protection (NJDEP) administers New Jersey's coastal zone management program under N.J.A.C. Section 7:7E, Coastal Zone Management Policies. The New York State Department of State (NYSDOS) administers the New York State Coastal Zone Management Program, which, in turn, encourages local governments to adopt local waterfront revitalization programs. The New York City Department of City Planning (NYCDCP) administers the New York City Waterfront Revitalization Program.

TIERED ENVIRONMENTAL IMPACT STATEMENT

The Cross Harbor Freight Program EIS is being conducted using "tiering," as described in 40 CFR 1508.28, which is a staged process applied to the environmental review of complex projects. The EIS will consist of two tiers: Tier I of the EIS allows the agencies to focus on general transportation modes and alignments for the proposed project, including logical termini and regional economic and transportation effects. Tier I of the EIS includes: a logistics and market demand analysis; a rail and highway operations and networks analysis; an economic and financial analysis; a capital investment estimation for each alternative; an operations and maintenance cost estimation for each alternative; a transportation analysis; and environmental impact assessments.

Tier I of the EIS will result in a Record of Decision (ROD) that will identify the transportation mode or a combination of modes and alignments for the proposed project, with the appropriate level of detail for corridor-level decisions. The ROD will also outline measures that are intended to avoid, minimize, or mitigate adverse impacts from the selected Build Alternatives. Tier II of the EIS will then explore in greater detail those alternatives that fulfill the project purpose within the mode and alignment chosen in Tier I, and will include analyses based on engineering designs and site-specific environmental impacts, development of site-specific mitigation measures, and cost estimates for the Preferred Alternatives. Input from the public and from reviewing agencies will be solicited during both tiers.

B. PROJECT PURPOSE AND NEED

The greater New York/New Jersey/Connecticut region is the financial center of the United States economy, the nation's largest consumer market, and a major hub of entertainment, services, fashion, and culture. The region receives, processes, and distributes raw materials, intermediate products, and finished consumer goods, which move to and from the rest of the United States and countries around the world. The region's highway system, especially the bridge and tunnel crossings and connecting routes, suffers from significant peak period congestion which continues to expand in duration beyond the typical hours. Because the region is so dependent on trucking, highway congestion has a tremendous impact on freight movement—it increases the costs and environmental impacts, while decreasing reliability, speed, and safety of goods movement. By 2035, total freight tonnage into, out of, and within the region is expected to grow

by approximately 36 percent. With future growth in freight movement, truck trips will increase resulting in increased congestion on the cross harbor highway infrastructure. Overall, the region has a well-developed freight rail system, but it is far better developed west of the Hudson River than it is east of the Hudson River. Many historic and geographic reasons account for this condition, but the result is that east-of-Hudson counties are far more dependent on highway transportation.

The primary purpose of the project is to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions. A detailed analysis for the need for the project can be found in the report, *Cross Harbor Freight Program Needs Assessment* (June 2010), being issued concurrently with the Draft Scoping Document.

C. PROJECT BACKGROUND

PROJECT HISTORY

Several previous studies have been conducted to examine possible alternatives to improve freight movements across New York Harbor. The Cross Harbor Freight Movement Major Investment Study (MIS), commissioned by the New York City Economic Development Corporation (NYCEDC) and completed in 2000, the MIS identified alternatives and strategies to improve regional freight mobility; expand shippers' choices of route and mode; enhance the region's environmental quality; and promote regional economic development. Fifteen alternatives—involving highway, rail, waterborne, and air systems, and a combination of these modes—were initially evaluated, with the most promising strategies advanced to a subsequent phase of refinement and evaluation. Four alternatives were advanced for study in a Draft EIS, which was published in April 2004 by FHWA and the Federal Railroad Administration (FRA), acting as co-lead agencies, and NYCEDC, acting as the project sponsor. The 2004 Draft EIS considered: a No Action Alternative; a Transportation Systems Management (TSM) Alternative; an Expanded Float Operations Alternative, which involved the expansion of capacity for the existing railcar float system across New York Harbor; and a Rail Freight Tunnel Alternative with two possible alignments and two potential tunnel designs.

As the region's bi-state transportation agency, and the agency that controls the cross harbor connections between New York and New Jersey, PANYNJ has assumed the role of project sponsor since the publication of the 2004 Draft EIS. The agency's mission is to identify and meet the critical transportation infrastructure needs of the bi-state region; therefore, PANYNJ is uniquely positioned to be responsible for the Cross Harbor Freight Program.

CURRENT PLANNING CONTEXT

In addition to PANYNJ, a number of planning and transportation agencies in the greater New York/New Jersey/Connecticut region continue to identify the need for improved freight transportation in the region, and are studying (or have previously studied) strategies to alleviate congestion in the region's major freight corridors.

NEW YORK METROPOLITAN TRANSPORTATION COUNCIL

The New York Metropolitan Transportation Council (NYMTC) is an association of governments and transportation providers that serves as the metropolitan planning organization (MPO) for ten counties comprising New York City, Long Island, and the lower Hudson Valley. NYMTC

explores transportation-related issues from a regional perspective, develops long-range transportation plans and decides on the use of federal transportation funds. In recognition of the importance of streamlined freight movement to regional goals and objectives, NYMTC created a Freight Transportation Working Group (FTWG) and began developing a Regional Freight Plan. The Plan points out that the region suffers from a high level of congestion that "impacts the predominant mode of freight travel in the region—trucks," increasing the cost of living for residents and the cost of freight services for businesses. This congestion is a result of poor intermodal coordination, modal dependence (on highway infrastructure), and infrastructure and operational limitations (including vertical and horizontal clearances). The plan lays out strategies for improving regional freight movement, which include reducing barriers to east-of-Hudson rail service (via clearance and operational improvements), expanding east-of-Hudson yard facilities, and exploring expanded or new harbor crossings.

NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

The North Jersey Transportation Planning Authority (NJTPA) is the MPO for a 13-county northern New Jersey region, comprising Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren Counties. NJTPA has recently adopted *Plan 2035: The Regional Transportation Plan for Northern New Jersey*, its federally mandated long-range transportation plan. Plan 2035 states that growth in population and freight—which is expected to double or more than double by 2035, in spite of the country's economic recession—places heavy demands on the region's roads and rails. The plan "recognizes the importance of freight to the region's economy, and calls for investments and policies that will help the region handle a projected doubling of cargo with multiple transportation modes, including more efficient truck shipment and a greater role for rail, air, and marine freight."

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

NYSDOT—charged with ensuring the state's safe, efficient, balanced, and environmentally sound transportation system—prepares the state's transportation plan. The most recent plan, *Strategies for a New Age: New York State's Transportation Master Plan for 2030*, acknowledges that the "reliability and predictability of the freight transportation system is essential to the health of the State's and the nation's economy," and that congestion and capacity constraints are problems that must be addressed to keep New York State freight terminals' cost and service competitive. The plan also advocates corridor-based transportation management, designating the New York Harbor crossing as one of the primary New York State Trade Corridors.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

NJDOT developed its first Comprehensive Statewide Freight Plan in 2007. The plan confirms that congestion, bottlenecks, and other system deficiencies on the state's major freight corridors—which include I-78, the New Jersey Turnpike, I-80, I-287, I-295, and Route 17—negatively impact users of the transportation system in New Jersey. The plan recommends that NJDOT undertake a multi-modal corridor study of these primary freight corridors to encompass land use, Intelligent Transportation Systems (ITS), modal alternatives, and shifting freight to off-peak periods. This study would be used to identify maintenance and capital projects within the major freight corridors that would have positive implications on freight and commuter travel.

D. GOALS AND OBJECTIVES

The primary purpose of the project is to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions. A project's goals and objectives are the foundation of its purpose and need under NEPA. They are used as the basis for developing the criteria and methodology for evaluating the project alternatives. Four goals have been established for the Cross Harbor Freight Program. These goals are intended to remedy some of the problems stated in the needs assessment described earlier. Objectives have also been identified that further define the goals and provide specific and measurable means by which to evaluate and compare project alternatives. The four project goals and respective objectives are as follows:

GOAL 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.

Objectives:

a. Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.
b. Reduce the travel-time and delay on regional highway network.
c. Maximize efficient use of available capacity on existing transportation infrastructure.
d. Maintain or improve regional rail network performance.

GOAL 2: Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.

Objectives:

a. Increase the number of modal options available for Cross Harbor freight transportation.
b. Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.

GOAL 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.

Objectives:

a. Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in the event of a major interruption of service on existing interstate highway corridors serving the region.
b. Support contingency planning for emergency alternative Cross Harbor goods movement operations.
c. Reduce the number of freight vehicle related accidents.
d. Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.

GOAL 4: Support development of integrated freight transportation/land use strategies.

Objectives:

a. Maximize underutilized freight transportation infrastructure and related land uses.
b. Support services to existing freight distribution centers in the region.
c. Integrate rail freight services with local land use and transportation planning objectives.
d. Integrate rail freight development with statewide freight and passenger rail plans.

E. PROJECT STUDY AREAS

To fully understand the origin and content of freight entering the New York/New Jersey/Connecticut region, and to forecast its future conditions, the Tier I EIS is modeling goods movement in a 54-county multi-state area (depicted on Figure 1) comprising portions of

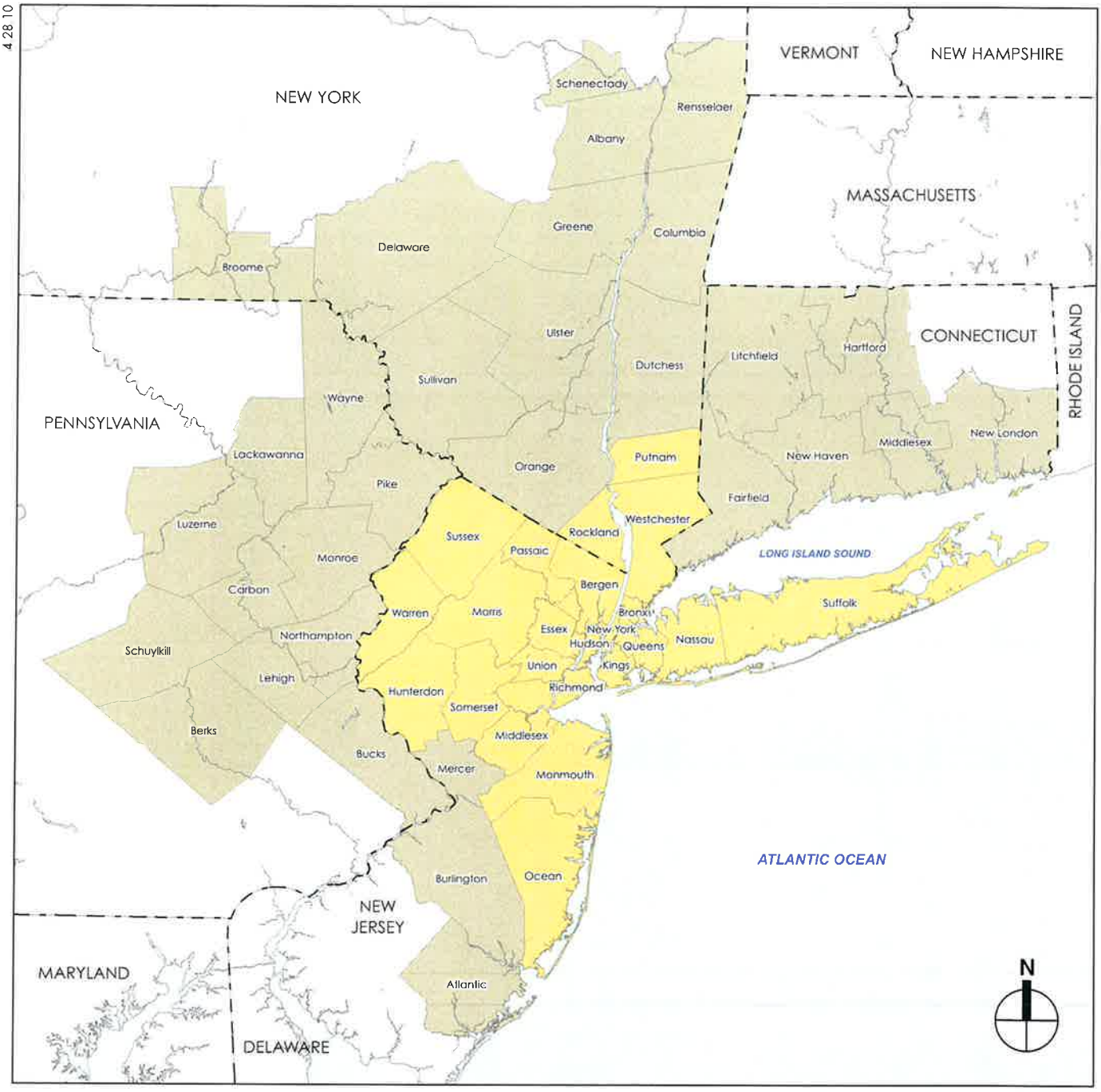


FIGURE 1

Study Areas

CROSS HARBOR FREIGHT PROGRAM

southern New York, northern and central New Jersey, western and southern Connecticut, and a portion of eastern Pennsylvania. The counties of this modeling study area have been selected by PANYNJ to reflect the following:

- PANYNJ core planning region, which includes the five boroughs of New York City (Bronx, Kings, New York, Queens, and Richmond Counties), Long Island (Nassau and Suffolk Counties), lower Hudson Valley (Westchester and Rockland Counties), and northern New Jersey (Passaic, Bergen, Morris, Essex, Hudson, Union, Somerset, and Middlesex Counties)
- Surrounding counties that are also part of NYMTC and NJTPA planning regions
- Counties that accommodate truck/rail terminals and freight corridors that are important in serving the region
- Additional counties that accommodate important Hudson River crossings that are or may be used to bypass infrastructure in the core planning region.

Framed by this understanding of freight flows into, out of, within, and through the larger 54-county area, the Tier I EIS analyses is focusing on the project's potential regional impacts in the greater New York/New Jersey region. This regional study area will comprise a combination of counties served by NYMTC, which encompasses New York City, Long Island and the lower Hudson Valley, and NJTPA, which serves 13 counties in northern New Jersey and the cities of Newark and Jersey City. The regional study area will include: major interstate highways leading to the existing cross harbor connections (I-278, I-495, I-95); a number of highways serving northern New Jersey (such as New Jersey Turnpike/I-95, I-78, I-80, and I-287); and many state and local routes that are important for local freight movement (see Figure 2). The Tier I EIS will also investigate major freight rail lines and facilities west of the Hudson River (such as lines within the Consolidated Rail Company (Conrail) Shared Assets Area, the CSX River Line, the Norfolk Southern Lehigh Line, Chemical Coast Line and important rail yards at Croxton, Kearny, Oak Island, Greenville, Port Newark/Elizabeth in New Jersey), as well as strategic rail assets east of the Hudson River, which may be affected by the proposed alternatives (such as the 65th Street Yard, the Bay Ridge Branch, Montauk Branch, Oak Point and Harlem River yards, and railcar float facilities at 51st and 65th Streets in Brooklyn; see Figure 3). The extent of the regional study area may be refined as project elements are defined and freight traffic demand modeling is conducted, and will be confirmed as appropriate for each technical analysis.

While much of the Tier I EIS is focusing on broad, corridor-level impacts, some analyses require an evaluation of local impacts from proposed or altered rail yards, rail lines, and/or intermodal facilities. An understanding and assessment of the local effects of the proposed alternatives is unavoidable, since a complete description of any proposal requires a discussion of specific project elements—e.g., rail yards, track and structural improvements, marine infrastructure, ventilation systems, and roadway improvements—that may result in adverse social and environmental effects on local communities. These adverse effects and the ability to avoid, minimize or mitigate them could influence the ultimate selection of a Preferred Alternative(s). Therefore, the study areas for the evaluation of local impacts will depend greatly on the elements of each specific alternative and, to a lesser extent, on the environmental analysis in question. For each analysis in the Tier I EIS, appropriate local study areas will be identified before each analysis, for each potential project site, and will likely vary between alternatives. The *Cross Harbor Freight Program Environmental Impact Statement Methodology* describes the methodology by which local study areas will be chosen.

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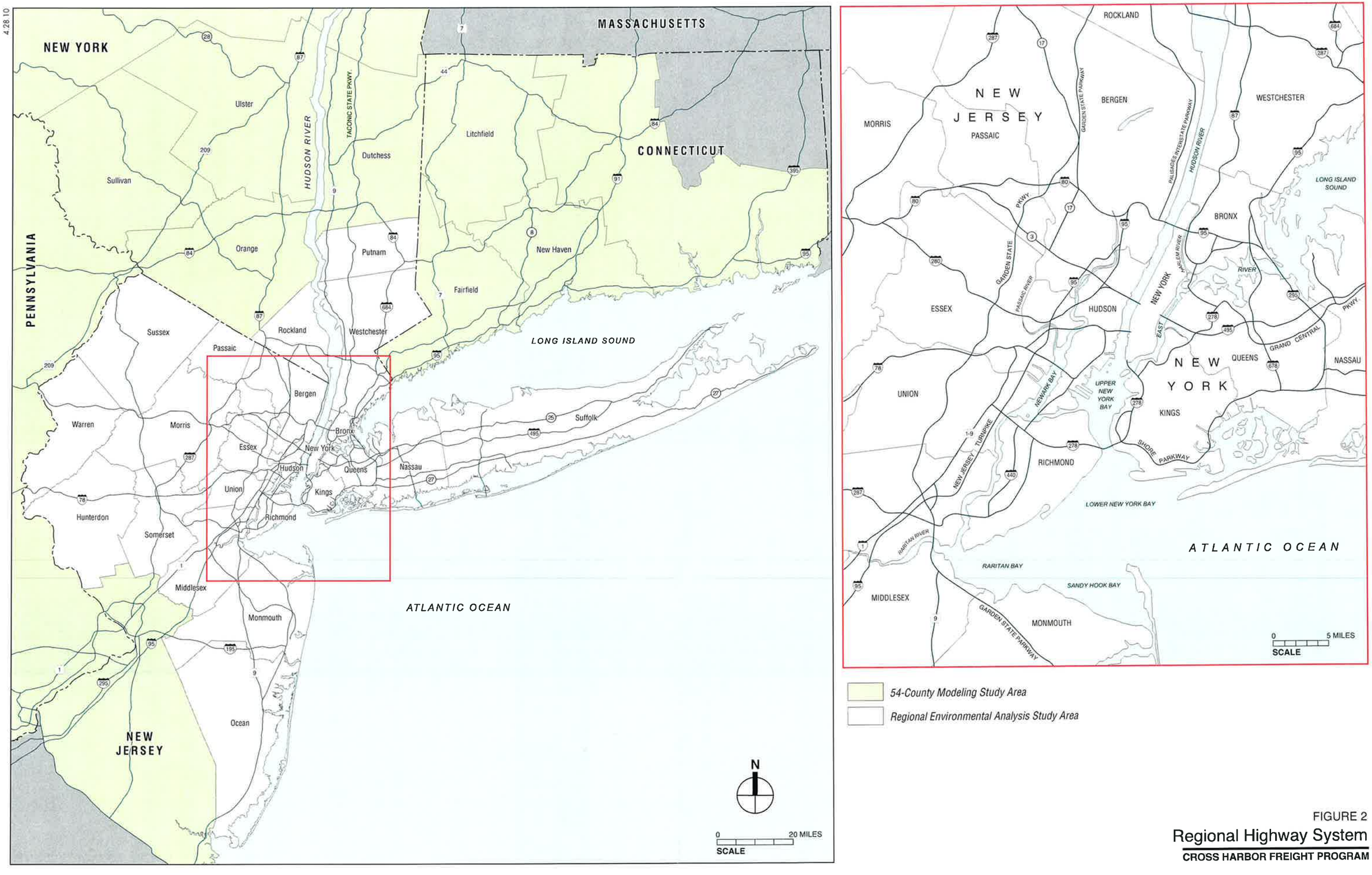
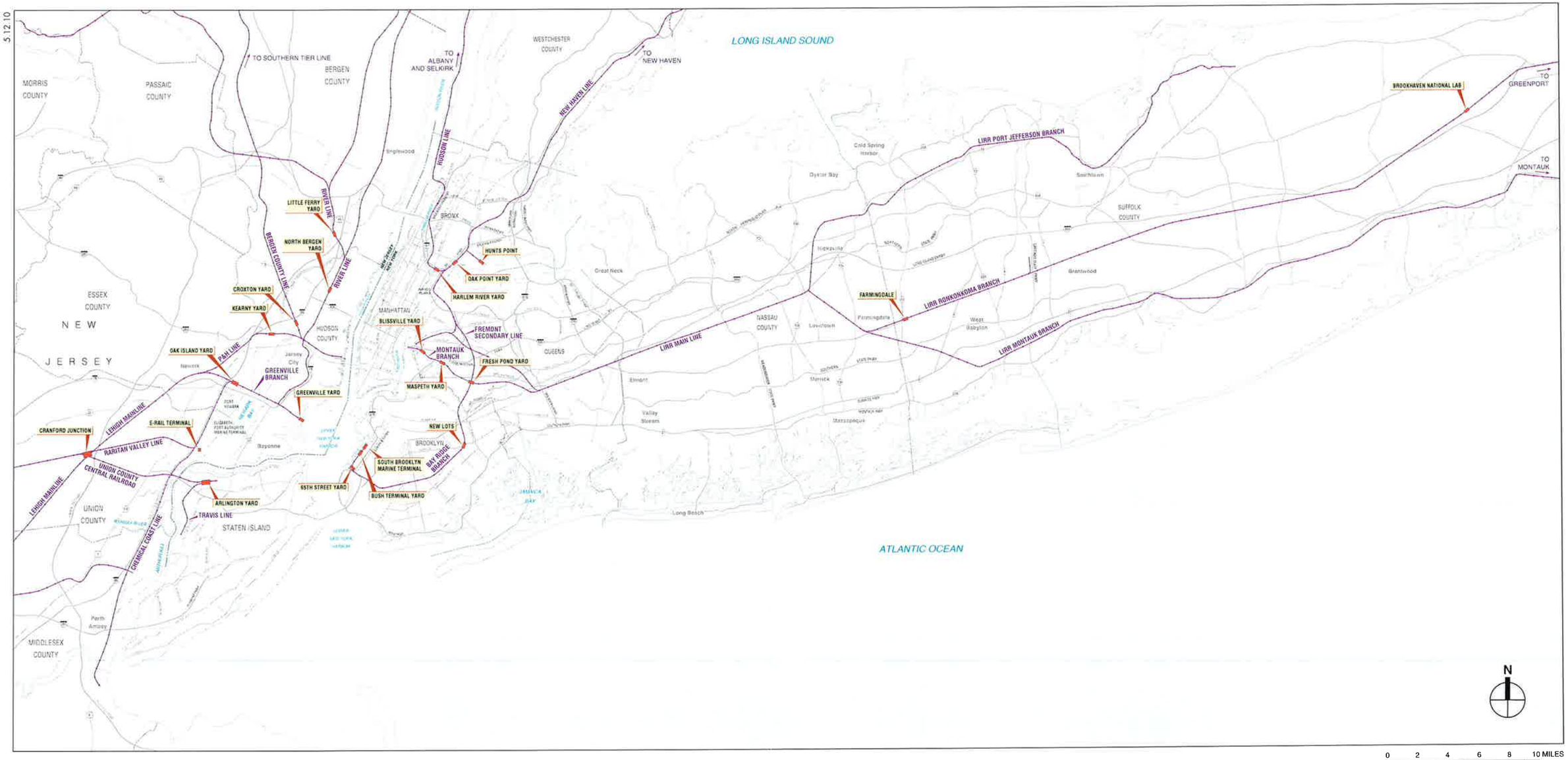


FIGURE 2

Regional Highway System

CROSS HARBOR FREIGHT PROGRAM

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Freight Rail Line

Existing Freight Facility Location

FIGURE 3

Existing Regional Rail Freight Facilities

CROSS HARBOR FREIGHT PROGRAM

F. ALTERNATIVES

As described in *Cross Harbor Freight Program Environmental Impact Statement Methodology,* the alternatives evaluation process will begin with a long list of alternatives that will comprise combinations of freight movement methods and existing or potential facility locations. This universe of project alternatives is appropriate for a Tier I EIS, which aims to select a mode, alignment, and logical termini for the proposed project. The alternatives included in the long list generally fall into the following three classes:

1. No Action Alternative
2. Management Alternatives – TSM and Transportation Demand Management (TDM)
3. Build Alternatives – Float/Ferry Alternatives, Rail Tunnel Alternatives, and Rail/Vehicle Tunnel Alternatives.

The Build Alternatives may also include a combination of float/ferry and tunnel elements, possibly phased over a period of time. Some alternatives may be eliminated, modified, or combined as a result of agency or public comments received during the scoping process, or as the list of alternatives moved though the various screening and analysis steps described in the *Cross Harbor Freight Program Environmental Impact Statement Methodology*.

NO ACTION ALTERNATIVE

The No Action Alternative includes projects that are currently programmed, planned, or reasonably expected for the study area, independent of the Cross Harbor Freight Program.

- For highways, it includes improvements represented in the year 2035 "existing and committed" Build scenarios from NYMTC and NJTPA regional highway transportation models, as well as any project updates or adjustments identified by NYMTC, NYSDOT, NJTPA, NJDOT, or other responsible agencies.
- For rail, it includes any remaining improvements on PANYNJ east-of-Hudson and west-of-Hudson rail program lists that have not been constructed; other "independent utility" projects being advanced by PANYNJ, particularly at Greenville Yard; programmed or planned rail improvements with the participation of NJDOT or NYSDOT; and anticipated improvements from the region's freight and passenger railroads.
- Port and airport projects may also impact the generation and/or distribution of truck and rail traffic within the region; therefore, these projects should also be defined for purposes of the No Action Alternative to enable highway and rail network models to be "tuned" accordingly.

To arrive at a list of No Action Alternative projects for the Tier I EIS, the No Action rail and other elements described in the 2004 Cross Harbor Freight Program DEIS served as a starting point. These elements (projects) were discussed at meetings with representatives of PANYNJ, NJTPA, and NYMTC, with agreement sought as to their status: completed and in operation; under construction; not constructed, but probably implemented by 2035; and not likely to be implemented by 2035. These agencies also identified other rail projects in the study area, from the respective State Rail Plans or other sources, which would be implemented by 2035 by NJDOT, NYSDOT, freight and passenger railroads, or PANYNJ.

Also reviewed were the NJTPA and NYMTC long-range transportation plans dealing with roadway improvements, and the assumptions regarding these planned or programmed

improvements that were input to their respective transportation models. Meetings with these two agencies were again held to confirm the modeling assumptions. Also investigated with PANYNJ were any port or airport projects that could impact the generation and/or distribution of truck and rail traffic within the region. Based on this interactive process, a full list of projects that will comprise the No Action Alternative has been compiled and is included in Appendix A. Figure A-1 depicts railroad projects in New York and New Jersey and Figure A-2 depicts highway projects.

MANAGEMENT ALTERNATIVES

TRANSPORTATION SYSTEM MANAGEMENT

TSM aims to maximize the utilization and efficiency of the existing transportation network with relatively low-cost improvements that can improve its functional capacity. These improvements would provide additional freight movement capacity beyond those committed projects that are included in the No Action Alternative described above.

In relation to the above definition, the TSM alternative could include (see Figure 4):

- Increased capacity of the Oak Island Rail Yard in Newark, NJ with additional tracks.
- Improvements to the existing Lehigh Valley Line bridge and adjoining main rail line, beyond the improvements that are proposed by NJDOT.
- Additional improvements to the Chemical Coast Line in New Jersey, in the vicinity of its junction with the Staten Island Rail Line, including increased storage capacity along the tracks.
- Improved rail freight movement along the Hudson Line through better coordination of rail operators using the line, as well as upgraded signaling to enable tighter spacing between trains.
- Upgrading the existing Cross Harbor rail bridge at Selkirk, NY, some 140 miles north of New York Harbor.
- Upgrading the existing Cross Harbor railcar float service between Greenville Yard in Jersey City and 51st Street rail yard in Brooklyn, including rehabilitation of two Greenville float bridges and new track work in Greenville Yard.
- Upgrading the existing Cross Harbor container float (the Red Hook Container Barge) between American Stevedoring facilities at Red Hook, Brooklyn, and Port Newark.
- Improving the existing rail yard at 65th Street in Brooklyn.
- Track and signal improvements to the Bay Ridge Branch and Montauk Branch rail lines.
- Expansion of rail facilities at the Oak Point Yard in the Bronx.
- Consideration of bridge and tunnel traffic management strategies related to existing truck crossings, particularly Intelligent Transportation Systems applications.

TRANSPORTATION DEMAND MANAGEMENT

TDM aims to reduce, redistribute or “better fit” the amount of demand to the available capacity. To achieve a better relationship between demand and capacity, TDM alternatives could include:

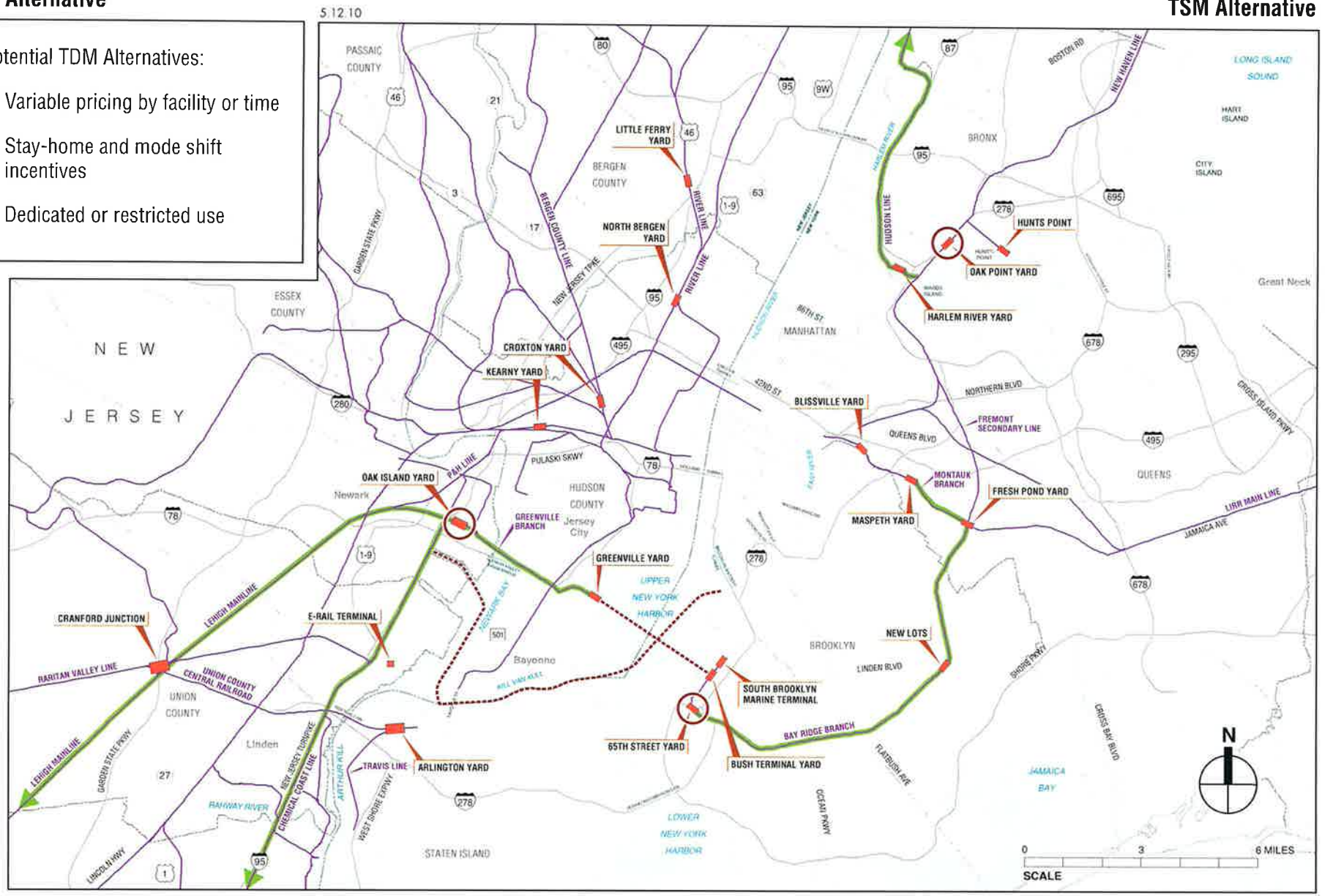
- Truck congestion pricing and improved tolling to optimize the magnitude of freight movement demand, its geographic distribution, and time-of-day distribution.

TDM Alternative

Potential TDM Alternatives:

- Variable pricing by facility or time
- Stay-home and mode shift incentives
- Dedicated or restricted use

TSM Alternative



Freight Rail Line
Potential Railroad Improvement
Potential Float Improvement
Potential Rail Yard Improvement

FIGURE 4

Management Alternatives – TSM and TDM

CROSS HARBOR FREIGHT PROGRAM

- Passenger vehicle congestion pricing and improved tolling, to move cars "out of the way" of trucks.
- Other fees, regulations, or policies affecting transportation behavior and choices.

BUILD ALTERNATIVES

As mentioned above, complete descriptions of the Build Alternatives will include the number, location, and size of required intermodal transfer facilities (i.e., float and ferry landings and rail yards and/or terminals) to process the bulk and/or intermodal shipments that are conveyed across New York Harbor. Based on field reconnaissance, secondary source data review, and coordination with local railroad operators and planning agency representatives, a list of 20 locations have been identified for potential yards and terminals in the east-of-Hudson region (Bronx, Queens, Brooklyn, and Long Island). Some of the locations currently support freight rail yards but would require expansion to accommodate the Build Alternatives; other locations are currently accessible by rail but would require the construction of a freight yard and supporting facilities. These 20 locations, which include 12 existing yards and 8 proposed sites, are shown on Figure 5 and summarized below.

BROOKLYN

- **Bush Terminal Yard** – a 6-acre facility located on the Brooklyn waterfront at First Avenue between 43rd and 51st Streets.
- **65th Street Yard** – a 33-acre facility located on the Brooklyn waterfront between 65th and 63rd Streets.
- **South Brooklyn Marine Terminal** – located on the Brooklyn waterfront between 29th and 39th Streets.
- **New Lots** – an approximately 30-acre facility along, and connected to, the Long Island Rail Road (LIRR) Bay Ridge Branch, on Foster Avenue between East 83rd and East 87th Streets.

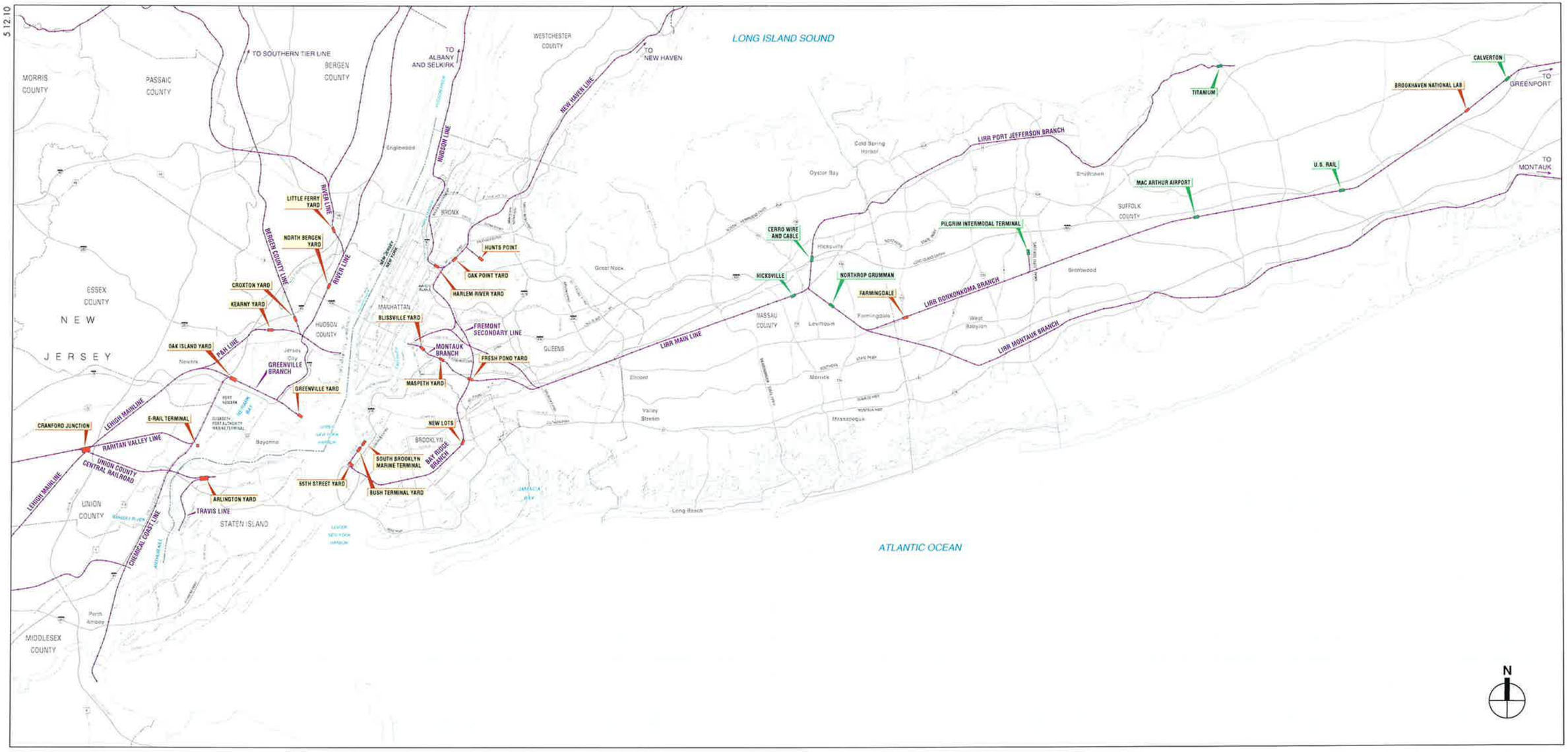
QUEENS

- **Maspeth Yard and Phelps Dodge/West Maspeth** – Maspeth Yard is located adjacent to the Montauk Branch LIRR tracks. The yard runs along Rust Street near its intersection with Maspeth Avenue. The 37-acre Phelps Dodge site is located to the west of Maspeth Yard.
- **Blissville Yard** – located adjacent to the Montauk Branch LIRR tracks, and approximately one mile from Yard A in Sunnyside.
- **Fresh Pond Yard** – Fresh Pond Yard and Junction are located in Glendale, Queens, at the intersection of the LIRR's Montauk Branch and the Conrail freight tracks, approximately three miles east of Maspeth Yard. The 20-acre Fresh Pond Yard consists of a west yard and an east yard, divided by the Conrail Bridge.

BRONX

- **Harlem River Yard** – located at 132nd Street in the South Bronx.
- **Oak Point Yard** – located in the South Bronx, along the East River waterfront.
- **Hunts Point** – located in the South Bronx, along the East River waterfront.

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Freight Rail Line

Existing Freight Facility Location

Potential Freight Facility Location

FIGURE 5

Existing and Potential Regional Rail Freight Facilities

CROSS HARBOR FREIGHT PROGRAM

LONG ISLAND

- **Hicksville** – a 16-acre Post Office site, located off the LIRR Main Line in Hicksville, Nassau County.
- **Cerro Wire & Cable** – located between the Hicksville and Syosset Stations along the Port Jefferson Branch of the LIRR.
- **Northrop Grumman** – a 91.3 acre property, located near the LIRR Main Line, in Bethpage, Nassau.
- **Farmingdale** – an approximately 12-acre site, located on the LIRR Main Line, in the vicinity of the former Republic Station.
- **Pilgrim** – The Pilgrim Hospital site is located approximately one mile north of the LIRR right-of-way, about ½ mile east of the Deer Park LIRR Station, in the Town of Brentwood, Suffolk County, on the Main Line/Ronkonkoma Branch.
- **MacArthur Airport** – located just south of the LIRR Main Line in Ronkonkoma.
- **Titanium Site at Port Jefferson** – known as the Lawrence Aviation Industries (LAI) site, located in the Town of Brookhaven, in Suffolk County. This site is close to the LIRR Port Jefferson Branch and Port Jefferson Station.
- **US Rail's Brookhaven Rail Terminal (BRT) at Yaphank** – The 28-acre site is bounded by I-495 to the north, County Road 101 to the west, the Long Island Rail Road to the south, and a utility easement and a vacant parcel to the east. There are two other sites at this location: one site called Yaphank West, on the Main Line/Ronkonkoma Branch in Yaphank, and located on undeveloped land west of the existing Yaphank Station; and a second site, called Yaphank East, occupies the eastern portion of the Suffolk Country Department of Public Works facility and part of a privately owned tree farm.
- **Brookhaven National Laboratory** – a site bounded by William Floyd Parkway to the west, the Long Island Expressway and LIRR to the south, Peconic River Park to the east, and Brookhaven State Park to the north.
- **Calverton** – an approximately 50-acre site, located along a railroad siding near the LIRR Main Line, owned by the Town of Riverhead.

FLOAT AND FERRY ALTERNATIVES

Both float and ferry alternatives describe the movement of freight, by water, across New York Harbor. The main difference is that ferry service also carries the truck driver who stays with for the truck for the duration of the trip. Alternatives involving these modes could include:

- **Expanded Railcar Float System.** The existing railcar float system operates between Greenville Yard in Jersey City and Bush Terminal Yard at 51st Street in Brooklyn. Alternatives for an expanded railcar float operation would include expanding this existing service, as well as offering new service routes to and from 65th Street in Brooklyn, South Brooklyn Marine Terminal, Long Island City in Queens, Oak Point Yard or Hunts Point in the Bronx, or other sites. This alternative might also involve operation of new vessel types. The current railcar float system pushes railcars onto a specially designed deck barge (with rail tracks), which is towed across the harbor by a tug boat; however, larger, faster, self-powered rail-carrying vessels could be employed.

- **Expanded Container Float System.** Containers on barges are currently moved across New York Harbor between Red Hook and Port Newark. Alternatives for an expanded container float operation would include a similar system provided at other marine cargo terminals. System expansion could provide an alternative for international container traffic arriving on one side of the harbor to move to the other side without involving truck transport; however, these moves represent a very small share of the total cross harbor freight movement.
- **Truck Float System**. This alternative could move truck trailers or integrated "single unit" trucks across the harbor, without their drivers. Only one example of this type of service operates in North America, between Detroit, Michigan and Windsor, Ontario. It is an "on demand" service typically chartered for shipments requiring special handling (e.g., oversize/overweight). Trucks are driven onto a simple deck barge and towed by a tug boat. As with railcar floats, larger and faster self-powered vessels are available. This type of system requires the coordination of two different drivers, one on each end of the trip, and reduces the total amount of driver hours devoted to the move, since some of the mileage is traversed without any driver "on the clock."
- **Truck Ferry.** This traditional vehicle ferry service involves a truck that is driven onto a ferry boat and both the truck and driver are carried across the water body. The advantage of this mode is that it does not require the coordination of two drivers. The disadvantage is that the driver remains "on the clock," and unless ferry transit times can meet or beat the highway times, a net loss to the driver is experienced, and, therefore, it is unlikely that such service would be used. Truck ferries are most attractive in cases where they provide a "shortcut" between two points that would otherwise require a circuitous route, such as the ferry between Bridgeport, Connecticut and Port Jefferson, New York.

  Potential float and/or ferry service routes across New York Harbor are shown in Figure 6.

RAIL TUNNEL ALTERNATIVES

Previous studies conducted for the project, including the 2000 MIS and the 2004 DEIS, evaluated various alignments for a rail tunnel spanning New York Harbor. The 2004 DEIS selected a preferred alignment, spanning from Greenville Yard in Jersey City, New Jersey to the 65th Street Yard in Brooklyn (see Figure 7). The Tier I EIS will revisit this preferred alignment to confirm that all current socioeconomic and environmental factors have been considered.

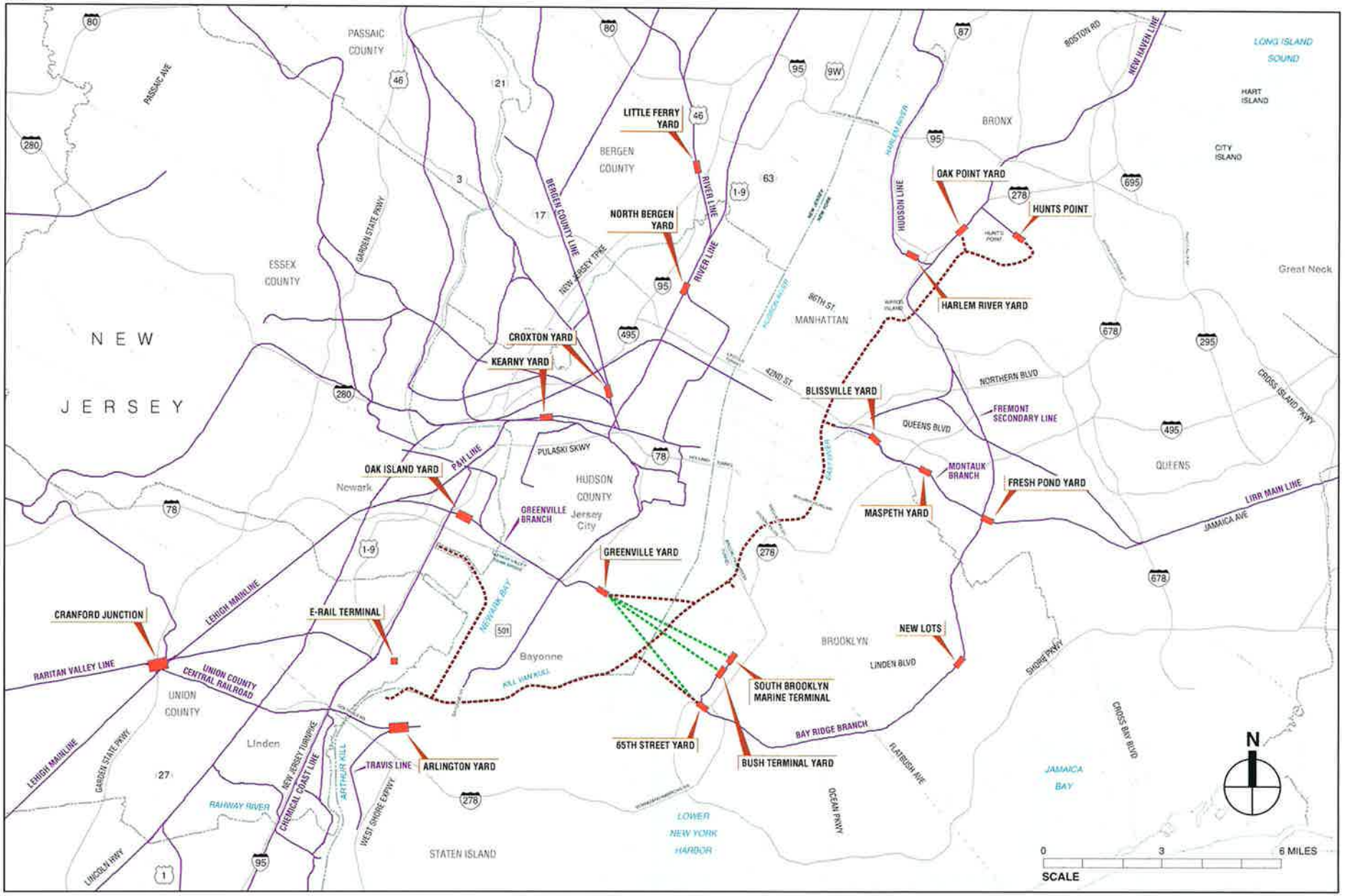
All the rail tunnel alternatives for the Tier I EIS will assume the Greenville Yard to Brooklyn 65th Street Yard alignment. The rail tunnel alternatives consider different options for both construction and operation, which are described below. By considering various potential construction options (i.e., single track versus double track; single stack clearance versus double stack clearance) and uses (i.e., a rail-only tunnel versus a rail/vehicle tunnel), the proposed set of rail tunnel alternatives take into account the capital and operational costs and extensive regulatory coordination and approvals required for building and operating a rail tunnel in New York Harbor.

