NEW YORK METROPOLITAN TRANSPORTATION COUNCIL

FREIGHT FACILITIES AND SYSTEM INVENTORY

In The New York Metropolitan Region

September 2000

NEW YORK METROPOLITAN TRANSPORTATION COUNCIL

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TABLE OF CONTENTS

List of Tables in Text:

List of Tables in Text:

CHAPTER 4: TRUCK FACILITIES

List of Tables in Text:

INTRODUCTION

In June 1998, President Clinton signed the Transportation Equity Act for the Twenty-First Century (TEA - 21), the six-year transportation reauthorization bill, to maintain and improve America's surface transportation systems for the 21st century. The most obvious benefit of the TEA-21 is the promise of more than $218 billion for transportation over the next 6 years, and guarantees that most of that money (about $198 billion) will be appropriated.

One of the key changes concerning planning in the new legislation is the consolidation of the 16 metropolitan and 23 statewide planning factors established by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) into seven broad areas to be considered in the planning process, both at the national and statewide level. Those seven areas which TEA-21 requires Metropolitan Planning Organizations (MPOs) to consider in planning for the future transportation needs of the region are :

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety and security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility options available to people and freight;
- Protect and enhance the environment, promote energy conservation, and improve quality of life;
- Enhance the integration and connectivity of the transportation system across and between modes, for people and for freight;
- Promote efficient management and operation through development of congestion management plan;
- Emphasize the preservation of the existing transportation system. (Ref. I-5)

Intermodal Management System (IMS) was defined as a process of identifying key linkages between one or more modes of transportation, defining strategies for improving the effectiveness of these modal interactions, and evaluating and implementing these strategies to enhance the overall performance of the transportation system. As part of the implementation phase of the intermodal management system, NYMTC Central Staff has created this inventory report for major freight facilities and systems active in our region. The current work updates the first inventory report issued by NYMTC in 1995.

The purpose of this inventory report is to describe the current condition of major freight transportation facilities and systems. Understanding the existing system is crucial in order to identify bottleneck locations and to generate improvement strategies. This inventory is an ongoing process which will be updated every five years. The inventory data, based on a survey, will eventually be included in a computer database and geocoded. It will help to develop strategies to improve the transportation network. The selected strategies may be included in the NYMTC Transportation Improvement Program (TIP) and/or the Regional Transportation Plan (RTP). The major elements of this report include: Rail carload and Intermodal (Rail/Highway) transportation; Trucking; Air

(Domestic/International); and Water transportation (Domestic/International).

In order to support this report, NYMTC Central Staff conducted a freight inventory survey in the years1999 and 2000. The questionnaires were sent to freight terminal operators and managers. For the truck part, this survey was limited to dedicated organizations only, however it will be complemented by a larger report based on the subregion's-lead survey of regional trucking and warehousing facilities. The survey has an 80% response rate, however some information is incomplete. In the future, we hope for better cooperation from the freight community.

"Intermodal", defined as involving transportation by more than one mode of transportation during a single journey, is gaining momentum. An intermodal freight movement is increasingly focused on the customer. It requires individual linkages handled expediently as one movement under the authority of a single way bill. Freight intermodality has become an integral part of logistics management and a major component of the systems approach to business. The major forces of change in the freight transportation industry are: globalization of commercial activities, causing changes in trading patterns; new and emerging technologies (such as containerization, fast ships, electronic data interchange, internet); and deregulation (and perhaps some reregulation) trend in transportation (Ref. I-1).

The rapid shifts in economic expansion helped the trucking industry remain strong compared to other freight transportation modes. However, the conditions that favored that industry expansion are drawing to a close. Railroads have begun to provide the level of service required by U.S. industry and have begun to reclaim some of the markets they have relinquished. In the future, trucking will remain strong and suffer only a small loss of revenue shares. Transportation operators must be willing to invest in technology and become more efficient in order to retain customers and improve productivity. The market will require high levels of predictability and information about supply lines and a logistical interaction with transportation service providers. Transportation operators in the future will have to weigh the costs, risks and rewards of involvement in international trade (Ref. I-4).

Modal Trends in U.S. (Ref. I-4)*:*

- Of the $126.3 billion in freight revenues generated by the U.S. economy between 1997-2007, trucking operations will capture the largest share (76.5%), with air (12.6%) and rail (7.3%) accounting for most of the rest of revenue growth.

- Of the added volume of 2.4 billion tons in primary freight movement generated by U.S. economy between 1997 and 2007, trucking operations will capture the largest share (55.7%), with rail (20.9%) and waterborne freight (20.1%) accounting for most of the rest of this growth.

- Air freight operations in the U.S. continues to grow rapidly. By 2007, this mode will represent 5.4% of all primary freight transportation revenue. Air freight is the fastest growing mode in terms of both volume and revenue, which will more than double by 2007,

due to increased shipment of high value to weight commodities such as electrical machinery and equipment, mail and small packages. Rail intermodal volumes and revenues will grow from 138 million tons and $5.6 billion in 1997, to 173 million tons and $6.8 billion by 2,007.

- The overall tonnage and revenue from primary freight shipments will increase from 11.2 billion tons and $457 billion in 1997 to 13.6 billion tons and $584 billion in 2007 - an increase of 21.2% and 27.6% respectively, between 1997 and 2007.

US Domestic Primary Shipment by Mode and Volume: 1997 to 2007 (Ref. I-4)

Mode	Volume in Millions of Tons			Mode Share (%)			CAGR (%)		
	1997	2002	2007	1997	2002	2007	97-02	02-07	97-07
Truck	6,666	7,125	7,988	59.5	59.1	58.8	1.3	2.3	1.8
Carload	1,813	2,000	2,249	16.2	16.6	16.6	2.0	2.4	2.2
Intermodal	138	151	173	1.2	1.3	1.3	1.9	2.8	2.3
Air	16	22	32	0.1	0.2	0.2	6.3	7.8	7.1
Water	1,107	1,246	1,584	9.9	10.3	11.7	2.4	4.9	3.7
Pipeline	1,464	1,505	1,549	13.1	12.5	11.4	0.6	0.6	0.6
Total	**11,203**	**12,050**	**13,576**	**100%**	**100%**	**100%**	**1.5%**	**2.4%**	**1.9%**

US Domestic Primary Shipment by Mode and Revenue (Ref. I-4)

Mode	Revenue in Billions $			Mode Share (%)			CAGR (%)		
	1997	2002	2007	1997	2002	2007	97-02	02-07	97-07
Truck	371.9	413.0	468.5	81.3	81.0	80.3	2.1	2.6	2.3
Carload	35.4	39.3	44.6	7.7	7.7	7.6	2.1	2.6	2.3
Intermodal	5.6	6.1	6.8	1.2	1.2	1.2	1.6	2.3	2.0
Air	15.8	21.7	31.8	3.5	4.2	5.4	6.5	8.0	7.2
Water	7.7	8.3	9.4	1.7	1.6	1.6	1.5	2.4	2.0
Pipeline	20.9	21.7	22.5	4.6	4.3	3.9	0.8	0.7	0.8
Total	**$457.3**	**$510.0**	**$583.6**	**100%**	**100%**	**100%**	**2.2%**	**2.7%**	**2.5%**

CAGR: Compound Annual Growth Rate

Following current US economic expansion, growth in New York-New Jersey region has gotten stronger over time. Regional economic growth has been led by gains in business/financial service jobs and rising retail and tourist activity. Private job growth between 1997 and 1998 was 2.6%, food, transportation and energy costs declined in the region, and the overall rate of inflation continued a downward trend to 1.6% (Ref. I-3).

Freight movement in New York City and the surrounding region is confronted by increasing congestion causing delays and high costs for both local delivery and infrastructure maintenance. The congestion costs are in part the result of dependence on trucks and their subsequent impact on the highway network. More than 700 million tons of freight are moved in and out of the New York metropolitan region each year. While 72% of the metropolitan area consumer market is east of Hudson River, 63% of distribution and warehousing infrastructure is located at west of Hudson, which constrains regional freight mobility. It is critical to develop new initiatives in rail freight service, as well as increased port capacity and ITS applications, to ease congestion and enhance freight mobility through the region (Ref. I-3).

To improve access to freight generators and to support economic activity by reducing time for moving people and freight, several studies have been either recently completed or are underway. They are listed in the NYMTC's Regional Freight Plan Project and include (Ref. I-6, I-7, I-8):

- The Staten Island Bridges Program, Environmental Impact Statement (EIS)
- New York City's Shore Parkway Bridges Study
- The Port Authority Airport Access Program (EIS)
- The Port Dredging Study, by the Port Authority of New York and New Jersey (PANY&NJ)
- Strategic Plan for the Redevelopment of the Port of New York, by the New York City Economic Development Corporation (NYCEDC), 1999
- Cross Harbor Freight Movement Study, Major Investment Study (MIS) by the NYC EDC, 2000
- Port Development and Investment Planning Study, by the PANY&NJ
- New York & New Jersey Harbor Navigation Study (EIS) - U.S. Army Corps of Engineers
- Long Island Transportation Plan 2000 (MIS) by the New York State Department of Transportation (NYSDOT)
- Staten Island Expressway Corridor Study (MIS), by the NYSDOT
- New York City Goods Movement Study, by the New York City Department of Transportation (NYCDOT)
- Bronx Arterial Needs Major Investment Study (MIS) - NYSDOT
- Gowanus Expressway Rehabilitation, Draft Environmental Impact Statement (DEIS), by the NYSDOT
- Goods Movement in the New York Metropolitan Area, by the Baruch College/City University of New York (CUNY), 1999
- Freight Synthesis, by the New York City Department of City Planning (NYCDCP), 2000
- Future Freight Transportation Needs Study, by the NYSDOT

NOTE: This report was prepared using the most current data available. Any new developments or changes to the region's transportation facilities and systems which may occur since the publication of the report will be periodically incorporated into the document via addenda.