Each rail tunnel alternative would require intermodal terminals and logistics support facilities. As discussed above, some existing freight facilities may have to be expanded to accommodate increased freight traffic and other new facilities may need to be constructed.

Rail Tunnel

As mentioned above, the rail tunnel alternatives would generally accommodate rail equipment within a tunnel below the Hudson River, running from New Jersey to Brooklyn. The rail tunnel

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Freight Rail Line

Greenville Yard Hub Services

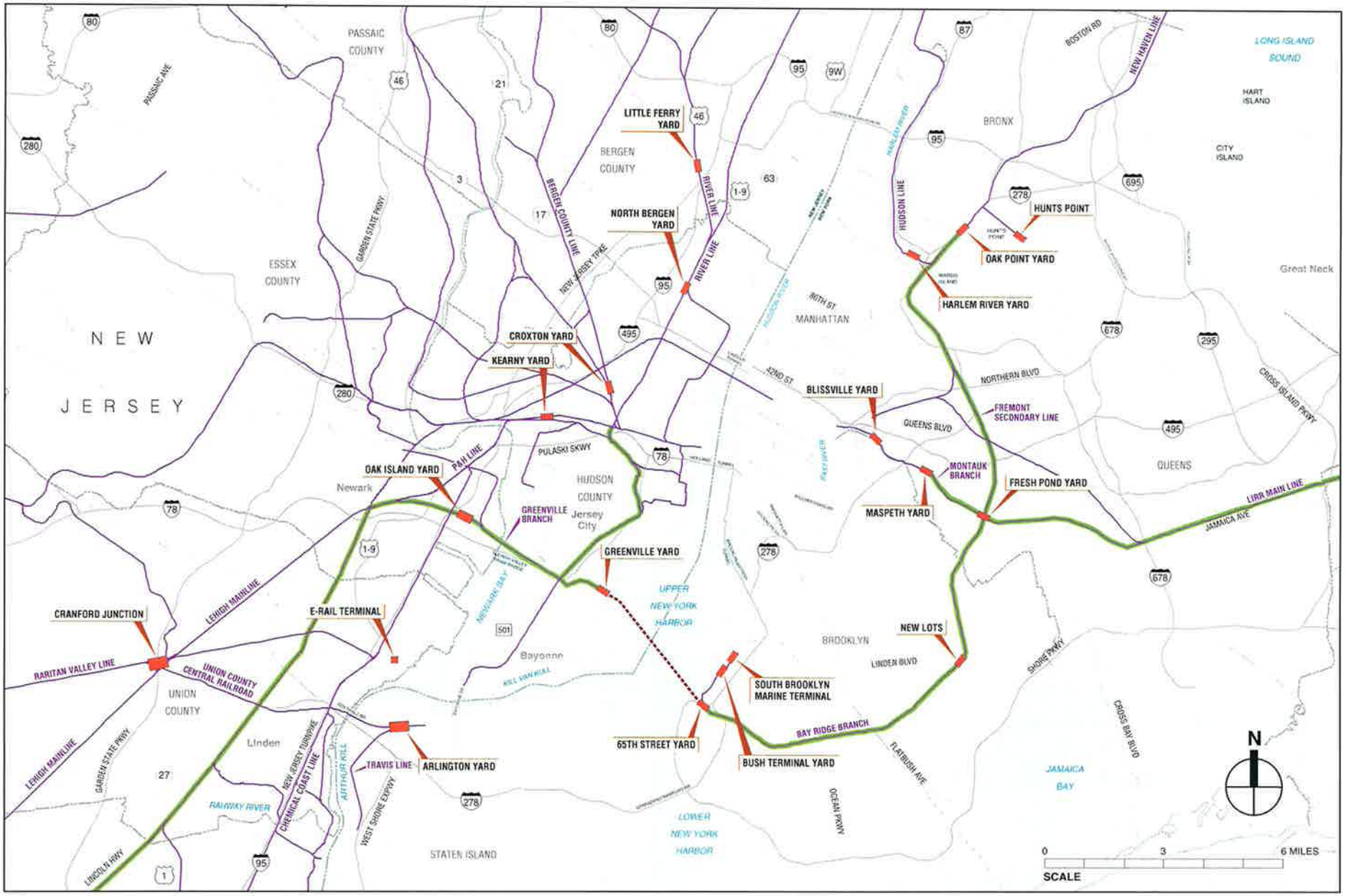
Harbor-Wide Intermodal Services

FIGURE 6

Expanded Railcar Float and Truck Float/ Ferry Alternatives — Potential Routes

CROSS HARBOR FREIGHT PROGRAM

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Freight Rail Line

Potential Rail Tunnel Alignment

Potential Railroad Improvements Required for Tunnel Alignments

FIGURE 7

Rail Tunnel Alternatives

CROSS HARBOR FREIGHT PROGRAM

alternatives vary with respect to dimensions, the number of tracks provided, and the types of railcar equipment and services accommodated:

- **Rail tunnel with single versus double track.** A two track tunnel would provide more flexibility in scheduling rail traffic, and would provide additional capacity to the system in case of emergency. With a double track tunnel, the design could comprise a single underwater tube or two separate tubes. The difference in construction is not important from a market demand or service standpoint, but may be important from engineering, safety, and cost perspectives.
- **Rail tunnel with single versus double stack clearance.** A double stack clearance rail tunnel would accommodate railcars carrying two stacked intermodal containers. Double stack containers require additional clearance (a total height of 20 feet, 6 inches) which increases tunnel construction costs.
- **Rail tunnel with "Open Technology" equipment and service.** "Open technology" describes a specialized type of rail equipment that allows trucks, truck chassis, and truck trailers to be driven onto and off of railcars, rather than being lifted on and off of railcars as in traditional intermodal services. This change in loading technology allows more types of trucks and trailers to be handled on rail. Open technology requires specially designed rail terminals at both ends of the rail trip, and may also require upgrading tracks.
- **Rail tunnel with roll-on/roll-off vehicle trains.** The Chunnel in Europe is a good example of this type of tunnel. For the vehicle trains, trucks and cars are driven onto the railcars at one end, vehicles and drivers are carried through the Chunnel, and trucks and cars drive off at the other end. The tunnel operates similarly to a ferry boat, except in a tube. This alternative might be attractive compared to a rail tunnel with emergency vehicle or scheduled truck access.

Rail/Vehicle Tunnel

Any of the rail tunnel alternatives described above could also be modified to accommodate non-rail traffic. The degree of design and operational modification required, and the corresponding impacts on performance, engineering, safety, and cost, will depend on the specific alternative. Generally, three types of rail/vehicle tunnel alternatives, combining rail and non-rail traffic in a tunnel, would be studied in the Tier I EIS:

- **Rail tunnel with access for emergency vehicles.** The tunnel floor would be designed to allow passage by rubber-tired vehicles during emergency conditions, during which time rail traffic would be prohibited. Such a design might accommodate evacuations or other emergency response activities. The design of the rail bed, ventilation systems, and vehicle access at each end of the tunnel could be significantly different than with an all-rail tunnel.
- **Rail tunnel with scheduled truck access.** This alternative may be similar to Alaska's Whittier Tunnel, in which a one-track/one-lane tunnel is shared by vehicles and trains (see Figure 8). Each hour of the day is divided among access for eastbound vehicles, access for westbound vehicles, and access for trains. With higher levels of vehicle traffic than an emergency-use-only tunnel, the highway systems at each end would require considerably more attention relative to truck operations and capacity.
- **Rail tunnel with Automated-Guided-Vehicle service.** This alternative to scheduled truck access involves Automated Guided Vehicles (AGVs), which are self-guided power units that can carry loads or drag loads. Fleets of alternative-fuel AGVs could be used as truck cabs, hooking themselves to over-the-road truck chassis at designated transfer yards and dragging

the chassis through a tunnel to transfer yards on the other side. The system might be very attractive for truckers, since they could drop off and pick up their loads outside of congested core areas. The system also avoids double handling of the cargo, since the cargo does not have to be lifted onto or off of its chassis. Several hurdles would have to be overcome with this alternative such as designing and locating the transfer yards, siting required guideways between the tunnel portals and the transfer yards, the cost of AGV equipment, and the management and scheduling of AGV traffic with conventional rail traffic.

G. ALTERNATIVES EVALUATION PROCESS

Starting with the long list of alternatives, a series of evaluations will be undertaken to select a limited list of alternatives that will be carried forward for detailed evaluation in the Tier I EIS. The development and evaluation of project alternatives is central to the NEPA process. The alternatives selection process will consist of five major steps—scoping, fatal flaw analysis, screening analysis, detailed evaluation, and the Tier I EIS—that are intended to winnow the number of alternatives through a comprehensive evaluation process. The 5-step process consists of 19 separate tasks that are described in full in *Cross Harbor Freight Program Environmental Impact Statement Methodology.*

The following is an overview of the five major steps:

1. **Scoping** – Determines the project's goals and objectives, alternatives to be considered, and scope of issues to be examined in the Tier I EIS. Also refines the project purpose and need.
2. **Fatal Flaw Analysis** – Eliminates clearly infeasible alternatives from further consideration.
3. **Screening Analysis** – Reduces the range of reasonable alternatives that do not meet the goals and objectives based on freight demand forecasting, mode choice, and broad qualitative criteria.
4. **Detailed Evaluation** – Evaluates alternatives for potential regional and localized effects based on specific and more rigorous quantitative performance measures.
5. **Tier I EIS** – Documents and presents the results of the detailed evaluation, summarizes the process and results of Steps 1-4, and includes additional environmental analyses and compliance with environmental laws and regulations, as appropriate.

H. SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS

As discussed above, the analyses being performed during Tier I are mainly tailored to support corridor-level decision-making, to determine the mode, alignment, and termini of the proposed project. At the same time, an understanding and assessment of the local effects of the proposed alternatives is also required, since a complete description of any proposal requires a discussion of specific project elements that may result in adverse social and environmental effects on local communities.

The regional study area, as described above in Section E, "Project Study Areas," will include major interstate highways and many state and local routes that are important for local freight movement, major freight rail lines and facilities east and west of the Hudson River. The study areas for the evaluation of local impacts will depend greatly on the elements of each specific alternative and, to a lesser extent, on the environmental analysis in question. For Tier I of the

EIS, local study areas will be determined as appropriate before each analysis, for each potential project site, and may vary by alternative. In Tier I, mitigation measures would be presented as a range of options that would be available to avoid, minimize, or mitigate potential adverse impacts of the Build Alternatives. The analysis years for the assessment of these impacts will be determined during the scoping process.

TRANSPORTATION

The transportation analysis for the Tier I EIS will consider the impacts from the project alternatives on the regional freight transportation network and on specific local components of the network in the vicinity of project elements. Important elements of the regional highway network will be described in terms of Annual Average Daily Traffic (AADT) and peak traffic periods, and will include a characterization of vehicles utilizing these roadways. The proposed project would likely provide an overall regional benefit by enhancing the movement of freight between the west-of-Hudson and east-of-Hudson regions. On the local level, the project could result in impacts on specific elements of the regional transportation system, such as the introduction of capacity constraints on local roadways in the vicinity of existing or proposed freight yards.

The analysis will create a representation of the relevant national rail infrastructure and—by combining factors, such as the number of tracks, track quality, operating speeds, and signaling systems on each line—will describe the capacity of the existing rail network. The results of the demand estimation process (described in the *Cross Harbor Freight Program Environmental Impact Statement Methodology*) would serve as input to determine the volumes of traffic on each rail line or to each rail network element if each alternative would be implemented. A conceptual rail operations plan would be created for each alternative to evaluate the movement of freight on a network that includes the given alternative, and to assess whether each alternative can operate with acceptable operational impacts.

LAND USE, ZONING AND PUBLIC POLICY

This analysis for the Tier I EIS will include both a regional and a local examination of issues. On a regional basis, broad issues and trends will be discussed related to regional land use and, where appropriate, regional concentrations of industrial and commercial activity will be identified, since these areas may create additional demand for improved freight movement. The regional portion of the analysis will evaluate the project's compatibility with land use and development goals and regional public policy. The analysis will also include a general description of land use, zoning, and demographic characteristics in local study areas, where specific project elements may be located. The analysis will discuss the compatibility of project elements with existing land use, zoning, and neighborhood character, and whether project elements would significantly alter the character of local study areas or block access to area amenities. The analysis will discuss whether acquisition of property would be required for new or expanded project elements (such as rail yards), and the potential for direct displacement of residents and businesses. Potential impacts from the construction (short-term) and operation (long-term) of project elements will be described.

ECONOMIC CONDITIONS AND DISPLACEMENT

This analysis will focus on evaluating the direct, indirect, and induced effects of the project alternatives on the economic activity in the regional study area. The project stakeholders—asset

providers, service providers, end users, and other parties that may be affected by the proposed project—will be introduced, along with the manner in which they may be affected. It is expected that on the regional basis, the project's potential impacts may be grouped into three categories: transportation-related benefits (which include congestion relief and increased highway performance), shipper cost savings, and business attraction and retention.

The project may also attract local economic development along the alignments of each alternative and in the vicinity of project elements, such as yards and float facilities. Localized adverse economic impacts may also occur from displacement and relocation of businesses due to construction or expansion of project elements. The analysis will be performed in conjunction with the land use, zoning, and public policy analyses. The regional and local study areas for the economic conditions analysis will be the same as the land use study areas.

CULTURAL RESOURCES

The archaeological and historic resources analysis will be conducted in accordance with Section 106 of the National Historic Preservation Act (NHPA), Section 4(f) of the United States Department of Transportation Act, the New York State Historic Preservation Act of 1980 (SHPA), and the New Jersey Register of Historic Places Act of 1970 (NJSA). Areas of potential effect (APEs) will be delineated in consultation with the New York State Historic Preservation Officer (NYSHPO) and the New Jersey Historic Preservation Officer (NJHPO). It is expected that different APEs will be established for archaeological and historic resources, with the archaeological APE focusing on areas of potential physical disturbance and the historic resources APE including areas where visual and indirect impacts may occur. The analysis will compile an inventory of archeological and historic resources in the project APEs and assess the potential for the project alternatives to impact these inventoried archeological and historic resources.

VISUAL RESOURCES

The visual resources analysis will assess the potential effects of the Tier I alternatives on the visual character and aesthetic conditions of the study area. It will be prepared in accordance with the guidelines for visual analyses contained in federal documents prepared by FHWA, including *Guidance for Preparing and Processing Environmental and 4(f) Documents* (1987), *Environmental Impact Statement Visual Impact Discussion* (undated), and *Guidance Material on the Preparation of Visual Impact Assessments* (1986), which is the standard U.S. Department of Transportation (USDOT) methodology for assessing potential impacts on visual and aesthetic resources. The assessments will be based on the degree of change anticipated in the characteristics of the visual environment, and whether changes would affect visual quality or specific visual resources.

AIR QUALITY

This chapter of the Tier I EIS will assess potential regional (mesoscale) effects and potential local effects from the proposed project on ambient air quality. The proposed project is expected to provide regional air quality benefits by shifting freight movement from truck to the more efficient and underutilized rail, thereby potentially reducing future truck VMT and congestion on study area roadways. The various project alternatives will generate emissions primarily from non-road sources, such as diesel-powered freight locomotives, marine engines, and/or new or expanded intermodal facility activities. Some local increases in emissions from trucks on

roadways or diesel-powered rail locomotives in the vicinity of proposed yards may also occur. The analysis will determine pollutants of concern and then consider potential regional (mesoscale) effects on air quality to determine the proposed project's effect on air quality in the defined airshed. The analysis will also determine the project's conformity with the New York and New Jersey State Implementation Plans (SIPs), as required by the Clean Air Act and amendments. Transportation conformity determinations are required for the approval, funding, or implementation of any FHWA project. The Cross Harbor Freight Program's current status, relative to the Transportation Improvement Programs (TIPs) and Regional Transportation Programs (RTPs) in New York and New Jersey, will also be documented.

ENERGY AND GREENHOUSE GASES

The Tier I EIS will analyze potential impacts from the construction and operation of the project alternatives on greenhouse gas emissions and energy consumption in the regional study area. The proposed project aims to enhance the movement of freight through the region and, as a result, may shift some freight movement from trucks to rail, a more energy-efficient mode of transportation. This shift may also contribute to a reduction in roadway congestion and associated greenhouse gas emissions. The analysis will identify the state and federal energy policies and greenhouse gas emission reduction goals relevant to the project and the project's consistency with these policies.

NOISE AND VIBRATION

The Tier I EIS will analyze the project's potential to generate noise and vibration impacts due to increased rail activity along rail freight routes, activity at rail yards (such as loading and classification of freight, truck activity, equipment operation, and truck and employee vehicular trips on local streets), tunnel ventilation equipment, and construction activities. The Noise and Vibration analysis will consist of a screening-level assessment for potential impacts in the vicinity of project elements. The analysis will generally follow the FTA guidance manual, *Transit Noise and Vibration Impact Assessment* (May 2006), particularly as it relates to rail yards and lines. The analysis will consider potential noise impacts from rail freight and vehicular sources (such as rail yards), and also potential vibration and ground-borne noise impacts from construction and operation of project alternatives.

NATURAL RESOURCES

Natural resource issues associated with project alternatives would be limited to local effects on aquatic and terrestrial resources from construction and operation. Through the use of New York State and New Jersey Geographical Information Systems (GIS) resources and a review of literature compiled by relevant federal, state, and local agencies, existing natural resources within each local study area will be identified. These resources may include aquatic biota, terrestrial biota, threatened or endangered species (and their associated habitats, such as wetlands), as well as other resources of special concern, such as essential fish habitat. The analysis will determine potential short- and long-term impacts on these resources, with emphasis on potential impacts on sensitive resources or other resources of special concern.

WATER RESOURCES

The Tier I EIS will analyze the potential effects to water quality from dredging and other in-water activities that may be required for the construction of the tunnel and float alternatives. The

chapter will also assess impacts on resources located within the 100-year floodplain from the construction and operation of the project, as well as any proposed stream or river crossings. The study area for water quality will be the same as that developed for aquatic resources, and is expected to focus on Upper New York Harbor.

CONTAMINATED AND HAZARDOUS MATERIALS

This analysis of the Tier I EIS will discuss the potential to encounter contaminated soil and groundwater during construction of project elements, especially those elements that would require excavation, transport, and disposal of contaminated soil. The project alternatives will focus on utilizing areas with previous maritime, industrial, or transportation uses, such as existing railroad rights-of-way, which may have been contaminated by past or current uses. The analysis will be limited to the local study areas in the vicinity of project elements.

INDIRECT AND CUMULATIVE EFFECTS

This chapter of the Tier I EIS will evaluate indirect and cumulative effects of the project as required under NEPA. Indirect effects are "caused by an action and are later in time or farther removed in distance but are still reasonably foreseeable" (40 CFR 1508.8), and are generally induced directly or indirectly by the proposed project. Cumulative impacts result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions (40 CFR 1508.7). Cumulative effects of an action may be undetectable when viewed in an individual context but, when added to other actions, could eventually lead to a measurable environmental change.

ENVIRONMENTAL JUSTICE

Executive Order 12898 requires federal agencies to consider whether actions they might fund or approve may have any disproportionately high human health or environmental effects on communities containing low-income or minority populations. The Tier I EIS will consider both short-term and long-term impacts and their potential risk to such communities.

COASTAL ZONE MANAGEMENT

Each project alternative will be reviewed for consistency with the Coastal Zone Management programs of New York (administered by NYSDOS) and New Jersey (administered by NJDEP), as well as New York City local waterfront revitalization program policies, which are administered by NYCDCP.

SECTION 4(f) EVALUATION

Section 4(f) of the USDOT Act (49 U.S.C. Section 303(c)) of 1969, as amended, compels the Secretary of USDOT to cooperate with other federal departments and states in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. It states that the Secretary of USDOT shall not approve any program or project that requires the "use" of any land from a public park, recreation area, wildlife and waterfowl refuge, or historic site, unless there is no feasible and prudent alternative, and such project or program includes all possible planning to minimize harm. The analysis will identify historic and archaeological resources, public parks, recreation areas, and wildlife and waterfowl refuges that may be affected by construction of project elements. The analysis will determine potential impacts or "use" of resources from construction of project elements. "Use"

may be direct (i.e., direct impact, disturbance, or demolition) or indirect (effects on context, setting, or access, which is known as a "constructive" use).

A full section 4(f) analysis, including an examination of avoidance alternatives, would be conducted in the Tier II EIS.

I. REVIEW PROCESS

Following the scoping process, a Tier I DEIS will be completed, and made available for public and agency review and comment. Public hearings will be held on the Tier I DEIS, and a minimum of 45 days will be established for interested parties to formally submit comments. A Tier I Final EIS (FEIS) will be prepared on the basis of these comments. The co-lead agencies will issue a Tier I Record of Decision (ROD) to select a Preferred Alternative(s).

SAFETEA-LU COORDINATION

The EIS will also address the provisions of Section 6002 of Public Law 104-59, "The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU)." SAFETEA–LU provisions and NEPA regulations, in general, call for public involvement in the EIS process. Section 6002 of SAFETEA–LU requires that agencies: (1) extend an invitation to other Federal and non-Federal agencies and Indian tribes that may have an interest in the proposed project to become "participating agencies"; (2) provide an opportunity for involvement by participating agencies and the public in helping to define the purpose and need for the proposed project, as well as the range of alternatives for consideration in the impact statement; and (3) establish a plan for coordinating public and agency participation in and comments on the Scoping Document. Letters were sent to those agencies with a fiduciary, regulatory, or permitting authority over the freight program as an invitation to be part of the coordination process.

A SAFETEA–LU Coordination Plan has been developed to facilitate and document the lead agencies' structured interaction with the public and other agencies, and to inform the public and other agencies of the manner in which the coordination will be accomplished. The plan includes: the plan purpose; project history; a list of lead, cooperating, and participating agencies and their responsibilities to the project; agency contact information; coordination points; and the project schedule.

PUBLIC PARTICIPATION

FHWA and PANYNJ invite the public to participate throughout the environmental review process for the Cross Harbor Freight Program. To this end, several forums have been or will be established to communicate information and to elicit public comments.

WEBSITE

The project's website contains project information, published documents, public meeting notes, and contact information. The website also serves to keep the public notified of upcoming public meetings. It is the primary resource for public information about the project, as well as for contacting the project. The website address is: http://www.crossharborstudy.com

E-NEWSLETTERS

FHWA and PANYNJ plan to distribute electronic newsletters ("E-newsletters") throughout the NEPA process. The E-newsletters will communicate project status, progress, and other pertinent issues. Persons interested in receiving project E-newsletters must provide contact information via the website, public meetings, or written request at the address noted above.

PUBLIC MEETINGS

Public meetings will be held during the scoping process and after the publication of the DEIS. As noted above, the scoping meetings will be held:

- Bronx, Tuesday, September 28: Bronx Borough Hall
- Newark, New Jersey, Thursday, October 7: NJTPA
- Jersey City, New Jersey, Thursday, October 7: City Hall
- Brooklyn, Tuesday, October 12: Brooklyn Borough Hall
- Queens, Wednesday, October 13: Queens Borough Hall

A notice for the public hearings on the DEIS will be published with the Notice of Availability in the Federal Register. Advertisements will appear in local publications and on the project website.

PROJECT SCHEDULE

A preliminary schedule for key milestone dates in the environmental review process is presented below. The schedule is subject to change as the project progresses.

Preliminary Schedule

Activity	Estimated Date
Publication of Notice of Intent	May 13, 2010
Publication of Draft Scoping Document; Beginning of public comment period	September 14, 2010
Public Scoping Meetings	September 28 – October 13, 2010
Close of public comment period	October 29, 2010
Publish Tier I Draft EIS; Beginning of public comment period	Summer, 2011
Close of public comment period on Tier I DEIS	Fall, 2011
Response to comments on Tier I DEIS; Completion of Tier I Final EIS	Spring 2012
Anticipated Record of Decision	Summer, 2012

APPENDICES:

Appendix A: No Action Alternative Projects.

Appendix A: No Action Alternative Projects

The No Action Alternative includes projects that are currently programmed, planned, or reasonably expected for the study area, independent of the Cross Harbor Freight Program.

NO ACTION ALTERNATIVE – RAILROAD PROJECTS IN NEW JERSEY

(see Figure A-1)

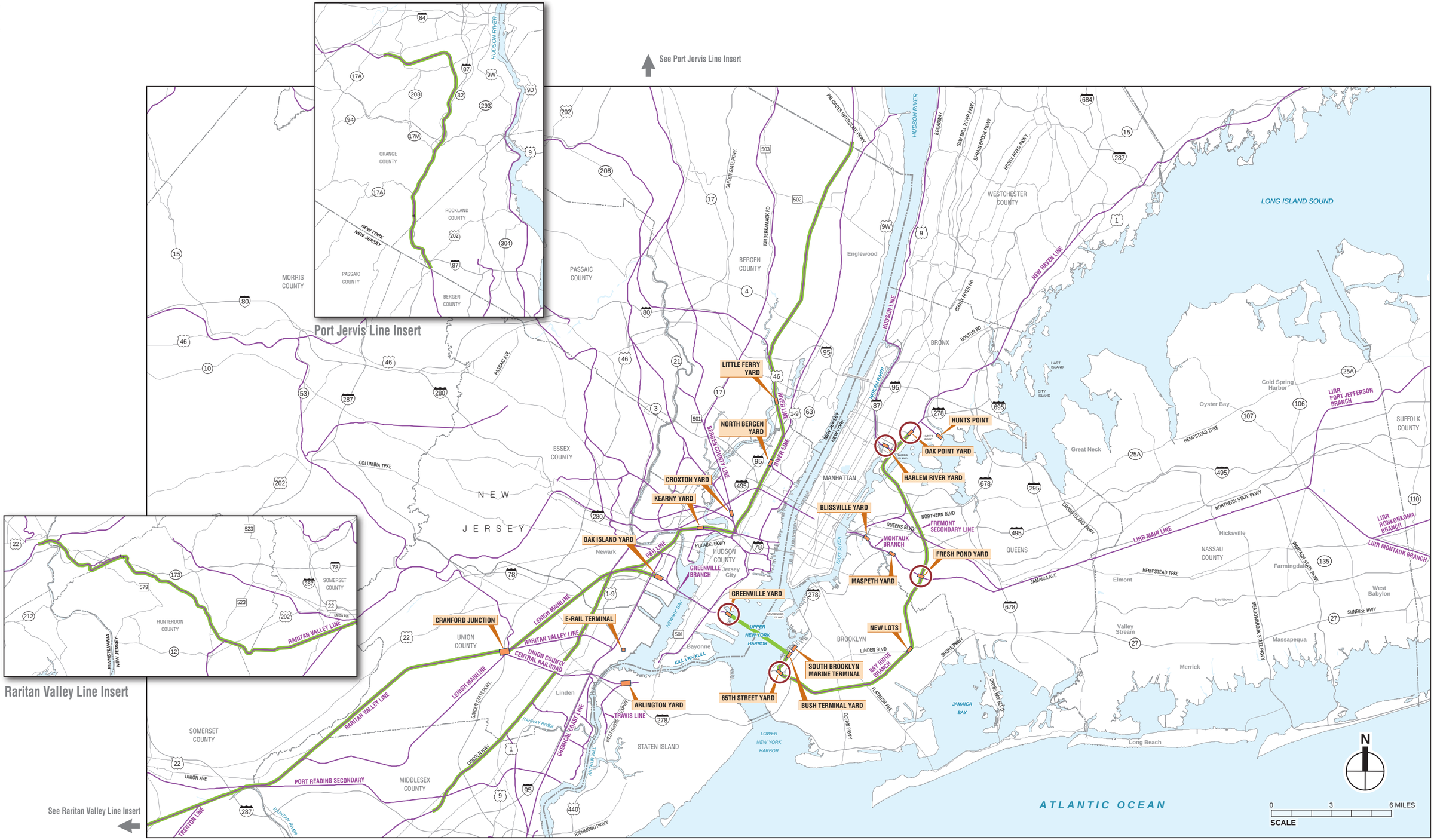
- Double track route from NY border/Northvale, NJ to Phillipsburg, NJ, including the following component projects (North Jersey Transportation Authority [NJTPA] interview):
  - Double track Northern Branch and River Line between NY border and North Bergen.
  - Second Mainline Track on Consolidated Rail Company (Conrail) from North Bergen Intermodal Terminal to South Kearny Intermodal Terminal via Marion Junction.
  - Second track along the Passaic & Harsimus Line at South Kearny Yard.
  - Install TCS signaling on Passaic & Harsimus Line in Kearny and Newark (between CP Plank and Stock).
  - NJ TRANSIT Raritan Valley Line – Construct third track between Hunter interlocking Aldene Connection in Roselle Park. Construct flyover between Raritan Valley Line and P&H Line, over the Northeast Corridor Line, at Hunter (NJTPA interview).
- Raising clearances of tunnels on National Docks Railroad, part of Liberty Corridor initiative (Port Authority of New York and New Jersey [PANYNJ] interview).
- Northeast Corridor improvements
  - Signal, track straightening, and bridge improvements for high speed passenger service (Amtrak).
  - Establish 286K capability between Metuchen and Oak Island Yard (NJTPA interview).
- NJ TRANSIT Port Jervis Line improvements (NJTPA interview).
- PANYNJ Greenville Yard Master Plan – Global Terminal expansion; marine container terminal and new Express Rail link for connection to National Docks Railroad (PANYNJ interview).
- PANYNJ Port Newark and Port Elizabeth rail capacity improvements (PANYNJ interview).

NO ACTION ALTERNATIVE – RAILROAD PROJECTS IN NEW YORK

(see Figure A-1)

- 65th Street Rail Yard improvements (PANYNJ interview).
- First Avenue Line track curvature improvements (PANYNJ interview).
- Bay Ridge Branch rail line – tracks (for storage) and signals improvements (NYMTC interview).

5.12.10



Freight Rail Line

No Action Railroad Projects

Potential Rail Yard Improvement

FIGURE A-1

No Action Alternative – Railroad Projects

CROSS HARBOR FREIGHT PROGRAM

- New track connections between the Bay Ridge Branch and Montauk Branch (NYMTC interview).
- CSX (Fremont Secondary) tracks over Fresh Pond rail interchange (NYMTC interview).
- Extended siding on the Fremont Secondary Line (NYMTC interview).
- Lower Montauk Branch rail line – track and signals improvements (NYMTC interview).
- Oak Point Yard (Bronx) expansion (track additions and reconfiguration, increased clearances, and possible land acquisition) (NYMTC interview).
- Second intermodal track at Harlem River Yard (NYMTC interview).
- LIRR Mainline additional third track (NYMTC interview).

NO ACTION ALTERNATIVE – HIGHWAY AND BRIDGE PROJECTS IN NEW JERSEY

(see Figure A-2)

- I-278, Goethals Bridge: 1 additional lane in each direction (NJTPA RTM-E).
- NJ Turnpike: expansion to 6 lanes in each direction between Exit 10 and Exit 6 (NJTPA RTM-E).
- Garden State Parkway: 1 additional lane between Exits 63 and 69 (NJTPA RTM-E).
- US 1: 1 additional lane in each direction between Middlesex CR 682 and College Road (NJTPA RTM-E).
- US 1/9: 2 additional lanes in area around Tonnele Circle (NJTPA RTM-E).
- US 9: 1 additional lane in vicinity of Craig Road intersection in Freehold (NJTPA RTM-E).
- US 9: 1 additional lane between Indian Head Road and Ocean CR 528 (NJTPA RTM-E).
- US 46: 1 additional lane between Horseneck Road and Fairfield Road in Fairfield (NJTPA RTM-E).
- US 46: 1 additional lane between Passaic Avenue in Fairfield and NJ 23 in Wayne (NJTPA RTM-E).
- US 202: 2 additional lanes between Flemington Circle and Copper Hill (NJTPA RTM-E).
- US 202: 1 additional lane in vicinity of NJ 10 (NJTPA RTM-E).
- US 206: 1 additional lane between Belle Mead-Griggstown Road and Brooks Boulevard in Hillsborough (NJTPA RTM-E).
- NJ 3: 1 additional lane between NJ 17 in Rutherford and Passaic Street in Clifton (NJTPA RTM-E).
- NJ 7: one additional lane in each direction near Whitpenn Bridge and Charlotte Circle vicinity (NJTPA RTM-E).
- NJ 17: One additional lane in each direction between I-80 and NJ 4 (NJTPA RTM-E).
- NJ 17: One additional lane between I-80 and Williams Avenue in Hasbrouck Heights (NJTPA RTM-E).
- NJ 27: Reduction of one lane between Bennets Lane and Somerset Street in New Brunswick (NJTPA RTM-E).

5.12.10

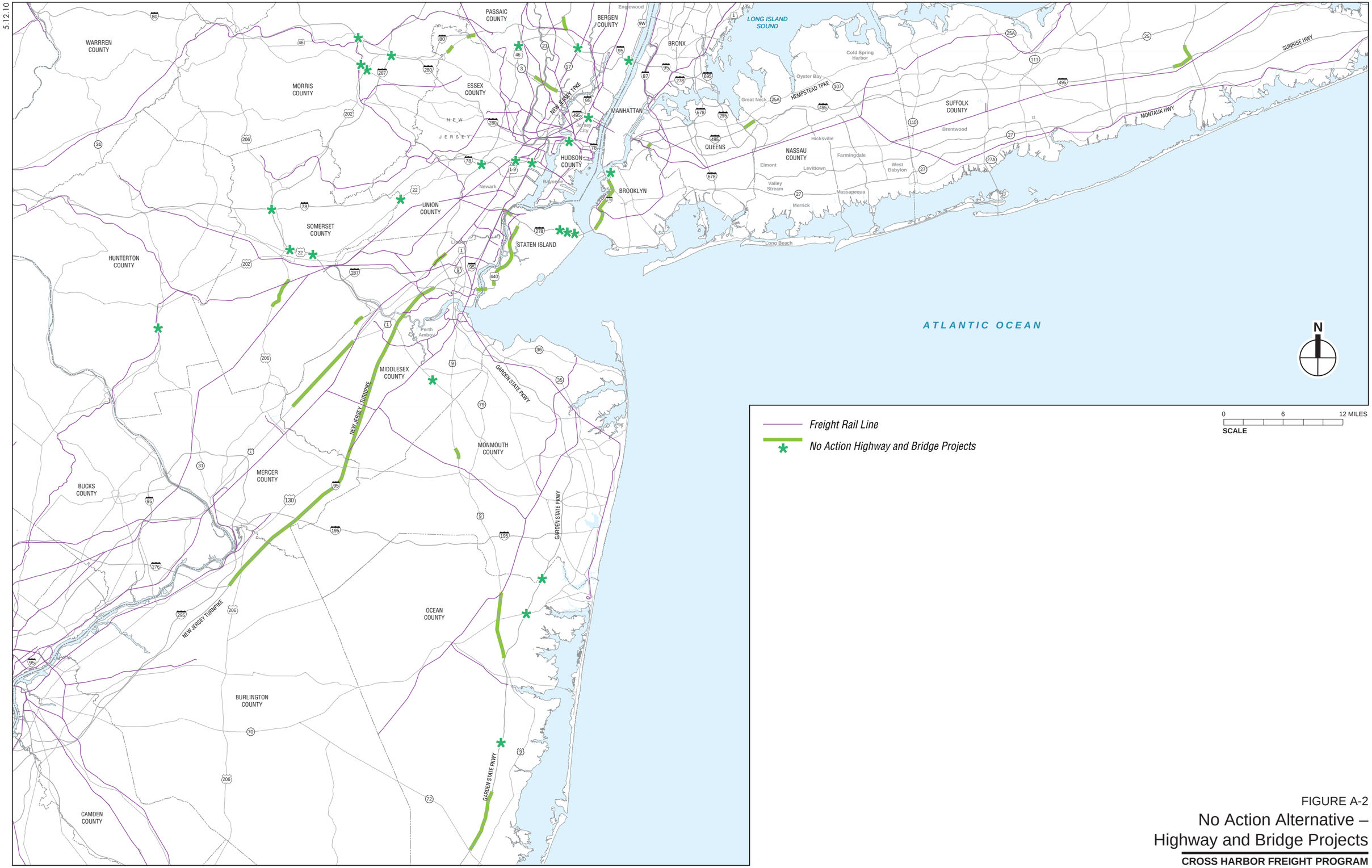


FIGURE A-2

No Action Alternative – Highway and Bridge Projects

CROSS HARBOR FREIGHT PROGRAM

- NJ 27: 2 additional lanes for ½ mile south from GSP, one additional lane for .8 mile north of GSP (NJTPA RTM-E).
- NJ 440: Additional ramp lane at Outerbridge Crossing (NJTPA RTM-E).
- Interchange/Intersection improvements (NJTPA RTM-E):
  - I-287 at I-78
  - I-287 at I-80
  - I-287 at US 22
  - I-80 at US 46/NJ 23
  - I-78 at GSP
  - I-78 at NJ 21
  - I-95 NB to PIP NB ramp
  - GSP at Exit 74
  - GSP at Exit 88
  - GSP at Exit 91
  - US 22 at North Bridge Street in Somerville
  - US 22 at Park Avenue in Scotch Plains
  - US 46 at NJ 3 in Clifton
  - NJ 10 at NJ 53
  - NJ 18 at CR 527 in Old Bridge

NO ACTION ALTERNATIVE – HIGHWAY AND BRIDGE PROJECTS IN NEW YORK

(see Figure A-2)

- West Shore Expressway – widening by two lanes in each direction (NYMTC BPM).
- Staten Island Expressway – widening by one lane on ramps at Clove Road, Richmond Road, and Hylan Boulevard (NYMTC BPM).
- Gowanus Expressway/Brooklyn-Queens Expressway – conversion of one existing lane to HOV lane from the Verrazano-Narrows Bridge to the Brooklyn Battery Tunnel (NYMTC BPM).
- Brooklyn-Queens Expressway – widening by two lanes north bound and one lane southbound over Newtown Creek to the Long Island Expressway (NYMTC BPM).
- Long Island Expressway – widening by one lane in each direction east of Cross Island Parkway to Little Neck Parkway (NYMTC BPM).
- Long Island Expressway and William Floyd Parkway – increased capacity in the vicinity of Yaphank (NYMTC BPM).
- Columbia Street (Brooklyn) – widening by two lanes between Atlantic Avenue and Kane Street (NYMTC BPM).

NO ACTION ALTERNATIVE – AIRPORT PROJECTS

- New JetBlue terminal roads and garages at JFK.
- New American Airlines terminal parking garage at JFK.

- Terminal B modernization at EWR.
- EWR Terminal A modernization, expansion, and structural parking.
- Terminal and roadway improvements at all airports.
- LGA Central Terminal Building (CTB) modernization.
- Ferry to LGA (landings).
- Lower Manhattan rail link to JFK.

NO ACTION ALTERNATIVE – SEAPORT PROJECTS

- Dredging harbor to 50'.
- Rapid expansion of ExpressRail.
- Howland Hook Marine Terminal Berth Four – a 38-acre expansion of an existing container terminal on Staten Island.
- South Brooklyn Marine Terminal – a 74-acre modernization project, which includes the auto terminal, a breakbulk cargo facility, and Sims recycling facility.

✷

The Cross Harbor Freight Program Draft Scoping Document, Environmental Impact Statement (EIS) Methodology, and Needs Assessment were issued concurrently on September 15, 2010, which initiated the public scoping process. Five public scoping information sessions were held by the Port Authority of New York and New Jersey (PANYNJ) on October 5, 2010 at Bronx Borough Hall; October 7, 2010 at the North Jersey Transportation Authority (NJTPA) in Newark, New Jersey; October 7, 2010 at City Hall in Jersey City, New Jersey; October 12, 2010 at Brooklyn Borough Hall; and October 13, 2010 at Queens Borough Hall. Written comments on all three documents were received until November 15, 2010.

The following presents a summary of the comments on the Draft Scoping Document, EIS Methodology, and Needs Assessment. Section A lists alphabetically the elected officials, community boards, organizations, and individuals commenting on these documents. The following sections summarize these comments and respond to each comment, which are organized by subject matter. Where more than one commenter expressed a similar view, the comments have been grouped and addressed together. The commenter's name is listed in parentheses following each comment.

A. ORGANIZATIONS AND INDIVIDUALS WHO COMMENTED ON THE PROJECT DOCUMENTS

1. Joseph P. Addabbo, Jr., Senate Member, District 15, letter dated 15 November 2010
2. Patricia Burkhart, President, Friends of the Edgewood Preserve, email dated 10 November 2010
3. Denis Byrne, email dated 14 November 2010
4. Patrick M. Centolanzi, email 1, dated 20 October 2010
5. Patrick M. Centolanzi, email 2, dated 2 December 2010
6. Jonathan Chung, email dated 14 November 2010
7. Gary Giordano, District Manager, Queens Community Board 5, email dated 15 November 2010
8. Douglas Greenfeld, Supervising Planner, Jersey City Department of Housing Economic Development and Commerce, email dated 15 November 2010
9. Leon Goodman, P.E., PTOE, Transportation Professor, Stevens Institute of Technology, written communication (Comment Sheet) dated 12 October 2010
10. Sam Goodman, Bronx Borough President's office, written communication (Comment Form) dated 5 October 2010
11. Assemblyman Andrew Hevesi, New York State Assembly 28th District, email dated 15 November 2010
12. Robert Holden, President Juniper Park Civic Association, email dated 15 November 2010
13. Antoinette Maggio, President, Citizens for a Better Ridgewood, email dated 11 November 2010

14. John Maier, email dated 15 November 2010
15. Benjamin Miller, Senior Research Associate, Freight Programs, University Transportation Research Center, Region 2, email dated 15 November 2010
16. Michael Miller, New York State Assembly 38th District, email dated 15 November 2010
17. Joshua Nelson, Assistant Vice President, Maritime Department, New York City Economic Development Corporation (NYCEDC), letter dated 7 January 2011
18. Grace Musumeci, Chief, Environmental Review Section, United States Environmental Protection Agency, Region 2, written communication 17 November 2010.
19. Mary Parisen and Laura Zimmer, Co-Chairs CURES, emails dated 13 November 2010 and 17 November 2010
20. Jeffrey Reichman, email dated 28 September 2010
21. Arnold Reinhold, email dated 28 November 2010
22. Victoria Rutson, Director, Office of Environmental Analysis, Surface Transportation Board (STB), email dated 15 November 2010
23. Lydon Sleeper, Chief of Staff, Office of Councilmember Elizabeth Crowley, written communication (Comment Sheet), dated 13 October 2010
24. Joel Weber II, email dated 7 November 2010
25. Rep. Anthony Weiner, Congress 9th District, email dated 17 November 2010
26. Christina Wilkinson, email dated 17 November 2010
27. Jonathan Wolley, written communication (Comment Sheet), dated 7 October 2010
28. Anonymous member of Brooklyn Community Board 1, email dated 20 September 2010

B. DRAFT SCOPING DOCUMENT

GENERAL COMMENTS

Comment 1: Add language on page 2 of the Draft Scoping Document, under the section titled "Regulatory Context," to specifically state that the Tier I EIS will comply, as necessary, with the STB's regulations implementing the National Environmental Policy Act (NEPA) at 49 C.F.R. Part 1105. (Rutson)

Response: The Scoping Document will be revised to reflect this comment.

Comment 2: Change the language under the third major step of the alternatives evaluation process, titled "Screening Analysis," to read as follows: "Reduces the range of reasonable and <u>feasible</u> alternatives that do not meet the goals and objectives based on freight demand forecasting, mode choice, and broad qualitative data." (Rutson)

Response: The Scoping Document will be revised to reflect this comment.

Comment 3: A scoping meeting should be held on Long Island to address local concerns about expanded rail operations and potential intermodal facilities. (Byrne, Burkhart)

Response: A public information session was held on Long Island on May 5, 2011.

Comment 4: Please have the consultant outline a clear definition of the "east-of-Hudson" and "west-of-Hudson" regions in both the Draft Scoping Document and the EIS Methodology Report. It is unclear if the term "east-of-Hudson" is being used to identify (1) the area defined by Manhattan, King, Queens, Bronx, Nassau, and Suffolk counties or (2) the 17 counties in the study area that, technically, lie east of the Hudson River. (Nelson)

Response: The term "east-of-Hudson" refers to any counties and/or states located east of the Hudson River and the term "west-of-Hudson" refers to any counties and/or states located west of the Hudson River. Manhattan is east-of-Hudson. The study's analyses and discussions consider various geographic scales—the officially designated PANYNJ Port District, the New York Metropolitan Transportation Council (NYMTC) and NJTPA regions, the 54-county Cross Harbor modeling study area, and the nation as a whole. Depending on the context, the terms "west-of-Hudson" and "east-of-Hudson" may refer to Port District counties west or east of the Hudson River, or NYMTC counties east or west of the Hudson River, etc.

PURPOSE AND NEED/ GOALS AND OBJECTIVES

Comment 5: The purpose and need statement may be too narrow and confusing. The geographical term "New York Harbor" would appear to define the body of water known as "Upper New York Bay" bounded by Bayonne, New Jersey, the tip of Manhattan, Brooklyn, New York and the Verrazano-Narrows Bridge—a rather small geographical area. At the same time, the Goals and Objectives Section states that the primary purpose of the project is "to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions." By using the Hudson River in the narrative, it would appear that improving the freight movement destined for New England is part of the purpose and need. (Musumeci)

Response: The term "New York Harbor" includes the Lower Bay, Upper Bay, and their respective estuaries. Freight traffic that is crossing the Hudson River, including freight passing through the study area and destined to New England, will be considered in the analysis. The benefit and cost of accommodating pass through freight will be addressed and compared to the benefit and cost of accommodating freight with an origin or destination in the study area.

Comment 6: The Goals and Objectives do not include protecting and improving air quality and other environmental conditions in the communities impacted by the Cross Harbor Freight Program. (Parisen/Zimmer) There is no mention in the Goals and Objectives of energy or emissions reductions. Reducing energy use and reducing air pollution (emissions) should be extremely important in this study. (Centolanzi)

Response: As noted on page 1 of both the Draft Scoping Document and EIS Methodology Report, "The Cross Harbor Freight Program EIS will analyze alternatives that would provide near-term and long-term strategies for improving the regional freight network, reducing traffic congestion, improving air quality, and providing economic benefits."

The potential effects of the proposed alternatives on air quality, energy, and emissions of greenhouse gases will be evaluated in the Tier I EIS. Furthermore, the detailed evaluation of alternatives will consider both quantitative and qualitative performance measures and provide a comparative analysis of the relative benefits and detriments of each alternative. One purpose of the detailed evaluation is to analyze potential regional and localized effects based on more quantified measures. Reduction in air pollution and energy use will be among the performance measures used to evaluate alternatives and determine which alternatives would best meet the project goals and objectives.

Comment 7: It is imperative that the EIS seriously analyze freight movement alternatives that would provide near-term and long-term strategies for improving the regional freight network, reduce traffic congestion, and improve air quality. Because trucks carry the overwhelming majority of goods into and out of communities east of the Hudson River, many communities are overwhelmed with truck traffic. Projections are that truck traffic is anticipated to increase substantially by 2035, and seems to be more of a problem each year.

In the short-term and ongoing, every effort needs to be sincerely made to get the movement of goods and waste by trucks to be as efficient as possible. (Giordano)

Response: Comment noted. The EIS Methodology Report provides a detailed description of the framework that will be undertaken for the development and evaluation of alternatives that are intended to provide near- and long-term strategies for improving the regional freight movement network, reduce truck traffic congestion, and improve air quality. As described in the Scoping Document, Goal 2 is to "[p]rovide Cross Harbor freight shippers, receivers, and carriers with additional attractive modal options to existing interstate trucking services." The Tier I EIS will evaluate the movement of freight (including waste) and identify alternatives that meet the Goals and Objectives of the project.

C. ALTERNATIVES

MANAGEMENT ALTERNATIVES (TSM/TDM)

Comment 8: The EIS should include strong consideration of the Transportation Demand Management (TDM) Alternative, with an emphasis on congestion pricing options and regulatory approaches, since these are less costly than Build

Alternatives and could generate revenue for more strategic infrastructure improvements in the future. (Maier)

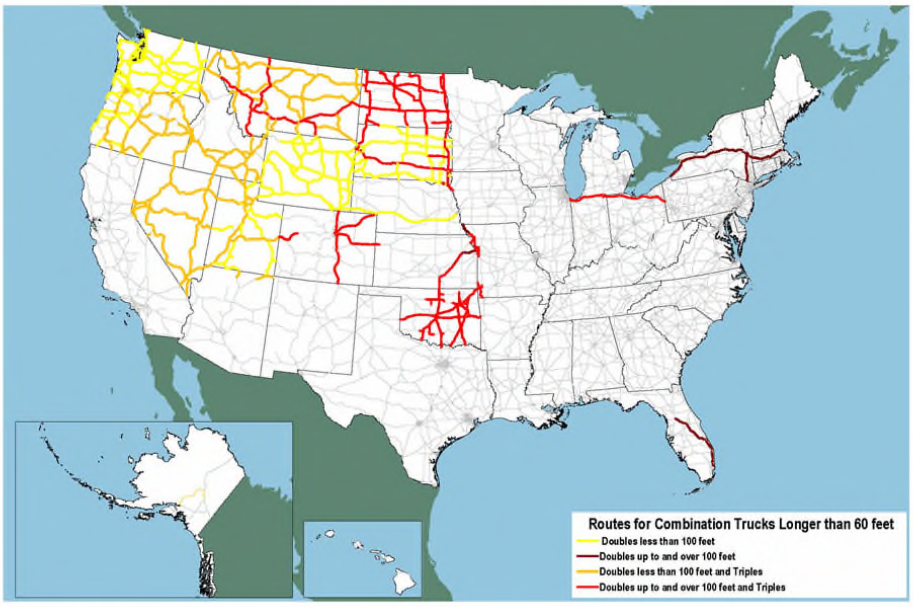
Instituting congestion pricing on Hudson crossings, to take advantage of extra capacity at off peak hours, should be considered. Truck traffic, particularly drayage, is less sensitive to time of day than commuter traffic. Congestion priced tolls can provide an economic incentive to shift truck movements to times when there is less automobile traffic. (Reinhold)

Response: The study will consider a full range of appropriate Transportation Systems Management (TSM)/TDM Alternatives, including congestion pricing on the region's toll crossings.

Comment 9: Allowing multi-trailer trucks (truck trains) late at night on the Verrazano-Narrows Bridge should be considered. While they have long been prohibited in New York City, multi trailer-trucks are common on many state controlled toll roads. Vehicle configurations permitted could range from a 40 foot-20 foot combo, to double 53 foot container loads. Allowing their use on limited routes and only during late night hours could provide additional incentive for off peak drayage, while materially increasing the carrying capacity of the bridge and the Long Island highway network. (Reinhold)

Response: Many states currently allow twin 29-foot trailers (see map below). However, there are few routes east of the Mississippi River that allow combination trucks longer than 60 feet. New Jersey does not allow them, nor does New York except on the New York State Thruway. If these longer combination vehicles were permitted on the Verrazano-Narrows Bridge, they would also have to be permitted on access roads in New Jersey (Turnpike, I-278, I-287, NJ 440, etc.), and New York City (Staten Island Expressway, Gowanus Expressway); ideally they would also be permitted in other states (Pennsylvania, Maryland, Virginia) through which freight bound for the study area passes. The Cross Harbor study could consider the possibility of longer combination vehicles, but only if New Jersey Department of Transportation (NJDOT) and New York State Department of Transportation (NYSDOT) deem it a feasible option.

Permitted Longer Combination Vehicles on the National Highway System: 2008



Note: Empty triples are allowed on I-80 in Nebraska.
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, special compilation by the Freight Operations and Technology Team, 2008.

BUILD ALTERNATIVES

GENERAL COMMENTS

Comment 10: Consider need for new Tappan Zee Bridge to include track service for passenger and freight trains. (Goodman)

This study should look at the alternative of carrying rail freight over the replacement Tappan Zee bridge instead of through the Cross Harbor rail tunnel, as the approximately 25 mile trip to the Tappan Zee Bridge would eliminate the majority of the 140 mile detour via Selkirk, while having the cost savings of being a bridge instead of a tunnel. Furthermore, collaboration between various transportation agencies to move the replacement for the Tappan Zee Bridge a bit to the south has the potential to save money with a shorter bridge, while also further reducing that northward detour. (Weber)

Response: The Tappan Zee Bridge Alternatives Analysis, completed in January 2006, included three levels of screening of the alternatives. The Level 2 Alternatives Analysis considered 16 scenarios to improve conditions in the Tappan Zee Bridge/I-287 Corridor. The ability to accommodate rail freight on a commuter rail alignment was included in some scenarios. At the conclusion of the Level-3 screening process, officials from NYSDOT, New York State Thruway Authority (NYSTA), and Metro-North agreed to build a new Tappan Zee Bridge that

would accommodate vehicular, bus rapid transit, and commuter rail traffic. The Tappan Zee Bridge Freight Rail Alternative was not considered beyond the second level screening for several reasons, including the following:

- Limited capability of serving intermodal and commodity freight. Only trailer/container-on-flatcar (TOFC/COFC) freight with axle loadings of up to 65,000 lbs could be accommodated on the bridge without significant additional bridge strengthening.
- Additional costs for bridge strengthening estimated to be between $300 and $500 million. There are also a number of infrastructure improvements and support systems beyond the bridge that would be needed to accommodate larger freight vehicles, such as expanded capacity of the ventilation systems, intermodal rail yards and possible raising of clearances in the shoulder tunnels and elsewhere in the rail network, bringing the total estimated incremental cost to $1 billion.
- Significant issues limit the movement of freight along the Hudson Line and Port Jervis Line, including weight restrictions, hours of operations, and operating rules.
- Vertical clearance restrictions and other infrastructure impediments are located along the Hudson Line.
- Circuitous rail routing is less cost-effective than over-the-road transport.
- Existence of a third rail for the commuter rail operation precludes double-stack intermodal service. The horizontal clearance is not adequate for the modern well cars used for double-stack intermodal service.

Comment 11: Consider the possibility of using either diesel or electric haulage in the tunnel (3rd rail or overhead wire). (Wolley) There should be some mention of electrifying freight trains that use a Cross Harbor freight tunnel. (Centolanzi)

We urge that the Tier I EIS Scoping Document include alternatives that incorporate freight rail electrification, both within the Management and Build Alternatives. As with passenger rail, electrification needs to be considered as a realistic option to mitigate impacts on the many residents who live near freight rail facilities. (Parisen and Zimmer)

Include an analysis of the prospects for electrified rail freight to reduce the environmental impact on our community. (Maggio)

Response: Any alternative that advances to preliminary engineering will be designed in such a way as to allow for future electrification. In addition, as noted in the Scoping Document, the EIS will consider a Rail Tunnel Alternative with Automated Guided Vehicles (AGVs). AGVs are self-guided power units that can carry loads or drag loads. Fleets of alternative-fuel AGVs could be used as truck cabs, hooking themselves to over-the-road truck chassis at designated transfer yards and dragging the chassis through a tunnel to transfer yards on the other side. The alternative-fuel AGVs could include electric motors running

from on-board batteries or other options. The Tier I EIS will also consider other means to decrease pollution from diesel locomotives, including ultra low emission locomotives.

Comment 12: The project should make more use of the Oak Point Link. (Reinhold)

Response: Both the Harlem River Yard and Oak Point Yard are under consideration as potential rail yards or terminals to support the Build Alternatives. The Tier I EIS will identify preferred combination(s) of Build Alternatives and rail yards that have the potential to divert the most amount of freight from the Cross Harbor truck crossings.

Comment 13: To increase use of the Oak Point Link, it will be necessary to build one or more trainload facilities and intermodal yards on Long Island. Building the facilities first should be a minimal requirement for further major investment and a good way to test the potential for more rail freight. (Reinhold)

Response: As noted above, the Tier I EIS will analyze multiple potential rail yard or terminal sites to serve the range of Build Alternatives under consideration. As shown on Figure 5 of the Draft Scoping Document, at least 17 sites will be considered on geographic Long Island (Nassau and Suffolk counties, Brooklyn, and Queens).

Comment 14: Establish a rail siding bank to provide low interest loans to businesses and other organizations that wish to make use of existing rail lines east-of-Hudson. It would fund the expenses of installing new sidings or refurbishing existing sidings. (Reinhold)

Response: The Tier I EIS will examine various funding mechanisms for proposed infrastructure improvements. However, the Cross Harbor Freight Program study will not implement or establish specific rail assistance programs.

Comment 15: Consider instituting TOFC service to Long Island**.** The Oak Point Link was built with clearance for TOFC, and while TOFC traffic has declined nationwide compared to COFC, it still accounts for millions of shipments each year and could be used to bypass congested highway crossings between New Jersey and New York City. (Reinhold)

Response: The market analysis (see Appendix B of the EIS Methodology Report) will quantify the potential demand for intermodal (TOFC, COFC, Double Stack, and piggyback) and bulk rail service to Long Island.

Comment 16: Consider using fillet-toupee container service to Long Island. Fillet-toupee is a railroading practice where the top layer of a double stack container train is removed (filleted) at a yard outside a city, at the limits of double-stack

clearance, and the remainder of the train, which now meets ordinary clearance limits, proceeds to a second intermodal yard inside the city for unloading of the remaining containers. The process is reversed for outbound trains (toupee). (Reinhold)

Response: This technique may be required for intermodal containers to reach parts of the east-of-Hudson region by rail. The demand for intermodal shipments in those areas, and service alternatives, will be considered in the study.

Comment 17: Establish a container ferry between Brooklyn and a southern Atlantic port such as Norfolk, Virginia. There is currently a weekly barge carrying containers from the Port of New York to Boston. While this operation serves international traffic, a similar operation could be established to carry domestic containers. Such a service would scale well, with larger ships and more sailings added as traffic grew. It could also be extended further south to Charleston, South Carolina or Savannah, Georgia, both well established container ports. The barge service could handle both container-to-barge and container-to-train-to-barge movements, as all the above ports have on dock rail. Such a service would eliminate the Selkirk penalty for shipments from the south, and could handle as many containers as the proposed rail freight tunnel, subject to local traffic limitations, which affect the rail tunnel as well. Avoiding the numerous tolls along the I-95 corridor would go part way to paying for such a service. (Reinhold)

Response: The barge service between New York and Boston is no longer in operation. Barge services have costs associated with them and typically require significant public operating subsidies. Barge operations along the eastern seaboard are currently unproven as a viable alternative mode for all but a few bulk commodities, though a number of studies (separate from the Cross Harbor Freight Program) are under way to determine if there are workable service alternatives.

Comment 18: Segment east-of-Hudson international container shipments through the Brooklyn Port. More than half of all container movements on the North American rail network are international shipments, much of it land bridge traffic between west coast ports and markets further east. It makes no sense for the Port of New York and New Jersey to invest in infrastructure that allows more goods to come to the New York area from west coast ports. An alternative it to use Brooklyn's container port to handle a larger share of international containers arriving via New York Harbor and destined for east-of-Hudson markets. The savings in bridge tolls and shorter drayage alone should provide an economic incentive if marketed properly. (Reinhold)

Response: NYCEDC is currently studying the potential for developing a major container port in Brooklyn. As appropriate, the Cross Harbor Tier I EIS will incorporate the NYCEDC study findings and data.

Comment 19: Use the CSX Corporation (CSX) West Springfield Yard in south-central Massachusetts, which is being upgraded to a full double-stack intermodal facility. Containers could be offloaded there and drayed via I-91 and I-95 to Long Island and the Throgs Neck or Bronx Whitestone bridges. These routes still have significant off-peak capacity. Encouraging this new lane for freight to Long Island would reduce cross-Hudson truck movements and better distribute truck traffic on Long Island. Higher peak tolls on the Hudson crossings could be used to reduce tolls for such movements on the Long Island Sound crossings. No new facilities would be required. (Reinhold)

Response: This suggestion would relocate CSX rail trip ends from the west-of-Hudson to the east-of-Hudson; therefore, truck drays to geographic Long Island would occur entirely east-of-Hudson. The truck dray distances are comparable—152 miles from Selkirk, New York to a location such as Floral Park in Queens via the George Washington Bridge, versus 140 miles from West Springfield, Massachusetts to Floral Park via the Throgs Neck Bridge. The key questions are: how many truck drays to geographic Long Island are generated from Selkirk today? How many are captive to warehouse/distribution facilities in the Selkirk area, such that they could not be easily relocated to Springfield? What is the traffic benefit from continuing on rail beyond Selkirk to Springfield (another approximately 80 miles) such that freight can be trucked to geographic Long Island, as compared to the existing condition (continuing on rail another approximately 130 miles to northern New Jersey), as compared to other potential Cross Harbor alternatives (that could provide rail freight directly on Long Island)? The Cross Harbor Freight Program study datasets and choice models will enable these choices to be examined.

Comment 20: Research a new urban freight model. The container revolution began when the United States military rethought transitional logistics. It may be time for a similar effort for urban freight. Many cities share New York's twin problems of traffic congestion and underutilized freight rail lines that are too expensive to upgrade for double stack clearance. Current supply chain models favor large distribution centers in the outer suburbs (e.g., New Jersey and even eastern Pennsylvania) with many trucks distributing goods to freight end users. Funding for some out-of-the-box research in this area should be included in any Cross Harbor plan.

One possibility might be an automated vertical distribution facility designed to straddle rail tracks and automatically load and unload containers from railcars or transit vehicles. This might be coupled with a taxi drayage system that used

computerized vehicle and container tracking via GPS, along with computer dispatching, to minimize dwell time at the terminal and eliminate the need for large upland storage acreage. The Empire Corridor tracks north of Penn Station might be a candidate for such a facility, could also feature a retail component that would take advantage of the lower shipping costs. (Reinhold)

Response: Researching a new urban freight model is beyond the scope of this study. However, opportunities to automate processes and reduce the per-container space requirements at rail terminals will be considered at any and all candidate rail terminal sites.

Comment 21: The rail lines servicing New York on the New York side do not have the vertical clearances needed. This would create major disruptions to the local community. (Holden)

Modernizing the Bay Ridge Line in Brooklyn is a key element for the success of Cross Harbor freight rail. The present sub-standard clearances need to be upgraded to at least provide double stack clearances. But innovative use of the Bay Ridge Line right-of-way can also be the key to improved truck and transit services for the region. (Goodman)

Response: Engineering investigations were conducted during the previous 2004 Draft EIS (DEIS) effort that identified the location of each inadequate vertical clearance and proposed a method for achieving full vertical clearance of 22′ 6″ along the entire length of the Bay Ridge Branch. In every case, the vertical clearance was proposed to be achieved by undercutting the bridge, not disturbing the street profile. These previous engineering investigations will be updated as appropriate for the current Tier I EIS. However, detailed design work is beyond the scope of a Tier I EIS. A new engineering investigation will be undertaken for any alternative that advances to any Tier II environmental review.

Comment 22: PANYNJ should also explore whether freight service on Manhattan's West Side Line could reduce the number of trucks crossing the Hudson River by highway to unload in Manhattan. (Weber)

Response: There are no feasible locations in Manhattan that could accommodate a freight rail yard. The original freight rail yards along the west side of Manhattan were removed with the development of Riverside South and the Jacob Javits Convention Center.

Comment 23: Explore using the Penn Station tunnels for freight. This might require building a third Hudson River tunnel to Penn Station. A third Hudson River to Penn Station tunnel might open up opportunities for two tracks across the Hudson to normally be in service around the clock, and there are four existing tunnels from Penn Station into Long Island. This would likely lead to ample capacity for off-

peak freight service. A third Hudson River tunnel to Penn Station could also accommodate some additional rush hour peak direction New Jersey Transit service into Penn Station, with New Jersey Transit's trains deadheading through the existing tunnels to Sunnyside Yard on Long Island for mid-day storage. (Weber)

Response: This alternative was addressed and eliminated in the 2004 DEIS for reasons that are still valid. The Access to the Region's Core (ARC) project—third Hudson River to Penn Station tunnel—was terminated by the State of New Jersey in 2010. The following can be found on pages 2-37 of the DEIS:

The Access to the Region's Core (ARC) Major Investment Study (MIS) was a separate study of strategic investments to improve passenger rail transportation in the heart of the New York City metropolitan area. Members of the Cross Harbor Freight Movement Project's Steering Committee suggested that the freight component of the ARC study—known as the "AA" Alternative—be evaluated as a stand alone alternative in the Cross Harbor Freight Movement MIS. This alternative proposed a new rail tunnel (for both passenger and freight cars) under the Hudson River from Hoboken to Penn Station in Manhattan. The freight portion of this alternative would also involve a new track connection from Penn Station to Amtrak's West Side Line to Oak Point Yard in the Bronx. The second-tier screening analysis raised concerns about potential operational and scheduling constraints on rail freight imposed by sharing track with passenger service along the nation's most heavily used passenger corridor. Transportation analyses conducted under the second-level screening revealed that this alternative could be expected to do as well as the low capital-intensive railcar Float Alternative. Thus, this alternative was not advanced beyond the second tier of the screening process.

Comment 24: There would be value in studying whether the West Side Yard could be adapted so that during the day, it would continue to be used as mid-day storage for the Long Island Rail Road (LIRR), and at night, part of the West Side Yard could be used as an intermodal container transloading facility. Alternatively, with LIRR's East Side Access project, the passenger train use of the West Side Yard may decrease, which might allow part of the West Side Yard to be converted to full time intermodal freight activity. One additional challenge here is that New Jersey to West Side intermodal trains might need to be relatively short, perhaps 15 cars, to fit the length of Penn Station if they need to avoid partially entering the Long Island tunnels while reversing direction, and/or to fit the available space in the West Side Yard. (Weber)

Response: The West Side Rail Yard was originally used as freight terminal in the early 20th century. However, by the 1970s, freight operations fell into disuse, and the Triborough Bridge and Tunnel Authority (TBTA), the site was redeveloped in 1986 as a storage and maintenance complex for the LIRR's electric commuter

car fleet. The Western Rail Yard currently contains LIRR tracks for off-peak storage of LIRR commuter trains and facilities that support the daily operation of the LIRR. The LIRR must have continuous access to the LIRR train yard and its facilities. Any reintroduction of freight trains would need to ensure that LIRR operations are not impacted.

Most recently, in 2009, the Metropolitan Transportation Authority (MTA) and New York City Planning Commission approved the Western Rail Yard Project—a mixed-use development over the western section ("Western Rail Yard") of the MTA-LIRR John D. Caemmerer Yard. For the Western Rail Yard project, a platform would be constructed above the rail yard and the mixed-use development would be constructed above the platform. According the *Western Rail Yard FEIS, October 2009*, the project has been carefully planned with the MTA-LIRR to ensure that the building foundations can be built while keeping interruptions of yard operations to a minimum. With the building foundations and the existing LIRR tracks and facilities located in the yard, there would be no space available within the Western Rail Yard to be used as an intermodal container transloading facility.

Comment 25: We would argue that the characteristics of the competitive circumstances in which rail freight service is offered in the region will have a significant effect on pricing and service and hence on demand and impacts. The alternative institutional arrangements in which rail operations will take place thus become an important consideration for the EIS analysis. Among the alternatives that should be considered in the scope are expansion of the currently defined "Conrail" area, which could include territory on both sides of the harbor, and open access, the system which is currently required throughout the European Union. (B. Miller)

Response: Institutional arrangements of asset ownership and operations will be examined as part of this study, and alternatives that could improve operational efficiency will be identified.

YARDS AND ANCILLARY FACILITIES

Comment 26: Based on the Project Purpose and Need in the Draft Scoping Document, the goal of the program is to increase rail's share of the freight transportation in east-of-Hudson counties, possibly to the level in the west-of-Hudson counties—a six-fold increase. Currently, the Fresh Pond rail interchange and the rail corridor through our communities and near our homes is the only route for freight to enter and leave Long Island by rail. Unless the Cross Harbor Freight Program explores alternatives, the entire impact of this dramatic increase will fall on the neighborhoods where we live. (Parisen and Zimmer)

Response: As noted above, the Tier I EIS will analyze multiple potential rail yards or terminal sites to serve the range of Build Alternatives under consideration. The purpose of examining multiple locations is to distribute and disperse freight related traffic such that is it not concentrated in one neighborhood. As shown on Figure 5 of the Draft Scoping Document, at least 17 sites will be considered on geographic Long Island (Nassau and Suffolk counties, Brooklyn, and Queens). The Tier I EIS will evaluate the potential for both regional and local environmental impacts. Where potential adverse impacts of the Build Alternatives are identified in the Tier I EIS, mitigation measures would be presented as a range of options that would be designed to avoid, minimize, or mitigate potential adverse impacts. It is possible that multiple communities may have impacts, which could require mitigation.

Comment 27: The alternatives considered in the Tier I EIS should include rail upgrades, construction, and restoration projects that would create new routes that ensure that Fresh Pond rail interchange and nearby tracks would no longer be the bottleneck where there is an exceptionally high level of pollution resulting from the operation and idling of old diesel locomotives. (Parisen and Zimmer)

While the Fresh Pond Yard in Glendale, Queens was identified as a "Build Alternative" area, there is no mention of how this rail yard could be improved upon to accommodate projected increases of rail traffic from Long Island, Queens, and Brooklyn. The document specifically references an expected 26 percent increase in freight tonnage by 2035 in this region, yet makes no mention in the Build Alternative section of how the Fresh Pond Yard could be expanded or improved upon to accommodate the 1.6 percent increase that will directly affect rail traffic on the east-of-Hudson corridor. This terminal also currently accommodates almost all incoming rail traffic from Long Island, disproportionately affecting the surrounding residential communities in Queens. (Hevesi)

Response: The Tier I EIS analysis will identify a range of potential improvements to accommodate projected increases in rail demand, which could include improvements to Fresh Pond Yard as well as other locations. The Tier I EIS will also identify, as appropriate, mitigation measures associated with the environmental effects from these improvements.

Comment 28: Preserve and expand existing facilities at Oak Point. Policies should be put in place to ensure continued and expanded rail freight activity at Oak Point in the Bronx. Zoning and land use policies should be examined with an eye to keeping this rail freight hub in service long term. It would also be worthwhile to investigate ways additional rail freight traffic could be generated. In particular, the Hunts Point Terminal Market has extensive rail sidings that are only partially utilized. (Reinhold)

Response: Oak Point Yard is under consideration as a potential rail yard or terminal to support the Build Alternatives. If the demand analysis warrants expanding the existing yard, the need for additional land will be assessed. The Tier I EIS will identify the procedures necessary to facilitate and implement the Preferred Alternative(s) including any land use and zoning changes. However, any zoning changes, if necessary, would be undertaken by the New York City Planning Commission, a cooperating agency for the Cross Harbor Freight Program, as part of the Tier II evaluation.

Comment 29: CSX has an exclusive freight line which comes down from the Bronx near the Robert F. Kennedy Bridge (formerly known as the Triborough Bridge). In the Bronx, CSX has yards in Oak Point, Hunts Point, and near the Harlem River. They have access to the Major Deegan, the Bruckner, and the Cross Bronx. Why are these yards not being expanded and used for intermodal facilities? One large intermodal yard would place massive amounts of trucks on the highway in the local neighborhood. Disbursing that would be a much better idea, i.e., having several small intermodal yards including at least one on Long Island. (Holden)

Response: Harlem River Yard, Oak Point Yard, and Hunts Point are all under consideration as potential rail yards or terminals to support the Build Alternatives. As shown on Figure 5 of the Draft Scoping Document, at least 17 sites will be considered on geographic Long Island (Nassau and Suffolk counties, Brooklyn, and Queens) as well as three potential sites in the Bronx. These sites will be evaluated along with their access to arterial roads. The Tier I EIS will study a range of options for unloading and final distribution associated with the various Build Alternatives. The Tier I EIS will identify preferred combination(s) of Build Alternatives and rail yards that have the potential to divert the most amount of freight from the Cross Harbor truck crossings.

Comment 30: Build more transload facilities on Long Island. Transload yards facilitate the transfer of bulk commodities, such as chemicals, lumber, flower, and plastics, from railcar to truck. They are efficient for railroads to service as they minimize switching requirements, since multiple carloads at a time are sent to each trainload yard. This is particularly important on Long Island, as heavy passenger use of LIRR limits freight movements. The types of freight cars that would go to a trainload yard are already suitable for the Oak Point Link connection and would require no additional capital investment to upgrade clearances. (Reinhold)

Response: As noted above, the Tier I EIS will analyze multiple potential rail yard or terminal sites to serve the range of Build Alternatives under consideration. As shown on Figure 5 of the Draft Scoping Document, at least 17 sites will be considered on geographic Long Island (Nassau and Suffolk counties, Brooklyn, and Queens).

Comment 31: The locations identified on geographic Long Island as potential rail-truck transfer facilities include sites that the City University of New York (CUNY) Institute for Urban Systems study of the Long Island Truck-Rail Intermodal Facility on behalf of NYSDOT found did not meet what they considered minimum-acceptable screening criteria. Conversely they do not include sites that the CUNY Institute for Urban Systems (CIUS) study found most likely to be feasible. Nor does the list of potential yard locations include any in Connecticut, where it could be argued that there would be sufficient demand to make a yard desirable, nor the Bronx, which may likewise merit a yard. (B. Miller)

Response: The Scoping Document will be revised to include the facilities on geographic Long Island included in the CIUS study. The Long Island Truck-Rail Intermodal Facility study and its minimum-acceptable screening criteria will be reviewed and considered in the context of the goals and objectives of the Cross Harbor Freight Program. As noted in the Scoping Document, three existing facilities are included in the Bronx. These locations, which currently support freight rail, may require expansion to accommodate some alternatives.

The Tier I EIS will evaluate the demand for trips that begin and end in Connecticut. If the demand warrants the need for additional yards, further investigations will be undertaken to identify potential locations in Connecticut.

Comment 32: The discussion of potential transfer facilities should include the possibility (of special importance given the constraints on readily developable space in the region, particularly east-of-Hudson) of "linear" truck-rail transload facilities that could take advantage of existing rail right-of-way. (B. Miller)

Response: We agree with the comment. The analysis of alternatives will consider the amount of available transfer space. The transfer of bulk commodities between rail and truck can often be accomplished in less space than the transfer of containers. And "linear" transload facilities within constrained rights-of-way may be practical solutions.

Comment 33: While truck-rail transfer yards are mentioned in the scoping document, warehouses and other ancillary logistics facilities are not. It might be argued that such "secondary" facilities are more appropriately the focus of the Tier II effort, but we think deferring the consideration of these needs is not appropriate since the location of these facilities, and the demands and impacts they impose (and opportunities they create), given the tight spatial constraints and intensive land use demands in the region, particularly east-of-Hudson, will have a major determinative effect on the location of various types of transfer yards/facilities. They will also have a significant effect on market demand (and transport volume), and on a wide range of impacts (e.g., truck miles traveled, economic development effects, etc.). (B. Miller)

Response: We agree with the comment. It is important to consider warehouse/distribution facilities as part of the Tier I effort since they are a critical variable in determining what types of freight shipments could potentially be diverted from truck to rail. Dependency on warehouse/distribution space is one of the key questions in the market analysis survey. Warehouse/distribution capacity and operations are key considerations not only in the market analysis, but also in the design and operating requirements of any new rail, truck, or ferry terminals that might be developed east-of-Hudson.

Comment 34: The proposed scope should mention operational changes that would need to be made in west-of-Hudson yards—including, notably, yards in the Harrisburg/Chambersburg vicinity—to make trans-harbor shipments and transfer as efficient as possible. (B. Miller)

Response: To the extent required, analysis of the rail network beyond PANYNJ's Port District will be conducted, including identification of bottlenecks that could impact movements into and out of the region. In addition, the demand analysis will consider how much freight is moving directly from warehouse and distribution centers in Harrisburg/Chambersburg to the east-of-Hudson. Freight currently arriving by truck today would be a candidate to remain on rail, and arrive east-of-Hudson by rail.

Comment 35: There is mention of the consideration of alternative yard technology for the various transfer yards. It is important that these alternatives be considered at the Tier I stage since the throughput efficiency will vary significantly with various yard technologies and configurations, which will in turn have an effect on the spatial footprint required for yards (and hence on the identification of appropriate potential sites). Alternative design and operating configurations can also vary significantly in terms of other impacts, such as noise, vibrations, truck-traffic volume. (B. Miller)

Response: We agree with the comment. The Tier I EIS will consider alternative yard technology.

Comment 36: Page 10 of the Draft Scoping Document identifies the 65th Street Rail Yard as "a 33-acre facility." The rail yard is a 24-acre facility. (Nelson)

Response: The Scoping Document will be revised to reflect this comment.

Comment 37: Also on page 10, the New Lots facility is described as being located in Brooklyn "on Foster Avenue between East 83rd and East 87th Streets." This is the location of the Brooklyn Terminal Market. The New Lots facility is located, generally, between Linden Blvd, Rockaway Ave, and Avenue D in Brooklyn. (Nelson)

Response: The Scoping Document will be revised to reflect this comment.

Comment 38: Again on page 10, the Draft Scoping Document describes Conrail-owned infrastructure at the Fresh Pond Yard in Queens. Please have the consultant update this to reflect CSX ownership. (Nelson)

Response: The Scoping Document will be revised to reflect this comment.

FLOAT/FERRY ALTERNATIVES

Comment 39: Self-propelled freight ferries to termini at various locations in New Jersey as proposed by NJTPA should be explored as an alternative and efficient method for regional freight distribution. (Greenfeld)

Response: As noted in the Draft Scoping Document, container floats and truck ferries (self propelled or otherwise) between a number of New Jersey and New York termini will be analyzed.

Comment 40: Explore ways to improve water and rail services to Hunts Point Market to reduce vehicular traffic in Bronx. (S. Goodman)

Response: NYCEDC is currently working with the Hunts Point Terminal Produce Market Co-op on redeveloping the market and improving site access. As appropriate, the Cross Harbor Freight Program will coordinate with NYCEDC, a participating agency for the project.

Comment 41: The EIS should include alternative methods of sending freight directly by water from New Jersey to locations west-of-Hudson, with a strong emphasis on float and ferry options over a tunnel option. (Maier)

Response: As described in the Draft Scoping Document, a variety of float and ferry options will be considered. The market demand analysis addresses all options—management, float/ferry, and tunnel—using the same methods and tools, without emphasis on any particular solution or strategy, and with a high degree of transparency.

Comment 42: In the short-term, every effort should be made to utilize waterways in New York City, on Long Island and throughout the study region for freight transport. (Giordano)

Response: As previously noted, a variety of float and ferry options will be considered. One of the advantages of ferry services is the ability to implement them relatively quickly, typically without major investments in offsite infrastructure, making them well-suited to meet near-term demand.

Comment 43: New York City is surrounded by waterways and should fully utilize barging of goods rather than expensive tunnels and intermodals that will bring more truck traffic to western Queens neighborhoods. (Holden)

Response: As described in the Scoping Document, Float/Ferry Alternatives—alternatives that describe the movement of freight by water, across New York Harbor—will be considered and evaluated. Waterborne alternatives could include: expanded railcar float system, expanded container float system, truck float system, and truck ferry system. Figure 6 of the Scoping Document shows potential routes for the waterborne Float/Ferry Alternatives.

Comment 44: Long Island and the boroughs of New York City are surrounded by water yet there is no alternative being studied by the Cross Harbor Freight Program that would increase barging from New Jersey and the rest of the east coast to barging docks in towns along Long Island's north and south shores. (Wilkinson)

Explore alternative methods of sending freight directly by water from New Jersey to the north and south shores of Long Island. (Maggio)

Response: As previously noted, a variety of float and ferry services will be considered, including services linking the west-of-Hudson region to Nassau/Suffolk counties.

Comment 45: Institute truck or container ferry service to Port Jefferson. Moving more freight through Port Jefferson would reduce congestion on the western Long Island roads and would keep the freight burden from falling entirely on Brooklyn and Queens. The existing ferries could be operated later at night for truck and container movements or additional ferries could be purchased. Trailers and containers could come from West Springfield, New London, or a new intermodal facility at Bridgeport, which is seeking to expand rail access to its port. (Reinhold)

Response: The study will consider a variety of ferry service locations in Nassau and Suffolk counties. The first step in the Cross Harbor Freight Program study is to determine the level of underlying freight demand; if demand warrants, the next step is to compare the cost, speed, and reliability of different freight services (such as ferry versus trucking) to determine if a Cross Harbor alternative offers a more attractive proposition.

Comment 46: The Draft Scoping Document includes technological methodology for highway and rail network analysis. However, there is no concomitant discussion of a marine network analysis. While the no-build options implicitly assume that the current floating barge link between New York and New Jersey would be retained, the alternatives do not consider the potential for expanding marine freight operations and implementing technological upgrades that would make

them more efficient. Any comprehensive planning project for the New York-New Jersey harbor region must consider the importance of marine freight operations. (Parisen and Zimmer)

A credible Tier I EIS scope must include a robust Marine Network analysis that yields scenarios and alternatives to trucks and trains. (CURES email)

Response: The Tier I EIS will include a robust analysis of marine-based alternatives. Based on the simplicity of the existing marine network, the methodology and technologies necessary to analyze the marine-based services are less complex than the rail and highway services. The study will consider the potential application of state-of-the-art vessels and transfer equipment.

Comment 47: Expanding barging operations would be more environmentally friendly than the current setup and less expensive than the proposed tunnel. Goods can be shipped from New Jersey, Connecticut, southern states or upstate directly to consumption points in Brooklyn, Queens, Nassau, and Suffolk. This would take thousands of trucks off the roads everywhere—not just in Manhattan. As far as longer-distance barging is concerned, PANYNJ seems to be limiting itself to looking at "international container traffic." (Wilkinson)

Response: Float and ferry services have the potential to divert trucks, and as previously noted, a variety of float and ferry services will be considered for a range of freight traffic, including bulk, container, and other commodities.

Comment 48: What are the regulatory requirements for air emissions from barges? (Brooklyn CB1 member)

Response: The Tier I analysis will consider the current and future proposed emission standards for marine engines as regulated by the United States Environmental Protection Agency (USEPA). Any additional analysis, such as site-specific impact assessments near waterfront facilities would be conducted in any Tier II environmental review for a particular site.

Comment 49: The Draft Scoping Document indicates that the Tier I EIS will consider the expansion of the current railcar float and container float systems to move freight across New York Harbor, as well as the possible addition of a truck float system or truck ferry service. Because STB has jurisdiction only over certain rate matters involving ocean carriers in the noncontiguous domestic trade, which includes transportation between the U.S. mainland and Alaska, Hawaii, and various U.S. territories or possessions, STB would not have jurisdiction over water transport across New York Harbor unless such water transport is part of transportation by a rail carrier. STB has jurisdiction over transportation by a rail carrier that is by railroad and water, if the transportation is under common control, management, or arrangement for a continuous shipment. (Rutson)

Response: Comment noted.

RAIL TUNNEL ALTERNATIVES

Comment 50: On 18 November 2010, the *Queens Chronicle* reported that the tunnel option is suspended. What exactly does this mean? Are the tunnel options no longer in play? (Centolanzi email 2)

Response: As noted in the Scoping Document, the Build Alternatives include various rail tunnel options. These tunnel alternatives will be evaluated in the Tier I EIS for the Cross Harbor Freight Program.

NYCEDC was the project sponsor for a DEIS published in April 2004 by the Federal Highway Administration (FHWA) and the Federal Rail Administration (FRA), acting as co-lead agencies. The 2004 DEIS considered: a No Action Alternative; a TSM Alternative; an Expanded Float Operations Alternative, which involved the expansion of capacity for the existing railcar float system across New York Harbor; and a Rail Freight Tunnel Alternative with two possible alignments and two potential tunnel designs. The 2004 DEIS was the subject of public hearings in May and June in 2004 and an extended public comment period, with many substantive submittals by public agencies as well as stakeholder interests. Subsequent to the hearings, NYCEDC suspended active work on the DEIS. The *Queens Chronicle* article referenced that the 2004 DEIS tunnel plan was suspended after public hearings.

Comment 51: [Jersey City] restates its concern that the Jersey City Greenville Yards site is the only alternative that continues to be pursued further for a rail freight tunnel to Brooklyn. Jersey City's previous comments noted the disparity in the level of analysis of impacts on environmental justice communities in New Jersey versus New York. (Greenfeld)

Response: The environmental justice analysis presented in the 2004 DEIS followed all relevant applicable analysis methodologies: the U.S. Department of Transportation's (USDOT) *Final Order on Environmental Justice*, April 1997; the USEPA *Guidance for Incorporating Environmental Justice Concerns in USEPA's NEPA Compliance Analyses*, April 1998; the Council of Environmental Quality's *Environmental Justice: Guidance under the National Environmental Policy Act*, December 10, 1997; and the FHWA's *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, December 2, 1998. To identify minority and low-income populations within the project study area, demographic information was obtained from the U.S. Census Bureau for the year 2000. Population and race information was collected using the block level, the smallest geographic unit for which the income and poverty data were available. Data for median household

income and poverty status were collected using the block group level data, the smallest geographic unit for which data were available.

For the purposes of the environmental justice analysis, the most pervasive environmental impact—noise impacts for the double tunnel system—was used to determine whether the project would result in disproportionate adverse impacts on minority and low-income communities along the tunnel alignment. The Federal Transit Administration (FTA) guidance manual, Transit Noise and Vibration Impact Assessment (April 1995) was used to assess noise impacts from rail operations. The manual identifies three land use categories for which operational noise impacts are determined: Category 1, comprising tracts of land in which quiet is an essential element of the intended purpose; Category 2, which includes residences and buildings were people normally sleep; and Category 3, comprising institutional uses with primarily daytime and evening use. A detailed noise methodology was used to predict impacts and to evaluate the effectiveness of mitigation measures. Under this methodology, adverse noise impacts are categorized into "impacts" and "severe impacts." Environmental justice guidance states that agencies should identify and address disproportionately high and adverse human health and environmental impacts. With respect to noise, "severe impacts" would be considered "high and adverse." Factors such as the size of the impacted area, the number of residents affected, and the feasibility of mitigation measures should also be considered when determining impact severity.

For the Greenville Branch segment of the New Jersey alignment, a segment stretching approximately 6,000 feet within Jersey City, severe noise impacts would occur up to 181 feet from the right-of-way. The number of residents in this environmental justice community totaled 1,330. For the Staten Island alignment, two segments of the Staten Island Railroad, between Arlington Yard and Nicholas Avenue and Nicholas Avenue and Alaska Street, met the criteria for environmental justice communities. These two segments stretched for approximately 12,000 feet along the right-of-way. The noise impacted area for Segments 1 and 2 were 450 and 871 feet from the rail line, respectively. The two segments of the Staten Island study area contained a combined total population of 11,550; both segments also met the thresholds identified for environmental justice communities of concern.

Overall, the analysis found that for the New Jersey alignment of the Double Tunnel System, an estimated total of 151,000 residents would be adversely impacted by noise (without mitigation). Fifty-one percent of these residents are minority and approximately 17 percent live in poverty. For the Staten Island alignment of the Double Tunnel System, approximately 169,000 people would be adversely impacted by noise (without mitigation). Fifty-four percent of these residents are minority and about 18 percent live below the poverty level. However, while both alignments would result in adverse noise impacts along

many segments of the rights-of-way, not all segments would be impacted to the same degree. The New Jersey alignment would result in a noise impact along the Greenville Branch study area described above at a distance of 181 feet from the rail line. Impacts along this segment would be considered far less severe than impacts identified in other communities, would affect only Category 2 residential and other nighttime land uses within a short distance of the rail line, and would most likely be imperceptible. Under the Staten Island alignment, a severe impact would occur along Segments 1 and 2 for Category 2 land uses. Category 3 land uses in Segment 2 would also experience a severe impact; in Segment 1 the impact would not be severe. Due to the distance the noise impact would involve in Segment 2 (871 feet from the rail line), adverse neighborhood character impacts were also identified. Mitigation of impacts along this segment, such as the installation of noise barriers would not be feasible, due to the elevated nature of the Staten Island Railroad in this portion.

Due to the number of residents affected by each alignment overall, and in specific minority and low income communities, the environmental justice analysis concluded that the Staten Island Alignment (under both the double or single tunnel systems) would result in unmitigated severe impacts, which may be disproportionate in environmental justice communities. In accordance with NEPA guidance, the identification of a disproportionate adverse impact on a community of concern "does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect should heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population."[1] Therefore potential impacts in other environmental analysis areas were also taken into account in moving forward the New Jersey alignment. In addition to minimizing potential noise impacts, the New Jersey alignment would avoid several significant environmental and neighborhood character impacts exclusive to the Staten Island alignment. The New Jersey alignment employed more direct routing to the western portal, resulting in a greater diversion of freight trucks to rail, subsequently yielding greater user benefits and travel efficiencies and creating greater business attraction than the Staten Island alignment. Overall, the 2004 DEIS found that the New Jersey alignment of the Tunnel Alternative achieved greater benefits than the Staten Island Tunnel Alternative and was more in line with the goals and objectives of the project.

Comment 52: The Rail/Vehicle Tunnel Alternatives should also include a single tunnel with rail tracks and managed roadway lanes, and associated connecting links, as

[1] Council of Environmental Quality's *Environmental Justice: Guidance under the National Environmental Policy Act*, December 10, 1997.

outlined in "The Gateway Project" proposal [attached to the comment letter]. (Goodman)

Response: A combined rail freight/passenger vehicle tunnel is not under consideration in this study because the Goals and Objectives are focused on the movement of freight. Improvements focused on passenger movements are being studied in other initiatives. However, a rail freight tunnel with scheduled truck access is being evaluated in the Tier I EIS.

Comment 53: I support a Greenville Yard to Brooklyn tunnel alignment and a two-track, double-stacked rail tunnel. (Chung)

Response: Comment noted.

Comment 54: The freight tunnel should have multiple exits and entrances to ensure that not all traffic is dumped in the laps of our neighbors in Maspeth and Middle Village. Dispersing the freight and truck traffic is essential to making sure the project causes more good than harm. (Weiner)

Response: While any tunnel alternatives would have one portal on each side of the Harbor, this does not effect where the ultimate destination of freight would be. Due to concerns on concentrating the effects of proposed yards and related truck traffic in one neighborhood, the Tier I EIS will analyze multiple potential rail yard or terminal sites to serve the range of Build Alternatives under consideration. The purpose of examining multiple locations is to distribute and disperse freight related traffic such that is it not concentrated in one neighborhood. Based on the demand results from the screening analysis, the detailed evaluation will then consider up at least 17 potential yard sites on geographic Long Island (Nassau and Suffolk counties, Brooklyn, and Queens) as well as three potential sites in the Bronx. These sites are shown on Figure 5 of the Draft Scoping Document. The Tier I EIS will study a range of options for unloading and final distribution associated with the various Build Alternatives.

Comment 55: The construction and operation of a new rail line that would provide common carrier service, such as a rail freight tunnel under the Hudson River or any new rail line that would extend the territory or markets that the owner or operator serves would require a license from STB before construction could begin. STB approval would also be required for a proposal to construct an extension to an existing rail line if it would enable a rail carrier to serve a new market. STB approval, however, is not required to realign an existing rail line or to construct and operate ancillary, "spur," industrial, team, switching, or side track, so long as the purpose and effect is not to extend the railroad's territory. Nor would improvements (such as track or signal improvements, bridge rehabilitation, or improvements to existing rail yards to increase storage capacity) require STB authorization. (Rutson)

Response: Comment noted.

Comment 56: The Build Alternatives section of the Draft Scoping Document describes a Rail/Vehicle Tunnel Alternative that utilizes AGVs. While we are supportive of investigating new technological applications, we are unaware of a proven large-scale deployment of this technology in an industrial setting. Absent a proven case study, we would recommend revisiting the utility of evaluating this alternative. (Nelson)

Response: AGV technologies for freight movement are well-established and well-proven within factories, warehouse/distribution centers, and marine terminals (for example, the Port of Rotterdam). Their application to transportation networks would be a new, but logically foreseeable, step in their evolution and deployment. Passenger applications (Personal Rapid Transit) of AGVs using guideway systems have been studied since the 1960s; modern technology makes it possible for AGVs to be guided by buried wires, or by GPS signals, without fixed guideways.