Sources:

I-1 "Intermodal Freight Transportation", G. Muller, 1999
I-2 "Year-End 1998 Executive Review, Economy", PANY&NJ, Office of Policy & Planning
I-3 "Regional Transportation Plan, Executive Summary", NYMTC, May 1999
I-4 "US Freight Transportation Forecast to 2007, 4th Annual Report" by the American Trucking Association (ATA) Foundation, 1999
I-5 "Delaware Valley Regional Planning Commission (DVRPC), Annual Report for Fiscal Year 1998"
I-6 "The Southern Gateway", February 1999
I-7 "Freight Synthesis"by the New York City Department of City Planning (NYCDCP), 1999
I-8 "Regional Freight Plan Project", New York Metropolitan Transportation Council (NYMTC), 11/22/99

AIR FREIGHT

CHAPTER 1

Air Freight

1.1 An Overview of Air Freight Transport Worldwide

In recent years, the world's air freight industry has enjoyed dramatic growth paralleling the large growth in global trade since the early 1980s. Between 1993 and 1998, air cargo worldwide increased by more than 34% from 21 million tons to 28.2 million tons. Air cargo growth is forecast to continue tripling in volume from 1997 to 2017. Airfreight has grown faster than surface transportation, both in terms of tonnage and shipment value [(Ref. A-6)].

According to a report by the Colography Group, more than 29.5 million tons of international freight moved by air, in 1999, reflecting an 11.5% increase from 1998. Surface transportation tonnage, including marine, rail and trucking, rose by only 5.2% in the same period [(Ref. A-2B)] *(see Fig. A-13A for air freight growth by major markets).*

Driving this growth trend is the globalization of the world economy and lean-inventory strategies, including just-in-time and make-to-order freight deliveries to the end customer.

Air freight is most attractive to producers and distributors of high value goods, such as semiconductors or industrial diamonds, or products that rapidly lose value after a certain time, such as cut flowers, fresh seafood or fashion apparel.

Paralleling the growth in cargo moved by air is the growth in the numbers of freighter aircraft and the trend toward larger planes. As the major aircraft manufacturers assess the growth in the air freight industry, they are increasing the fleet of new cargo aircraft and converting older, existing aircraft to freighter configurations. According to a Boeing Corporation forecast, the number of large planes in use will rise from 254 in 1997 to 804 in 2017 and medium wide body aircraft will reach 659, up from 123 in 1997. Currently, freighter aircraft comprise just 12% of the total worldwide fleet of jet aircraft [(Ref. A-28f, A-6)] *(For the air freighters forecast see Fig. A-11 and A-13).*

Air freight is fast and reliable but it is also expensive. Long haul air freight rates, by weight, are typically 5 to 10 times higher than ocean-going transportation rates. Offsetting the higher cost of transportation is the emphasis, by air freight shippers and industry analysts, on minimizing logistical costs (total distribution costs - TDC) and maximizing economic value added (EVA). TDC represents all costs incurred in the process of making, storing and distributing a product to the end customer, while EVA reflects the benefits of a well-functioning distribution system and the cost of *not* having the right goods in the right place at the right time [(Ref. A-1a)].

Air freight is carried by passenger aircraft, freighters or integrated carriers, such as Federal Express, which combines trucking with air transportation to give the shipper a door-to-door delivery system. Air cargo is generally moved via containers which are placed in the belly of passenger aircraft or via air cargo pallets, which are typically built up or broken down on or near the airport, and are more

likely to be transported in freighters. The air cargo containers, which vary in dimensions depending upon the type and size of the aircraft, are designed to fit the cylindrical bodies of the plane *(see Fig A-1, A-9 and A-9A).*

1.2 The Air Cargo Industry in the US

In 1998, approximately 40% of the world's air freight tonnage was moved to, from or within the United States, which is both the world's single largest economy and its most developed air freight market. U. S. air freight export shipments in 1998 totaled $85.6 million, slightly above the $84.2 million shipped in 1997 (Ref. A-15, A28e) *(for air cargo tonnage see Fig. A-11B).*

More than 50 airports on the Eastern seaboard of the U.S. are designated as international. The majority of air freight handled on the east coast arrives at or departs from either Miami International Airport or Kennedy International Airport. While both of these airports experienced a drop in freight activity in 1998, (freight traffic decreased by 1.5% at Miami and 3.7% at Kennedy) it is expected that as economies of the nation's trading partners recover from the current growth slowdown, air freight traffic will grow accordingly. With the deployment of new technology and the opening of new freight-handling facilities, Kennedy International will be able to handle twice the current level of traffic over the next two decades (Ref. A-1) *(for growth in air freight traffic see Fig. A-11 and A-12).*