NO ACTION ALTERNATIVE

Comment 57: Please have the consultant include rail improvements slated to be undertaken by the City of New York in Sunset Park, Brooklyn, specifically, the BAT West Track Replacement, S-Curve Elimination and the SBMT Rail Extension, in the No Action Alternative—Railroad Projects portion of Appendix A of the Draft Scoping Document. (Nelson)

Response: These will be included in the No Action Alternative.

Comment 58: Please have the consultant clarify which agencies and/or private entities are responsible for undertaking the specific projects identified under the No Action Alternative. Furthermore, we recommend that the projects be associated with specific initiatives as necessary (e.g., "independent utility projects" being forwarded by PANYNJ.) (Nelson)

Response: These will be included in the No Action Alternative.

D. EIS METHODOLOGY

ALTERNATIVES EVALUATION PROCESS

Comment 59: The methodology appendix lists "incompatible with existing or planned operations of current rail providers" as a fatal flaw criterion. We would argue that, since the public investment required to develop improved Cross Harbor rail freight connections is likely to total billions of dollars and the facilities themselves are likely to be in operation for upwards of a century,

incompatibility with existing operations of current rail providers—which are inherently not designed to accommodate trans-harbor operations—is not an appropriate fatal flaw. (B. Miller)

Response: This fatal flaw criterion is intended to address current passenger rail services and any associated long-term investments. The EIS Methodology Report will be revised accordingly to note this as passenger rail service. Currently, passenger rail services share infrastructure with and take precedence over freight rail services, such as on the Metro-North Hudson and Harlem Lines as well as the LIRR Main Line. Alternatives that would be incompatible with existing or future passenger rail services would be considered a fatal flaw alternative.

Comment 60: For the same reasons (see Comment 59 above), we would argue that "results in severe impacts and/or cost implications to existing rail or highway infrastructure" should not be considered a fatal flaw either. (B. Miller)

Response: We disagree with the comment. This fatal flaw criterion is intended to avoid alternatives that result in significant capital costs to other public agencies not associated with Cross Harbor infrastructure.

Comment 61: The Build Alternatives section of the Draft Scoping Document reveals a large number of Build Alternatives, including 20 potential sites for yards and terminals, four Float/Ferry Alternatives, four Rail Tunnel Alternatives and three Rail/Vehicle Tunnel Alternatives. Obviously, these alternatives represent a menu of items that can be selected and combined with one another. We presume, however, that not every combination of alternative will be analyzed as this would represent a very high number of possible permutations.

Please have the consultant describe exactly how each of these alternatives will be approached. How will the consultant create a methodology for identifying an optimum combination of improvements and eventually arrive at a manageable combination of alternatives to analyze? For example, are specific alternatives mutually exclusive of or in conflict with one another and, conversely, are there those that are complementary? (Nelson)

Response: The comment is correct that a large number of permutations and combinations of options will be developed and studied. The first step of the analysis is to identify alternatives that successfully meet the future demand forecast. While not every option will be tested in the demand model a series of options testing a number of modes, alignments, operational characteristics and termini will be evaluated using the demand forecasting tools developed by the project. Possibly 30-50 options may be initially evaluated for demand potential. Next, the best performing alternatives will be combined into packages for a second round of demand estimation, to determine whether alternatives are better performing as packages than as individual projects. Based on those results, a limited

combination of yards, modes, and routes will be examined in the detailed analysis. Once viable alternatives have been developed based on demand a more detailed evaluation looking at specific sites for yards will proceed. This is intended to avoid looking in detail at sites that would not generate any demand. Agency and stakeholder input will be an important consideration throughout this process.

Comment 62: The robust demand analysis associated with the Cross Harbor Freight Program Tier I EIS presents a unique opportunity to create a blueprint for Management and Build Alternatives that will offer tangible benefits to regional goods movement with or without any of the seven Rail Tunnel Alternatives. We recommend that the EIS be used to identify clear, specific, actionable, near- and long-term alternatives and rank them in order of their associated positive impacts, essentially pinpointing what investments the region should make, where and by whom. (Nelson)

Response: The Tier I EIS will identify specific actionable alternatives and improvements applicable to the project Goals and Objectives. The Record of Decision (ROD) for the Tier I EIS will select preferred mode(s) (waterborne, rail, or a combination) and alignment(s) based on its ability to improve regional freight movement. The alternative(s) listed in the ROD are expected to be actionable and would likely advance to a Tier II environmental review.

MARKET ANALYSIS

Comment 63: The study does not clearly identify why people would change back to rail from truck. The private benefit cost analysis is totally misleading. (Holden)

Response: The description of the methodology for the benefit-cost analysis was not intended to be misleading. The Cross Harbor Freight Program study seeks to answer the question listed in the comment—determine how much freight could be diverted from truck movements. The purpose of the Cross Harbor Freight Program study and Tier I EIS, which has not yet been performed, is to determine at what cost, environmental effects, and benefits freight movements could be diverted from truck to rail or marine movements.

Comment 64: The study specifically recognizes that the CSX traffic coming down from Selkirk will not be diverted through the tunnel which begs the questions about calculating the number of cars that will go through the tunnel, if any. (Holden)

Response: The current Cross Harbor Freight Program study has not yet been performed, The project analyzed in the 2004 DEIS is not moving forward and is not part of the current Cross Harbor Freight Program Tier I EIS. As described in the response to the previous comment, the purpose of the Cross Harbor Freight Program study and Tier I EIS is to determine at what cost, environmental

effects, and benefits freight movements could be diverted from truck to rail or marine movements.

Comment 65: The Wikipedia article suggests that the Cross Harbor rail tunnel might carry as many as a million truckloads a year. This works out to roughly 3,000 truckloads a day. Given that a single train can probably carry 100-300 intermodal shipping containers, that would seem to imply that the tunnel is unlikely to carry much more than one train per hour per direction, assuming at least 100 intermodal containers per train, which would not seem to justify double tracking. However, the tunnel portals could be designed to accommodate a second tunnel being later added if freight volumes increase. (Weber)

Response: Demand estimates produced by previous studies, such as those cited in the Wikipedia article, are being updated with new baseline traffic data, shipper surveys and choice modeling tools, which may produce different estimates. However, it is important to note that as a result of the new analyses, the design of any recommended Cross Harbor improvements will be matched to the size of the demand.

Comment 66: The transport study area, as currently defined, does not succeed in capturing traffic that passes, or could pass, through the region, such as between Georgia and Maine, or between Los Angeles and Worcester. Not capturing this existing and potential traffic could have the effect of underestimating demand for an improved Cross Harbor connection. (B. Miller)

Response: As suggested in the comment, the study will consider the potential for pass-through rail traffic, originating or terminating in New England, to benefit from Cross Harbor improvements. Demand for this additional market will be assessed.

Comment 67: Market Analysis. This appendix lists only four types of demand. The following types of demand, which we believe should be included in the Scoping Document, are not among them:

a. Short-haul trucking which might be less than 400 miles but is not defined as "local warehouse/terminal" traffic. We would specifically identify traffic along the heavily trafficked Northeast Corridor and traffic from the region's major grounding points at Harrisburg/Chambersburg/Greencastle, Pennsylvania and Rotterdam, New York, if these trips are not already included.

b. Municipal Solid Waste (MSW), C&D, recyclables, sewage sludge, and other "removables."

c. Freight transported to and from a port to be developed in Brooklyn.

d. Freight transported between New Jersey port facilities and Long Island and New England.

e. Freight hauled by CSX which currently travels south from Selkirk via the River Line (and is then trucked from grounding yards on the New Jersey shore) or the Hudson Line. We would argue that either of these streams might plausibly provide traffic for a trans-Hudson tunnel—particularly given the changed competitive situation that would ensue if other rail carriers were providing east-of-Hudson rail deliveries.

f. We would likewise argue that CP and CN traffic should be considered as potential sources of demand for a tunnel or other improved crossing (again, particularly given the changed competitive dynamics that an improved harbor crossing would be likely to create). (B. Miller)

Response: All freight-carrying trucks crossing the Hudson River, from anywhere to anywhere, are part of the study. Traffic types identified in the comment are subcategories of the markets referenced in the Scoping Document and therefore will be examined.

Comment 68: Under the market analysis, level-of-service parameters will be identified for each alternative (EIS Methodology, page 8). One such parameter proposed is "Equipment availability – Equipment required for the shipment and storage of goods is available at the appropriate location." We would argue that, for reasons cited previously (level of public investment, project life) this is not an appropriate screening criterion. (B. Miller)

Response: Shipper surveys have cited rail equipment availability as a key factor in their decision whether or not to use rail. If a railroad is unable to deliver cars within needed service windows on a reliable basis, the shipper has no choice but to use truck instead. Therefore, it is appropriate to include this factor in the demand modeling process. As the models are applied, the alternatives can include different assumptions regarding equipment availability, and therefore the effects of those assumptions can be quantified.

Comment 69: Please have the consultant include waste and recyclable commodities in the freight flow analysis described in Appendix B, "Technical Methodology—Screening Analysis of the EIS Methodology Report." These commodities are often overlooked in traditional freight flow analyses, however, significant amounts of MSW, construction, and demolition waste and recyclables are exported outside of the region via truck and rail. Thus, the trips associated with this activity should be captured by the Cross Harbor Freight Program Tier I EIS. (Nelson)

Response: The demand analysis will consider both waste and recyclables.

Comment 70: Please incorporate waste shippers—both from the public and private sectors—in the interviews, focus groups and surveys described in the Freight Market Research section of the same appendix. (Nelson)

Response: Waste shipments are an important factor in Cross Harbor movements. Freight data has been obtained for recyclables and MSW. Waste shippers may be part of the random selection pool for revealed/stated preference surveys. If not, and if further detail is required, we will consider supplemental interviews may be performed.

Comment 71: What assumptions will the EIS make about future economic conditions that will impact freight flows and modal distribution in the region (and the country) regardless of the adoption of any of the Management or Build Alternatives? Freight volumes, for example, are expected to rise, generally, with economic expansion. Fuel costs, as well, which have historically affected mode shifts between truck and rail, are also expected to rise in the foreseeable future as are tolls on the region's bridges, tunnels, and thoroughfares. (Nelson)

Response: Economic forecasts are being developed in consultation with PANYNJ and its study partners. The specific assumptions are not available at this time.

Comment 72: Will the freight flow research capture international freight that moves from West Coast ports via rail to west-of-Hudson destinations as a potential candidate for rail drayage reduction as described on page 6 of the EIS Methodology Report? (Nelson)

Response: Yes. The study considers all freight trips that cross the Hudson River by any mode, from anywhere, to anywhere. Truck crossings that originate at west-of-Hudson rail yards because of rail traffic that originates at West Coast ports are included. Note that upon arriving in the United States, at any port or airport, the "next leg" of the trip is always considered domestic.

RAIL OPERATIONS ANALYSIS

Comment 73: The maps mentioned improvements would be necessary on the Amtrak line south of Oak Island Yard if the tunnel were to be built, but the study should examine how many cargo trains will really be able to use this line during daylight hours—or would cargo trains primarily use this line at night? Are the improvements going to impede or improve the operations of higher speed trains (Acela etc.) on the Amtrak line? (Wolley)

Response: The Tier I EIS will generally evaluate the daytime and nighttime capacity of freight train lines and analyze the potential effects. The Tier I EIS will not consider specific times or determine future operating schedules for specific

trains; however, it will examine the effects of daytime versus nighttime operations.

Comment 74: Operation of Global Terminal, Greenville Yards, and MOTBY properties must be analyzed holistically to determine if existing nearby regional rail infrastructure such as the National Docks Secondary has the capacity to support both the land side improvements in southern Jersey City and Bayonne as well as the Rail Tunnel Alternative. (Greenfeld)

Response: To the extent that these facilities have been planned or programmed by the PANYNJ, the No Action Alternative will assess estimates of future freight rail activity at those facilities and will be considered and assessed as part of the future freight network in evaluating the alternatives.

Comment 75: If there are plans to increase freight rail traffic into and out of New York City and Long Island, a great deal must be done to have freight travel on lines other than the Bay Ridge Line and Montauk Line of the LIRR. Unless there are reasonable freight rail alternatives to the already overwhelmed Fresh Pond Rail Yard in Glendale, into the CSX Line, the use of rail to carry more freight and waste places all of the burden on a few communities. (Giordano)

Response: The Bay Ridge Line and Montauk Line of the LIRR and Fresh Pond Yard are integral to the rail freight movement on geographic Long Island. The intent of the Tier I EIS it to examine various alternatives, determine how the alternatives would affect these existing freight lines and facilities, asses the potential environmental effects, and determine appropriate mitigation measures. The capacity of existing rail lines and rail yards east-of-Hudson, and the need for improvements to and/or alternatives to these lines and yards is a major part of the study.

Comment 76: The study area as proposed does not include the area that already produces a major proportion of the rail-to-truck transfers for goods arriving in the region, the Harrisburg/Chambersburg vicinity, where goods railed across the country or from the south by the region's two major Class I railroads, CSX and NS, are grounded and driven into the region. This area not only contains rail yards and warehousing/distribution facilities that serve the region's market (where impacts related to changed rail operations due to the development of new Cross Harbor shipping systems would be felt), but marks the beginning of the roadway corridor for the less-than-one-day drive that feeds New York City. Even from the perspective of the MSW market alone, the failure to include this trans-Pennsylvania corridor could significantly underestimate the beneficial impact on reduced truck traffic due to increased rail traffic. (B. Miller)

Response: We agree that Harrisburg/Chambersburg is an important freight-generating region. Freight movements between Harrisburg/Chambersburg and the 54-

county Cross Harbor modeling study area are being captured as part of the study process. All freight movements that generate Cross Harbor trips, from anywhere to anywhere, are captured in the demand analysis, and nothing is excluded. All trucks entering or leaving the region are represented in the highway network models (the national Freight Analysis Framework network, the regional North Jersey RTM-E, and the regional NYMTC Best Practice Model). All rail traffic entering or leaving the region is represented in a national rail network model. Therefore, current demand between Harrisburg/Chambersburg and the east-of-Hudson will be quantified, as will changes in demand resulting from improvements and alternatives and changes in rail and truck traffic.

Comment 77: Appendix B mentions "Rail terminal and warehouse/distribution facility surveys and observations aimed at developing defensible estimates of the volumes, types, and percentages of rail traffic that could proceed as full moves to the east-of-Hudson region, as opposed to rail traffic requiring handling in the west-of-Hudson region." This apparently ignores the possibility that warehouse/distribution facilities developed east-of-Hudson (which would be expected with the development of Cross Harbor improvement[s], including transfer yards) would significantly change this analysis. (B. Miller)

Response: Warehouse/distribution facility availability in the east-of-Hudson definitely has an impact on the potential demand for Cross Harbor improvements. This is precisely why the study asks shippers about their needs for warehouse/distribution space. It allows the market to be segmented into one set of users who need warehouse/distribution space east-of-Hudson to utilize Cross Harbor improvements, and another set who do not.

ENVIRONMENTAL ANALYSIS

Comment 78: Please deck over the CSX/New York and Atlantic Railway (NY&A) tracks between the Fresh Pond Rail Yard and the Long Island Expressway. (Sleeper)

Response: Once the potential environmental effects have been assessed, possible measures to minimize, mitigate, and avoid impacts will be identified. Decking over portions of the rail right-of-way will be one mitigation measure considered.

Comment 79: The Tier I EIS should qualitatively discuss sea level rise, and its general impacts on the alternatives that undergo a more detailed analysis. (Musumeci)

Response: As described in the EIS Methodology Report, Appendix C, "Technical Methodology – Detailed Evaluation," the environmental analysis of Natural Resources in the Tier I EIS will discuss future conditions within the study areas associated with global climate change and the potential for sea level rise and flooding (page C-23).

Comment 80: FHWA should address the six livability principles when discussing alternative impacts. The principles include: provide more transportation choices; promote equitable, affordable housing; enhance economic competitiveness; support existing communities; coordinate and leverage federal policies and investment; and value communities and neighborhoods. For additional information on the Partnership, please refer to http://www.dot.gov/livability/. (Musumeci)

Response: The Tier I EIS will address the livability principles in the land use, zoning, and public policy analysis as part of the public policy assessment.

Comment 81: Numerous zoning and master plan changes that have been adopted by Jersey City since 2004 must be incorporated into the Tier I evaluation. (Greenfeld)

Response: As described in the EIS Methodology Report, Appendix C, "Technical Methodology – Detailed Evaluation," the environmental analysis of Land Use, Zoning, and Public Policy will describe current land use and zoning within the local study area defined for the specific project element. These various study areas are described on page C-14. Appendix C also notes that current regional public policy goals will be described and areas in the region that are targeted for growth and development will be identified.

Comment 82: Since the DEIS was released in 2004 the New Jersey Turnpike Authority has undertaken concept development of several alternative improvements to the exit 14A interchange and toll plaza. Potential impacts on this congestion mitigation project must be incorporated into the Tier I evaluation. (Greenfeld)

Response: As described in the Scoping Document, the No Action Alternative includes projects that are currently programmed, planned, or reasonably expected for the study area, independent of the Cross Harbor Freight Program. The project team is coordinating with the New Jersey Turnpike Authority to determine if the proposed exit 14A interchange and toll plaza alternatives would adversely affect or be affected by any of the proposed Cross Harbor alternatives.

Comment 83: USEPA, when commenting on the proposed Long Island Rail-Truck Inter Modal (LITRIM) at Pilgrim in Brentwood, advised that the Cross Harbor tunnel and any intermodal on Long Island, especially the Pilgrim intermodal, should be reviewed under one EIS, for its cumulative impacts, since they are so intricately linked. Why has this not been addressed? (Burkhart)

It does not appear that a letter from USEPA that recommended that the separate EIS studies being done for the intermodal sites be combined with the larger Cross Harbor EIS was considered either. This may lead to an improperly segmented study, under State Environmental Quality Review Act (SEQRA) rules in place in New York State. (Byrne)

Response: The LITRIM site in Brentwood is one of potential locations to be assessed in the Tier I EIS as potential intermodal or bulk yard sites on geographic Long Island. However, it should be noted that the Cross Harbor Freight Program and the NYSDOT's proposed LITRIM facility at Pilgrim are two separate and distinct initiatives that have independent utility. Either project could proceed without the other. The NYSDOT site at Pilgrim could receive goods as part of the current operating scenario wherein CSX uses the Hudson Line/Hellgate Bridge/Freemont Secondary to NY&A at Fresh Pond junction. Furthermore, any Cross Harbor alternative could proceed using a number of yard facilities that that may or may not include NYSDOT's proposed facility at Pilgrim. If the Pilgrim site is proposed for use in one or more Cross Harbor alternatives that site would be assessed similar to any other proposed yard location in the Tier I analysis.

Comment 84: I am concerned that the EIS Scoping Document does not account for the impact this might have on Queens residents whose neighborhoods sustain large volumes of freight rail traffic. (Addabbo)

A full accounting of quality of life issues, property value assessment, and safety concerns of [the communities of Ridgewood, Middle Village, Maspeth, and Glendale should be] included in any final EIS accounting for each of the different build options. (Maier) An increase in rail traffic would further degrade the quality of life in these neighborhoods, and should be considered as part of an Environmental Impact Statement. (Hevesi)

The EIS Scoping Document must include both a comprehensive study of the cumulative impact of increased freight rail traffic on the health and environmental welfare of communities along railroad corridors, as well as consideration of technologies that can mitigate adverse impacts. (Parisen and Zimmer)

There is a need to account for the pre-existing residential communities adjacent to the east-of-Hudson lines when proposing upgrades, improvements, and expansion. All of the data points incorporated in your analyses fail to capture this data in a way that highlights actual day to day effects on the people living adjacent to any and all of these proposed upgrades.

Countless references are made to the commercial effects on a local economy, but fail to recognize that the findings also need to be related to residential life. I propose that a specific section of your analysis and impending DEIS include "Residential Communities," or a title that PANYNJ and FHWA feels appropriately captures the cumulative effect of noise and vibration, diesel emissions, increased traffic, type of freight carried, construction, etc., will have on the health, economic, social, and environmental conditions of the residents of communities adjacent to these proposed upgrades. (Hevesi)

Response: As described in the Scoping Document, the Tier I EIS will include an analysis of cumulative effects. Cumulative impacts result from the incremental actions added to other past and reasonably foreseeable actions over time. As described in the Scoping Document cumulative effects of an action may be undetectable when viewed in an individual context but, when added to other actions, could eventually lead to a measurable environmental impact.

The Tier I EIS will evaluate the potential for both regional and local environmental impacts. As described in the Scoping Document, the study areas for the evaluation of local impacts will depend greatly on the elements of each specific alternative, and to a lesser extent, on the environmental analysis in question. For the Tier I EIS, the local study areas for the environmental analyses are described in the EIS Methodology Report, Appendix C, "Technical Methodology – Detailed Evaluation." For a majority of the analysis areas, potential impacts will be evaluated for local study areas surrounding intermodal yards, float facilities, tunnel entrances, rail lines and tunnel alignments.

As described in the EIS Methodology Report, Appendix C, "Technical Methodology – Detailed Evaluation," the environmental analysis of Land Use, Zoning, and Public Policy will describe existing land use and neighborhood character within the local study area defined for the specific project element. The Tier I EIS will assess potential local impacts from construction and operation of the project alternatives. The analysis will begin by discussing the compatibility of project elements with existing land use and neighborhood character and whether project elements would significantly alter the character of local study areas or block access to area amenities.

The Tier II evaluation will explore in greater detail those alternatives that fulfill the project purpose within the mode(s) and alignment(s) chosen in Tier I. The analysis will be based on more detailed engineering and operating data and site-specific environmental information to provide a more refined impact assessment, leading to the development of site-specific mitigation measures and their efficacy and cost, as appropriate.

Where potential adverse impacts of the Build Alternatives are indentified in the Tier I EIS, mitigation measures would be presented as a range of options that would be available to avoid, minimize, or mitigate potential adverse impacts.

Comment 85: Include a comprehensive accounting of the environmental impact of increased rail freight during the last decade on the communities of Maspeth, Ridgewood, Middle Village, Glendale, and on Long Island as a whole. (Maier, Maggio)

Any study must include a retrospective look at the last ten years. Many of our communities in Queens have seen an unprecedented growth in freight both heading to and coming from Long Island. (Weiner)

The Tier I EIS should include a comprehensive study of the environmental impact of the past decade of expanded freight rail on Long Island. There has been no systematic study of the cumulative impact of all of these projects on increased rail traffic affecting communities throughout the railroad corridor. To accurately evaluate the impact of the Cross Harbor Freight Program, we urge the FHWA and PANYNJ to do a comprehensive scientific study of the air quality, water quality, noise, and health effects of freight rail as it is operating today in our communities. Many of these problems involve rail traffic on weekends and late at night. Therefore, a study cannot be limited to just sporadic measurements. It must include continuous monitoring of air quality, noise and vibration over a long enough period to adequately capture the scale of the impact on residents.

An appropriate baseline for the EIS should be carefully defined that does not allow past environmentally harmful activities to establish the grounds for future environmental damage to communities along the rail corridor.

An accurate EIS must have realistic assumptions, which should be based on current and recent experience with freight rail on Long Island, to accurately develop models for risk and future impact.

Moreover, analysis of environmental justice issues should consider the past impact of freight rail and other industrial activity on our communities. (Parisen and Zimmer)

Response: In order to understand the current existing conditions and its affect on the surrounding communities, the Tier I EIS will describe how freight rail in the region, particularly within the NY&A service area, has changed over the years. In order to assess potential impacts of the various project alternatives, the existing conditions will then be used to forecast the future condition. Specifically, the existing environmental and neighborhood conditions are forecasted into the future to assess whether any alternatives would result in adverse environmental impacts. This is determined by comparing the future condition with and without the alternatives in place.

Comment 86: The study must look at what kind of cargo will be carried. It is no secret that the impact on my neighbors is dramatically different if the majority of cargo is solid waste. Just ask those who live near the rail yards at Fresh Pond Road. (Weiner)

Include a full accounting of the environmental burden on communities along the rail corridors in light of the types of freight being moved, particularly demolition waste and MSW. (Maier, Maggio)

I also request that the EIS takes freight type into account. The increased frequency of trains carrying MSW, for example, is associated with several local issues. The smell is a matter of ongoing concern among my constituents. The vermin related to MSW also generates frequent complaints to my office. Please

include freight type in your EIS, so that it will fully reflect all aspects of the impact of the Cross Harbor Freight Program. (M. Miller)

While we agree that expansion of railroad traffic is a positive trend, it would be irresponsible to expand freight transportation by rail without first mitigating its negative impacts, which include noxious odors that emanate from poorly sealed and contained MSW, adversely affecting my constituents' quality of life. (Addabbo)

The Tier I EIS Scoping Document should include an analysis of the environmental impacts of the kinds of cargo that will likely be carried by rail, such as solid waste. The EIS Scoping Document must be designed to recognize that there are in fact two sources of potential environmental impacts: (l) air quality impacts due to diesel emission from locomotives, noise and vibration of trains, and other impacts that are due to the traffic itself, and (2) the impact of the cargo that is actually carried by the trains, such as the result of increasing the amount of waste and other toxic traffic carried by rail. We are concerned that the Draft Scoping Document ignores this critical issue completely, since so much of the freight that is currently and will in the future be carried by rail consists of waste. For example, the document includes no reference to the Clean Railroads Act of 2008, which addresses issues related to solid waste rail transfer stations. (Parisen and Zimmer)

Response: The Tier I EIS will assess freight transport by commodity, including MSM. The Tier I EIS will evaluate potential impacts from both the facilities and operations associated with the Build Alternatives, which will account for the type of commodity associated with the alternative. The evaluation will assume that the Build Alternatives, and any associated facilities, will operate in accordance with all applicable laws and regulations, including the Clean Railroads Act of 2008.

Comment 87: In addition to waste trains, our residents must deal with the presence of tanker cars that often sit on rails for extended periods of time without any security. The Tier I EIS should consider the potential impact of security risks due to the kind of cargo transported. (Parisen and Zimmer)

While it would be impossible to predict which accidents will happen where, the EIS should acknowledge the aging infrastructure and the other factors contributing to accidents. (M. Miller)

While we agree that expansion of railroad traffic is a positive trend, it would be irresponsible to expand freight transportation by rail without first mitigating its negative impacts, which include increased potential for accidents due to a higher volume of rail traffic (Addabbo)

Response: In accordance with FHWA Guidance for Preparing and Processing Environmental and Section 4(f) Documents (October 30, 1987), the Tier I EIS will evaluate potential social impacts. The assessment of social impacts will

include the evaluation of potential impacts of alternatives on highway and traffic safety as well as on overall public safety and security. The Scoping Document will be revised to reflect this. The Tier I EIS will also include an analysis of safety and security. The Scoping Document will be revised to reflect this.

Comment 88: The proposed scope for the analysis of air quality emphasizes the analysis of mesoscale impacts. As our experience has shown, it is the localized regions near the rail yard and tracks where severe health impacts occur. Even today, the residents who live near the rail corridor and experience emissions from diesel locomotives experience high asthma rates.

Recently, proximity analysis by GIS (geographic information systems) has been applied to develop a more sophisticated and accurate approach to assessing localized environmental impacts. Modern mapping technology can be used to integrate information and develop a distance-based model of impact that avoids the homogenization of regional mesoscale models that "wash out" potentially severe health problems at the local level. Notably, proximity analysis is essential for modeling and measuring impacts in an urban area with residential areas located close to polluting sources. We therefore strongly urge that the final Tier I EIS Scoping Document ensure that new construction and rail operation will comply with the Clean Air Act by using this more appropriate and modern methodology. (Parisen and Zimmer)

Response: As described in the Scoping Document, the Tier I EIS will assess potential regional effects and potential local effects from the proposed alternatives on ambient air quality. The local study area for the air quality analysis is described in the EIS Methodology Report, Appendix C, "Technical Methodology – Detailed Evaluation." The potential for local air quality impacts from operation of alternatives include:

a. **Rail traffic associated with the proposed project**. Potential impacts will be estimated based on the number of locomotives passing sensitive receptors.

b. **Intermodal facilities and bulk yards.** Potential impacts will be estimated based on the size of the yards and their location near sensitive receptors.

c. **Truck traffic associated with project elements**. A screening of impacts for the rail yards, located in the east-of-Hudson region, will be conducted utilizing procedures outlined in the NYSDOT Environmental Procedures Manual.

This analysis will be conducted to a level of detail appropriate for a Tier I NEPA document. It should be noted that the information developed within this study does not include the refined engineering and operating data that would be necessary to predict ambient pollution concentrations in the vicinity of the rail

yards as well as any proposed barge and intermodal facilities. However, while detailed dispersion modeling is beyond the scope of this study, potential mitigation measures will be discussed to avoid, minimize or mitigate any potential adverse effects. Furthermore, additional studies would be suggested, where appropriate, that would be required in any Tier II document if a Build Alternative was suggested for further consideration.

Comment 89: We are concerned that the DEIS Scoping Document fails to adequately address the modeling of health impacts resulting from expanded freight rail. Health risks need to be modeled over a sufficiently long period of time. Expanded freight rail will impact neighboring residents throughout their lifetimes. This means that cancer risk due to diesel locomotive emissions needs to be modeled based on decades of exposure. We urge PANYNJ and FHWA to develop a proximity-based model of cancer risk near the Fresh Pond rail interchange, rail corridor, and other rail yards that takes into account an adequately long time period for diesel particulate matter exposure. We strongly recommend consideration of the 30- and 70-year exposure durations and other aspects of the methodology used in the Roseville Rail Yard Study conducted by the California Environmental Protection Agency. (Parisen and Zimmer)

I urge that any study accurately investigates the localized impact of increased rail traffic on the health of our community. I share the concern expressed by my constituents CURES that the negative health impacts of increased exposure to diesel fumes cannot be ignored. (Weiner)

Response: A detailed quantitative health risk assessment is beyond the scope of a Tier I EIS. It requires detailed information about the physical layout, operating scenarios, and equipment roster that is not available at this point in the study. Quantitative risk assessments have been conducted for operating rail yards where all the input parameters are available and are used to evaluate alternate future emission scenarios. Typically, even project specific (Tier II) EISs do not conduct quantitative risk assessments—rather they utilize comparisons against the National Ambient Air Quality Standards (NAAQS) as a measure of a project's potential heath risk. Mitigation measures are then used to lower the predicted air quality concentrations until the predicted concentrations are within acceptable levels. However, the PANYNJ recognizes the concern of the potentially affected communities and will examine previous health risk assessments to determine the order-of-magnitude risk associated with facilities of a certain size in close proximity to residential uses. Most importantly, the Tier I analysis will focus on measures to reduce any potential health risk including changes in operations and equipment to lower future emissions of harmful air pollutants and noise.

Comment 90: In its consideration of environmental justice and other social impacts, we urge that the analysis be based on a comprehensive and current study of the population within the affected areas. Currently, the proposed EIS methodology relies heavily on the 2000 Census. However, any social impact analysis should recognize that there has potentially been significant demographic change since then and update demographic and other critical data accordingly. (Parisen and Zimmer)

Response: The 2010 Census data is now available and will be used in the Tier I EIS.

Comment 91: While we agree that expansion of railroad traffic is a positive trend, it would be irresponsible to expand freight transportation by rail without first mitigating its negative impacts, which include outdated locomotive engines, some dating back to 1978, which creates large emissions of diesel fumes that have a detrimental impact on air quality. (Addabbo)

There also should be some mention of minimizing noise and vibrations from diesel hauled freight trains that are new with the implementation of this project. (Centolanzi)

Because railroads have great latitude in how they do business, the Scoping Document needs more refined scenarios that reveal impacts near the rail corridor—what happens when railroads use different types of equipment—in addition to looking at the number of tracks and trains, routes and infrastructure. (Wilkinson)

The deterioration of tracks and bridges exacerbate the environmental impacts described above, such as adding to noise and vibration and slowing the transit of noxious cargo through residential neighborhoods.

In our experience with waste trains and the transportation of toxic chemicals by rail, we have consistently seen that railcars are older and in poorer condition than trucks. (Parisen and Zimmer)

Response: The ROD for the Tier I EIS will select preferred mode(s) (waterborne, rail, or a combination) and alignment(s) based on its ability to improve regional freight movement. The alternative(s) listed in the ROD, would likely advance to a Tier II environmental review—the primary purpose of Tier II is to analyze the localized environmental impacts of the alternative. This would include detailed air quality and noise/vibration modeling along rail lines and around the selected rail yards. It should be noted that in January 2012, new regulations will go into effect that require a 50 percent reduction in particulate matter emissions in newly manufactured locomotives.

As mentioned previously, an engineering study was conducted during the previous 2004 DEIS effort that showed a complete rebuilding of the Bay Ridge Branch along its entire 11.5-mile length, including the installation of

continuously welded rail and dynamic fasteners to dampen noise. To the extent appropriate, these previous engineering studies will be used for the current Tier I EIS. However, detailed design work is beyond the scope of a Tier I EIS. A new engineering investigation will be undertaken for any alternative that advances to a Tier II environmental review.

Comment 92: The social and environmental impact analysis of the Tier I EIS should include realistic projections of the impacts of freight carried by rail as they are likely to be operated under current regulations. (Parisen and Zimmer)

Response: The environmental effects of the proposed alternatives must consider not only current operating regulations but also those that are expected to occur by the future analysis years. This is a standard practice for developing the future No Action condition. For example, the emissions from all fossil-fueled mobile sources including autos, trucks, buses, non-road construction equipment, marine engines and locomotives are regulated by the USEPA pursuant to the 1970 Clean Air Act and its subsequent amendments. As such, equipment manufactured in the past will emit higher levels of a pollutant than those currently produced. Moreover, some of the allowable emission levels continue to decrease in the future and a critical issue is how quickly those vehicles or equipment will penetrate the market. For example, it will take longer for the newer cleaner locomotives to completely penetrate the market than it does in the automobile market. For any impact assessment, USEPA data will be used to determine future emissions based on vehicle turnover (i.e., the replacement of older higher polluting vehicles with new less polluting ones).

Comment 93: Appendix C, in the section on detailed evaluation, environmental effects: land use, zoning, and public policy: study areas, says "a. Rail yards – land use and zoning will be described within 1000 feet from the boundaries of existing and proposed sites; b. Intermodal yards – land use and zoning will be described within 1000 feet from the boundaries of the proposed yard sites, and within 400 feet from any truck routes connected to the regional highway network." These statements apparently ignore the fact that warehouses and other ancillary logistics facilities mentioned above would be expected to be developed in conjunction with such yards. Such ancillary facilities would be expected to have significant effects and would require that land use and zoning characteristics at distances considerably greater than 1,000 feet be considered. (B. Miller)

Response: The impact assessment for the Tier I analysis is intended to focus on the direct effects of the proposed facilities such as rail line and yards, float/ferry and intermodal facilities and tunnel. Hence the land use study area of 1000 feet. In the Tier I analysis, the potential effects of possible secondary effects, such as from the development of warehousing and other ancillary logistics facilities, would be assessed on a more regional basis. Depending upon the alternative, it

may be possible to approximate the amount of ancillary facilities that may be developed; however, the analysis may be restricted to determining if properly zoned land is available within a given distance. Detailed analysis of these uses would not be possible in the Tier I study.

ECONOMIC AND FINANCIAL ANALYSIS

Comment 94: What are the economic costs to the Bronx due to the inter-state highways that pass through our borough? (S. Goodman)

Response: Benefit-cost analyses will be performed as part of the EIS. The analyses will focus on the incremental effects of potential Cross Harbor alternatives. The analysis will not specifically address the totality of effects from all interstate highways traversing the Bronx.

Comment 95: Serious consideration needs to be given to realistic funding at a time of great deficits, and realistic recovery of funds spent on infrastructure from railroads and shippers should also be studied in greater detail. Serious vetting of all the listed alternatives also needs to be evaluated more in depth to reveal a true cost-benefit analysis. (Byrne)

Response: We agree that cost is a fundamental consideration for the alternatives. Costs for the alternatives will be weighed against their potential benefits. However, as a Tier I analysis, the identification of a specific funding mechanism for some or all of the alternatives may not be known at this time. Therefore, viable alternatives in the Tier I analysis will not be eliminated for consideration in Tier II based only on the uncertainty of funding. While the process proceeds and more costly alternatives are deemed viable const funding mechanisms may need to be discussed more fully in the FEIS or the Tier 1 Record of Decision. The cost-benefit analysis will not include an evaluation of the risk of available funding options. It will be solely based on the capital and operation costs as well as benefits from the movement of goods.

Comment 96: The current Draft Scoping Document emphasizes the analysis of relative economic benefit accrued by each of the various alternatives, such as assessing increased employment due to construction, expanded rail operations, and subsequent growth in industrial activity. We are concerned that in the methodology for economic impact analysis, specific categories are established for Asset Providers, Service Providers, and End Users as project stakeholders—while community residents are folded in with other businesses in an "Other Impacted Parties" section.

It is critical that the EIS Scoping Document for analysis of all the alternatives include realistic estimates for the generation of unmitigated environmental damage in predictive modeling potential reduction of residential property

values. The reality of rail on Long Island and in particular Queens and Brooklyn communities is that heavily used rail yards and corridors go through what are principally residential areas inhabited by people who are employed in many different sectors throughout the region. (Parisen and Zimmer)

Response: In accordance with FHWA Guidance for Preparing and Processing Environmental and Section 4(f) Documents (October 30, 1987), the Tier I EIS will evaluate potential social impacts. The assessment of social impacts will include the evaluation of changes in the neighborhoods or community cohesion for the various social groups as a result of the alternatives. These changes may be beneficial or adverse. The Scoping Document will be revised to reflect this.

E. GENERAL COMMENTS

Comment 97: More rail freight and barge should be used by government agencies. Government agencies, including PANYNJ, can directly contribute to reducing Cross Harbor truck movement by making greater use of rail freight and barge themselves. Opportunities for such use should be cataloged and explored. (Reinhold)

Response: As described in the response to Comment 45, Float/Ferry Alternatives—alternatives that describe the movement of freight by water, across New York Harbor—will be considered and evaluated. The EIS will also consider the types of freight movement, including those generated by government agencies.

Comment 98: Encourage more barge facilities, especially on the Gowanus Canal and Newton Creek. Major efforts are under way to remediate past pollution on the Gowanus Canal and Newton Creek. PANYNJ should be vigilant to insure that opportunities for commercial use of these waterways are preserved. (Reinhold)

Response: The Cross Harbor Freight Program will study the use of barges at the system level by looking at demand over a larger geographic area and then focusing on suitable waterfront sites. The City of New York is exploring use of the Gowanus Canal and Newtown Creek for the expansion of maritime support services, such as barge berthing, along with retention and expansion of marine cargo handling. These plans will be reflected in the Cross Harbor Freight Program study.

Comment 99: Allow trash to energy plants on Long Island. These would reduce net on-island truck traffic for trash haulage, while at the same time providing local electric energy generation. Such plants have been quite successful in environmentally conscious Europe. (Reinhold)

Response: As described in the Scoping Document, the Tier I EIS will evaluate alternatives to enhance the movement of freight across New York Harbor. The comment does not refer to an alternative that would address the purpose of this project.

This suggestion is beyond the scope of this study and is not within the purview of FHWA and PANYNJ to develop or approve these facilities.

Comment 100: The Cross Harbor study should not be limited to freight facilities. Expanded passenger rail could shift commuter movements from car to public transportation and free bridge capacity for trucks. Projects that should be considered in this regard include:

- The recently canceled ARC tunnel to midtown Manhattan.
- The proposal to extend the New York Subway No. 7 line to Secaucus, New Jersey.
- Extending the LIRR to lower Manhattan. While this does not affect cross-Hudson traffic, it would reduce road congestion in Brooklyn.

The possibility of a freight component to the first two should at least be considered. Note that the Secaucus station is adjacent to a large NS intermodal rail yard and a major U.S. Postal Service facility. (Reinhold)

Response: As described in the Scoping Document, the primary purpose of the proposed project is to enhance the movement of freight across New York Harbor. There are numerous projects, some under construction and others in various stages of planning, to expand rail passenger service between New Jersey, Manhattan, and Long Island. The Cross Harbor Freight Program is the only project in the NEPA planning process that is examining the movement of goods through this corridor and as such is focused on the freight component.

Comment 101: Overall, we are deeply concerned that the Tier I EIS Scoping Document should not be neutral with regards to rail operations generally. Moreover, if current regulations are inadequate to prevent rail operators from polluting the environment and threatening the health of local residents, then any comprehensive regional Freight Program must include provisions for new and more strongly enforced regulations as a means of mitigating adverse impacts. (Parisen and Zimmer)

Response: As previously discussed (see Comment 92), the air quality impact assessment will be based on the expected level of emissions from rail operations using USEPA estimates of future emission levels from locomotives. The future emission levels are based upon the market penetration of newer, lower emitter locomotives replacing older higher-polluting equipment. In addition, the Tier I EIS will identify additional improvements that can be made using best available technology to further improve emissions including alternate technologies, increased penetration of newer less-polluting equipment into the market, and further emission controls suggested by USEPA among others.

Comment 102: PANYNJ has engaged Halcrow, Ltd. to conduct a comprehensive study of goods movement in the region. Since this study will presumably provide an overall strategic context which may affect specific proposals for improved Cross Harbor rail freight connections, it would be appropriate to describe how the EIS will be guided by this study. Or, if it will not, to explain why not. (B. Miller)

Response: Both the Cross Harbor Freight Program study and the goods movement study are being carried out in coordination by the same agency.

Comment 103: There is no need for a billion dollar freight tunnel. The freight tracks pass through residential areas of Brooklyn and Queens and would, if heavily utilized, bring noise, dirt, foul odor and disturbance to the lives of thousands and drastically reduce property values along the tracks by millions of dollars. It would be a disaster to increase usage with the tunnel. Dangerous cargoes and trash will be hauled through residential areas. (Reichman)

Any scenario proposed, either the Cross Harbor tunnel or an alternative plan, would have a large impact on our community. We are more than a way station for rail or truck traffic and deserve to be given full consideration before we are subjected to a proposal that would benefit other communities at the expense of ours. (Maggio)

Response: Comment noted. The Tier I EIS is intended to address both the beneficial and adverse effects of the project alternatives including the No Action Alternative.

Comment 104: There is a problem with putting intermodal yard in an area of greatest congestion, in a place of largest population. Every square mile is already built on. No one wants a truck yard near them. (Schatz)

Response: Comment noted. The project will evaluate the benefits of the proposed alternatives along with the adverse effects on local communities that would be subject to new or expanded rail facilities. The Tier I EIS will also include measures to avoid, minimize, and mitigate adverse impacts.

Comment 105: This issue is never put up to a vote—it is always dealt with in some quiet meeting and funding is quietly obtained by Congressman Nadler to keep this alive. If this was ever put up to public vote it would be voted down by a landslide. Any public official or agency that moves forward with this will, I predict, eventually be removed and stopped by public outrage. Please oppose the Cross Harbor freight tunnel. (Reichman)

Response: Comment noted

Comment 106: In summary, this whole project has obviously been pre-determined to be a rail-to-truck plan and PANYNJ will come up with the data to support its feasibility

and minimize its impact on affected communities. That is how studies for these megaprojects generally work. They certainly are not doing a study to choose the No Action Alternative that they already rejected once and it is obvious they are not looking very closely at real alternatives that do not involve building the tunnel or shipping via rail. (Wilkinson)

Response: Comment noted

Comment 107: Citizens for a Better Ridgewood (CBR) is a civic association based in western Ridgewood, Queens near the railroad line that runs into the Glendale Yard. All rail freight traffic on Long Island (Kings, Queens, Nassau, and Suffolk counties) must go through our community. If the Cross Harbor Freight Program proceeds as originally proposed, not only will we be subject to increased rail traffic, we will suffer from vastly increased truck traffic. Accordingly, we oppose this proposal. (Maggio)

Response: The Scoping Document submitted for public review is associated with the Cross Harbor Freight Program Tier I EIS. The project analyzed in the 2004 DEIS is not moving forward and is not part of the current Cross Harbor Freight Program Tier I EIS. The Tier I EIS is intended to address both the beneficial and adverse effects of the project alternatives including the No Action Alternative.

In addition, a number of comments on the 2004 DEIS were submitted during the scoping process for the current Tier I EIS. The Scoping Document submitted for public review is associated with the Cross Harbor Freight Program Tier I EIS. The project analyzed in the 2004 DEIS is not moving forward and is not part of the current Cross Harbor Freight Program Tier I EIS. Therefore, those comments are not applicable and not addressed.

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CROSS HARBOR FREIGHT PROGRAM

Environmental Impact Statement (EIS) Methodology



U.S.Department of Transportation
Federal Highway Administration

THE PORT AUTHORITY OF NY & NJ

September 2010

Cross Harbor Freight Program
Environmental Impact Statement (EIS) Methodology

INTRODUCTION

The Federal Highway Administration (FHWA) and the Port Authority of New York and New Jersey (PANYNJ), serving as co-lead agencies, are preparing an Environmental Impact Statement (EIS) to evaluate alternatives to improve the movement of goods in the region by enhancing the transportation of freight across New York Harbor. The Cross Harbor Freight Program EIS will analyze alternatives that would provide near-term and long-term strategies for improving the regional freight network, reducing traffic congestion, improving air quality, and providing economic benefits.

The greater New York/New Jersey/Connecticut region is the financial center of the U.S. economy and the nation's largest consumer market. Regional forecasts of truck growth vary depending on the source, year, and geography, but available sources agree that truck tonnage is anticipated to increase substantially by 2035. The overwhelming dependence on trucking in the freight distribution network is expected to remain, and will result in serious regional highway congestion, deleterious effects on environmental quality, and extended travel delays. The continuation of this trend without improvement will threaten the economic vitality of the greater New York/New Jersey/Connecticut region.

The following describes the process and methodology that will be undertaken for the development and evaluation of project alternatives and the preparation of the EIS, which will ultimately select a Preferred Alternative or Alternatives in the Tier I EIS Record of Decision. The process consists of five major steps—scoping, fatal flaw analysis, screening analysis, detailed evaluation, and the Tier I EIS—that are intended to winnow the number of alternatives through a comprehensive evaluation process. The 5-step process includes numerous tasks involving separate processes, decision points/action items, and analysis modeling that are described in this report (see Appendix A for a diagram illustrating the sequence of these individual tasks). Detailed technical and analytical methodologies associated with the tasks are provided in Appendices B and C. The following is an overview of the five major steps:

1. **Scoping** – Determines the project's goals and objectives, alternatives to be considered, and scope of issues to be examined in the Tier I EIS. Also refines the project purpose and need.
2. **Fatal Flaw Analysis** – Eliminates clearly infeasible alternatives from further consideration.
3. **Screening Analysis** – Reduces the range of reasonable alternatives that do not meet the goals and objectives based on freight demand forecasting and broad qualitative criteria.
4. **Detailed Evaluation** – Evaluates alternatives for potential regional and localized effects based on specific and more rigorous quantitative performance measures.



5. **Tier I EIS** – Documents and presents the results of the detailed evaluation, summarizes the process and results of Steps 1-4, and includes additional environmental analyses and compliance with environmental laws and regulations, as appropriate.

1. SCOPING

The first step is scoping, and it begins with the issuance of a Notice of Intent (NOI) and initiation of the public scoping process. A NOI for the Cross Harbor Freight Program was issued in the Federal Register on May 13, 2010; the Scoping Document is being issued concurrently with this document. As described in the NOI, the EIS analyses will be conducted using "tiering," as described in 40 CFR 1508.28, which is a staged process applied to the environmental review of complex projects. Several pre-scoping meetings were held with the Technical Advisory Committee and Stakeholder Advisory Committee prior to the issuance of the NOI. These initial agency coordination meetings included discussions regarding project goals, alternatives, and the process for the alternatives evaluation and Tier I EIS.

The purpose of the scoping process is to assure that the full range of issues related to the proposed action is addressed in the Tier I EIS, and that potential significant adverse impacts are identified and advanced for further study to Tier II, as appropriate. FHWA and PANYNJ are undertaking an extensive public scoping process that will allow the public and affected agencies to provide comments on the scope of the environmental review process. The Draft Scoping Document will frame the environmental review to follow, and will facilitate a public discussion of project alternatives and the environmental issues to be considered in the EIS.

The two major tasks associated with the scoping process, described below, are: (1) needs assessment; (2) identification of project goals and objectives and (3) development of a long list of alternatives.

NEEDS ASSESSMENT

As the first task, a needs assessment was undertaken to identify the need for the project and to develop a comprehensive statement of the project's purpose. The Cross Harbor Freight Program Needs Assessment, being issued concurrently with the Draft Scoping Document, identified substantial constraints and problems with the existing freight system, including rail, marine, and highway infrastructure, and its ability to accommodate future growth in freight movement across New York Harbor between the east-of-Hudson and west-of-Hudson regions. The scoping process allows for the refinement of the purpose and need.

GOALS AND OBJECTIVES

The primary purpose of the project is to improve the movement of freight across New York Harbor between the east-of-Hudson and west-of-Hudson regions. A project's goals and objectives are the foundation of its purpose and need under the National Environmental Policy Act of 1969 (NEPA). They are used as the basis for developing the criteria and methodology for evaluating the project alternatives. Four goals have been established for the Cross Harbor Freight Program. These goals

are intended to remedy some of the problems stated in the Needs Assessment. Objectives have also been identified that further define the goals and provide specific and measurable means by which to evaluate and compare project alternatives. The four project goals and respective objectives are as follows:

GOAL 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors relative to the No Build scenario.

Objectives:

A. Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.
B. Reduce the travel-time and delay on regional highway network.
C. Maximize efficient use of available capacity on existing transportation infrastructure.
D. Maintain or improve regional rail network performance.

GOAL 2: Provide Cross Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.

Objectives:

A. Increase the number of modal options available for Cross Harbor freight transportation.
B. Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.

GOAL 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.

Objectives:

A. Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in the event of a major interruption of service on existing interstate highway corridors serving the region.
B. Support contingency planning for emergency alternative Cross Harbor goods movement operations.
C. Reduce the number of freight vehicle related accidents.
D. Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.

GOAL 4: Support development of integrated freight transportation/land use strategies.

Objectives:

A. Maximize underutilized freight transportation infrastructure and related land uses.
B. Support services to existing freight distribution centers in the region.
C. Integrate rail freight services with local land use and transportation planning objectives.
D. Integrate rail freight development with statewide freight and passenger rail plans.

LONG LIST OF ALTERNATIVES

The alternatives evaluation begins with the development of a long list of alternatives comprising combinations of freight movement methods and existing or potential facility locations. This universe

of project alternatives is appropriate for a Tier I EIS, which aims to select a mode, alignment, and logical termini for the proposed project.

This list includes a variety of alternatives that were identified and studied in previous reports, including the Cross Harbor Freight Movement Major Investment Study (MIS), commissioned by the New York City Economic Development Corporation (NYCEDC) and completed in the spring of 2000. Four alternatives from the MIS were advanced for study in a Draft EIS, which was published in April 2004 by FHWA and the Federal Railroad Administration (FRA), acting as co-lead agencies, and NYCEDC, acting as the project sponsor.

A complete description with figures depicting the long list of alternatives for the Cross Harbor Freight Program is included in the Scoping Document. These alternatives generally fall into the following three classes:

1. No Action Alternative
2. Management Alternatives – Transportation System Management (TSM) and Transportation Demand Management (TDM)
3. Build Alternatives – Float Alternatives, Rail Tunnel Alternatives, and Rail/Vehicle Tunnel Alternatives.

2. FATAL FLAW ANALYSIS

The long list of alternatives will include a wide range of potential alternatives. To ensure a meaningful alternatives analysis and environmental review, NEPA requires consideration of project alternatives that are considered feasible and reasonable. Therefore, the second step in the process is to undertake a fatal flaw analysis, which is intended to eliminate alternatives that are not feasible early in the evaluation process. Basic feasibility criteria will be established for this project to eliminate non-viable alternatives from the long list. The feasibility criteria, or “fatal flaw” criteria, include:

- Clearly inconsistent with or unlikely to meet the project goals and objectives.
- Requires technologies, service concepts, etc., whose feasibility and effects cannot be reliably tested through the evaluation process.
- Requires the use of resources or properties which are highly unlikely to be available, or whose use would create a conflict with the project goals and objectives.
- Incompatible with existing or planned operations of current rail providers.
- Results in severe impacts and/or cost implications to existing rail or highway infrastructure.
- Results in severe adverse environmental effects that would make approval or permitting unlikely.

Public and agency input on the fatal flaw feasibility criteria will also be considered during the scoping process. From the long list of alternatives, each would be evaluated in relation to the feasibility criteria to determine if the alternative will be fatally flawed and eliminated, or it will be carried forward for further evaluation in the next step, the screening analysis.

3. ALTERNATIVES SCREENING PROCESS

As a result of the fatal flaw analysis, a range of potentially feasible project alternatives will be identified and then carried forward to Step 3—the alternatives screening process. The purpose of the screening process is to reduce the number of alternatives to be further analyzed in the detailed evaluation. If similar alternatives have comparable outcomes, the alternative with the best results will be carried forward and the other similar alternatives, with less favorable outcomes, will be eliminated.

The screening process begins with a market analysis to collect detailed information about existing freight logistics and demand. This information is then used to develop the mode choice model. The mode choice model will provide estimates of future freight flows by mode for each alternative. The resultant freight flows will enable a comparison of each alternative's ability to attract freight and provide an important measure in determining a given alternative's ability to meet the first two project goals. The alternatives will also be qualitatively evaluated to determine if they are consistent with the broad objectives associated with the project goals (described above).

The following describes the individual tasks in the screening process. The full extent of the technical methodologies that will be used to evaluate logistics and market demand for the screening analysis can be found in Appendix B.

MARKET ANALYSIS

The screening process and development of the mode choice model begins with a market analysis to understand freight logistics and demand throughout the 54-county Cross Harbor modeling study area. These are closely related issues, because decisions about how to move freight—by what mode, and what route—generate demand over the transportation system. The market analysis comprises three major tasks:

- Determine existing freight flows
- Identify freight markets
- Specify level of service parameters for proposed alternatives

To address freight logistics, research will be undertaken to identify and describe, in qualitative and quantitative terms, the types of existing freight movements that occur today to serve shippers and receivers in the east-of-Hudson market, emphasizing the critical differences between direct moves (from shipper to receiver via a single mode), intermodal moves (from shipper to receiver via multiple modes), and indirect moves (via intermediate warehouse and distribution facilities located in the NY/NJ region). The second task, freight market research, will be undertaken to gather information in order to understand the factors used by decision-makers to select a particular mode of transportation. Based on the information provided from the market research, the third task will be to specify key attributes or level of service parameters for each alternative.

POTENTIAL FREIGHT TRANSPORTATION MARKETS

To understand the market demand for each alternative, the analysis will first examine the four types of freight movements (listed below) that may be well served by Cross Harbor freight improvements. These freight movements are considered domestic moves, because international cargo that enters the country through the region's ports and airports are transported across the harbor in a secondary, domestic move.

1. **Existing rail markets** and services to the east-of-Hudson region, which could increase through normal business growth and improvements to rail services. This category also includes historic rail markets that might be recaptured, as well as emerging opportunities in commodity types that are typically well-served by traditional railcar service. Rail improvements within the market demand and forecasting study area may facilitate rail freight movement, but the specific origin/destination of rail freight moving to/from the east-of-Hudson region is also a critical factor. Some origin/destination regions are better served by rail than others, based on the availability of rail service at attractive prices and schedules, and/or the availability of service from multiple railroads.

2. **Long-haul trucking** (400 miles or more) of full truckloads from west-of-Hudson points to east-of-Hudson points. For freight moving more than 400 to 500 miles, rail is a competitive option because the distance is longer than a trucker can usually drive in a single 24-hour period. Long-haul freight that would otherwise move on truck could move by rail in a variety of ways: as intermodal shipping containers, either single-stacked or double-stacked; or as trailers-on-flatcars; or even as "piggyback" traffic, where the entire truck, including cab, is carried. Most importantly, long-haul truckload shipments already arrive in the east-of-Hudson region every day, and are already served by existing receiving facilities. If these shipments were to be handled by rail instead, they would not require new warehouse/distribution facilities in the east-of-Hudson region. New or expanded rail yards where freight could be lifted or rolled onto and off railcars would, however, be required.

3. **Rail drayage reduction**. Some current rail traffic terminates at rail yards in the west-of-Hudson region, and is broken down and trucked to its ultimate destination in the region. In cases where full rail containers are broken down into smaller truckloads, the operation typically occurs in major warehouse/distribution centers in northern New Jersey, or increasingly in Harrisburg or northeastern Pennsylvania. This operation cannot be relocated to the east-of-Hudson region without adequate investments in warehouse/distribution capacity. These operations also require adequate terminal space, whether the railcar is delivered directly to the customer, or whether its contents must be transferred to trucks, or possibly stored for an interim period. Railcar utilization is another significant factor. Simply put, the more loaded miles per year that railcars travel, the greater the revenues per year they generate. Railroads allocate their equipment to routes and services that generate higher revenues, and their willingness to serve lower-priority markets depends in part on railcar supplies. A final consideration would be whether rail schedules and services would actually provide faster end-to-end service by continuing on rail to east-of-Hudson points, or whether terminating traffic west-of-Hudson and trucking the remaining distance is more efficient. To fully understand this market opportunity, the analysis will consider the number of full loads on rail that are destined for east-of-Hudson today, the number of full loads likely to occur in the future, and the improvements necessary for alternatives involving enhanced cross harbor infrastructure to meet or beat current rail service.

4. **Short-haul trucking**. The region's marine terminals, warehouse/distribution facilities, and major shippers and receivers generate significant container, dry van (including full truckload and less-than-truckload), and bulk traffic. Local traffic is moving almost exclusively by truck due to the short distances. Using rail for these trips involves higher handling costs due to intermodal transfers, and slower end-to-end travel times. However, both old and new technologies could increase the potential to divert traffic from this market. Existing technologies, in addition to railcar floats, include truck floats, trailer-on-barge,

and container-on-barge. New technology includes trains carrying trucks through a tunnel and "automated guided vehicles" (AGVs). The requirements of capturing this market are more speculative at this time, but potentially feasible with existing technology. One benefit of this means of serving this market demand is that no additional warehouse/distribution space would be required, since the same truck moving across the harbor would serve both shippers and receivers.

For each of these types of freight movements, data will be collected regarding commodity and vehicle flows. Several sources of data will be used for this effort, including existing regional models, TRANSEARCH data, Rail Waybill data, as well as truck and rail surveys at key facilities. Detailed methodologies for this data collection effort are included in Appendix B.

FREIGHT MARKET RESEARCH

The second task for the market analysis is to clearly understand and describe the factors used by decision-makers to select a particular mode of transportation. Market research will be undertaken, through one-on-one interviews and focus groups. Specifically, the objectives of this research are to:

- Understand how Cross Harbor shippers make decisions regarding freight transportation, including mode and carrier choices, through a coordinated program of one-on-one interviews and focus groups.
- Understand the role of supply chain logistics on these decisions through a coordinated program of one-on-one interviews and focus groups.
- Obtain detailed information on actual recent shipments in the market demand and forecasting study area via revealed-preference surveys conducted via telephone.
- Obtain detailed information on the extent to which shipping decision-makers would change their choices under different hypothetical transportation scenarios, via stated-preference choice exercises.

Detailed methodologies for the specific efforts associated with the market research, including surveys, focus groups, and interviews, are included in Appendix B.

LEVEL OF SERVICE PARAMETERS

The last task for the market analysis is to specify key attributes or level of service parameters for each proposed alternative. These attributes will be used to test each alternative in the freight flow forecasting effort. These attributes include:

- **Reliability** – Ability to provide predictable delivery of goods within expected time windows.
- **Cost –** The end-to-end price paid by the shipper or receiver, reflecting labor costs, fuel costs, equipment costs, and the time lost to congestion or to the breakdown of efficient supply chains.
- **Speed** – Total end-to-end travel time for delivery of goods.
- **Safety/security/loss/breakage –** Safe and secure operation of freight vehicles and facilities to minimize loss and damage.
- **In-transit visibility** – Ability to track and locate goods throughout shipping process.

Table 1: Screening Criteria

Goals and Objectives	Broad Screening Criteria
Goal 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.	
Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.	Likely change in regional truck vehicle miles of travel (VMT).
Reduced travel-time and delay on regional highway network.	Not evaluated for screening analysis.
Maximize efficient use of available capacity on existing transportation infrastructure.	Qualitative comparison of alternative concepts plans.
Maintain or improve regional rail network performance.	Likely change in regional rail system demand.
Goal 2: Provide Cross-Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.	
Increase the number of modal options available for Cross Harbor freight transportation.	Qualitative comparison of alternative concepts plans
Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.	Comparison of market demand as measured by the Mode Choice Model
Goal 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.	
Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in event of a major interruption of service on existing interstate highway corridors serving the region.	Provision of new freight capacity other than existing interstate highway corridors.
Support contingency planning for emergency alternative Cross Harbor goods movement operations	Provision of new freight capacity other than existing interstate highway corridors.
Reduce the number of freight vehicle related accidents.	Likely change in regional truck VMT.
Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.	Qualitative comparison of alternative concepts plans
Goal 4: Support development of integrated freight transportation/land use strategies.	
Maximize underutilized freight transportation infrastructure and related land uses.	Qualitative comparison of alternative concepts plans
Support services to existing freight distribution centers in the region.	Qualitative comparison of alternative concepts plans
Integrate rail freight services with local land use and transportation planning objectives.	Not evaluated for screening analysis.
Integrate rail freight development with statewide freight and passenger rail plans.	Not evaluated for screening analysis.

- **Equipment availability** – Equipment required for the shipment and storage of goods is available at the appropriate location.

Information regarding these parameters will be obtained from the market research surveys. These parameters vary for a broad range of commodities and origin destinations. Any alternative that can be defined in terms of its level of service can be tested for its estimated potential demand in the mode choice model.

FREIGHT SHIPMENT MODE CHOICE MODEL

The data and information collected from the market analysis will be used to develop a model that predicts how shippers will react to corridor transportation improvements and alternatives. The mode choice model will relate the choice of shipment mode (truck, rail, waterborne) to specific characteristics of the shippers/receiver, the shipments made, and the level of service attributes of each mode. The detailed methodology for developing the mode choice model is included in Appendix B.

For each alternative, the mode choice model will calculate the diversion of freight flows to rail or waterborne modes, as compared to the base traffic moving by truck. This comparative process allows for a range of alternatives to be tested against a broader range of commodities and origin destinations. As a result of the model, the mode diversion of freight and the geographic distribution of freight will be identified for each alternative.

CRITERIA FOR ALTERNATIVES SCREENING

The output of the mode choice model will be freight flow by mode—how much freight will move by rail or waterborne as compared to trucks on the highway system. If similar alternatives result in comparable results, the alternative with the best results will be carried forward and the other similar alternatives with less favorable outcomes will be eliminated.

Alternatives will also be evaluated for consistency with the objectives associated with the project goals. This evaluation will be based on broad qualitative measures for each objective. For some objectives, such an evaluation may not be possible at the screening level since the alternatives and their potential effects have not been defined in enough detail. The proposed screening criteria are shown in Table 1. In this case, criteria will be developed in Step 4—the detailed evaluation. The following describes the broad screening criteria for each of the project goals and objectives.

4. DETAILED EVALUATION

The outcome of the screening analysis will be a limited list of alternatives. The next step in the process is the detailed evaluation that will consider both quantitative and qualitative performance measures and provide a comparative analysis to weight the relative benefits and detriments of each alternative and determine which alternative(s) best meets the project's goals and objectives. One purpose of the detailed evaluation is to analyze potential regional and localized effects based on more quantified measures. The results of the detailed evaluation will also identify the alternatives that will be carried forward in the Tier I EIS. For this step in the process, alternatives will be evaluated to determine their potential effects on:

- Transportation networks – regional rail and highway networks.
- Operational and engineering requirements – right-of-way, yard, facility, and infrastructure requirements.

- Environment – range of social and environmental conditions.
- Economic and financial conditions – cost and benefits, financial value to the railroads, various revenue streams, and funding needs.

For each alternative, the results of the analyses will be evaluated based on performance measures associated with the project goals and objectives. These performance measures will primarily be quantitative; however, some analysis areas will consider potential benefits or detriments that cannot be easily measured but must be characterized qualitatively, such as effects on surrounding land and consistency with local plans. Based on the results of the detailed evaluation, alternatives could be eliminated and therefore not carried forward for the Tier I Draft EIS. The full extent of the technical methodologies that will be used for the detailed evaluation can be found in Appendix C.

REGIONAL TRANSPORTATION EFFECTS

As described above, the screening analysis in Step 4 will result in a comparison of the amount of freight that will be diverted from trucks in the No Action Alternative to alternative modes. The transportation network will be further analyzed in Step 5, by determining how the resulting future freight flows would affect the regional rail and highway networks. The purpose of the transportation evaluation is to understand the impact of potential Cross Harbor improvements on specific rail lines, river crossings, and highway freight corridor segments.

RAIL OPERATIONS ANALYSIS

Cross Harbor rail infrastructure enhancements from the alternatives could lead to substantial changes in rail operations. At the same time, rail traffic growth over the regional rail freight network, absent the improvements, must be accommodated as well. Therefore, a rail operations analysis will be performed by developing high-level rail traffic density projections and evaluating the broad implications in terms of rail network capacity.

Current rail traffic flows will be used to initially set up and develop a regional rail network model. Future baseline growth will then be estimated and applied to the model. The effects from the alternatives—in terms of changes in volumes over existing infrastructure—will then be modeled. The modeling will address float and tunnel services and the lines serving them. Each section of rail line will be evaluated in terms of capacity, based on its physical characteristics, impact on existing operations, traffic mixes, service schedules, signaling, dispatching procedures, time-of-day peaking factors, and other similar attributes.

HIGHWAY NETWORK ANALYSIS

To assess the effects of the alternatives on the regional highway system, regional travel demand models will be used to assess the expected changes in truck trip volumes and origin-destination patterns. Regional model outputs, with and without the proposed alternatives, will be compared to estimate the net benefits to the regional highway system. It is expected that for most alternatives, truck trips over the Hudson River crossings and major corridors accessing these crossings would be somewhat reduced. However, local traffic at certain points, particularly truck to rail transfer facilities, could increase. The regional models provide a framework to evaluate these effects on a regional basis. They can not be used to evaluate the localized increases in trips. This needs to be done on a more micro-scale. The analysis will use a combination of two regional model systems—North Jersey Transportation Planning Authority's (NJTPA) North Jersey Regional Transportation

Model Enhanced (NJRTME) and New York Metropolitan Transportation Council's (NYMTC) Best Practices Model (BPM).

The results of the mode choice model—reductions in truck traffic on key corridors, as well as potential increased concentrations at local facilities—will be exported into the BPM and NJRTME models. Each alternative will be analyzed for its potential to divert truck traffic, as quantitatively measured by decreases in:

- Vehicle miles of travel (VMT)
- Vehicle hours of travel time (VHT)
- Vehicles hour of delay (VHD)
- Change in travel time
- Peak period traffic and truck volumes

OPERATIONAL AND ENGINEERING REQUIREMENTS

An operational analysis, based on conceptual engineering, will be undertaken during this step to determine operational needs, particularly as it relates to the existing rail network and costs associated with the proposed alternatives. For yards and facilities associated with the alternatives, the conceptual engineering will identify the location of yards and facilities, minimum sizes, and any infrastructure needs. The conceptual engineering will also identify any associated right-of-way requirements. Order of magnitude cost estimates for the construction, operation, and maintenance of the alternatives will also be developed.

ENVIRONMENTAL EFFECTS

Environmental analyses of alternatives will also be undertaken in this step. These analyses will consider both direct and indirect effects as well as cumulative effects for a range of social and environmental conditions and evaluate the potential for local environmental effects. The conceptual engineering and operational information described above will be used to consider potential environmental consequences for each alternative. The analyses will be a mix of both quantitative and qualitative, depending on the specific analysis and available information, and the detailed methodology for each of these analyses is included in Appendix C. Environmental analyses will be undertaken in the following areas:

- **Land use, zoning, and public policy** – compatibility with land use, neighborhood character, and development goals and regional public policy.
- **Cultural and historic resources** – direct effects on archaeological and historic resources and parkland.
- **Air quality** – regional (mesoscale) effects and potential local effects on ambient air quality.
- **Energy and greenhouse gases** – change in energy consumption and greenhouse gas emissions in the 54-county Cross Harbor modeling study area.
- **Noise and vibration** – effects from increased rail activity along rail freight routes, activity at rail yards.

- **Natural resources** – direct effects on aquatic biota, terrestrial biota, threatened or endangered species (and their associated habitats, such as wetlands), as well as other resources of special concern, such as essential fish habitat.
- **Contaminated and hazardous materials** – potential to encounter contaminated soil and groundwater during construction, especially those elements that would require excavation, storage, transport, or disposal of contaminated soil.
- **Environmental justice** – potential for disproportionate adverse effects on minority and low-income populations.

ECONOMIC AND FINANCIAL EFFECTS

The detailed evaluation will consider a series of economic and financial effects to address issues associated with the public and private benefits of the alternatives. The analyses will focus on evaluating the effects on economic activity in the 54-county Cross Harbor modeling area. The economic effects will be presented in terms of direct, indirect, and induced economic impacts. Alternatives may also attract local economic development along the alignments and in the vicinity of project elements, such as yards and float facilities. Localized adverse economic impacts may also occur from displacement and relocation of businesses.

As part the screening analysis in Step 4, alternatives are evaluated to estimate their market demand, relative utilization, and modal diversion potential. The alternatives will be further refined based on engineering, operational, environmental, and other considerations in Step 5 (as described above). These revised alternatives will be re-tested with respect to market demand, relative utilization, and modal diversion potential using the mode choice models.

The economic analyses include:

- **Economic impact analysis** – examine the broader implications of the alternatives on freight stakeholders, surrounding communities, and the larger statewide and national implications.
- **Benefit-cost analysis** – estimate benefits from a local, regional, and national perspective based on transportation efficiencies and social and environmental benefits.
- **Market feasibility analysis** – evaluate the acceptance and sustainability of alternatives within the private market world of transportation service providers and customers.
- **Railroad financial analysis** – estimate the potential operational value of alternatives to railroads.
- **Revenue stream and funding needs analysis** – estimate potential revenue streams to the public sector and identify overall funding needs, including needs unmet by revenue streams.
- **Displacement analysis** – identify potential direct displacement of residents and/or businesses.

CRITERIA FOR EVALUATION

For each alternative, the results of the analyses will be evaluated based on performance measures associated with the project goals and objectives. Although these performance measures have not

Table 2: Detailed Evaluation Analysis

Goals and Objectives	Detailed Evaluation Analysis
Goal 1: Reduce the contribution of Cross Harbor trucks trips to congestion along the region's major freight corridors.	
Reduce the vehicle miles traveled by freight trucks which cross the Hudson River.	Transportation
Reduced travel-time and delay on regional highway network.	Transportation
Maximize efficient use of available capacity on existing transportation infrastructure.	Engineering and operational
Maintain or improve regional rail network performance.	Engineering and operational
Goal 2: Provide Cross-Harbor freight shippers, receivers, and carriers with additional, attractive modal options to existing interstate trucking services.	
Increase the number of modal options available for Cross Harbor freight transportation.	Economic and financial
Provide modal options and choices that offer attractive and competitive performance, consistent with business requirements.	Economic and financial
Goal 3: Expand facilities for Cross Harbor goods movement to enhance system resiliency, safety and security, and infrastructure protection.	
Provide Cross Harbor freight facilities and services that improve system redundancy and resilience in event of a major interruption of service on existing interstate highway corridors serving the region.	Transportation
Support contingency planning for emergency alternative Cross Harbor goods movement operations	Engineering and operational
Reduce the number of freight vehicle related accidents.	Transportation
Develop effective alternative options for transporting overweight/non-standard cargo to support infrastructure protection for regional bridges and highway network.	Engineering and operational
Goal 4: Support development of integrated freight transportation/land use strategies.	
Maximize underutilized freight transportation infrastructure and related land uses.	Transportation Environmental
Support services to existing freight distribution centers in the region.	Transportation
Integrate rail freight services with local land use and transportation planning objectives.	Environmental
Integrate rail freight development with statewide freight and passenger rail plans.	Environmental

yet been defined, Table 2 identifies how each of the project goals and objectives will be evaluated by the analyses described above.

5. TIER I DEIS

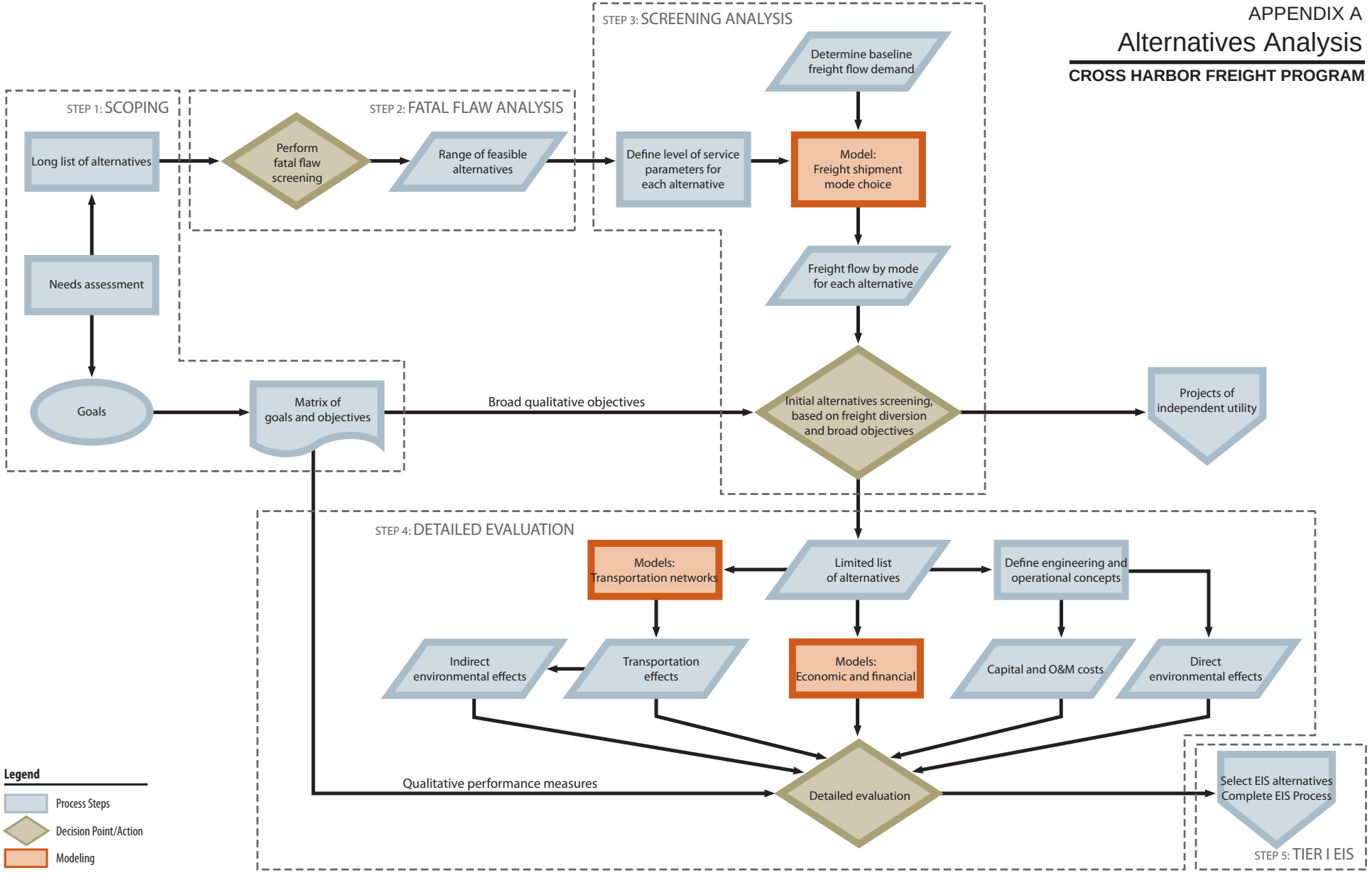
The final step in the process is the preparation of the Tier I DEIS. The results of all the previously described steps and assessments will be summarized in the Tier I DEIS. The environmental analyses undertaken for the detailed evaluation will be presented in the Tier I DEIS. Some of the environmental analyses may be further refined for the EIS. In addition, the Tier I DEIS will include analyses of visual resources, water resources, coastal zone management, and indirect and cumulative effects, as well as a Section 4(f) evaluation and Section 106 considerations, as appropriate.

The format and content of the Tier I EIS, as well as the review process is described in the Scoping Document. As the EIS process continues, alternatives may be revised, discarded, or added. The preparation of the EIS will ultimately select a Preferred Alternative or Alternatives in the Tier I EIS Record of Decision.

APPENDIX A

Alternatives Analysis

CROSS HARBOR FREIGHT PROGRAM



Appendix B: Technical Methodology – Screening Analysis

A. INTRODUCTION

As described in the Environmental Impact Statement (EIS) Methodology Report, as a result of the fatal flaw analysis, a range of potentially feasible project alternatives will be identified and then carried forward to Step 3—the alternatives screening process. The screening process begins with a market analysis to collect detailed information about existing freight logistics and demand. This information is then used to develop the mode choice model. The mode choice model will provide estimates of future freight flows by mode for each alternative. The following details the full extent of the technical methodologies that will be used to evaluate logistics and market demand for the screening analysis.

B. EXISTING FREIGHT FLOW RESEARCH

As described in the EIS Methodology Report, the market analysis begins by identifying the logistics patterns that are most likely to benefit from Cross Harbor freight enhancements.

OVERVIEW

This information will be gained from past studies, freight movement databases, industry interviews, and current industry trends. The EIS Methodology Report describes in detail the four types of freight movements that may be well served by Cross Harbor freight improvements.

ANALYSIS METHODOLOGY

Once the key logistics patterns are identified, the next step is the collection of best available data on commodity and vehicle flows relevant to these patterns. The goal is not to describe the universe of freight activity; rather, it is to develop a clear, focused, and easily communicated picture of the freight flows that are most critical for enhanced Cross Harbor rail infrastructure. The following sources will be utilized:

- *Existing regional models* (New York Metropolitan Transportation Council [NYMTC], North Jersey Transportation Planning Authority [NJTPA], New Jersey Department of Transportation [NJDOT], which contain truck movement information.
- *TRANSEARCH data* (acquired by the Port Authority of New York and New Jersey [PANYNJ])
- *Rail Waybill data* for key states
- *Truck origin-destination surveys at key facilities*: major truck crossings and regional intermodal rail yards. (Useful origin-destination data are already available for the region's marine terminals.) TRANSEARCH is useful for describing truck origin-destination pairs and commodity mixes, but less useful for estimating route-by-route truck volumes. Empirical data from on-the-ground surveys is therefore helpful to validate and, if necessary, adjust the TRANSEARCH data. This validation

step should significantly increase confidence in the underlying estimates of freight flows, and in the resulting estimates of potential utilization of enhanced Cross Harbor rail infrastructure. This information will provide best-practice estimates of full truck loads for the east-of-Hudson region.

- *Rail terminal and warehouse/distribution facility surveys* and observations aimed at developing defensible estimates of the volumes, types, and percentages of rail traffic that could proceed as full moves to the east-of-Hudson region, as opposed to rail traffic requiring handling in the west-of-Hudson region. Initially gate surveys will be used, performed by the railroads, which are on file with the Surface Transportation Board (STB), and then the need for any additional empirical information will be determined. If this information proves insufficient, the possibility of conducting gate surveys at the North Jersey intermodal terminals will be explored. From prior experience, the questionnaires must be short and answerable in a minute or less. This requirement will limit questions to a critical few, including origin and destination, load/empty, commodity, and equipment type. Approval to conduct the surveys would have to be obtained from the terminal operators, whose cooperation will likely vary depending on their perception of the potential benefits that they may accrue. Similarly, if the STB information proves insufficient, the possibility of collecting similar data at a cross-section of distribution/warehousing facilities in the region to supplement rail facility information will be explored.
- *One-on-one interviews* with knowledgeable individuals in the freight industry. A target list of potential interviewees and an interview guide will be developed. It is anticipated that approximately 20 interviews will be performed. These interviews will be performed with representatives of carriers, shippers, third-party logistics providers, and public agency stakeholders. The findings from the interviews will be used to help describe existing freight movements and to focus further analyses on the most important aspects of shipping decisions. In the process of selecting interviewees, individuals with a mix of responsibilities will be identified to ensure that the broad range of issues and perspectives is fully understood. For example, personnel at each of the railroads serving the region are expected to be interviewed. For the Class I carriers, interviews will be conducted with operations staff that is intimately familiar with how their railroad runs trains and terminals in the region, marketing officials that are selling transportation services, and strategic planners who are looking toward the future and their railroad's position in it.
- *Economic forecasts.* The TRANSEARCH Insight 30-year forecast links economic and demographic projections to increases in demand for specific commodity groups, and provides a baseline estimate of increases in freight movement by mode and origin-destination that would result from such increases. It is important to note that the TRANSEARCH forecasts assume no changes in the underlying mode shares. Therefore, a commodity in a given trade lane that is 10 percent by rail today, is assumed to be 10 percent by rail in the future. This represents a base case scenario, against which the effects of Cross Harbor freight improvements can be evaluated
- *International trade forecasts*. TRANSEARCH forecasts are driven primarily by demographic and economic trends. Those forecasts can be adjusted to reflect anticipated or potential changes in international trade, if desired, based on PANYNJ projections.

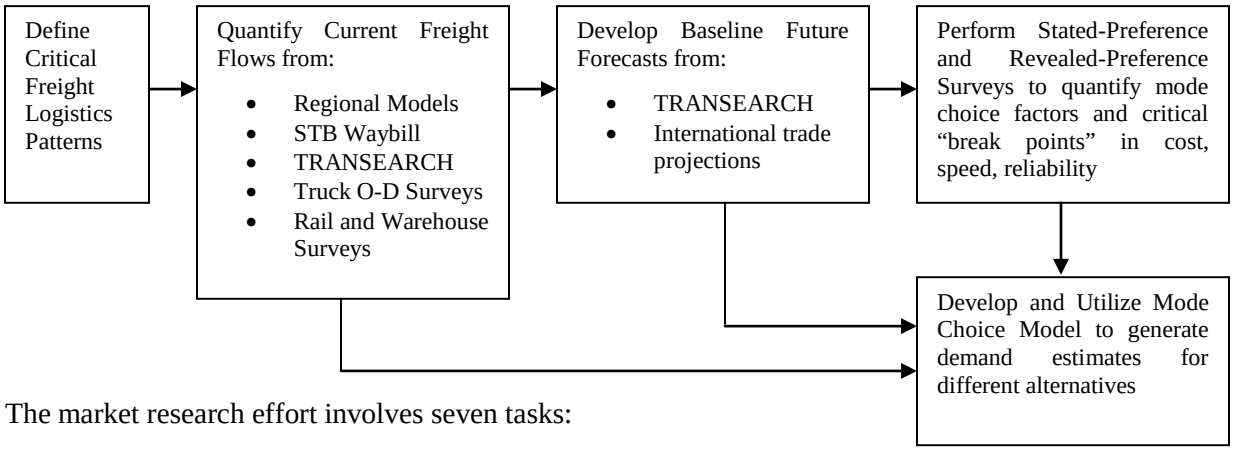
C. MARKET RESEARCH

OVERVIEW

To clearly understand and describe the factors used by decision-makers to select a particular mode of transportation, surveys of and qualitative research with freight shippers and receivers in the corridor will be developed, fielded, and analyzed. The objectives of this research are:

- Understand how Cross Harbor shippers make decisions regarding freight transportation, including mode and carrier choices, through a coordinated program of one-on-one interviews and focus groups.
- Understand the role of supply chain logistics on these decisions through a coordinated program of one-on-one interviews and focus groups.
- Obtain detailed information on representative actual recent shipments via revealed-preference surveys conducted via telephone.
- Obtain detailed information on the extent to which shipping decision-makers would change their choices under different hypothetical transportation scenarios, via stated-preference choice exercises.
- Construct a set of Mode Choice Models reflecting the critical logistics patterns, commodities and rail equipment, and trade lanes. The models are populated with best-practice data on current and future baseline forecast activity; modeling equations are constructed based on the preference surveys; and different level of service values are specified. As the level of service for rail is improved compared to trucking—in terms of cost, speed, and reliability—its attractiveness and its market share can be seen to increase, and the increase is quantified by the models. The forecasting tool will allow for various logistics adjustments as well. For example, the minimum shipment size required to "trigger" the availability of rail service can be adjusted to reflect likely rail marketing practices, which have increasingly targeted larger shippers and "mixing centers" in recent years. This tool allows a wide range of rail enhancement strategies to be tested, including simple or complex float networks, single-track or double-track tunnels, rail AGV services, "open technology" rail versus conventional technology, and other options. Essentially, any rail service that can be defined in terms of a particular cost, speed, and reliability can be tested and its potential demand estimated.

Overview of Proposed Logistics and Market Demand Methodology



The market research effort involves seven tasks:

1. Initial Survey Design
2. Focus Groups and Interviews
3. Sample Identification
4. Recruiting Interviews and Revealed-Preference Surveys
5. Stated-Preference Surveys
6. Freight Shipment Mode Choice Model Construction
7. Documentation

ANALYSIS METHODOLOGY

INITIAL SURVEY DESIGN

The design of the survey will be driven by the modeling needs and practical data collection considerations. A survey of shipping decision-makers is being proposed in which information will be gathered on actual and hypothetical shipping choices. The primary outputs of the initial survey design will include findings from the focus group sessions, finalized scripts of the telephone-based revealed-preference surveys, and a standard template for the follow-up Internet or faxed-based stated-preference surveys.

The survey plan will consist of four key elements:

- Defining Universe/Sampling Units – The survey results will be used to represent the total commodity flows of freight movements in each of the relevant logistics market areas. The total freight flows for each market area developed from the TRANSEARCH commodity flow database and other available commodity flow data sources will be used to define the shipment population of interest and to determine the expansion factors.
- Sampling Frame – The sampling unit will be the decision-maker of individual shippers/receivers and carriers. Sampling by individual company will allow each survey to be weighted based on relative contribution to total commodity flows. Therefore, the ideal sampling frame will be a comprehensive list of all businesses that make shipments within the logistics market areas in the New York/New Jersey region.
- Sampling Approach – The sample for this study will be stratified by logistics market area, commodity type, and trip distance. These variables are relevant with respect to mode choice characteristics of freight. The Standard Industry Classification code or the North American Industry Classification System code from the sampling database will be used to identify company business sectors that are most closely related to the STCC classifications within the TRANSEARCH database. If the shipper/receiver or carrier drawn from the sample has qualifying shipments, then it will be included. A shipping/receiving decision-maker at the selected sample establishment will be contacted during recruitment to determine if they should be included in the sample. This procedure will be followed until the desired number of surveys are collected for each logistics market area. For sampling purposes, approximate ranges for each stratum will be identified, to enable a reasonable distribution of business sectors and commodity shipment types to be captured in the surveys. The final sampling plan will be based on a review of the sampling frame and the variables that will be identified from the commodity flow data.
- Defining Survey Methods – A two-stage survey is anticipated, involving an initial telephone interview focusing on respondent revealed-preferences, followed by a mail/fax/Internet survey that will include stated-preference tradeoff exercises.

The revealed-preference survey will be designed to obtain more specific information about shipments within, into, or out of the region that can be used as bases for the stated-preference choice exercises, including: commodity details, including shipment size, shipment value, and special transportation considerations (hazardous materials, etc.); transportation mode level-of-service information, including travel time, freight shipping cost, delivery windows and requirements, origin and destination facility types, and reliability estimates; and respondents' assessments of the availability and levels-of-service of alternative freight modes. The revealed-preference survey will be administered by telephone, as discussed below.

The stated-preference technique is typically used to forecast consumer response to products and services that do not presently exist. Typical applications include a new public transportation service, such as a rapid transit system in a region with only bus service today; or innovative consumer products, such as new types of cellular telephones and paging devices. The advantage of this approach compared to standard survey techniques is that it tests respondent's choice preference against a range of future service attributes, and these results are then used to develop a model that can predict choices under a specific set of service attributes.

For the stated-preference surveys, the proposed design approach is to offer fully customized choice tradeoff exercises based on actual reported shipments for each participating respondent. In the choice exercises, the values of each of these attributes for each potential mode will be systematically varied according to a pre-established experimental design. Shipping decision-makers will be asked to choose alternatives under varying levels of service. Since the exercises are based on actual shipments, and the attribute levels (cost, speed, frequency, reliability, mode, etc.) are based on reasonable variations in the potential service levels, respondents are able to make realistic choices (see Table 1 for a sample trade-off exercise). By basing the hypothetical choices on reasonable variations of actual service conditions and actual potential improvements, responses will be obtained that are as realistic and relevant to each individual as possible. Furthermore, basing the choice exercises on actual recent shipments enhances the ability to combine the revealed and stated-preference data, improving the quality of the results.

To accomplish this customization, it is essential that each survey respondent participate at two stages of the process: the revealed-preference stage (at which information on actual reported shipments is obtained), and at the stated-preference stage (at which respondents are given custom-tailored choices reflecting a range of freight shipment options). Each stated-preference questionnaire will have four to eight different trade-off exercises.

Table 1
Stated Preference Survey—Sample Trade-Off Exercise

Choice Exercise 1				
	Suppose the following transportation options were available for shipping Non-Perishable Food Products from Thunder Bay to Quebec City			
	If these were your only options, which would you choose?			
	(Please Circle the letter of your preferred shipping option)			
	A	B	C	D
Shipment Option	Truckload Shipment	Intermodal Rail Shipment	Maritime Shipment	Railcar Shipment
Description	SAME AS NOW For-Hire Trucking Company picks up shipment at Thunder Bay and delivers it to the Quebec City destination	For-Hire Trucking Company picks up shipment in a container at a shipper, delivers it to a rail facility in Thunder Bay, where it is shipped by rail to Quebec City, and driven by truck to its destination	For-Hire Trucking Company picks up shipment in Thunder Bay, delivers it to the port facility, where it is shipped by Great Lakes/Saint Lawrence Seaway to Quebec, and driven by truck to its destination	Railroad picks up shipment in a railcar at Thunder Bay and delivers the railcar to the Quebec City destination
Standard Shipment Size	22 tons	22 tons	22 tons	70 tons
Shipping Cost	$1,850 CAD/truckload (22 ton) ($84 CAD/ton)	$1,650 CAD/truckload (22 ton) ($70 CAD/ton)	$650 CAD/truckload (22 ton) ($29 CAD/ton)	$2,940 CAD/truckload (70 ton) ($42 CAD/ton)
Shipping Time	34 hours	50 hours	190 hours	110 hours
Frequency of Available Service	Every Hour	Every Hour	Every 24 hours	Every 4 Hours
Rate of Turn-downs / lack of availability	1.0%	2.0%	0.6%	0.5%
Delivery Window	4 Hours	2 Hours	12 Hours	2 Hours
On-Time Delivery Reliability	88%	80%	95%	66%
Loss and Damage Rate	2%	1%	1%	2%

As an initial target, it is anticipated that a total of 400 completed stated-preference questionnaires will be collected. A survey response will be deemed useable if both the revealed-preference telephone survey and the stated-preference tradeoff survey are completed. The ultimate sample size may differ depending on the initial survey design and the survey costs as determined by the pre-test.

A cash incentive for completing both portions of the survey will be used as part of the data collection strategy to: increase the cooperation rate of potential respondents (reducing the cost of recruiting respondents); reduce biases associated with data collection by attracting a larger proportion of the total sample; and speed up the data collection effort.

FOCUS GROUPS AND INTERVIEWS

Three Focus Group sessions with shippers and other logistics professionals will be held to help develop and "pre-test" both the revealed-preference and stated-preference surveys. A cash incentive may be offered to secure appropriate numbers and types of participants.

The location for these sessions will be based on proximity to relevant business locations. Approximately 8 to 12 logistics managers will be invited to attend each session, with the expectation that each session will include 6 to 8 participants. Information about the needs and behaviors of shippers and receivers making freight shipments within the logistics market areas will be gathered. Question lists and discussion materials will be developed for the sessions.

The first two focus groups will take place prior to the detailed survey questionnaire design steps. The third group will be used as a means to test the validity of the survey and adjust the survey materials once the questionnaires are in place. As part of the third focus group, the revealed and stated-preference surveys will be presented to the participants, allowing further probing and understanding of their decision-making process, and to determine if refinements are needed to the survey design.

In addition to the qualitative focus group sessions, interviews with knowledgeable individuals in the freight industry will also be performed to supplement and enhance the information collected through the focus group process. These interviews will include carriers, shippers, and public agency stakeholders. Findings from these interviews may be used to refine the survey questionnaires.

SAMPLE IDENTIFICATION

A pool of regional shipping interests will be identified for purposes of conducting revealed-preference surveys (primarily conducted by telephone) and stated-preference surveys (primarily conducted via Internet or fax). The anticipated protocol, similar to previous efforts, is to:

- Assemble establishment data for the relevant geography from which a sample of businesses can be drawn.
- Draw a sample of establishments, stratified by geography and primary business definition (NAICS code).
- Send selected establishments pre-notification letters.
- Contact sampled establishments by telephone, and identify one or more shipping decision-makers (either within or external to the establishments, themselves).

The business establishment information for sample identification will be developed from a commercial business database, such as Global Insight's Freight Locator (recently acquired by PANYNJ), the Dun & Bradstreet Selectory database, the InfoUSA database, or SSI database. Using the establishment contact information in these or a similar database, a stratified random sample of establishments will be constructed, stratified by geographic grouping and primary industry grouping. Establishments in industry categories that are not likely to generate or attract divertible Cross Hudson freight shipments will be excluded from the survey population.

Note that the establishment is the sampling unit. As a result, the shipment commodity types and logistics market areas will only be obliquely controlled, through the oversampling of certain NAICS codes and through non-random selection of specific shipments to be included in the stated-preference surveys. While the expectation is to target a wide variation in specific commodity shipments, no formal quotas at the commodity level will be established.

RECRUITING INTERVIEWS AND REVEALED-PREFERENCE SURVEYS

Working from the sample identification data, interviewers will contact the key transportation managers of the businesses by telephone, ascertain whether they are shipping or receiving qualifying shipments, and seek their permission to be surveyed. The interviewers may need to make several calls before identifying the correct person within an organization, and this person may actually end up working for a different or related company. Therefore, these surveys often take more time and effort than more traditional telephone interviews.

The telephone survey is expected to last between 15 and 20 minutes, and will be designed to:

1. Screen out establishments that do not qualify for the survey (i.e., they do not make relevant Cross Hudson freight shipments).
2. Identify the appropriate freight shipment decision-maker either at the establishment, at another company location, or at another company.
3. Administer the revealed-preference survey and collect basic data (about the origins, destinations, quantities, and types of shipments to or from the establishment).
4. Collect more detailed data (about specific relevant shipments to or from the establishment) in order to construct choice experiments for the stated-preference survey.
5. Solicit the respondent's agreement to follow up with the stated-preference survey.
6. Obtain the respondent's email address, so he or she can receive the link to the Internet survey, or obtain the respondent's fax number.

State-of-the-art Computer-Assisted Telephone Interview processes will be employed to conduct the revealed-preference surveys. The survey script will be programmed and will be conducted by trained personnel to achieve higher response rates and good quality data. This process will enable compilation of revealed-preference data in a consistent manner that is easily readable and formatted for analyses. The process will also enable smooth transmission of the collected revealed-preference data, allowing the customization of stated-preference trade-off exercises to begin.

The telephone survey will include the collection of several data elements related to the overall shipping activity of the respondents' establishments, including: number of inbound and

outbound shipments by commodity type; origins and destinations of the inbound and outbound shipments; and logistics arrangements and transportation modes used for the shipments.

In addition, the survey will obtain more specific information about shipments that can be used as bases for the stated-preference choice exercises, including: commodity details, including shipment size, shipment value, and special transportation considerations (hazardous materials, etc.); transportation mode level-of-service information, including travel time, freight shipping cost, delivery windows and requirements, origin and destination facility types, and reliability estimates; and respondents' assessments of the availability and levels-of-service of alternative freight modes.

Prior to implementing the full revealed-preference survey, a two-stage pre-test will be conducted. As previously noted, in the first stage, focus group participants will review and respond to the survey questions. The second stage will be a full dress rehearsal of the survey, in which the survey procedures will be applied to a smaller sample (20 interviews) of the survey population. This will provide any information necessary to fine tune the Computer-Assisted Telephone Interview process and the revealed-preference survey itself.

STATED-PREFERENCE SURVEYS

Next, qualifying regional shipping decision-makers identified through the recruiting interview and revealed-preference survey process will be contacted to complete stated-preference surveys.

The main exercises in these surveys will describe alternative shipping options, including possible new services and improved service alternatives. In these choice exercises, different shipping alternatives will be defined in terms of their key attributes, such as mode, travel time, cost, reliability, frequency of service, delivery window, origin and destination facility types, and transportation access.

Initially, the telephone survey responses will be reviewed for each individual to be surveyed and develop customized stated-preference surveys reflecting a realistic range of choices. These stated-preference questionnaires will then be mailed or faxed or made available to respondents on the Internet. Finally, interviewers will then re-contact the participants by phone to collect the stated choice data or to clarify responses.

As with the Revealed-preference survey, there will be a two-stage pre-test. In the first stage, focus group participants will be asked to complete stated-preference trade-off exercises. Based on the results, and on results from fielding the revealed-preference survey, the stated-preference trade-off exercises will be customized for a small test sample of 20 participants. These trade-off exercises will be formatted and mailed or faxed to participants. The time elapsed between the retrieval of the revealed survey data and the commencement of the stated-preference surveys will be minimized to minimize attrition.

Once the survey procedures and content are finalized based on the pre-test results, the full surveys will be completed.

FREIGHT SHIPMENT MODE CHOICE MODEL CONSTRUCTION

The collected revealed-preference/stated-preference survey data will allow for the development of discrete choice (multinomial and nested logit) models that can be used to predict how shippers will react to corridor transportation improvements and alternatives.

The mode choice model development effort will involve the estimation and validation of a group of market-specific models. The key methodological issue for the mode choice models relates to the use of the available freight shipment data. For this modeling effort, the revealed-preference data will be relied on to the extent possible to estimate mode choice behavior for the base year. The data collected through the stated-preference surveys will be used to guide the assessment of the attractiveness of new and improved Cross Harbor rail and float services that might be available in the future-year horizon. The mode choice models will relate the choice of shipment mode to specific characteristics of the shippers/receivers, the shipments being made, and the level-of-service attributes of each mode.

For this program, a form of logit mode choice model will be estimated and applied. In the logit model, it is assumed that each available freight shipment alternative provides the shipper with a utility, and the decision-maker is modeled as selecting the alternative with the highest utility. However, the model recognizes these utilities as random variables, so rather than estimating a specific choice, it estimates the probability of a specific choice, under the given conditions. This probability is defined as the likelihood that an alternative has the highest utility among available alternatives.

In the logit model, the utility is usually specified as a linear combination of the different observed independent variables available from the survey, multiplied by unknown parameters. The process of model estimation involves finding the values of the parameters that result in the highest probabilities being assigned to actual observed choices from the revealed-preference surveys. Once the parameters are estimated, the model is used to estimate the choice probabilities of different alternatives with different characteristics.

The basic decisions in developing the mode choice models will include: (a) selection of the variables to be included in the utility function for each mode along with the mathematical forms of each variable; and (b) selection of the appropriate model structure (multinomial logit or nested logit) as allowed by the data and the nature of the choice behavior under study. The model estimation effort will be an iterative process. Different model specifications, with various combinations of variables and levels of complexity, will be tested until a set of final models is developed.

The percentage of total freight that would move by a particular mode (e.g., by truck or by rail) will not be estimated. The development of such a model would be impractical, given the size of the sample that would be required. Instead, the results of the logit choice model will be applied in a comparative process, to calculate how the relative utility of a change in rail service would compare to the relative utility of the base traffic moving by truck. This incremental approach, which "pivots" from the existing tons and shipments moved by truck to calculate the amount that might divert based on changes in the utility of competing modes, particularly rail service, allows for a more robust range of alternatives to be tested against a broader range of commodities and origin destinations, by maximizing the information from the stated-preference surveys.

The logistics of special handling, value of shipment, and size of shipment will be explicitly considered through the development of filters and equations for specific commodities. Previous studies found that while small amounts of annual diversion of freight might be consistent with the mode choice equation, such traffic rarely materializes in practice because rail is an inefficient handler of small quantities of traffic. Previous studies also found that the validation of freight mode choice was improved if utility equations were developed for classes of commodities with similar values per ton or similar handling requirements.

Once the best model specifications are identified, validation will be performed by applying the models to present conditions and comparing the results to available commodity flow data. Mode choice models will be re-calibrated as applicable. Validation will consist of the following steps: reasonableness checks; disaggregate validation; and aggregate validation.

- Reasonableness checks of model parameters and results to known or expected values, based on revealed-preference surveys and other data. This form of model validation is conducted throughout the model estimation process on each interim model result.
- Disaggregate validation, in which the model is applied to see whether the results match observed or expected values. The preferred approach is to apply each model to a disaggregate data set other than the one from which the model was estimated. We will investigate whether other disaggregate intercity freight data sets could be used for this purpose.
- Aggregate validation comparing model results to known aggregate data not used in model estimation, such as commodity flow data sets.

Appendix C: Technical Methodology – Detailed Evaluation

A. INTRODUCTION

As described in the Environmental Impact Statement (EIS) Methodology Report, the alternatives screening analysis will result in a limited list of alternatives to be carried forward to Step 4—the detailed evaluation. Since the Tier I process will focus on selecting the mode(s), alignment(s), and logical termini for those alternatives that best meet the project's stated goals and objective, the data that will be collected and analyzed for the detailed evaluation (Step 4) and the Tier I EIS, will be largely tailored to support corridor-level decision-making. At the same time, an understanding and assessment of the local effects of the proposed alternatives is necessary, since a complete description of any proposed alternative requires a discussion of specific project elements—e.g., rail yards, track and structural improvements, marine infrastructure, ventilation systems, roadway improvements—that may result in adverse social and environmental effects on local communities. These adverse effects and the ability to avoid, minimize or mitigate them could influence the ultimate selection of a preferred alternative(s).

One consideration in the development of the detailed evaluation framework is that various transportation network and environmental concerns, issues, and resources require varying spatial and temporal scales of analysis. Some effects of the proposed project may be regional, while others would only affect a particular community or neighborhood. Many potential impacts effects may only occur in areas of direct construction or on properties adjacent to project elements. The framework must also consider the temporal basis for any impact assessment. Typically, the analysis would include short-term effects, such as those that would occur during construction of the project. Potential impacts would also be assessed both at the initiation of project operation (i.e., at the year of the estimated time of completion [ETC]) and at a future analysis year (typically 20 to 30 years after the project ETC). This is intended to capture the project's effects, both beneficial and adverse, over the long-term, particularly since population and employment growth may change those adverse and beneficial effects in the future. Because the alternatives may have differing years of completion—some may be complete in 2012, others in 2020—the year 2015 has been chosen as a compromise between the earlier and later years of completion to represent the project ETC. This ETC also reflects the fact that 2035 is being used as the future analysis year to forecast freight conditions in the region, as described below.

STUDY AREA

To fully understand the origin and content of freight entering the New York/New Jersey region, and to forecast future conditions, the alternatives analysis and Tier I EIS will model goods movement in a 54-county multi-state area, comprising portions of southern New York, northern and central New Jersey, western and southern Connecticut, and a portion of eastern Pennsylvania (see Figure 1). The counties selected for this modeling study area reflect the following:

- The Port Authority of New York and New Jersey (PANYNJ) core planning region, which includes the five boroughs of New York City (Bronx, Kings, New York, Queens, Richmond Counties), Long Island (Nassau and Suffolk Counties), lower Hudson Valley (Westchester and Rockland Counties), and northern New Jersey (Passaic, Bergen, Morris, Essex, Hudson, Union, Somerset, and Middlesex Counties).
- Surrounding counties that are also part of the New York Metropolitan Transportation Council (NYMTC) and the North Jersey Transportation Planning Authority (NJTPA) planning regions.
- Counties that accommodate truck/rail terminals and freight corridors that are important in serving the region.
- Additional counties that accommodate important Hudson River crossings that are, or may be, used to bypass infrastructure in the core planning region.

A model of goods movement in this area will provide a clear and focused picture of the freight flows between the west-of-Hudson and east-of-Hudson regions, including an understanding of ways that shippers choose to use a particular mode of transportation. This insight will allow the alternatives analysis and Tier I EIS to evaluate the economic costs and benefits of a new harbor crossing and to study the potential for diversion of freight. A full description of the methodology used to conduct the travel demand analyses and forecasts is included in this document.

Framed by this understanding of freight flows into, out of, within, and through the larger 54-county area, the alternatives analysis and Tier I EIS analyses will focus on the project's potential regional impacts in the greater New York/New Jersey region. This regional study area will comprise a combination of counties served by NYMTC, which encompasses New York City, Long Island and the lower Hudson Valley, and NJTPA, which serves 13 counties in northern New Jersey and the cities of Newark and Jersey City (see Table 1). The extent of the regional study area may be refined as project elements are defined and freight demand modeling is conducted and will be confirmed as appropriate for each analysis.

The regional study area will include: major interstate highways leading to the existing cross-harbor connections (I-278, I-495, I-95); a number of highways serving northern New Jersey (such as New Jersey Turnpike/I-95, I-78, I-80, and I-287); and many state and local routes that are important for local freight movement. The alternatives analysis and Tier I EIS will also investigate major freight rail lines and facilities west of the Hudson River (such as lines within the Conrail Shared Assets Area, the CSX River Line, the Norfolk Southern Lehigh Line, Chemical Coast Line and important rail yards at Croxton, Kearny, Oak Island, Greenville, Port Newark/Elizabeth in New Jersey) and strategic rail assets east of the Hudson River, which may be affected by the proposed alternatives (such as the 65th Street Yard, the Bay Ridge Branch, Montauk Branch, the Oak Point and Harlem River yards, and railcar float facilities at 51st and 65th Streets in Brooklyn). Conditions at area marine terminals and airports will also be included in the regional study area.

While much of the alternatives analysis and Tier I EIS will focus on broad, corridor-level impacts, some analyses will probably require an evaluation of local impacts from proposed or altered rail yards, rail lines, and/or intermodal facilities. The study areas for the evaluation of local impacts will depend greatly on the elements of each specific alternative and, to a lesser extent, on the environmental analysis in question. Therefore, for Tier I of the EIS, local study areas will be determined as appropriate before each analysis, for each potential project site, and will probably vary among alternatives.

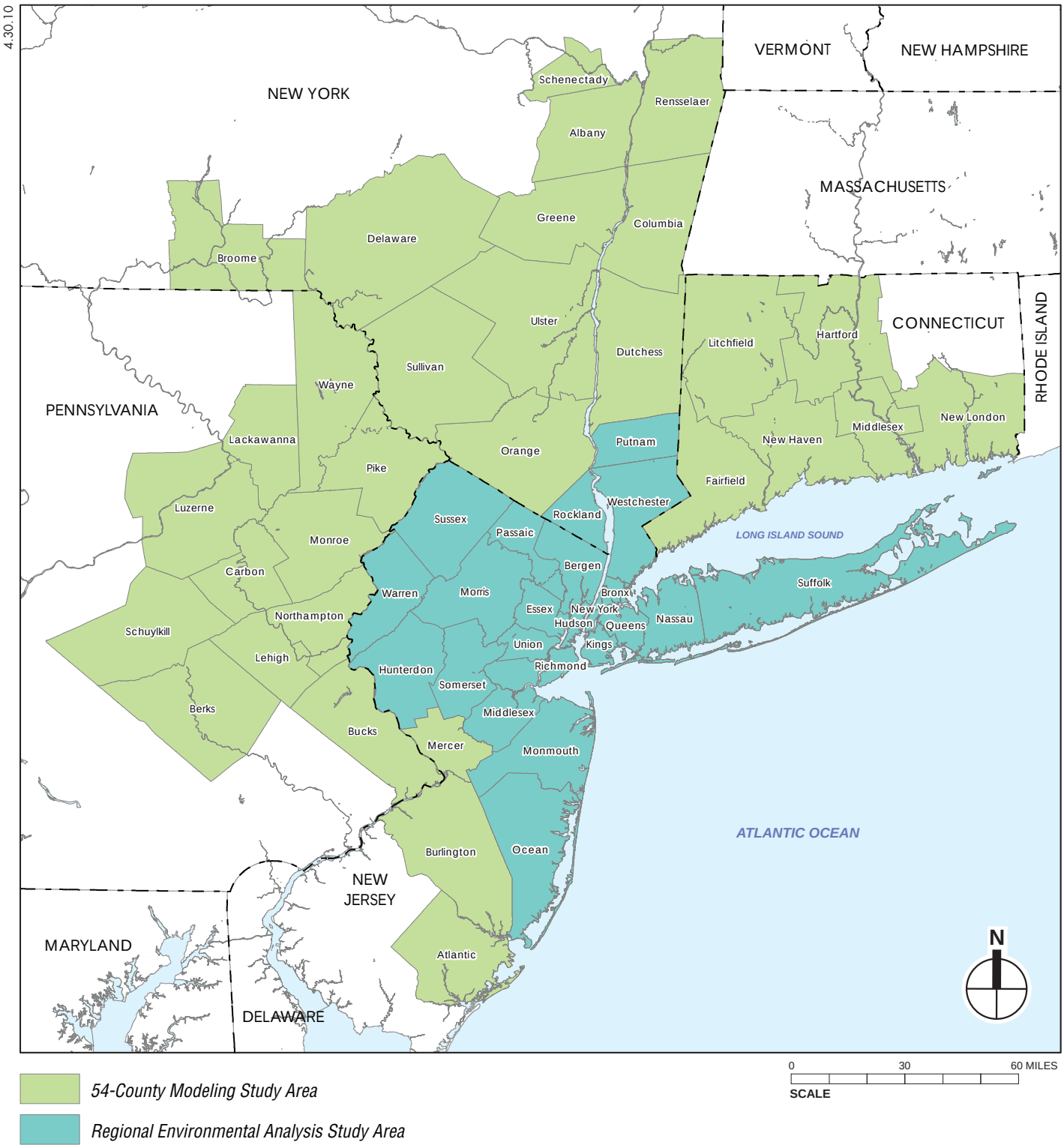


FIGURE 1

Study Areas

CROSS HARBOR FREIGHT PROGRAM

Table 1
Study Area Counties

State	Counties	54-county Modeling Area	Regional Study Area	
			NYMTC	NJTPA
NY	Albany	✓		
NY	Bronx	✓	✓	
NY	Broome	✓		
NY	Columbia	✓		
NY	Delaware	✓		
NY	Dutchess	✓		
NY	Greene	✓		
NY	Kings	✓	✓	
NY	Nassau	✓	✓	
NY	New York	✓	✓	
NY	Orange	✓		
NY	Putnam	✓	✓	
NY	Queens	✓	✓	
NY	Rensselaer	✓		
NY	Richmond	✓	✓	
NY	Rockland	✓	✓	
NY	Schenectady	✓		
NY	Suffolk	✓	✓	
NY	Sullivan	✓		
NY	Ulster	✓		
NY	Westchester	✓	✓	
CT	Fairfield	✓		
CT	Hartford	✓		
CT	Litchfield	✓		
CT	Middlesex	✓		
CT	New Haven	✓		
CT	New London	✓		
NJ	Atlantic	✓		
NJ	Bergen	✓		✓
NJ	Burlington	✓		
NJ	Essex	✓		✓
NJ	Hudson	✓		✓
NJ	Hunterdon	✓		✓
NJ	Mercer	✓		
NJ	Middlesex	✓		✓
NJ	Monmouth	✓		✓
NJ	Morris	✓		✓
NJ	Ocean	✓		✓
NJ	Passaic	✓		✓
NJ	Somerset	✓		✓
NJ	Sussex	✓		✓
NJ	Union	✓		✓
NJ	Warren	✓		✓
PA	Berks	✓		
PA	Bucks	✓		
PA	Carbon	✓		
PA	Lackawanna	✓		
PA	Lehigh	✓		
PA	Luzerne	✓		
PA	Monroe	✓		
PA	Northhampton	✓		
PA	Pike	✓		
PA	Schuylkill	✓		
PA	Wayne	✓		

Notes: NJTPA study area also focuses specifically on the cities of Newark (within Essex County) and Jersey City (within Hudson County)
Sources: http://www.nymtc.org/, http://www.njtpa.org/Plan/Subregion/Default.aspx

B. RAIL OPERATIONS ANALYSIS

Rail infrastructure enhancements within the study area, required for some of the project alternatives, would lead to potentially significant changes in rail operations. At the same time, expected rail traffic growth over the regional rail freight network, absent the enhancements, must be accommodated as well.

OVERVIEW

A rigorous methodology will be deployed to perform this assessment, using a train scheduling and line capacity simulation tool. Although the set-up will take considerable effort, evaluation of different scenarios can then be quickly accomplished. The minimum required work plan for the rail operations tool is focused on developing a high-level traffic density projection, and evaluating the broad implications in terms of rail network capacity.

- To start, a model representation of the rail network will be developed in the 54-county Cross Harbor market demand and forecasting study area, plus extensions over key corridors where changes in traffic density arising from the program might be reasonably expected to have an impact on traffic densities.
- A current year traffic database, utilizing the Surface Transportation Board's Full Waybill Sample, and "flow" this traffic over the network to develop estimates of current rail traffic densities by line will be developed. Simple methods will be used to translate these densities into estimated peak train densities.
- Future-year baseline growth will be estimated using the TRANSEARCH Insight growth forecasts, and traffic over the network will be re-estimated.
- Next, the effects of changes in rail infrastructure and services—in terms of changes in volumes over existing infrastructure, as well as volumes over new infrastructure—will be modeled. Model alternatives will address float and tunnel services and the lines serving them.
- Each section of rail line will be graded in terms of current capacity, based on its physical characteristics, traffic mix, service schedules, signaling, dispatching procedures, time-of-day peaking factors, and other similar attributes. Current and projected line densities will then be used to identify where line capacity issues may arise in the future, and where possible, will reflect the extent to which these issues arise from general economic growth versus the impacts of the specific project under study.
- Current and projected intermodal unit origination/termination counts will also be estimated for key facilities in the terminal area. This information may also be estimated for other selected railcar types, such as multilevel automobile carriers.

ANALYSIS METHODOLOGY

1. Develop updated data on rail network volumes to understand the impact of potential rail infrastructure improvements on specific rail lines and highway segments. As a starting point, an understanding of current rail system volumes will be developed.

    a. Obtain the STB's Full Waybill Sample. The Full Waybill Sample contains a 2.5 to 3.0 percent sampling rate of all carloads and intermodal containers/trailers moved in the entire country, with specialized alternative sampling rates for unit trains. While it does have some shortcomings, it provides a single source for

traffic moving on all of the carriers in the area of interest, and has a long history of being a defensible source for rail-related statistical analysis. Two major caveats apply to the sample. First, the sample only contains loaded movements, and requires that the empty movements be estimated. Second, some small short-lines may be missing or under-represented in the sample. In the past, a third issue also applied, which was that carloads terminating in Canada or Mexico were not reported (carloads originating in Canada/Mexico and terminating in the U.S. are fully included in the sample); however, this issue has been corrected, starting with the 2002 sample. For this study, an adjusted carload sample for the most recent year available at the time the project is undertaken (most likely 2006) will be used, where the primary adjustments and new traffic additions will be provided by other team members. Year 2006 was a peak year, with 2007 and 2008 generally representing contractions in volumes. Recent shifts in fuel prices and the value of the U.S. dollar have also impacted the patterns of rail shipments, particularly intermodal, which may require some adjustments to the traffic. The Full Waybill Sample can only be obtained under certain circumstances. Individual states may obtain a subset of the sample without a full review and approval process for "any waybill record pertaining to traffic that was originated, terminated, interchanged in, or that passed through" the state. Requests outside the scope of the above guidelines must go through a formal publication, comment, and approval process, which increases the time and expense for obtaining the sample, and introduces the possibility that the request will be denied. For this reason, it is recommended that the request focus on traffic originating, terminating or interchanged in New Jersey or New York. Once obtained, certain restrictions apply to the use of the data. To meet these restrictions, it is assumed that no individual O-D level traffic data will be publicly disseminated as part of this study. Instead, the results will be presented as aggregate line densities, perhaps broken out by major traffic types (international intermodal, domestic intermodal, carload/merchandise, and unit/bulk).

b. Validate and/or adjust the STB Full Waybill line density assignments, based on discussions with the region's freight railroads and comparison with other recent regional studies (NJTPA Freight System Performance Assessment Study, etc.) and multi-state studies (Mid-Atlantic Rail Operations Study, etc.).

c. Obtain current data on passenger train volumes over the regional freight network from NJ TRANSIT, Amtrak, Long Island Rail Road, and Metro-North Railroad.

2. Perform rail system capacity analysis for local rail freight corridors based on prior studies and available information to assemble, synthesize, and update, as appropriate, existing knowledge related to rail network capacity potentially impacted by Cross Harbor alternatives.

    a. Update previous studies of rail network capacity. Previous studies included analysis of the major freight rail network elements in evaluating capacity and traffic (freight and passenger) demands that may impact Cross Harbor freight mobility. The analysis included the CSX Corporation, Norfolk Southern, Conrail Shared Assets, NJ TRANSIT, New York & Atlantic, and Long Island

Rail Road operations. Specific attention was paid to the capacity of the Lehigh Valley Main Line, Chemical Coast Secondary, River Line, National Docks Secondary and Greenville Running Track in New Jersey, and the Hudson Line in New York. A service plan was specifically developed to incorporate future traffic levels. This plan was then subjected to a manual simulation of these lines to identify and assess the infrastructure improvements that may be necessary to assure the reliable flow of freight and passenger train movements throughout the study area, which was defined as North Bergen to the north, Port Reading Junction to the south, LIRR Fresh Pond Yard to the East, and Oak Island Yard to the west. The specific study data was then integrated with available data on rail freight operations from Harrisburg, Selkirk, and Boston. Key factors considered included long-distance freight traffic, local freight operations in New Jersey and Long Island, successful integration with NJ TRANSIT Raritan Valley trains, operations at major freight yards (Oak Island, Fresh Pond, North Bergen, Croxton, Meadows, the New York Cross Harbor Railroad, and Greenville) and Amtrak service on the Northeast Corridor. These analyses will be reviewed and updated to reflect the most current available information.

b. Incorporate findings and data from other recent studies as applicable. Relevant capacity studies include: (1) analyses of the Brooklyn waterfront (New York Cross Harbor), Bushwick Terminal (NY & Atlantic) and Oak Point (CSX and Conrail Shared Assets) yard facilities for feasibility of constructing waste transfer facilities; (2) analyses of New Jersey rail network capacity developed for NJTPA; (3) analyses of multi-state rail network capacity developed for the I-95 Corridor Coalition as part of the Mid-Atlantic Rail Operations Study; and (4) information from the New York State Department of Transportation's (NYSDOT) Hudson Line Joint Users Study, which included a full network simulation between the Capital District and New York City; (5) Ulster County's study of River Line grade crossing blockages; and (6) other information from regional freight and passenger railroads;

3. Perform rail network capacity and demand analysis and modeling, addressing the larger regional and national freight system to expand the analysis geography beyond the boundaries of local conditions. This will capture critical interchange points between the regional and national networks, helping us understand how national flows feed to and from the project, and to identify any critical issues or impediments beyond the immediate project boundaries. The product is a comprehensive analysis tool for assigning and documenting rail network flows.

    a. Develop network representation of relevant rail infrastructure. Using proprietary Traffic Flow Analyzer software, a network representation of relevant existing rail infrastructure will be developed. This network will be highly detailed in the areas near and potentially feeding into rail infrastructure improvements, and become more aggregate in nature as the distance from the project area increases. Thus, rail lines of any relevance will be represented in the northern New Jersey area and southern New York area. As the distance from the study area increases, only the main lines will be represented, and the various branch lines will be largely omitted. The network will include the key data needed to properly assign the waybill sample to the network. This data will include line ownership and trackage rights by carrier, station names, Freight Station Accounting Codes

(FSACs), and Standard Point Location Codes (SPLCs). While the base network will initially contain information for the rail lines spanning the entire Eastern U.S., this network will be reduced to focus on only those elements that are relevant to the program. This work will be largely driven by the extent to which projected related volume changes impact the line densities of more distant parts of the rail network. The greater the distance from the study area, the smaller the impact of the project in terms of the percentage of traffic it represents traversing a particular line. We are suggesting a minimum study area to include: Framingham, MA; New Haven, CT; the New York/Montreal border; Buffalo, NY; Allentown and Harrisburg, PA; Hagerstown, MD; and Wilmington, DE to the south. This network could include rail traffic that does not "touch" New Jersey or New York, and would have to be omitted or information obtained through other means.

b. Geo-code waybill data and calibrate rail network flows. Once the network design is complete, the next step will be to "geo-code" the waybill data, and "flow" the traffic over the network. This process consists of the following steps: determining the exact location on the network where the traffic movement begins; assigning the origin of the traffic to that network location; repeating this process for the traffic destination; determining how the traffic will be routed over the network from origin to destination; assigning the traffic to the various network links that are traversed; and deriving the resulting line densities. This process will be done using the advanced traffic routing (flowing) capabilities in the Traffic Flow Analyzer computer model. The calibration process is designed to address limitations inherent in the source data. One limitation is that waybill origins and destinations are often not the "true" origins or destinations of the traffic. Key commodity groups will be directly researched, particularly in the Northern New Jersey area, and assignment adjustment rules will be developed where needed. Another limitation is that intermodal traffic is most reliably reported in terms of containers and trailers; these need to be converted into railcar movements, considering the types of rail equipment used. Another issue is the need to consider which rail carrier handled a given traffic movement, and the operational practices of that carrier. The Traffic Flow Analyzer supports the specification of the carriers that handle each leg of a rail car's route, and it will "flow" the traffic in a manner that respects the operating territories of each carrier. In addition, the Traffic Flow Analyzer supports the specification of routing preferences for traffic at both a general level, and at a very specific level. For example, the route determination process can take into account which lines are preferred for various types of movements (e.g., intermodal versus general merchandise), and also supports the specification of operating rules to further refine the car routings. These additional operating rules can take the form of either specifying that particular traffic movements must traverse specific lines or pass through specific facilities. In the most advanced approach, we can take into account the "switching" rules that dictate how cars are grouped together and routed for train movement (this last approach would likely be beyond the scope of this study). These techniques will be used as time, budget, and supporting information to achieve a reasonably accurate picture of how the various traffic movements will be routed.

c. Develop supplemental rail network traffic estimates on movements not covered by the Waybill. The waybill contains only loaded movements, and thus requires the estimation of empty movements. Also, if only New Jersey and New York "participatory" waybill traffic is used, it may be necessary to "bulk up" the line densities on lines in Pennsylvania or other states. The normal practice for empty movements is to obtain statistical "empty/load ratios" for the industry or specific carriers, and apply these on a "reverse route" basis. For example, one might know there are 0.9 empty miles generated for every loaded mile of a box car on a particular carrier. One would then take each loaded O-D boxcar pair, and generate a new movement in the opposite direction with a car volume of 0.9 times the loaded movement's volume. These "e/l" ratios are available from a variety of sources, including the Association of American Railroads, and statistical reports filed by the individual carriers known as "R-1s." This information can be used, but judgment must be applied, particularly with respect to whether the number of loaded plus empty terminating cars is approximately equal to the number of loaded plus empty originating cars. Where significant balance issues exist, we may adjust the empty movements to more accurately reflect local conditions. To correct for waybill limitation on traffic outside of New Jersey and New York, publicly available sources will be used, and any materials directly supplied by the carriers to determine the current densities on each relevant line. These base volumes will then be added to the general traffic database, and thus will be available for "scaling" as part of any forward projections.

d. Perform high-level rail network density/capacity analysis for the existing system and for future baseline conditions. Once the traffic densities have been developed, these densities will be converted into estimated peak train densities. Estimated capacities will also be developed for each line. The peak train densities will be computed by converting the average carloads per day into estimates of the number of trains per day by type. Densities for five different train types will be determined: container-on-flatcar/container-on-flatcar, double-stack trains, merchandise trains, bulk/unit trains, and local service trains. Automotive trains could also be considered separately. The first four types of trains will be estimated based on the traffic mix over the line, the operating practices of the carrier involved, and estimates of the average length of trains operated by that carrier. This information will come from a combination of general industry knowledge, publicly available information, and any information directly obtained from the carriers. To reflect peak situations, the annual carload volumes will be divided by a value that is lower than 365, perhaps as low as 200 or 250. If information is available to support estimating the distribution of trains by time of day, it will be performed. For example, it would be useful to estimate the number of trains by type on the "River Line" (Northern New Jersey – Albany) for the time periods 4 PM to midnight, midnight to 8 AM, and 8 AM to 4 PM. This single-track line tends to have heavy northbound intermodal flows in the late evening and morning periods, southbound in the late afternoon and early morning, and very little mixed freight. Because the Cross Harbor freight movement program may have specific impacts on intermodal operations, estimating the peak train operations by eight-hour periods would provide more insight into the potential for line capacity issues. Such a breakout would be

based on general industry knowledge and current carrier timetables to the extent they are available. Each major line segment will be characterized by its current configuration and estimated capacity. This information will include the number of tracks, the length and spacing of passing sidings, the signaling or control system, track quality, and typical operating speeds. Based on information obtained from the carriers and public data sets, each line will be graded as to its approximate capacity in terms of trains per hour or day. The actual capacity is affected by the mix of trains operated, the directionality of the operations, and the peaking factors. These capacity rankings will then be used to determine where capacity issues currently exist or may arise in the various alternative scenarios. In addition, the number of originating and terminating intermodal units will be computed for each major facility in the study area. This information will be used to create a baseline for identifying possible rail intermodal expansion requirements. Finally, estimated future volumes (based on growth factors developed in the demand analysis and projections obtained from passenger railroads) will be flowed over the network to identify changes in routings and system performance in the absence of Cross Harbor alternatives.

e. Prepare the model for high-level rail network density/capacity analysis of future system and demand assumptions, based on Cross Harbor alternatives.

4. Develop highway system capacity and demand analysis tools to develop a comprehensive understanding of capacity and demand over the regional highway network related to freight movement, as a basis for evaluating the impacts of Cross Harbor strategies.
    a. Consult with the PANYNJ and other study partners to determine the preferred highway network model(s). Obtain the most current versions of model control files, networks, and trip tables.
    b. Review and evaluate models for strengths, weaknesses, known deficiencies, and inconsistencies. If necessary or warranted, combine elements of different models to maximize their strengths within an integrated tool.
    c. Use the preferred highway network model(s) to develop baseline estimates of truck traffic under current conditions and future no-build conditions. Review with PANYNJ and other study partners to identify an agreed-upon starting point for the analysis of changes in truck traffic related to Cross Harbor improvements.

C. HIGHWAY NETWORK ANALYSIS

To assess the effects of potential freight improvements on the regional highway system, the expected changes in truck trip volumes and origin-destination patterns using regional travel demand models will be tested. Regional model outputs, with and without freight improvements, will be compared to measure the net benefits of the improvements to the highway system.

OVERVIEW

For most improvements, truck trips over the Hudson River crossings, and major corridors accessing these crossings, would be reduced, but at the same time, local truck activity at certain points—particularly truck to rail transfer facilities served by the improvements—could be increased. The regional models provide a framework to evaluate these effects.

The highway network analyses will consist of initial validation and adjustment of truck travel components of the available regional travel demand models, and then application of the model systems to reflect potential truck shipment demand changes that the various improvement plans might cause. These activities are discussed below.

ANALYSIS METHODOLOGY

Two regional model systems cover portions of the study area: NJTPA's North Jersey Regional Transportation Model Enhanced (NJRTME); and NYMTC's Best Practices Model (BPM).

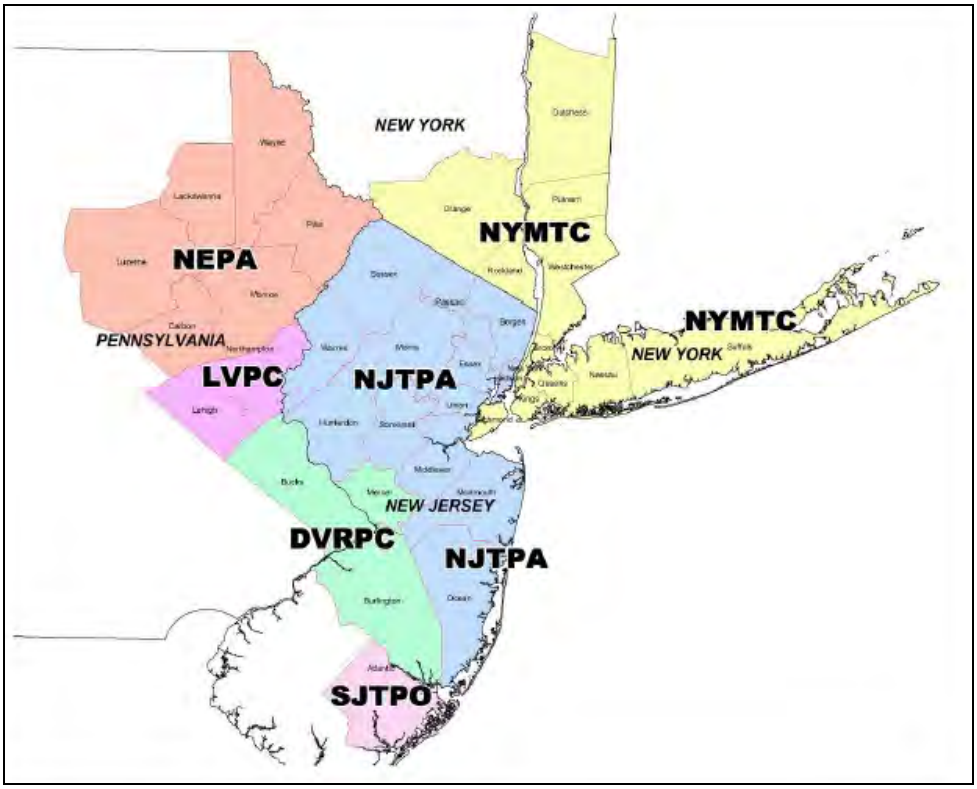
Both model systems include truck travel as special modules within their modeling processes, but neither delineates commodity truck trips from other types of truck trips that would not be captured in commodity flow analyses, such as the TRANSEARCH database. While the two models forecast trucks differently, both approaches appear to represent good quality state-of-the-practice modeling.

Both of the model systems include their core Metropolitan Planning Organization (MPO) region, as well as several adjacent counties. By including these adjacent counties, the models are better able to provide forecasts within their core regions. The model coverage areas of these model systems are shown in Figures 2 and 3 following.

Although the model study areas are largely overlapping, the models do not maintain the same level of zone detail for non-core areas as they do for their core counties. In particular, the NJTPA model has very little detail about the east-of-Hudson region, except for in Manhattan. Because of these zonal differences, the current plan for the modeling for the Cross Harbor analyses is to rely on a combination of the two model systems:

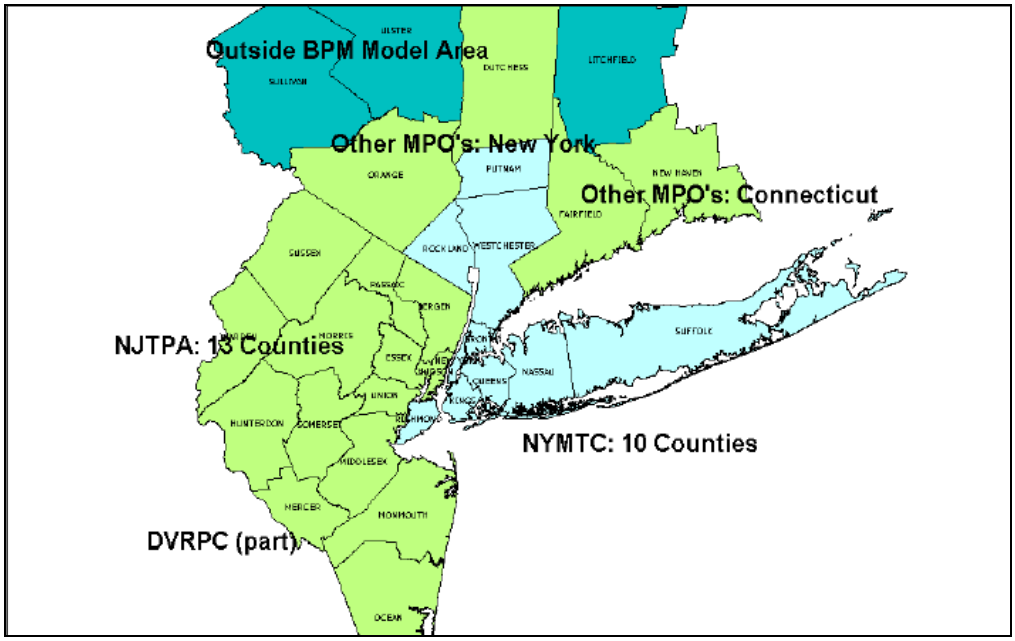
- Truck trips with both trip ends west-of-Hudson (except Staten Island) will be analyzed with the North Jersey Regional Transportation Model-Enhanced (NJRTM-E); and
- Truck trips with both trip ends east-of-Hudson or in Staten Island and truck trips that cross the Hudson will be analyzed with the BPM.

Figure 2. NJTPA NJRTME Model Area



Source: NJRTME Model Development Report, November 2008.

Figure 3. NYMTC BPM Model Area



Source: NYMTC 2005 Update and Recalibration of the BPM, December 2008.

The models have been initially reviewed and evaluated for strengths, weaknesses, known deficiencies, and inconsistencies (with respect to network attributes, base year demand, future forecast demand, level of detail to which truck flows are addressed, etc.). This process will be continued, the model systems' base year truck trip estimates will be compared to PANYNJ truck toll figures and other truck count data, and the models will be re-calibrated as necessary.

Initial work suggests that in terms of total traffic, the BPM matches PANYNJ river crossing data quite well. However, the truck trip percentage estimates for these facilities are not consistent. The truck trip models will be adjusted to improve the fit with these important counts. The models' county-to-county, internal-external, and external-external truck trip tables will be compared to the TRANSEARCH data to ensure important commodity flows are captured with the regional model truck estimates. Commodity truck trips are generally only a percentage of shorter truck trips, because there are many trips by service trucks (waste haulers, construction trucks, etc.) which are not engaged in goods movement. Some adjustment of longer-distance truck trip tables may be necessary to ensure consistency with the TRANSEARCH data. As the PANYNJ truck origin-destination data become available, and as intermodal facility origin-destination data is obtained, the baseline model trip table estimates will be updated.

Once the baseline estimates of truck traffic under current conditions and future No Build conditions have been developed, the proposed changes will be reviewed with NYMTC and NJTPA to identify an agreed-upon starting point for the analysis of changes in truck traffic related to Cross Harbor improvements.

Lastly, the potential regional impacts from operation of the alternatives will be assessed. Each alternative's potential to divert truck traffic to rail, as measured by a decrease in overall vehicle miles and hours of travel, and changes in traffic volume on the major highways leading to the cross harbor crossings and associated operational changes on these crossings will be analyzed.

D. OPERATIONAL AND ENGINEERING REQUIREMENTS

For yards and facilities associated with the alternatives, the conceptual engineering in this task of the detailed evaluation will identify the location of yards and facilities, minimum sizes, and any infrastructure needs. The conceptual engineering will also identify any associated right-of-way requirements. Order of magnitude cost estimates for the construction, operation, and maintenance of the alternatives will also be developed.

A set of engineering guidelines will be compiled into a design handbook for the project to provide a uniform basis for preliminary design and will undergo continuous refinement and expansion during the preliminary engineering process and final design. The design handbook will:

- Identify and define relevant project criteria.
- Identify regulations, standards and guidelines applicable to the design process.
- Provide a means and mechanism to identify, assess and resolve project technical issues.
- Provide a mechanism for systematically developing and recording the appropriate design criteria for the project.
- Provide documentation of the development and evolution of the project design criteria.
- Clarify and aid in the development of the project technical memos and design reports.

An operational analysis, based on conceptual engineering, will be undertaken during this step to determine operational needs of each alternative, particularly as it relates to the existing rail network and costs associated with each alternative.

E. ENVIRONMENTAL EFFECTS

Environmental analyses of alternatives will consider both direct and indirect effects, as well as cumulative effects, for a range of social and environmental conditions. The potential for local environmental effects and the relationship between local, short term impacts and the maintenance and enhancement of long-term regional productivity will also be evaluated, to the extent possible in a Tier I EIS. The conceptual engineering and operational information described above will be used to consider potential environmental consequences for each alternative.

OVERVIEW

Because Tier I will focus on potential regional and corridor-level impacts, it will be a mix of both quantitative and qualitative environmental analyses, depending on the specific analysis and available information; however, some discussion of local impacts around project elements will also be included, as far as the design development of alternatives will allow. Each area of analysis will also identify data needs for Tier II, when site-specific analyses will be performed.

The environmental methodology is divided as follows:

- Land Use, Zoning, and Public Policy
- Cultural and Historic Resources
- Air Quality
- Energy and Greenhouse Gases
- Noise and Vibration
- Natural Resources
- Water Quality
- Contaminated and Hazardous Materials
- Environmental Justice

Each section below will discuss issues of each particular subject area, the extent of the regional and local study areas, and the methodology for conducting an analysis for the detailed evaluation and subsequently for the Tier I EIS.

ANALYSIS METHODOLOGY

LAND USE, ZONING, AND PUBLIC POLICY

This analysis will include both a regional and a local examination of issues. On a regional basis, Tier I of the EIS will discuss regional land use development trends and various regional government plans and policies. Where appropriate, the analysis will identify regional concentrations of industrial and commercial activity, since these areas may create additional demand for improved freight movement. The analysis will also include a general description of land use, zoning, and demographic characteristics in local study areas, where specific project elements may be located. The consistency of the alternatives with local land use will be

evaluated. Potential impacts from the construction (short-term) and operation (long-term) of project elements on community facilities and neighborhood and community cohesion will be described.

1. Confirm the extent of the regional study area. The regional study area for land use will comprise the 10 counties served by NYMTC and the 13 counties served by NJTPA.
2. Define the extent of the local study areas. The study areas for the evaluation of local impacts will depend greatly on the alignment, extent, and termini of each project alternative. Screening for local impacts will be conducted around specific project elements where construction or operational activities may occur. The potential for noise impacts around project elements will be used as a worst-case scenario for environmental impacts to determine the extent of the local study areas. Therefore, the Federal Transportation Administration (FTA) guidance manual, Transit Noise and Vibration Impact Assessment (May 2006) will be used as guide where practical.
    a. **Rail yards** – land use and zoning will be described within 1000 feet from the boundaries of existing and proposed sites
    b. **Intermodal yards** – land use and zoning will be described within 1000 feet from the boundaries of the proposed yard sites, and within 400 feet from any truck routes connected to the regional highway network.
    c. **Float facilities (rail or truck)** – land use and zoning will be described within 1000 feet from the boundaries of existing or proposed sites.
    d. **Rail lines** – land use and zoning will be generally identified within 400 feet of each line. The longer rail line study areas may be divided into segments to aid in the analysis.
    e. **Tunnel alignments** – for the bored portions of the tunnel alignments, land use and zoning will be described within 400 feet of the proposed alignment. Since the physical effects of cut-and-cover and open-cut construction are more extensive, a local study area of 1000 feet will be used for those sections.
    f. **Road segments** – land use and zoning will be described within 400 feet of road segments where roadways improvements are proposed.
    g. **Tunnel entrances** – land use and zoning will be described within 1000 feet from the boundaries of proposed sites.

Local study areas will be refined after considering the potential for other impacts in the vicinity of the project elements, such as traffic or noise, and will be expanded as appropriate.

3. Describe existing regional public policy goals and development plans. Documents compiled by the Regional Plan Association (RPA), NYMTC, and NJTPA will be used to describe public policy goals for the greater New York/New Jersey region, and to identify areas in the region that are targeted for growth and development. Identify land use where appropriate. Secondary sources, such as geographic information systems (GIS), will also be utilized to identify areas within the region where industrial and manufacturing activity is concentrated. These areas may ship and/or receive freight, and may generate demand for the proposed project.

4. Discuss existing conditions around project elements, within the study areas identified above. The discussion of existing conditions will identify land use and neighborhood character around project elements, existing zoning, and will include a limited discussion of community facilities (e.g., libraries, schools, hospitals, places of worship) and open spaces (e.g. parks and other recreational areas) that may be affected by the proposed project. The existing demographic characteristics within the local study areas will also be described to identify low-income and minority communities. The description of local existing conditions will be based on information available from local government agencies (such as the New York City Department of City Planning); county planning agencies (such as the Hudson County Division of Planning), the 2000 Census of Population and Housing (updated as appropriate using available data); field surveys; and secondary sources.

5. Discuss future trends and growth expected by 2035 for the regional study area, independent of the project. The analysis will identify future large development projects (committed to or proposed) and public policy changes proposed in the region. Projections prepared by RPA, NYMTC, and NJTPA, and well as county and city master plans, will be used to prepare this section.

6. Discuss future trends and growth expected within local study areas, independent of the proposed project. The analysis will identify land use and/or zoning changes that are committed to or proposed within the local study areas. Information available from county and local planning agencies, as well as secondary sources, will be used to prepare this section.

7. Assess potential regional impacts from the operation of the project alternatives. On the regional level, the discussion of impacts will be centered on the project's compatibility with land use and development goals and regional public policy.

8. Assess potential local impacts from construction and operation of the project alternatives. The analysis will begin by discussing the compatibility of project elements with existing land use, zoning, and neighborhood character and whether project elements would significantly alter the character of local study areas or block access to area amenities. The analysis will discuss whether acquisition of property would be required for new or expanded project elements (such as rail yards), the potential for direct or indirect displacement of residents and businesses, and whether any required displacement would disproportionately benefit or harm certain populations. The need for relocation, where appropriate, will be discussed generally, since it will be addressed more specifically in Tier II of the EIS.

9. Identify the range of mitigation measures that would be available for potential project impacts.

CULTURAL AND HISTORIC RESOURCES

The archaeological and historic resources analysis will be conducted in accordance with Section 106 of the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), Section 4(f) of the United States Department of Transportation Act (DOTA), the New York State Historic Preservation Act of 1980 (SHPA), and the New Jersey Register of Historic Places Act of 1970 (NJSA).

1. Delineate areas of potential effect (APEs) for the project alternatives. APEs will be delineated in consultation with the New York State Historic Preservation Office (NYSHPO) and the New Jersey Historic Preservation Office (NJHPO). Where appropriate, APEs delineated as part of the Cross Harbor Freight Movement Project Draft Environmental Impact Statement, published in April 2004 (2004 DEIS) will be used for this analysis. Where project elements have been added, new APEs will be delineated using methodology consistent with that of the 2004 DEIS. It is expected that different APEs will be established for archaeological and historic resources, with the archaeological APE focusing on areas of physical disturbance and the historic resources APE including areas where visual and secondary impacts may occur.
2. Compile inventory of archeological and historic resources in the project APEs. The inventory compiled to assess the potential effects of the project alternatives will include:
    a. **Resources identified as part of the 2004 DEIS –** Resources inventoried as part of the 2004 DEIS included National Historic Landmarks (NHLs), properties listed on or determined eligible for listing on the State and National Registers of Historic Places (S/NR), designated New York City Landmarks (NYCLs) or properties considered for NYCL designation, properties designated by the Newark Landmark and Historic Preservation Commission or the Jersey City Historic Preservation Commission ("known historic resources"), as well as previously identified, but unevaluated, archaeological resources. Archaeological resources were surveyed for the 2004 DEIS through completion of a series of archaeological documentary studies (Phase 1A Studies). A Phase 1A Study uses documentary sources such as local histories, historic maps, census and property records, archaeological site files and other documents to present a detailed history of the project site, assess modern ground disturbance, and evaluate the potential for archaeological resources to exist in locations that could be affected by the proposed project. A field survey of the project APEs was also conducted by an architectural historian as part of the 2004 DEIS process; those properties that appeared to meet the criteria for S/NR listing and/or NYCL designation were flagged. New York State and/or New Jersey historic resource inventory forms were completed for each of these potential historic resources, and were submitted to NYSHPO, NJHPO, and the New York City Landmarks Preservation Commission (LPC), as appropriate, for determinations of eligibility.
    b. **Resources located within APEs not included in the 2004 DEIS –** A list of known archaeological and historic resources in Tier I EIS APEs that were not included in the 2004 DEIS will be compiled, and the resources described and mapped. In addition to identifying known resources, a reconnaissance-level walkover survey of the APEs not previously included in the 2004 DEIS will be conducted by an archaeologist and architectural historian. Properties that appear to meet the criteria for listing on the S/NR, or for designation as NYCLs or Newark or Jersey City local landmarks, will be flagged as potential historic resources. Areas of archaeological potential will also be flagged. Historic structure inventory forms or additional Phase 1A studies will not be prepared as part of the Tier I EIS process; this work would be completed as part of the future Tier II EIS process.

3. Assess the potential for the project alternatives to impact inventoried archeological and historic resources within the delineated APEs, including potential visual impacts. Both construction and operational impacts will be assessed.
4. Identify the range of mitigation measures that would be available for potential project impacts.

AIR QUALITY

This analysis will assess potential regional (mesoscale) effects and potential local effects from the proposed project on ambient air quality. The proposed project is expected to provide significant regional air quality benefits by shifting freight movement from truck to the more efficient and underutilized rail, thereby reducing future truck vehicle miles traveled (VMT), and easing congestion on study area roadways. The various project alternatives will generate emissions primarily from non-road sources, such as freight locomotives, ferries, and/or new or expanded intermodal facility activities. Some local increases in emissions from trucks on roadways in the vicinity of proposed bulk or intermodal yards may also occur.

1. Confirm the extent of the regional study area. The regional study area will comprise the 10 counties served by NYMTC and the 13 counties served by NJTPA.
2. Define the extent of the local study areas. Local study areas will be defined in terms of the presence of potential receptors in the vicinity of project elements.
3. Identify pollutants of concern. Potential pollutants of concern may include:
    a. **Carbon monoxide (CO)**. CO is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. Elevated concentrations are usually limited to locations near crowded intersections, along heavily traveled and congested roadways, or at parking lots or garages, but may also be associated with diesel engines such as ferries and locomotives.
    b. **Nitrogen dioxide and ozone precursors.** Nitrogen oxides (NO_2, and NO calculated as NO_2, together referred to as NO_x) are of principal concern because of their role, together with volatile organic compounds (VOCs), as precursors in the formation of ozone. Effects of NO_x and VOC emissions from mobile sources are generally examined on a regional basis, together with emissions of these pollutants from stationary sources. NO_2 is also a criteria pollutant. These pollutants are emitted from both on-road and non-road sources such as ferries and locomotives as well as stationary sources.
    c. **Particulate Matter (PM).** PM is a broad class of air pollutants, composed of discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets or solids suspended in the atmosphere (aerosols). PM emissions are associated with diesel-powered vehicles, such as heavy trucks and buses, locomotives, and ferries as well as stationary sources.
4. Determine the project's conformity with the New York and New Jersey State Implementation Plans (SIPs). The Clean Air Act requires a conformity determination for federal actions, directing that "no department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an implementation plan after it has been approved or promulgated…" (42 U.S.C. §7506.(c).1).

Transportation conformity determinations are required for the approval, funding, or implementation of any Federal Highway Administration (FHWA) project. The Cross Harbor Freight Movement Program's current status, relative to the Transportation Improvement Programs (TIPs) and Regional Transportation Programs (RTPs) in New York and New Jersey, will also be documented. The need for a Transportation Conformity Hot-Spot $PM_{2.5}$ analysis, using criteria in Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas, issued March 2006 by FHWA and United States Environmental Protection Agency (USEPA), or later guidance if available, will be evaluated. If an analysis is required, guidance from this document would be followed.

5. Assess the potential regional (mesoscale) air quality effects from the proposed project. Potential regional (mesoscale) effects on air quality will be assessed to determine the proposed project's effect on air quality in each non-attainment area. This effort would consider the proposed project within the framework of region-wide emissions and efforts to attain the National Ambient Air Quality Standards (NAAQS), such as NYSDEC and New Jersey Department of Environmental Protection (NJDEP) SIPs and NYMTC and NJTPA TIPs and RTPs. The change in VMT and in rail/ferry operations would be analyzed (on a daily and annual basis) to calculate the net change in emissions from the build alternatives.
6. Mobile Source Air Toxics (MSATs) will be assessed, using criteria in Interim Guidance on Air Toxic Analysis in NEPA Documents, issued February 2006 by FHWA and the September 2009 update. This assessment would include region-wide (mesoscale) emissions and potential local increases near intermodal yards or other hotspots. If detailed analysis is required, guidance from this document would be followed.
7. Assess the potential for local air quality impacts from operation of project alternatives:
    a. **Rail traffic associated with the proposed project.** Potential impacts will be estimated based on the number of locomotives passing sensitive receptors. The latest emission factors available from USEPA will be utilized.
    b. **Intermodal facilities and bulk yards.** Potential impacts will be estimated based on the size of yards and their location near sensitive receptors.
    c. **Truck traffic associated with project elements.** A screening of impacts for the rail yards, located in the east-of-Hudson region, will be conducted utilizing procedures outlined in the New York State Department of Transportation (NYSDOT) Environmental Procedures Manual (EPM).
8. Identify the range of mitigation measures that would be available for potential project impacts.

ENERGY AND GREENHOUSE GASES

This analysis will look at potential impacts from the construction and operation of the project alternatives on greenhouse gas emissions and energy consumption in the regional study area. The proposed project aims to enhance the movement of freight through the region and, as a result, may shift some freight movement from trucks to rail, a more energy-efficient mode of transportation. This shift would reduce roadway congestion, resulting in a reduction in associated greenhouse gas emissions. The analysis will be performed based on the draft Energy

and Greenhouse Gas Analysis Guidelines for Project-Level Analysis (NYSDOT, February 2003) and will utilize NYSDOT's MOVES Roadway and Rail Energy and Greenhouse Gas Analysis Extension (MOVES-RREGGAE, NYSDOT 2009). MOVES-RREGGAE is a tool that combines the use of EPA's MOVES model for calculating on-road emissions and the procedures specified in NYSDOT's draft guidelines for modeling emissions from construction and rail components of a project or plan. The analysis will also follow the general guidelines in the Guide for Assessing Energy Use and Greenhouse Gas Emissions in an Environmental Impact Statement (New York State Department of Environmental Conservation (NYSDEC), July 2009) for determining the boundaries of analysis and the examination of GHG mitigation options.

1. Identify the state and federal energy policies and greenhouse gas emission reduction goals relevant to the project. Examples of relevant policies are:
   - New York State Climate Action Plan (expected publication late 2010)
   - 2009 New York State Energy Plan
   - New York State Governor Executive Order No. 24
   - New Jersey Global Warming Response Act, 2007 (and Draft Recommendation Report 2008)
   - The Energy Independence and Security Act of 2007
   - USEPA Renewable Fuel Standard Program
   - The proposed American Clean Energy and Security Act
2. Assess the potential for greenhouse gas emissions from operation of project alternatives. The analysis will identify whether each alternative is expected to create a change in freight movement (a reduction in truck traffic or an increase in rail or ferry movement), the expected change in fuel consumption, and the associated change in greenhouse gas emissions. The change in emissions due to operation of project alternatives will be discussed in comparison to the No Action Alternative. The analysis will utilize the MOVES–RREGGAE tool based on current project data and information from analyses previously conducted for the 2004 DEIS. If additional information or analysis is required, data sources may include information published by the US Department of Energy (USDOE), Energy Information Administration (USDOE-EIA), FHWA, USEPA, Federal Railroad Administration (FRA), NYSDOT, and similar sources.
3. Evaluate the consistency of the proposed project with relevant state and federal policies and goals, as identified above.
4. Identify the range of mitigation measures that would be available for reducing energy consumption and greenhouse gas emissions. This section will include a discussion of potential mitigation measures that could be taken during construction and operations to further reduce greenhouse gas emissions and energy consumption. Potential measures will be divided into those already included in project design, measures that should be under consideration, and those that would be impracticable to implement for the proposed project. Where practicable, the benefits of such measures will be quantified.

NOISE AND VIBRATION

This analysis will look at the project's potential to generate noise and vibration impacts due to increased rail activity along rail freight routes, activity at rail yards (such as loading and classification of freight, truck activity, equipment operation, and truck and employee vehicular

trips on local streets), tunnel ventilation equipment, and construction activities. The Noise and Vibration analysis will consist of a screening-level assessment for potential impacts in the vicinity of project elements.

1. Define the extent of the local study areas. The analysis will follow the FTA guidance manual, Transit Noise and Vibration Impact Assessment (May 2006), and where applicable will include the CREATE Railroad Noise Model and the FRA Train Horn Noise Model, to assess noise and vibration impacts in the vicinity of project elements. Potential impacts would be described within 1000 feet of intermodal yards, float facilities, and tunnel entrances and within 400 feet from rail lines and tunnel alignments.
2. Describe existing noise levels in the vicinity of the project elements. Measurements conducted for the 2004 DEIS will be used to generally describe existing conditions in the vicinity of project elements, updated to reflect land use that has changed in the interim.
3. Assess potential impacts from freight rail sources. A Screening and General (where necessary) Noise Assessment will be performed using FTA/CREATE/FRA Train Horn Noise Model guidance. Some rail freight routes that would be included as project elements are in active operation, while some experience little activity. Noise and vibration from new or expanded rail service operations would be, therefore, more perceptible at locations that currently experience little activity. Potential noise impacts may also occur from rail activity at these rail yards located near residential or other sensitive uses.
4. Assess potential impacts from vehicular sources. Noise from vehicular sources would be limited to those project elements that would experience increased truck traffic. Noise would be generated by truck activity in the rail yards, and by truck and employee vehicles traveling to/from the rail yards along local streets. A screening analysis using proportional modeling would be used to identify those locations that the more detailed Tier II studies should examine further. The cumulative effects of rail and vehicular noise at the rail yards will also be studied.
5. Assess adverse vibration and ground-borne noise impacts. The analysis will be conducted in accordance with methods presented in FTA guidance. A Screening Assessment would be performed for operational activities along rail lines and rail yards. Residential, commercial, institutional and other uses in the areas above the proposed tunnel, along rail lines, and adjacent to rail yards could be potentially impacted by vibration and ground-borne noise.
6. Assess potential impacts from construction of the project elements, qualitatively. Construction noise and vibration would be discussed.
7. Identify the range of mitigation measures that would be available for potential project impacts.

NATURAL RESOURCES

Natural resource issues associated with project alternatives would be limited to local effects on terrestrial resources from construction and operation of the project alternatives. Existing natural resources within each local study area may include terrestrial biota, threatened or endangered species (and their associated habitats, such as wetlands), as well as other resources of special

concern, such as essential fish habitat (EFH). The analysis will determine potential short- and long-term impacts to these resources, with emphasis on potential impacts to sensitive resources or other resources of special concern. Aquatic resources, such as surface waterbodies and navigable waters will be discussed in this section, however potential impacts from the construction and operation of the project alternatives on water quality and sediments will be analyzed in the Water Quality section, as described below.

1. Confirm the extent of the regional study area for terrestrial natural resources. The regional study area for this analysis will center on Upper New York Harbor. Identification of the regional study area will take into consideration the land cover and coastal resources in the vicinity of project elements, specifically whether these resources are also regional in nature and are connected to the Upper New York Harbor habitat. Major waterbodies in the regional study area will be described.
2. Define the extent of the local study areas. Natural resources will be described within 400 feet of the project elements. Where appropriate, local study areas may be expanded to account for sensitive habitats and potential project impacts.
3. Describe existing conditions for natural resources in the regional study area. This section will present a regional overview of habitats and associated wildlife present in the vicinity of New York Harbor.
4. Describe existing natural resources in the vicinity of project elements. Aquatic and terrestrial resources will be described by identifying habitat types (e.g. state freshwater and tidal wetlands, federal jurisdictional wetlands) and plant and animal communities known to occur in these areas. Description of existing conditions from the 2004 DEIS will serve as the basis for this section, expanded and updated as necessary with a review of literature and available electronic data. Potential sources of available documents and data will include:
    a. State GIS portals, such as NYSDEC Environmental Resource Mapper and NJDEP I-Map. Each portal contains a variety of data layers pertaining to environmental resources.
    b. Literature prepared by New York City Department of Parks and Recreation (NYCDPR), NYSDEC, NJDEP, New York City Department of Environmental Protection (NYCDEP), US Fish and Wildlife Service (USFWS), U.S. Army Corp of Engineers (USACE), and the National Marine Fisheries Service (NMFS), among others.

    Potential areas of concern that could include endangered or threatened species will be generally identified, and used to assess potential impacts from the project alternatives. Federal, state and local resource and regulatory agencies may be contacted to discuss any resources of concern in the vicinity of specific project elements; however, most coordination regarding specific habitats will occur in Tier II of the EIS.
5. Discuss future conditions and trends for natural resources in the vicinity of the project elements by 2035, independent of the proposed project. Programmed and proposed habitat restoration activities in the vicinity of project elements will be described. Large development projects that may disturb sensitive habitats in the vicinity of proposed project elements will also be discussed.

6. Assess potential local study area impacts from the construction and operation of the proposed alternatives. The assessment of impacts will be divided into temporary impacts, which may occur during construction, and permanent impacts, which may occur from the operation of the project alternatives.

   To evaluate the project alternatives' potential impacts on terrestrial resources, the analysis will consider:

   a. Temporary impacts to habitats adjacent to areas of disturbance associated with land clearing, grading, and other upland activities associated with construction.

   b. Long-term impacts associated with permanent loss or modification of habitats, including wetlands, due to construction of project elements, such as roads, tracks, rail yards, and tunnel sections.

   c. Potential shoreline erosion and loss of shoreline habitat from the expansion of the existing float bridges and construction of new float bridges, and construction of tunnel sections.

   d. Potential indirect effects to terrestrial resources, such as the disturbance of normal feeding or nesting patterns near tunnel alignments or rail lines, due to increased human presence, increased rail traffic, nighttime lighting, and noise associated with the rail operation, float bridges and tunnel vents.

   These potential impacts will be identified generally, with an expanded, site-specific analysis to be completed in Tier II of the EIS.

7. Identify the range of mitigation measures that would be available for potential project impacts.

WATER QUALITY

This analysis will consider the potential effects to water quality from dredging and other in-water construction activities that may be required for the construction of the tunnel and float alternatives. The section will focus on Upper New York Harbor as the study area for the description of existing conditions and the analysis of potential impacts from project alternatives.

1. Describe the existing water quality and sediment characteristics within the Upper New York Harbor. Materials compiled by the New York-New Jersey Harbor Estuary Program, including a database of existing information on water, sediment quality, and biota within the estuary system, will be utilized for this section. Water quality data collected by NYSDEC, NJDEP, and USACE and PANYNJ (as part of dredging and channel maintenance efforts) will also be used to describe existing water quality and sediment quality conditions.

2. Discuss future conditions of the water quality and sediments in the harbor by 2035, independent of the proposed project. On-going improvements and activities impacting water quality and sediments proposed by other agencies, such as navigational channels and dredging activities, will be identified in the study area.

   Assess potential impacts from the project alternatives on water and sediment quality. The analysis will assess potential impacts from dredging and other in-water construction activities that may be required for the construction of the tunnel or float alternatives. For alternatives that require in-water construction, the analysis will consider:

a. Temporary adverse impacts to aquatic organisms during sediment-disturbing construction, such as dredging, pile driving, or installation of shoreline stabilization features, or other bottom-disturbing activities required for construction of a tunnel, float facility or other waterfront or in-water structures. In-water construction of these project elements have the potential to result in:

   i. Temporary increases in suspended sediment and release of contaminants during sediment disturbance—potential risks to aquatic biota from the resuspension of bottom sediments and redeposition of contaminants during construction and operation will be qualitatively assessed on the basis of the existing sediment conditions

   ii. Temporary loss of fish breeding or nursery habitat, or EFH identified by NMFS from temporary water quality changes and impacts associated with pile driving, dredging, tunneling, or other in-water construction activities

   iii. Temporary impacts to aquatic resources from the discharge of stormwater during construction of upland components of the project alternatives.

b. Potential shading impacts to aquatic organisms caused by new or modified over-water structures, such as additional float bridges or tunnel vents

c. Potential shoreline erosion and increased suspended sediment from the operation of project elements along the waterfront, such as float facilities.

The analysis will also assess potential operational impacts from the proposed alternatives such as impacts associated with the operation of the railcar float system (fuel spills from barges or accidental discharges of material from barges), or water quality impacts from stormwater runoff derived from rail yards, tunnel sections, rail lines, or float facilities. The analysis will also discuss future conditions within the study areas associated with global climate change and the potential for sea level rise and flooding. The latest data available from the New York State Sea Level Task Force and from the New York City Climate Change Task Force will be examined to determine expected future conditions in the vicinity of project elements.

3. Identify the range of mitigation measures that would be available for potential significant project impacts.

CONTAMINATED AND HAZARDOUS MATERIALS

This analysis will discuss the potential to encounter contaminated soil and groundwater during construction of project elements, especially those elements that would require excavation, storage, transport, or disposal of contaminated soil. The project alternatives will be designed to utilize areas with previous maritime, industrial, or transportation uses, such as existing railroad tracks, which may have been contaminated by past or current uses. The analysis will be limited to the local study areas in the vicinity of project elements.

1. Identify contaminants of concern. Some of the potential contaminants of concern may include:

a. **Polychlorinated Biphenyls (PCBs).** Commonly used as a dielectric fluid in train-mounted or yard transformers, PCBs are of special concern at rail yards and train maintenance locations.

b. **Heavy metals, including lead, cadmium, chromium, and mercury.** These contaminants have been widely used in many industries, including printing, foundries, and metal working facilities, and are found in paint, ink, petroleum products, and coal ash. Lead is also a common component of paint on bridges and/or other steel structures, and can be found in elevated concentrations in soil near roadways as a result of the historic use of leaded gasoline.

c. **Volatile Organic Compounds (VOCs).** These contaminants include aromatic compounds (such as benzene, toluene, ethyl benzene, and xylene (BTEX)), which are found in petroleum products used in fuels, vehicle repair and metal works, as well as many other industries; and chlorinated compounds (such as tricholoroethene and tetrachloroethene, common ingredients in solvents and cleansers) used in degreasing, dry cleaners, and other industrial facilities. Groundwater can become contaminated with VOCs and vapors can be released, especially during excavation activities. In addition, some VOCs can be flammable if the vapors are confined.

d. **Semivolatile Organic Compounds (SVOCs).** These contaminants include PAHs (which are common constituents of partially combusted coal or petroleum-derived products); coal-derived products, such as creosote used as a protective coating on rail ties; and coal and coal ash used as fill material.

e. **Pesticides and Herbicides**. These contaminants are commonly used to control rodents and/or insects, and vegetation in rail yards and along rail lines, particularly between the tracks.

f. **Fuel Oil and Gasoline Storage Tanks.** Many of the rail yards, businesses, and industries once located in the vicinity of potential project elements contained aboveground storage tanks (ASTs) or underground storage tanks (USTs) for fuels. Soils and groundwater near fuel oil and gasoline storage tanks may be contaminated because of ongoing or past leaks or spills. Fuel oil and gasoline from off-site sources may have migrated to within the local study areas, contaminating soil and groundwater on-site.

g. **Asbestos.** Potentially asbestos-containing materials may be located within buildings or on underground steam pipes, within or on existing float lifts where box cars are transferred from rail to barge, or at illegal dump sites within the rail yards and rail lines.

2. Define the extent of the local study areas. The local study areas will include land within the boundaries of each project element where construction activities that may include subsurface disturbance would occur.

3. Describe existing conditions within the boundaries of each local study area. Preliminary site assessments performed for the 2004 DEIS and other relevant studies will be updated as necessary and will form the basis of this analysis. Each assessment will include a past and current land use review; a contaminated materials database search and records research; a site inspection; and a review of previous investigations. For project elements

not previously identified in the 2004 DEIS, existing conditions will be described though a past and current land use review, with more extensive investigations to be performed, as necessary, during Tier II of the EIS.

4. Describe future conditions in the local study areas, independent of the proposed project. This section will identify any remediation activities planned for any contaminated areas identified above.
5. Determine the potential impacts from the construction and operation of the project alternatives. Potential impacts on contaminated or hazardous materials from construction activities will be based on general construction extent and methods. The analysis will also describe the potential for operational impacts from each alternative, such as the accidental release of contaminated or hazardous materials during freight transport.
6. Identify the range of mitigation measures that would be available for potential project impacts. The mitigation measures will be refined during Tier II of the EIS when site-specific impacts are identified.

ENVIRONMENTAL JUSTICE

As required by Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," this analysis will identify any disproportionate adverse impacts on minority and low-income populations in the vicinity of project elements. This analysis will be conducted in accordance with the Executive Order, FHWA Actions to Address Environmental Justice in Minority Populations and Low Income Populations (December 2, 1998), and any relevant guidance from the states of New York and New Jersey. The local study areas for this analysis will follow those of the Land Use analysis.

1. Identify the thresholds for determining the presence of minority or low-income populations. Where several analysis thresholds may apply, the most stringent definitions will be used.
2. Identify minority and low-income populations within the local study areas, based on the demographic information presented in the Land Use, Zoning, and Public Policy section.
3. Identify potential project impacts on minority and low-income populations in the vicinity of project elements, based on the screening conducted on the various technical sections. The impacts described may be direct—such as acquisition or displacement of residences—or indirect, such as increased air pollution from diesel truck traffic destined to rail facilities. Once impacts are identified, determine whether they would disproportionately affect low-income and minority populations.
4. Identify the range of mitigation measures that would be available for potential project impacts.

F. ECONOMIC AND FINANCIAL ANALYSIS

The detailed evaluation will consider a series of economic and financial effects to address issues associated with the public and private benefits of the alternatives. The analyses will focus on evaluating the effects on economic activity in the regional study area. The economic effects will be presented in terms of direct, indirect, and induced economic impacts. Alternatives may also attract local economic development along the alignments and in the vicinity of project elements,

such as yards and float facilities. Localized adverse economic impacts may also occur from displacement and relocation of businesses.

OVERVIEW

Data will be collected and analytical tools will be developed to conduct the following series of analyses:

- Economic impact analysis will examine the broader implications of the cross harbor investment on freight stakeholders, surrounding communities and the larger statewide and national implications.
- Benefit-Cost analysis will estimate project benefits from a local, regional and national perspective based on transportation efficiencies and social and environmental benefits.
- Market feasibility analysis will evaluate the acceptance and sustainability of project alternatives within the private market world of transportation service providers and customers.
- Railroad financial analysis will estimate the potential operational value of project alternatives to railroads.
- Revenue stream and funding needs analysis will estimate potential revenue streams to the public sector and identify overall funding needs, including needs unmet by revenue streams.
- Displacement analysis will identify potential direct displacement of residents and/or businesses.

ANALYSIS METHODOLOGY

ECONOMIC IMPACT ANALYSIS

Economic impact refers to effects on the economic activity in a given region, as reflected by a change in the flow of money (output, GDP or the income generated in the region).

Economic impact analysis quantifies the monetized dollar value of transportation system benefits and the direct, indirect, and induced monetized benefits of program-related increases in economic activity. Key factors to be quantified and translated into monetary terms for the economic benefits analysis include transportation-related benefits, shipper cost savings, and business attraction and retention. The monetized benefits will be run through an economic simulation model to generate the multiplier benefits of the program. The travel efficiency and shipper cost savings will also be used as a foundation for the Benefit-Cost Analysis. Estimating the economic effects of the Cross Harbor project require an understanding of who is being affected and the manner in which they are affected.

In general, freight projects can affect four types of stakeholders:

- Asset Providers, which develop, lease, maintain, or finance freight investments (both fixed and mobile). Asset Providers may be in the private or public sectors.
- Service Providers, which provide transportation or logistics services for freight shipments such as railroads and trucking companies.
- End Users, which include both shippers/consignees, as well as end customers for finished goods.

- Other Impacted Parties, which include neighborhood/community interests, non-freight users of the infrastructure; environmental/land use interests, business interests, and others.

It is important to describe the interest points and perspectives of different stakeholder types—essentially, what "stake" these stakeholders have in the success of a freight improvement project. Understanding the perspectives of different stakeholders—and how they can change depending on the type of project and/or role the stakeholder is playing in the project development—is important in developing an understanding of which benefits matter most, and how best to measure them. Four types of stakeholder interest/perspectives have been identified for the Cross Harbor project:

- Parties with a Direct Financial Stake in the development and performance of a freight investment. These are primarily asset providers (both development and ongoing maintenance/operation) with a vested financial interest in a freight improvement project. These stakeholders are providing capital (public funding, in the case of a state or local DOT; private capital in the case of a concessionaire or developer) in the hope of attaining particular goals, missions, or mandates.
- Parties that have an Indirect Financial Stake in the result of a freight investment. These stakeholders typically consist of service providers that operate transportation services on freight infrastructure, as well as shippers who are the true "users" of freight infrastructure capacity and services. In practice, these two groups are connected because service carriers pass on a significant share of their net costs to shippers. Together, these parties have a financial interest in the project outcome, but no direct investment stake in the project itself. However, the interests of these parties are an important consideration for investment decisions, because impacts and benefits to these stakeholders can influence the net benefit-cost calculation made by those with direct financial stakes.
- Parties that have a Major Nonfinancial Stake in the result of a freight investment. These parties typically include nearby land owners and occupants affected by access, noise, safety, or livability impacts; or community organizations or resource agencies concerned about broader environmental impacts related to the construction or operation of facilities. Their concerns need to be considered as factors in the economic analysis, both quantitatively and qualitatively.
- Parties that have a Tangential Stake in the result of a freight infrastructure project, either financial or nonfinancial. These stakeholders may include private companies (or a consortium of companies) affected by indirect and induced economic growth impacts; or local or regional taxpayers affected by project financing strategies. Many of their interests are likely to be in the form of concerns (that can potentially be addressed) and more general policy interests, rather than measurable direct effects of an individual project. Therefore, the impacts will be discussed qualitatively, as opposed to being part of the quantitative analysis.

Using the definition of the four stakeholder types developed for this project, we will identify benefits of concern to the broader set of freight stakeholders, including infrastructure developers, industrial site developers, supply chain professionals, and others. In general, the types of benefits that are meaningful to these freight stakeholders can be summarized in two categories: cost factors, and benefit and other impact factors.

Cost factors include:

- Facility Capital Costs – up-front costs to acquire property, improve sites, develop infrastructure, and purchase equipment.

- Facility Maintenance Costs – ongoing costs of maintaining a facility to ensure safe operations and upkeep.
- Operating Costs – labor costs, fuel costs, equipment costs, and the time lost to congestion or to the breakdown of efficient supply chains.

Benefit and other impact factors include:

- Capacity – alleviating the impact of highway and rail system bottlenecks, as well as the throughput attainable on any transportation infrastructure or facility access point.
- Productivity – ability to operate a supply chain from start to finish with maximum efficiency.
- Loss and Damage – maximizing the safety and security of freight operations and movements to minimize loss to the shipper, carrier, or community.
- Scheduling/Reliability – ability to have predictable and timely delivery of goods allows for streamlined inventories, less disruption in the manufacturing or supply process, and a more efficient supply chain.
- Tax Revenue – taxes paid from expanded or new freight-related business activity.
- Wider Economic Development – increased jobs resulting from increased freight activity, as well as the multiplier effects to the regional economy.
- Safety – minimizing of impacts of freight land uses on neighboring communities, and the safe operation of freight vehicles and facilities.
- Environmental Quality – mitigation of air or water quality impacts, reduction of truck VMT, reduction of noise or vibration or other impacts.

These benefits will be grouped into four primary categories of benefits or impacts: (1) Transportation-related benefits; (2) Shipper costs savings; (3) Business attraction and retention benefits; and (4) Multiplier benefits. Approaches for estimating the benefits within each of these categories are described below.

Transportation-Related Benefits

The diversion of freight traffic from truck to rail may lead to significant congestion relief and other benefits on specific segments of the region's transportation system. The region's travel demand model will be used to project changes in highway system performance arising from this diversion. Outputs from the regional highway network model can be translated into monetized metrics—user costs, accident costs, emissions costs, maintenance costs, and new highway capacity costs—using tools originally developed by Consultant Team members. These tools include the HERS (Highway Economic Requirements System), IDAS (ITS Deployment Analysis System), and STEAM (Surface Transportation Efficiency Analysis Model), each originally developed under contract to the U.S. Department of Transportation (USDOT).

Shipper Cost Savings

Rail service, when available, is often less expensive than trucking. Reduced transportation costs translate directly into higher profits, competitive advantage, and other similar benefits. Transportation rates are changing rapidly, particularly in light of ongoing fuel price fluctuations, and our team will survey public rate sources, as well as private industry contacts, to develop best available estimates of typical rates for major commodities and trade lanes, for truck versus rail.

A detailed mode choice model will be developed for this project. Cost factors are one of the inputs to the model, which then estimates diversion and demand among different transportation choices that offer different ranges of cost, speed, reliability, and frequency.

Sometimes cost is the deciding factor; other times, speed or frequency or reliability are the deciding factors. The model outputs provide important information on shippers' willingness to pay, and the degree to which cost savings are a factor in their decisions. The accurate estimation of shipment costs is therefore essential. Some of the tools available for this analysis include the following:

- The Intermodal Transportation and Inventory Cost (ITIC) Model is a freight mode choice model from FHWA's Office of Freight Management and the FRA. It attempts to calculate the logistics cost and decision tradeoffs seen by shipper logistics managers, and then assigns the truck/rail diversion to alternatives that minimize total logistics cost. It is based on an earlier model developed for FRA in 1995.
- The MIT Spreadsheet Logistics Model estimates the truck/rail mode choice for 48 typical types of customers, based on customer characteristics (use rate and trip length); commodity characteristics (value/pound) and mode characteristics (e.g., price, trip time, and reliability) for rail, truck, and intermodal options.
- The Uniform Rail Costing System (URCS) Model (Surface Transportation Board) can estimate the changes in shipper productivity associated with rail system performance changes. The URCS model uses data on average carrier cost and performance measures to estimate the cost of providing service, and can estimate how a change in facility capacity or speed (affecting rail cars per day) would translate into average shipper dollar savings per ton-mile.

Industry and stakeholder interviews will also be critical in accurately estimating current and representative price structures.

Business Attraction and Retention

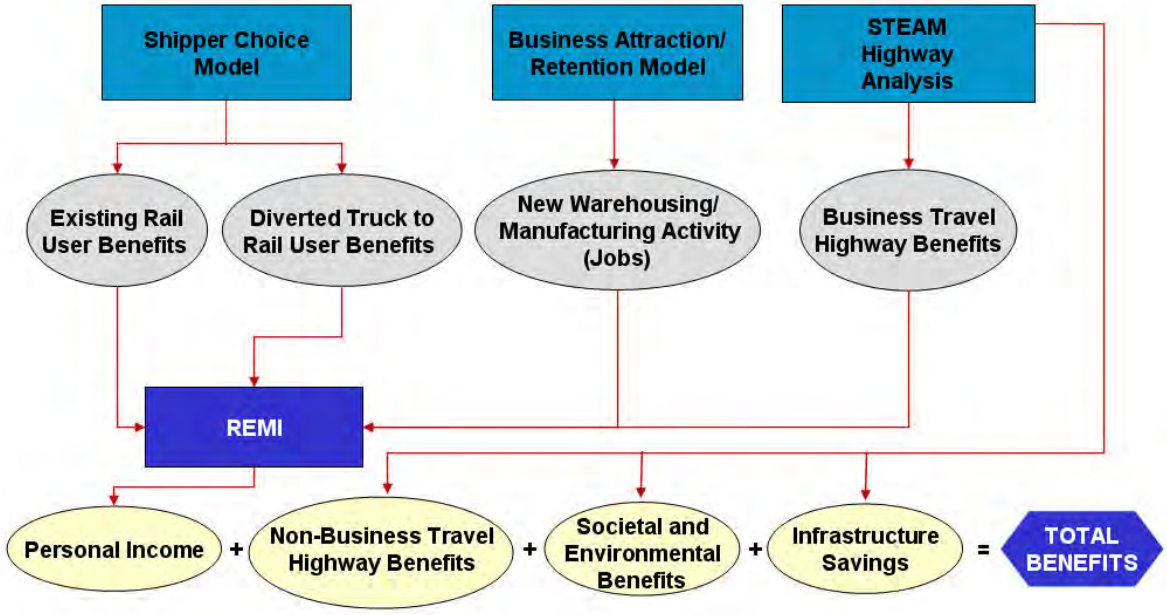
Cross Harbor rail improvements can be expected to generate certain types of new jobs in the east-of-Hudson region—not only temporary construction jobs, but also permanent jobs in the transportation carriage, warehouse/distribution, manufacturing, and other industry sectors. A critical element of this study is the evaluation of regional economic development strengths, weaknesses and opportunities for the Cross Harbor investment to impact economic prosperity over the next three decades.

The core analysis requires a comprehensive "economic development assessment" process rather than reliance on any single economic model. Core issues for each of the economic regions are: (1) economic performance, (2) competitiveness factors that explain performance results, and (3) relative roles of transportation in changing future competitiveness and performance. The economic development assessment process is the most appropriate way to address these issues. Traditional economic forecasting and impact models focus mostly on industry trends and cost factors, while this assessment will expand to assess workforce issues, supply chain infrastructure, multimodal connectivity, market access, and related factors that also affect economic growth opportunities.

Multiplier Benefits

The Regional Economic Models, Inc. (REMI) economic simulation model will be used to estimate multiplier benefits. The REMI analysis utilizes as inputs the estimates of transportation-related benefits, shipper cost savings, and business attraction and retention (see Figure 4).

Figure 4. Framework for Evaluating Multiplier Benefits



BENEFIT-COST ANALYSIS

Benefit-cost analysis addresses two main categories of benefit: (1) the economic value of a program or a project's net benefits; and (2) the effect of a transportation program or project on the economic growth of a region, which is usually referred to as the economic development impact. Benefit-cost analysis usually includes certain categories of impacts that are not addressed by economic impact analysis, and excludes others, as shown in Table 2 following.

Table 2
Difference in the Coverage of Impacts Between Benefit-Cost Analysis and Economic Impact Analysis

Form of Impact	Benefit-Cost Analysis	Economic Impact Analysis
Business cost savings	Yes	Yes
Business-related time savings that generate cost savings	Yes	Yes
Personal and household cost savings	Yes	Yes
Personal time savings (not affecting money flows)	Yes	--
Environmental impacts (not affecting money flows)	Yes	--
Attractions (relocations) of business activity into area	--	Yes
Income generated by business suppliers and vendors	--	Yes

Benefits may be presented in terms of "traveler benefits" (also referred to as "transportation system user benefits") or in terms of wider "societal benefits" (also referred to as "social benefit"). Either way, some benefits reflect real money cost or income changes, while others have a value to people, although no actual transfer of money may take place. Major benefit categories for which the monetary transfers take place include travel time benefits, safety benefits, environmental quality benefits, and increases in choices of destinations or of travel modes or of the times at which travel can occur. Travel time benefits themselves can occur due to normal everyday reductions in travel times, and due to reductions in the uncertainty of travel times (reliability benefits). In some instances, travel time reliability benefits can be of higher value than the value of regular travel time benefits.

Typically, benefit-cost analysis is broken down into several basic categories of the benefits that are calculated for the economic impact analysis discussed above. Benefits included in BCA usually include:

- Direct user benefits – travel time savings, vehicle operating cost and other out-of-pocket cost savings
- Indirect user benefits – benefits to the users of the rest of the highway or transit systems from reduced congestion and delay throughout the system
- Safety improvements – mainly fatality and other accident reductions
- External or environmental benefits – emissions reductions, noise reductions, etc.

Because the project will potentially have significant impacts on freight movements, travel time benefits could be expanded to incorporate reliability benefits as estimated under shipper cost savings. In addition, given the emerging priority on reducing greenhouse gas (GHG) reductions, the economic analysis of air quality benefits or other types of benefits and measures of value could be expanded to include not only the local value of emissions reductions, but also the broader benefit with respect to global climate change.

Benefits are usually estimated for the entire project study period and discounted to obtain the net present value (NPV). Costs are usually supplied by engineering and operational investigations, and discounted and reported as net present value.

MARKET FEASIBILITY ANALYSIS

Market feasibility analysis considers whether a particular Cross Harbor rail enhancement makes sense from the standpoint of a railroad. It should be assumed that railroads will not want to use rail infrastructure unless it provides revenues sufficiently in excess of their costs to operate. The degree to which a facility fits into a carrier's operations, marketing, and financial models will affect the level of "buy-in" by potential users, as well as their level of commitment to successfully marketing the services. The importance of this issue is illustrated clearly by the contraction of the U.S. railroad system since the early 1900s—the number of rail system miles has declined, as railroads have shed less profitable routes and services. Our team will provide insights into the likely market feasibility of various alternatives through an understanding of carrier economics and market strategy. The economics can be evaluated by estimating the profitability for the different traffic segments using available carrier cost data. Market strategy is driven by a variety of factors, and is not wholly limited to quantifiable financial measures. These

factors will be addressed through interviews with motor and rail carrier managers, and practical railroad industry knowledge among the project team members.

RAILROAD FINANCIAL ANALYSIS

Railroads do not typically share confidential financial information as part of public infrastructure studies, and in cases where they may be asked to contribute to the capital or operating costs of a project, their ability and willingness to pay is usually closely guarded, since it bears directly on their negotiating leverage. Nevertheless, it is possible to "reverse engineer" a reasonable approximation of a railroad's potential willingness to pay. Some of our team members recently employed such a methodology in analyzing the Norfolk Southern "Crescent Corridor" project paralleling I-81 between Harrisburg and the Southeastern U.S. The key elements are: determining average gross revenue per rail unit (distinguishing intermodal and non-intermodal traffic); determining the percent of gross revenue typically devoted to infrastructure investment; determining the share of infrastructure investment typically devoted to new capacity projects, rather than maintaining existing infrastructure; and estimating the amount of new railroad business over an analysis period that would directly result from the proposed improvement. This analysis yields the dollars per rail unit that should typically be available for investment in new infrastructure. Multiplying this number by the number of units of new rail business associated with different Cross Harbor rail enhancements, as determined from the Mode Choice Model, provides estimates of potential railroad contributions over the analysis period.

REVENUE STREAM AND FUNDING NEEDS ANALYSIS

Revenue stream analysis considers a different type of economic benefit: direct revenues that might be realized from Cross Harbor rail infrastructure improvements, in the form of user tolls on traffic, access fees charged to railroads, etc. Two important questions must be answered. First, what level of annual revenues, on a per unit basis, would be needed to fully fund each of the Cross Harbor alternatives? Second, what level of revenues on a per unit basis might be reasonably expected, based on railroad "willingness to pay" and the potential imposition of traffic surcharges or tolls on freight using the Cross Harbor improvements? The potential effect of tolls and surcharges on traffic forecasts can be tested by re-running the Mode Choice Model for a given alternative, with incrementally higher shipper costs assumed.

Funding needs analysis weighs project costs against revenue streams that might be reasonably anticipated. It identifies funding gaps, if any, that would appear to require other sources. We recognize that the PANYNJ has extensive financial analysis capabilities and resources, and is not proposing to conduct bonding analyses as part of this program. However, if desired, these services could be provided.

DISPLACEMENT ANALYSIS

Localized adverse economic impacts may also occur from displacement and relocation of businesses from construction or expansion of project elements. The analysis will be performed in conjunction with the land use, zoning, and public policy analyses.

1. Define the extent of the local study areas. The study areas for the evaluation of local impacts will depend greatly on the alignment, extent, and termini of each project alternative. Screening for local impacts will be conducted around specific project elements where construction or operational activities may occur.

2. Describe existing economic characteristics of local study areas. GIS and other secondary sources will be used to identify key businesses in the local study areas that may be affected by construction and operation of the proposed alternatives. Discuss major future development projects within the local study areas, independent of the proposed project. This section will identify development projects in the vicinity of proposed project elements that may affect economic conditions in the local study areas by encouraging the retention of existing businesses or attracting additional businesses. The inventory of future projects developed for the Land Use, Zoning, and Public Policy analysis will be used.

3. Assess potential local impacts from construction and operation of the project alternatives. The analysis will also discuss the economic impacts from potential direct or indirect displacement of residents and/or businesses as a result of construction and operation of project elements.

4. Identify the range of mitigation measures that would be available for potential project impacts.

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CROSS HARBOR FREIGHT PROGRAM

Needs Assessment



U.S.Department of Transportation
Federal Highway Administration

THE PORT AUTHORITY OF NY & NJ

September 2010

Cross Harbor Freight Program
Needs Assessment

A. PROBLEM IDENTIFICATION AND OPPORTUNITIES

The greater New York/New Jersey/Connecticut region is the financial center of the United States economy, the nation's largest consumer market, and a major hub of entertainment, services, fashion, and culture. The region receives, processes, and distributes raw materials, intermediate products, and finished consumer goods, which move to and from the rest of the United States and countries around the world. To fully understand the existing freight market for the region and forecast its future conditions, a 54-county, multi-state Cross Harbor modeling study area has been established, comprising portions of southern New York, northern and central New Jersey, western and southern Connecticut, and a portion of eastern Pennsylvania (see Figure 1).

In 2007, more than 920 million tons of freight moved to, from, within, and through the 54-county Cross Harbor modeling study area by surface transportation modes (truck and rail). Excluding through traffic, nearly 690 million tons were handled, and 93.2 percent of this tonnage was handled by truck. By 2035, it is forecast that nearly 1.2 billion tons of freight will be moved to, from, within, or through the study area by truck and rail. Excluding through traffic, more than 860 million tons will be handled by truck and rail, and 92.5 percent of this tonnage will be handled by truck. Between 2007 and 2035, the study area truck tonnage will increase by around 160 million tons and rail tonnage will increase by around 18 million tons (excluding through traffic). This represents a total tonnage growth of around 26 percent compared to a 2007 base year.

The region's highway system, especially the bridge and tunnel crossings and connecting routes, suffers from significant peak period congestion which continues to expand in duration beyond the typical hours. Planned highway improvements will address some chokepoints, but will not significantly alleviate congestion. Because the region is so dependent on trucking, highway congestion has a tremendous impact on freight movement—it increases the costs and environmental impacts, while decreasing reliability, speed, and safety of goods movement. With future growth in freight movement, truck vehicle miles of travel (VMT) will increase, and the current impacts and inefficiencies will grow.

Overall, the region has a well-developed freight rail system, but it is far better developed west of the Hudson River than it is east of the Hudson River. Many historic and geographic reasons account for this condition, including that critical connections to the east-of-Hudson market are remote, inefficient, or have capacity restrictions, but the result is that east-of-Hudson counties are far more dependent on highway transportation.

This modal imbalance is a significant problem because east-of-Hudson counties comprise about one-third of total surface transportation tonnage, and about half of long-haul tonnage moving more than 500 miles. Six of the top ten freight receiving counties in the study area are located east-of-Hudson. As a result, a huge part of the region's freight demand essentially has limited choices in terms of how it is transported. Highways leading to and serving the east-of-Hudson counties, and the communities that traverse, will continue to receive the greatest proportion of surface freight transportation impacts and freight shippers, receivers, and carriers throughout the region will suffer the growing negative effects of highway congestion.

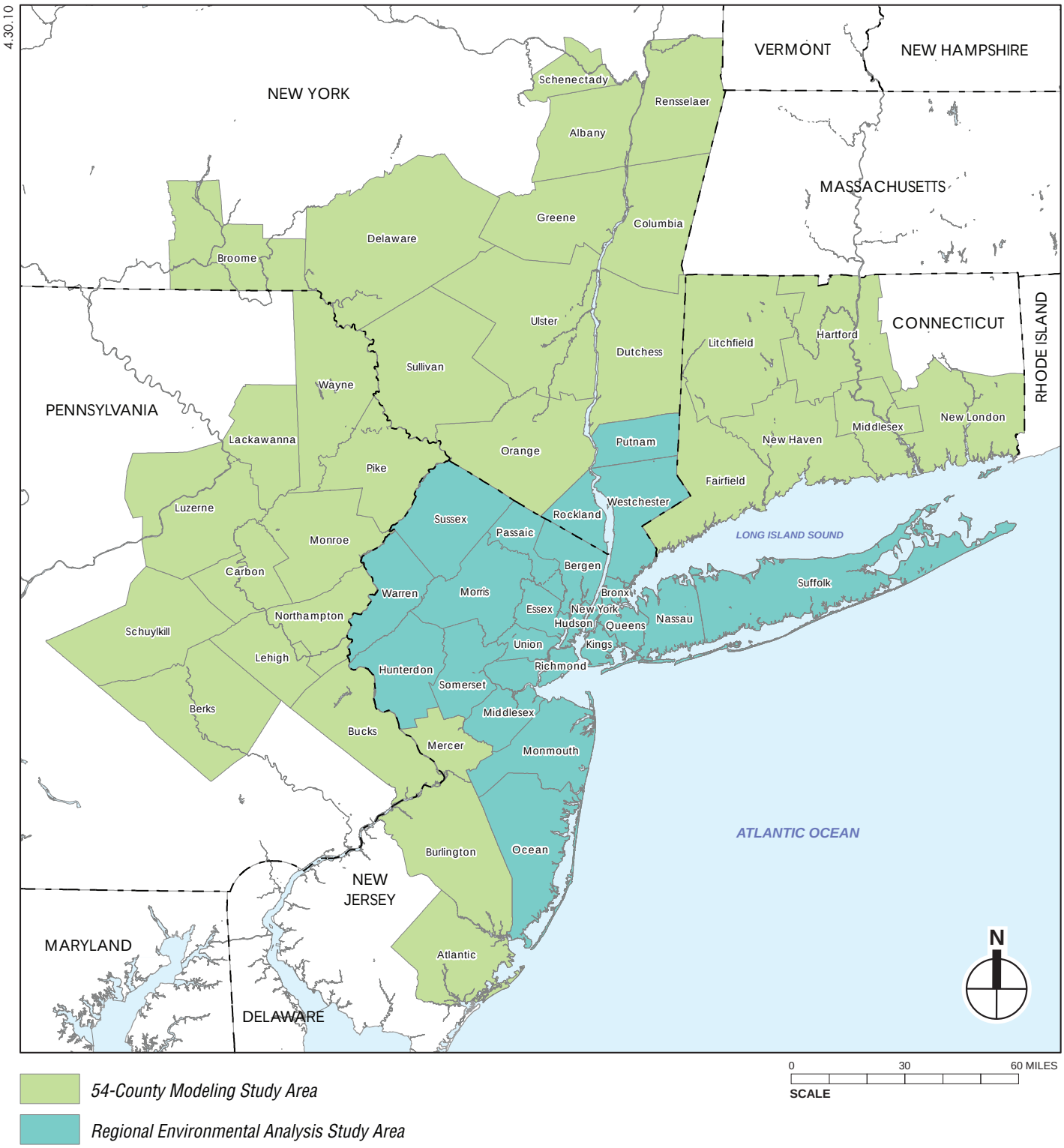


FIGURE 1

Study Areas

CROSS HARBOR FREIGHT PROGRAM

What actions can be taken to address this problem? Growing the share of surface transportation demand handled by non-highway modes is one significant opportunity. This idea is not new. Historically, the east-of-Hudson region was served by an extensive network of "railcar floats," where railcars were placed onto barges in New Jersey and floated across the Hudson to terminals in New York; a vestigial float service still operates today. A limited container barge also operates between Port Newark/Elizabeth and Brooklyn. Existing infrastructure accommodates a limited amount of freight rail service via the existing Hell Gate rail bridge over the East River, but significantly increasing the region's ability to accommodate freight using non-highway modes will require a new comprehensive multi-modal strategy. Possibilities include expanding and upgrading the service of waterborne modes, the introduction of regional Cross Harbor rail connections, and the upgrade of east-of-Hudson rail infrastructure.

These opportunities must be studied systematically and comprehensively, taking into account planning and growth over the entire 54-county Cross Harbor modeling study area, and also considering highway-related strategies (transportation system management, transportation demand management, safety and capacity enhancements) that could be implemented. The analysis must also recognize that freight movement is primarily a private commercial activity, contracted for and carried out between private partners, utilizing a combination of publicly and privately owned equipment and infrastructure. To be effective and sustainable, strategies to increase the contributions of non-highway modes must address the needs of freight shippers and receivers.

From previous studies and current thinking, four potential types of surface freight movement have emerged as potential candidates for greater freight handling by non-highway modes, providing benefits to study area counties both east and west of the Hudson:

1. Historic and current east-of-Hudson rail freight commodities. The opportunity is to serve commodity types that are generally most amenable to rail service, but do not fully utilize rail because of infrastructure or service limitations.
2. Long-haul rail trips that terminate at rail yards west-of-Hudson, and then continue by truck to destinations east-of-Hudson, and vice-versa. The opportunity is to move the transfer point between truck and rail to the east-of-Hudson region, reducing truck VMT and eliminating Hudson River truck crossings. The location and utilization of distribution centers, where truck and rail loads would be consolidated and de-consolidated, is a critical factor.
3. Long-haul truck trips (500 miles or more) that originate or terminate in the east-of-Hudson region. Typically, rail is most competitive for freight moving 500 miles or more. Many potential reasons explain why these trucks do not use rail today: rail infrastructure and service limitations, competitive pricing factors, and/or special handling requirements. The opportunity is to address as many of these factors as possible.
4. Shorter-haul truck trips (less than 500 miles). Rail "unit trains" comprise a single type of traffic that can be effective at shorter distances, provided that corridor volumes are high. Many regions, including New York/New Jersey, are investigating these "shuttle train" services.

Critical issues and considerations in moving forward are addressed in the following sections.

B. HIGHWAY SYSTEM

The limited role of rail for freight movement results in trucks accounting for approximately 93 percent of freight movements within the 54-county Cross Harbor modeling study area. Trucks hauling freight in the region share an extensive highway and roadway system with passenger cars, buses, and other non-freight vehicles. This condition contributes to high levels of traffic congestion leading to the New York Harbor/Hudson River crossings, as well as to and within the east-of-Hudson region. Northern and southern crossings of the Hudson River, as well as travel conditions on the regional highways in the east-of-Hudson region, generally are at or near a failing level of service. Moreover, highways in the east-of-Hudson region have numerous segments that are operating at 40 to 100 percent over capacity.

CONGESTION

In much of the region, where major highways are overly congested, long-haul trucks can use different alternate routes. This condition is not ideal, but it keeps freight and other traffic moving. However, it also results in localized congestion, environmental impacts, and excessive roadway wear and tear. In the study area, however, traffic traveling to and from New York City and Long Island or New England must funnel through a limited number of bridges, tunnels, and highway corridors. If these facilities are congested, no alternative local artery or crossing is available. These bridges and facilities are congested throughout most of the day and into the night. Delays of up to 45 minutes to enter the Lincoln and Holland Tunnels or to traverse the George Washington Bridge are common. The George Washington Bridge, which accommodates an average of 300,000 vehicles per day, is the only crossing that is part of the National Highway Network—the designated system of highways for 53-foot trailers[1]. Thus, it is the only option for these vehicles west of the Hudson River, bound for Long Island and New England. Tractor-trailer trucks can also travel from New Jersey to Staten Island and the Verrazano-Narrows Bridge, which carries approximately 196,000 vehicles per day to Brooklyn. However, this route entails negotiating narrow, substandard lanes on either the Outerbridge Crossing or Goethals Bridge, or the Bayonne Bridge to reach Staten Island. According to the New York Metropolitan Transportation Council (NYMTC) Draft 2009 Congestion Management Process Status Report, current vehicle demand at both crossings already exceeds capacity.

Ultimately, when trucks arrive in Brooklyn, the Gowanus Expressway, which connects to the Verrazano-Narrows Bridge, is severely congested and cannot accommodate 53-foot trailers. Continuing farther north, the Brooklyn/Queens Expressway has height limitations that force larger trucks on to local streets. The various tunnel crossings impose restrictions on vehicle height, weight, length, and cargo (hazardous materials prohibited), which effectively preclude their use by most long-haul freight carriers.

Based on NYMTC projections, total truck traffic on the Cross Harbor facilities are expected to increase by 35 percent by 2035. Specifically, truck volumes would increase from approximately

[1] All trucks carrying trailers 53 feet or longer, regardless of what they are carrying, are prohibited from traveling within or through New York City, except for a portion of the Interstate System that allows regional 53 foot trailers to travel through the New York City region to points north and south, and areas to the east in Long Island. These larger tractor-trailers must utilize portions of the New England Thruway and Bruckner Expressway (I-95), the Throgs Neck Expressway/Throgs Neck Bridge (I-295) and portions of the Long Island Expressway (I-495) to accomplish this movement.

10 million to 14 million by 2035 on the George Washington Bridge, and from 5.7 million to 7.4 million on the Verrazano-Narrows Bridge (see Figure 2). The total percentage of trucks on the Verrazano-Narrows Bridge is projected to increase from 10 percent to 16 percent in 2035.

According to the INRIX 2009 National Traffic Scorecard, the country's worst bottleneck since 2007 is the Cross Bronx Expressway/I-95 in the Bronx, which provides direct access to the George Washington Bridge. The segment leading to the Bronx River Parkway, Exit 4B interchange, was congested 94 hours of the week, with an average speed while congested of 11.4 miles per hour (mph). Between 4 and 5PM on Fridays, vehicles on this stretch averaged just 5 mph, i.e., the slowest location and time in the United States in 2009.

Increased congestion can be expected in the future due to growth in population, employment, and regional travel. Congestion on the major river crossings will be prolonged, and spatially extended to adjacent highways. In New York, most major roads will be congested, especially east-west-bound highways in geographic Long Island (see Figure 3). Currently congested roads will become "connected" as a congested network; this condition reduces the possibility of detouring in the system. In New Jersey, significant congestion increases will occur on north-south highways as well as their east-west-bound connectors.

Based on NYMTC's Best Practices Model (BPM), the daily VMT for the regional roadway system in 2010 is estimated at 131.6 million. This daily VMT is projected to increase by 16.4 percent, to 153.2 million by 2035[1]. NYMTC uses a roadway congestion index to identify total recurring delay on both freeways and arterials. A congestion index equal to or greater than 1.0 indicates that congested conditions exist area-wide; a congestion index less than 1.0 indicates that congestion is not a major problem. The advantage of using the congestion index is that it allows head-to-head comparison of areas with varying sizes and populations. The region-wide roadway congestion index for 2010 is 1.06—this value is projected to increase to 1.22 by 2035. This indicates that recurring delay on both freeways and arterials is projected to increase between 2010 and 2035.

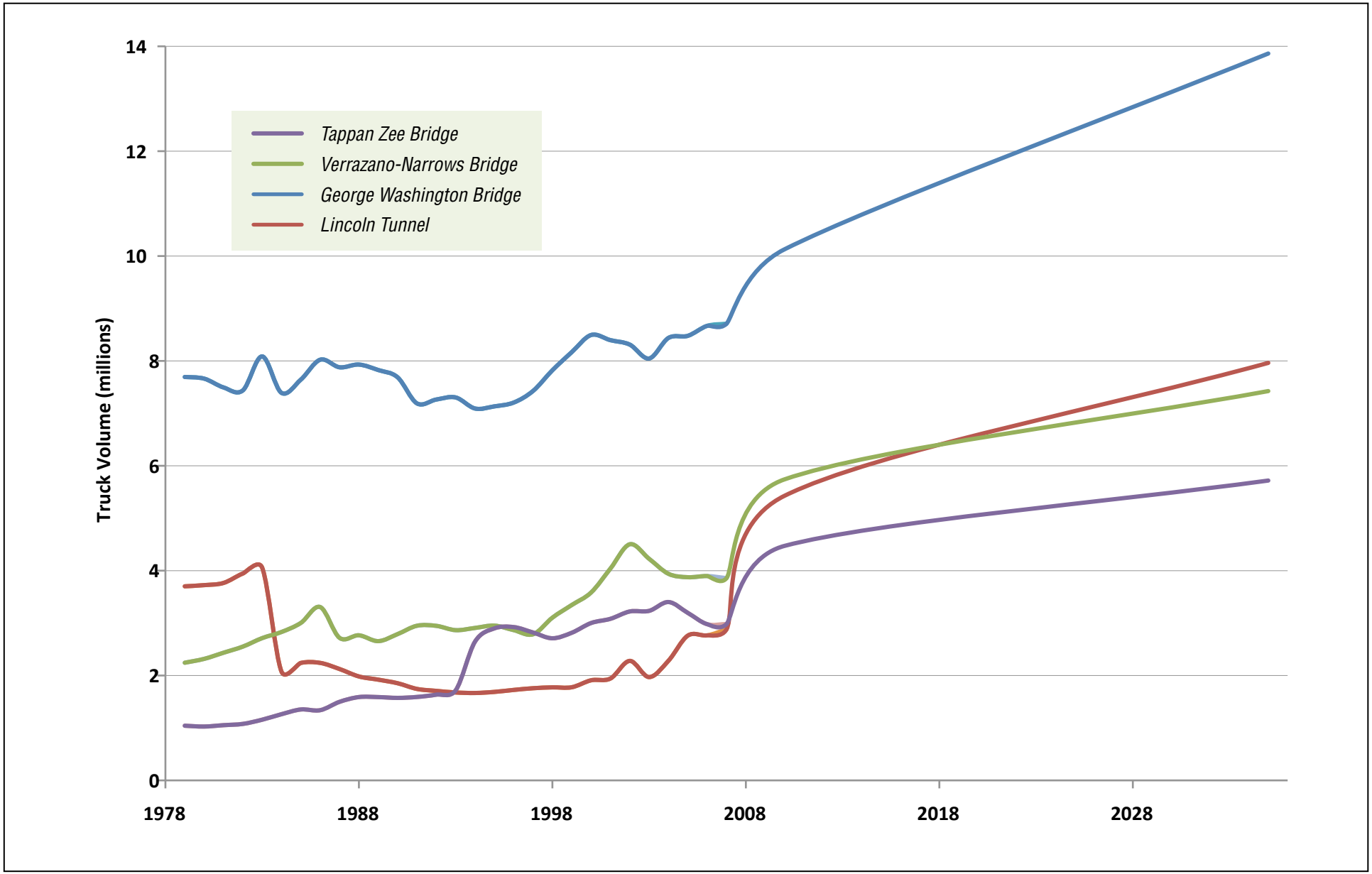
Daily vehicle hours of delay (VHD) estimates by NYMTC for 2010 is 2.35 million and projected to increase by 42.6 percent to 3.35 million by 2035[1]. According to the North Jersey Transportation Planning Authority (NJTPA), considering a typical weekday, approximately 1.6 million hours are spent in congestion by travelers in the NJTPA region each year. This average delay will increase approximately 46 to 54 percent over current levels, depending on future transportation funding for freight improvement.

INFRASTRUCTURE

The region's heavy dependence on trucks results in wear and tear on the region's roads, bridges, and tunnels, as well as severe chronic congestion and associated diminished air quality. For example, nearly two-thirds of the $2.5 billion allocated each year to the NJTPA region's transportation system is used for maintaining existing facilities in good working order. Many key transportation facilities in the region were built 50 years ago or more, and are due for major overhaul or replacement. Maintaining and improving these roads and bridges are exacerbated by the amount of travel in the region, since the heavy travel increases wear on roads and bridges, and increases repair costs, since work has to be conducted to avoid disruptions to key travel

[1] NYMTC Best Practice Model, "2005 Base Year Scenario" and NYMTC Best Practice Model, NYMTC "2035 Forecast Scenario"

6.10.10



Sources: NYMTC, 2007 Truck Toll Volumes
NYMTC, Regional Transportation Statistical Report, 2000-2001
NYMTC, 2035 BPM Model

FIGURE 2

Truck Volumes at Cross Harbor Facilities (1979-2035)

CROSS HARBOR FREIGHT PROGRAM

8.30.10



Source: NYMTC, 2035 BPM Model

2035 Congested Major Roads: V/C > 0.8

Major Road

Freeway

FIGURE 3

Projected Highway Congestion, 2035

CROSS HARBOR FREIGHT PROGRAM

routes. Approximately 33 percent of the NJTPA region's bridges are considered functionally obsolete, and approximately 11 percent are structurally deficient. State-of-good-repair projects collectively comprise the single largest category of investments in the NYMTC Regional Transportation Plan. Over the next 25 years, greater than $290 billion will be needed to maintain state-of-good-repair conditions through replacement and refurbishment of equipment and facilities. In addition, over $661 billion will be needed to maintain and operate the regional transportation system.

A 1997 Federal Highway Administration (FHWA) report estimated that the cost of pavement wear caused by trucks can be up to 100 times greater than that caused by passenger cars. With the projected increases in vehicle miles traveled over the next 25 years, pavement wear will increase.

C. FREIGHT RAIL SYSTEM

NATIONAL PERSPECTIVE

From the mid-1880s through the mid-20th century, railroads accommodated the majority of domestic freight throughout the country, and supported a thriving industrial base with ample access to rail.

After World War II, the creation of the Interstate Highway System in 1956 (authorized by the Federal-Aid Highway Act) resulted in the construction of new and improved highways and roadways which, combined with the explosive growth of suburban development and the decentralization of regional economies, fostered the rapid transition to personal automobile use and a decline in rail passenger traffic. Construction of the 42,500-mile Interstate Highway System, and federal law regarding truck weight limits initially set at 73,208 pounds, facilitated the use of larger trucks carrying heavier loads at a lower per-mile cost. Regions of the country that lacked efficient rail or water access, but were desirable for other reasons, experienced tremendous growth, creating new "truck-dependent" consuming and producing regions. As a result, the trucking industry experienced steady and rapid growth.

Rail freight responded to market share losses by contracting service on low volume lines and by consolidating into fewer business units, enabling them to focus on moving the most profitable rail-oriented commodities. Railroads were also successful in developing new markets and services, principally intermodal, which is now a significant share of their business. Many of the leading customers for rail intermodal services are trucking companies, and therefore this service is both a competition and a partnership.

Following deregulation of the industry (via the 1980 Staggers Act), the nation's rail industry has significantly grown its ton-mileage and sustained its profitability. Since 1980, rail freight ton-miles have steadily increased nationwide, from 932 billion annually in 1980 to over 1.5 trillion in 2006. This amount is expected to continue to rise as shippers seek more efficient and faster means of transporting their products, and as highways steadily become more congested. Railroading has experienced a recent renaissance, with profits and ton-mileage steadily increasing. Increased service levels associated with this renaissance have not been experienced since World War II. Freight ton-miles have more than doubled since the mid-1940s, with railroads hauling about 43 percent (the most) of the transportation types, and freight revenue reached approximately $57 billion in 2007.

WEST-OF-HUDSON FREIGHT RAIL SYSTEM

The west-of-Hudson freight rail system, as part of the national freight system, is included in this success story with significant intermodal and non-intermodal traffic and extensive facilities, many of which have been recently upgraded. Its success helps the region avoid hundreds of millions of truck vehicle VMT every year. Any discussion of rail improvements serving the study area counties east of the Hudson River must first consider conditions in the west-of-Hudson, because connections between the east-of-Hudson and the rest of the nation must traverse the west-of-Hudson infrastructure. Rail system issues and needs have been identified and, based on availability of funding, are being addressed by the railroads, the Port Authority of New York and New Jersey (PANYNJ), the State of New Jersey, and local and regional governments.

CAPACITY

Unlike the east-of-Hudson region, several freight-only mainlines serve the region as part of the national rail network. However, some of these lines are functioning near capacity during critical portions of each day. Terminals, yards, and connecting freight railroads in northern New Jersey are also operating at or near capacity. CSX Corporation (CSX) and Norfolk Southern Corporation (NS) have worked with PANYNJ, NJDOT, NYSDOT, NJ Transit, Conrail, AMTRAK, and other regional partners to identify and coordinate various improvement programs in the west-of-Hudson region. Some of the key bottlenecks and improvements are identified below**.**

Connecting Railroad

Consolidated Rail Corporation (Conrail) reports that significant portions of the freight-only connecting railroad network that links the serving yards, classification yards, and intermodal terminals in northern New Jersey are in need of upgrade. Service delivery would be enhanced if some segments were double-tracked with signal and speed improvements.

The New Jersey Department of Transportation (NJDOT) Statewide Freight Plan (2007) identified a lack of adequate capacity for such lines as the North Jersey Shared Assets Area (NJSAA) Lehigh Line, NS Lehigh Line, Passaic and Harsimus (P&H) Line, and Chemical Coast Line, with the CSX River Line close to capacity. Accommodation of forecasted growth in total freight traffic will require a significant increase in capacity along key rail lines and terminals in New Jersey if railroads are to maintain market share, let alone add service to increase it.

CSX and NS have formulated a program, including approximately 10 projects, to upgrade trackage in northern New Jersey. Based on availability of funding, it is expected that the private carriers, the Port Authority, the state of New Jersey, and NJ TRANSIT will work in public-private partnership to cooperatively fund these necessary enhancements. Projects underway include improvements to the River Line, New York Susquehanna and Western Railway, Belvidere Delaware Railroad, and Morristown and Erie Railway.

Yards and Terminals

Capacity at the main receiving and classification yards can be an issue when traffic levels are high, and with further growth will become an increasing challenge. The NJDOT Statewide Freight Plan (2007) recognized a need for terminal area throughput capacity improvements at Croxton Yard, Waverly Yard, and Oak Island Yard.

HIGHWAY ACCESS TO RAIL FACILITIES

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. Despite plans to improve rail connections and expand east-of-Hudson rail service, northern New Jersey is likely to remain the dominant rail transfer point for the immediate future. Because of this condition, access between rail terminals in northern New Jersey and New York is an integral part of the region's rail freight system. Highway access to support the planned expansion of rail freight activity at Greenville Yard will be particularly important. Cross Hudson drays experience constrained river crossings, and pay bridge tolls to access the point of final delivery. These additional barriers translate into higher overall prices for regional shippers to offset higher operator toll and congestion costs, as well as reduced delivery reliability in the face of chronic congestion on river crossings.

ACCESS TO EAST-OF-HUDSON FREIGHT CUSTOMERS

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 a cross harbor float railroad. Approximately one fifth of those intermodal shipments grounded in northern New Jersey are drayed to and from the east-of-Hudson service area. A substantial amount of carload freight waybilled from northern New Jersey is also produced or consumed in the east-of-Hudson subregion. With better access to the east-of-Hudson subregion, more traffic would be carried across the Hudson River by rail that could also benefit northern New Jersey. Less traffic would need to be drayed from intermodal yards, transload terminals, and warehouses by trucks crossing the George Washington and Verrazano-Narrows Bridges.

EAST-OF-HUDSON FREIGHT RAIL SYSTEM

BACKGROUND HISTORY

Beginning in the mid-19th century, freight movement throughout the New York and New Jersey region was extensively served by railroads. Trunk line railroads wanting to tap into the Port of New York, the largest in the United States since the 1820s, had difficulty getting across the Hudson River. Therefore, railroads established one or more waterfront terminals, and from them served every part of the region by waterborne modes. As shown in Figure 4, railroad terminals lined the New Jersey, Brooklyn, and Manhattan waterfronts. Major carriers into the New York/New Jersey area from the west had extensive fleets of tugs and barges moving from the New Jersey waterfront to the New York City waterfront. Some of these barges handled railcars to float bridges, and other barges lightered goods unloaded from railcars at docks in New Jersey directly to customers in New York City.

Railroad car floating was the predominant mode for transporting freight cars in New York Harbor in the 1930s, with approximately 5,300 cars per day moved in 1937. Notably, a terminal for the Long Island Rail Road (LIRR) Bay Ridge Branch was located at 65th Street in Bay Ridge, Brooklyn (65th Street Yard). From this facility, carfloats transported freight to Greenville in Jersey City, New Jersey. During World War II, the Greenville-Bay Ridge interchange operated 24 hours a day, handling 2,160 cars per day at its peak. The New York, New Haven & Hartford Railroad interchanged cars with the float service in Brooklyn, and provided direct service to/from Connecticut, Rhode Island, and Massachusetts and, through interchanges, provided service to the remainder of New England.

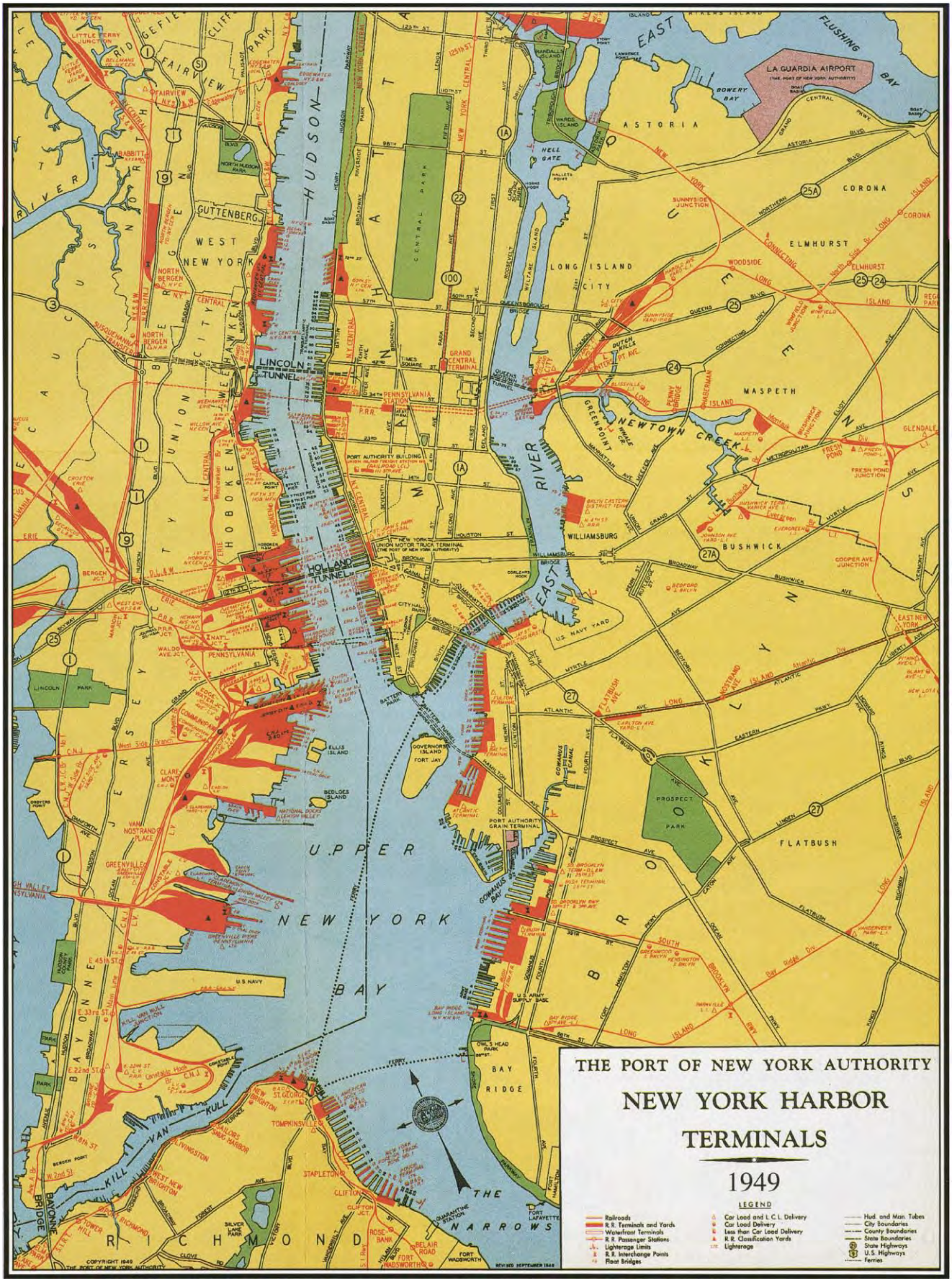


FIGURE 4

New York Harbor Terminals – 1949

CROSS HARBOR FREIGHT PROGRAM

A steep decline in float traffic began in the 1950s; within 25 years, only a single car float operation remained across New York Harbor—between Greenville Yard and Bush Terminal in Brooklyn, (a 6-acre facility located on the Brooklyn waterfront at First Avenue between 43rd and 51st Streets). A significant factor in the New York City railroad freight industry's decline was that public monies were invested in vehicular crossings of the harbor and the Hudson River, rather than in rail crossings. This investment included the construction of the Tappan Zee Bridge in 1955, the third tube of the Lincoln Tunnel in 1957, addition of a lower deck to the George Washington Bridge in 1962, and construction of the Verrazano-Narrows Bridge in 1964. Barge movement of railcars across the Hudson River has not advanced significantly in the last century, and has become slow, more sporadic (less than daily), and more expensive per car to provide, relative to trucking and intermodal options that operate on publicly provided infrastructure.

In 1983 a group of investors purchased the float operation between Greenville Yard and Bush Terminal that had once been owned by the Penn Central Railroad. It was named the New York Cross Harbor Railroad. Though ownership changed, the name was retained until the operation was purchased by the Port Authority of New York and New Jersey (PANYNJ) in 2008 and renamed New York New Jersey Rail (NYNJ). NYNJ now operates the only railcar float service in the New York region. It leases approximately 27 acres of Conrail's Greenville Yard in Jersey City, which provides connections with CSX and NS. In Bay Ridge, Brooklyn, Bush Terminal Yard connects to the New York and Atlantic Railway's Bay Ridge Branch and the South Brooklyn Railway.

Prior to World War II, the majority of freight that passed to and from the New York Metropolitan region moved by rail on some of the most storied railroads in U.S. history (including the Pennsylvania, the New York Central, and the Erie Railroads). However, based on the various national and local changes to the freight industry described above, the railroads began experiencing financial problems. The Pennsylvania Railroad sold LIRR to the state of New York in 1966 due to the lack of direct movement of rail freight to the east side of the Hudson River, as well as growing losses from the commuter service. In 1968, the merger of the Pennsylvania and New York Central Railroads (the Penn Central) failed as the company filed for bankruptcy. This event created a ripple effect throughout the entire northeast, as other railroads that depended on the Penn Central to haul traffic no longer had a means to move their freight.

Realizing the severity of the situation, the federal government established Conrail, which comprised the skeletons of several bankrupt northeast carriers, beginning operations on April 1, 1976. With federal backing, Conrail's financial position began to improve; by the late 1980s, it was a profitable railroad, although by that time, thousands of miles of excess trackage, primarily from Penn Central, were abandoned or sold.

The combined effect of these changes dramatically minimized rail freight access to New York City which was historically already quite isolated from national freight rail network due to its island location and limited rail crossings. The one rail tunnel under the Hudson was, and still is, used for passenger traffic and has never handled significant amounts of freight traffic. The nearest rail bridge across the Hudson River was the Poughkeepsie-Highland Bridge which formed a direct route to/from New England but was a bit circuitous for New York traffic. It added an additional carrier that took a division of revenue from the other carriers, and consequently most New York destined traffic was handled via marine services into the New York market. The Poughkeepsie Highland Bridge was permanently closed to rail traffic after a fire in 1974, leaving Albany as the only freight rail bridge crossing the Hudson River, increasing the circuity of all rail movements to New York, especially from the south.

The rise of intermodal traffic (first trailer-on-flatcar and then container-on-flatcar) resulted in the development of large intermodal terminals in New Jersey. Population growth, cheaper land prices, and the better transportation infrastructure west of the Hudson River shifted the "center of gravity" for distribution activities to New Jersey. The state of New York attempted to revitalize rail traffic across the Hudson through the Oak Point Intermodal Terminal and the Oak Point Link projects in the 1990s. Neither project dramatically increased rail traffic directly to/from New York, since the only direct rail route into and out of New York was via a circuitous Hudson River crossing at Albany and it included conflicts with passenger services and clearances on the Metro-North Railroad (MNR) Hudson Line. In addition, most of the distribution infrastructure for the New York area is located west of the Hudson River. A limited amount of direct traffic moves directly by rail or intermodal into the New York area without first being handled at a distribution facility on the west side of the Hudson. The most important rail growth area in the last 20 years has been outbound Municipal Solid Waste and Construction and Demolition Debris, which originates by rail east of the Hudson. The increase in this type of traffic has developed recently and taken advantage of the improved clearances and separation from passenger traffic afforded by the Oak Point Link project.

The Bay Ridge Branch is an example of a freight-only rail line through Brooklyn and Queens that is currently underutilized due to the difficulty in serving customers. The complexity of getting railcars to and from the Branch, as well as the associated time implications, causes difficulties for the customers on the Bay Ridge Branch line to secure competitive rates. While it is true that there has been a general decline in the demand for rail freight services over time, declines in railcar demand along the Bay Ridge Branch are in excess of nationwide averages. The Bay Ridge Branch was once a major rail freight corridor during the peak of rail float operations across the harbor. At one time the Bay Ridge Branch carried 600,000 railcar-loads per year, but now carries less than 3,000 carloads per year. The Bay Ridge Branch began as a narrow-gauge seasonal railroad serving Brooklyn beaches. It attained its highest state of service and capacity as a result of improvement projects (years 1914-to-1925) that featured high-voltage AC electrification and grade-separated multiple track. This upgrade was designed as a predominantly four-track facility, with intermittent sections of two-track right-of-way.

Today, the Bay Ridge Branch has only one active track, with passing sidings. It has no signals, with train movements controlled by track warrant (direct approval from a dispatcher). The existing yards of significance are at Bay Ridge 65th Street and at Fresh Pond. The existing East New York Tunnel on the line has four bores, but with only one tube in service. Two other tunnel tubes have tracks in place, but are not connected. The fourth tunnel tube is sealed and conveys a petroleum pipeline. The Bay Ridge Branch is entirely grade-separated, with 44 overhead structures or bridges in the segment of the line between East New York and Bay Ridge. Five of the 44 bridges have clearances of 17'6" or less (minimum clearance for trailer-on-flatcar), while 30 of these 44 bridges have a 20'6" or less clearance (minimum clearance for high-cube double-stack railcars). The LIRR freight service New York and Atlantic Railway (NY&A) operates the Bay Ridge Branch. Shippers and consignee demand on this rail line is generally on an as-needed basis, and averages only about one freight train per day.

CAPACITY BARRIERS

A review of the existing characteristics and needs for the east-of-Hudson rail system identified four types of barriers to growth of rail freight traffic:

1. **Conflicts with passenger service** limit the flexibility, reliability and transit times of freight operations;
2. **Clearance issues** prevent freight carriers from operating their most modern and efficient rail equipment in the study area;
3. **Weight restrictions** prevent freight carriers from operating their highest volume and lowest cost bulk equipment in the study area; and
4. **Yards and terminals** are adequate for current volumes of traffic, but would require additions to accommodate increased freight demand and provide more efficient service.

Conflicts with Passenger Service

Most of the rail lines east-of-Hudson are publicly owned and maintained. The public agencies that acquired the lines were primarily motivated to maintain (and later expand and improve) passenger rail services that are critical to the economy of this region. During the ensuing decades, public agencies have invested large sums of money in improving and expanding rail passenger services in the region. The government has been much less active in the freight arena, which has traditionally been a for-profit private enterprise.

The NY&A (New York and Atlantic Railway) was formed in May 1997 to handle the freight operations on Long Island Railroad infrastructure across Long Island, serving a total of 269 route miles. This privately-owned railway is headquartered in Glendale New York, and moves approximately 20,000 carloads per year utilizing its own fleet of locomotive and crew assets. CSX continues to own the Fremont Secondary which allows the Class 1 railroad to operate trains between their Oak Point Yard in the Bronx, and Fresh Pond Yard in Glendale, Queens, which is the interchange location with NY&A Railway.

The Metropolitan Transportation Authority (MTA)-LIRR owns and maintains most of the conventional railroad lines on geographic Long Island, and is the most heavily traveled commuter railroad in North America. The MTA-MNR owns and maintains most of the railroad lines in the Bronx, and in Westchester, Putnam, and Dutchess counties. It also maintains the rail lines owned by the State of Connecticut extending to New Canaan, Danbury, Waterbury, and New Haven. Amtrak owns the lines leading to New York's Pennsylvania Station from New Rochelle in the north, and Washington, DC in the south. The Amtrak tunnels are the only conventional railroad crossings of the Hudson River south of Albany.

The principal mission of the public agencies that own and control these critical regional railways is the prompt and safe movement of passenger trains, which are completed successfully. Only about 20 daily freight trains operate east-of-Hudson. Eighteen of these trains share tracks with the extensive network of passenger service, in excess of 250 passenger trains a day on some line segments, which are given scheduling priority over freight movements. This condition limits the capability of freight railroads to compete for certain time-sensitive commodities that must arrive or depart during passenger peaks. It also prevents freight railroads from serving customer industries on weekdays, when they are typically staffed, which is an important consideration for many rail shippers. In addition, if passenger operations become delayed or off-schedule, freight railroad reliability is severely impacted because freight trains are typically the lowest priority trains on the railroad, especially when the passenger railroad (in this case, Long Island Railroad) is in operational control of the rail infrastructure. If the window of operation is missed by the freight operator, due to a self imposed issue, a customer issue, or another train interference issue, it is oftentimes very difficult for the freight operator to regain access to the passenger railroad.

Clearances

The rail lines in the east-of-Hudson region were designed and engineered when the railcar fleet in the U.S. was lighter and less tall than many of today's cars. As recently as 30 years ago, the disparity in dimensions between freight and passenger rail vehicles was not great, and the rail lines east-of-Hudson accommodated most freight cars. Freight carriers, however, are increasingly relying on cars that are too tall to be operated east-of-Hudson.

- Clearance envelopes on Long Island range from 14'6" to single-level container-on-flatcar clearance (17'6").
- None of the track east-of-Hudson, except for a portion of the Hudson Line from Albany to Tarrytown, is cleared for enclosed auto racks. Similarly, double stacked containers (20'6") or higher will not clear rail lines.

Weight Restrictions

The maximum weights of commonly used freight cars are also growing. When fully loaded, the newest generation of bulk freight cars does not fit within maximum allowable weight restrictions in place for the LIRR.

- Class I freight carriers are increasing their reliance on heavier, 286,000-pound gross weight cars, and even starting to move to 315,000-pound gross weight cars in some markets.
- General maximum allowable weight for any railcars operating on the LIRR network is 263,000 pounds.
- CSX River Line, the NY&A First Avenue Line, and a short segment of the Fremont Secondary immediately north of Fresh Pond, are the only rail segments east-of-Hudson capable of handling 286K cars.

Yards and Terminals

Due to very low rail freight volumes east of the Hudson River, the few existing yards and terminals can accommodate current demand. However, freight traffic levels will not be able grow very much without some expansion and enhancement to terminal facilities.

For most yards and terminals in the downstate study area, some investments in trackage, connections, and control systems would be required to increase utilization rates of these underutilized yards to the levels of activity found west-of-Hudson. Support and leadership from public officials will almost certainly be required to expand these facilities. Required support will likely include assistance with permitting, negotiations with neighbors, environmental mitigation, and possible financing.

RAIL CONNECTION

The principal deficiency with respect to connections is the lack of a direct route between the east-of-Hudson region and the national rail hubs in northern New Jersey. The nearest conventional railroad crossings of the Hudson River are owned by Amtrak, and are restricted to passenger service. Freight to and from NY&A on Long Island, destined for customers across the Hudson, must either complete the 48-hour (300-mile) trip via Fresh Pond Yard in Queens and the old New York Central Bridge in Selkirk, New York, or travel via the New York Cross Harbor Railroad (NYCH) on a car float service between Bay Ridge (51st Street Yard) and Greenville. The CSX Corporation and Canadian Pacific Railway offer freight service from Albany directly to Queens and the Bronx. The only overland freight line connecting Long Island

to the continental United States is the Hell Gate Bridge in Astoria, Queens. Two other short-line carriers, the Providence and Worcester Railroad (P&W) and the Housatonic Railroad, operate service in Connecticut. The P&W relies on a CSX trackage agreement to operate freight service from New Haven to Fresh Pond Yard.

HIGHWAY ACCESS TO RAIL FACILITIES

One of the principal deficiencies for rail facilities east of the Hudson River is the lack of direct access to regional highways and major truck routes, requiring trucks to travel long and circuitous distances on the local street network. These indirect connections add to shipment time, cost, and potential for service interruptions. Large numbers of trucks maneuvering on local streets also create safety hazards, and increase the impact on surrounding communities. Specific examples of circuitous connections include:

- Rail facilities on the Brooklyn waterfront, such as the Bay Ridge 65th Street Yard, can only be served from the Gowanus Expressway via a roundabout route using heavily trafficked Third Avenue.
- Trucks accessing the rail facilities at Hunts Point and Oak Point Yard must use Bruckner Boulevard. Since this arterial runs in the footprint of the elevated Bruckner Expressway, it is difficult for trucks to negotiate left turns, U-turns, or other maneuvers around the expressway's support piers.
- Fresh Pond Yard is adjacent to a residential community, and is five miles from the Long Island Expressway and six miles from the Brooklyn/Queens Expressway. Immediate access is provided only by Metropolitan Avenue and Fresh Pond Road.
- Truck drays are also subject to general chronic regional congestion and price surcharges.

D. CURRENT AND FUTURE FREIGHT FLOWS IN THE STUDY AREA

Current and projected future freight flows to, from, and within the 54-county Cross Harbor modeling study area were developed from the TRANSEARCH database. TRANSEARCH, a commercial data product, draws information from public agencies, private survey research, and econometric forecasts. It is important to note that the TRANSEARCH forecasts assume current modal shares by commodity and trade lane—potential effects of policies to encourage non-highway surface transportation modes are not taken into account.

EXISTING FREIGHT FLOW

In 2007, more than 920 million tons of freight moved to, from, within, and through the 54-county Cross Harbor modeling study area by truck and rail. Excluding through traffic, nearly 690 million tons were handled, with approximately 93 percent handled by truck (see Table 1). Long-haul traffic entering the east-of-Hudson region largely includes chemicals and allied products, food and kindred products (required for the manufacture and processing of food), lumber/wood, primary metal, and transportation equipment.

Table 1
Existing 2007 Regional Truck and Rail Freight Flows by Weight (54 County Area)

Direction	Truck Tons	Carload Tons	Intermodal Rail Tons	Total Rail Tons	Total Truck and Rail Tons
Inbound/Outbound	266,825,782	33,430,961	12,493,980	45,924,941	312,750,723
Intraregional	374,133,348	794,248	560	794,808	374,928,156
Through	183,843,090	45,799,788	4,238,880	50,038,668	233,881,758
Total	**824,802,220**	**80,024,997**	**16,733,420**	**96,758,417**	**921,560,637**
Total Excluding Through	**640,959,130**	**34,225,209**	**12,494,540**	**46,719,749**	**687,678,879**
Mode Share Excluding Through	93.2%		6.8%		100.0%

Source: Global Insight; Preliminary Estimate Only.

2035 FUTURE FREIGHT FLOW

By 2035, it is forecast that nearly 1.2 billion tons of freight will be moved to, from, within, or through the study area by truck and rail. Excluding through traffic, more than 860 million tons will be handled by truck and rail, and 92.5 percent of this tonnage will be handled by truck. Between 2007 and 2035, the study area truck tonnage will increase by around 160 million tons and rail tonnage will increase by around 18 million tons (excluding through traffic). This represents a total tonnage growth of around 26 percent compared to a 2007 base year.

Table 2
Future 2035 Regional Truck and Rail Freight Flows by Weight (54 County Area)

Direction	Truck Tons	Carload Tons	Intermodal Rail Tons	Total Rail Tons	Total Truck and Rail Tons
Inbound/Outbound	365,091,457	46,694,285	17,660,402	64,354,687	429,446,144
Intraregional	435,190,454	788,530	693	789,223	435,979,677
Through	250,952,684	54,789,878	5,669,388	60,459,266	311,411,950
Total	**1,051,234,595**	**102,272,694**	**23,330,482**	**125,603,176**	**1,176,837,771**
Total Excluding Through	**800,281,911**	**47,482,816**	**17,661,095**	**65,143,910**	**865,425,822**
Mode Share Excluding Through	92.5%		7.5%		100.0%
Mode Share Excluding Through, Percentage Growth, 2007-2035	**24.9%**		**39.4%**		**25.8%**

Source: Global Insight; Preliminary Estimate Only.

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