Contributing to the increase was the growth in mail transported via air. In 1999, mail volume grew by 4.6% to 331,409 tons (Ref. A-14, A-25). Air export revenue reached $8 billion of which 36.5% was generated by documents and packages weighing 70 pounds or less. Slightly more than 78% of all air export shipments were packages and documents, the remaining 22% moved as freight. Leading the air export market is Federal Express which handled 35.5% of the shipments. Its revenue by ton-mile nearly tripled from 7.9 billion in 1980 to 21.5 billion in 1994 (Ref. A-1b). Other large carriers are United Parcel Service (UPS), Airborne Express, and Emery Worldwide. They typically have their own fleet of cargo planes and include ground transportation, pick-up and and delivery, in their service. International express is becoming a major force in the industry *(for forecast see Fig. A-13B).*

The U.S. Postal Service (USPS) is one of the most important customers in the air freight business. The addition of Priority Mail service has changed the express document shipment market which in the past has been dominated by Federal Express. USPS shipped in 1998 over 1.3 billion pieces of Priority Mail and Express Mail packages, representing 44.7% of the 2.8 billion air shipments in the U. S. Federal Express was second with 718.4 million shipments and a 25.6% market share, followed by UPS with 436.4 million shipments and a 15.6% market share. The time-sensitive products lead the market. Express package documents in all categories in 1998 increased 7.6% over 1997 levels to $31 billion in total revenue. The average shipment weight is on the decline, to 7.3 pounds in 1998. Additionally, the growth in high-tech exports has heightened the importance of speed and security at cargo handling facilities.

For ranking of U.S. airports in the global rank of the major world cargo airports *see Table A1-1.*

Table A-1 (Ref. A1-e and A42)

Ranking of Major U.S. Air Cargo Airports			
World Rank	Airport	1999 Total	% change over 1998
1	Memphis *(FedEx)*	2,412,905	1.9
3	Los Angeles	1,951,942	4.9
5	JFK International	1,737,000	8.9
6	Anchorage	1,676,503	20.2
8	Miami International	1,651,068	(7.9)
10	Chicago O'Hare	1,531,809	6.2
12	Louisville *(UPS)*	1,486,205	6.5
16	Indianapolis *(FedEx, USPS)*	1,107,985	36.1
17	Newark International	1,078,000	(1.4)
19	Dayton *(Emery)*	894,389	0.8
20	Hartsfield Int'l (Atlanta)	883,149	(2.6)
23	Dallas-Ft. Worth	844,075	5.3
30	Philadelphia International	550,998	6.8

To improve their performance and to speed delivery service several freight-handling air lines are entering the alliances or form partnership. The latest is the announced in August 2000 new partnership between Emery Worldwide and the U.S. Postal Service, focused on the heavy-weight high-value shipment delivery [Ref. A27-d].

1.3 Technology

The air cargo industry has been as greatly impacted as any other business sector by the rapid growth in information technology. By virtue of information technology's widespread availability and affordability, accurate and timely data is now readily available to shippers, carriers and government agencies.

Currently, electronic information can be used to:

- Identify the best rates and levels of service available from carriers and facilitators;
- Book, account for, and generate reports on freight shipments;
- Track and manage assets, especially containers and chassis;
- Plan, trace, and confirm routing of intermodal equipment and their cargoes;
- Examine the sequence of intermodal operations, especially at terminals;

- Manage documents;
- Respond quickly to emergencies or change of operational orders;
- Confirm specific operations associated with the entire shipment including pickup and delivery;
- Measure performance of carriers and facilitators;
- Organize budget and manage costs.

Additional benefits of new information technologies include:

- replacement of paper documents with electronic version;
- use of the internet to exchange data on freight booking availability, rates, schedules and other forms of documentation and shipment status;
- reductions in the numbers of mistakes which can be produced in printed documentation.

Other new technologies used in the air cargo industry include Global Positioning Systems (GPS), new large planes, and improvements in de-icing. GPS integrates satellites, telecommunications and computer technologies to provide information on locations of aircraft and freight shipments. New large planes (NLP) which are being developed will double the cargo capacity of the largest currently available aircraft. Also, the recently improved Automated Export System (AES), introduced in air services since 1995, provides custom nationwide operational system which reduce paperwork and improve data flow (Ref. A13). The improvement in logistics management and the increasing demand for just-in-time delivery services is expected to increase by 50% in the total air cargo service by the year 2004 (Ref.A5). See *Fig. A-3A and A3B* for modern equipment at JFK airport and *Fig. A-9B,* for view of the plane unloading cargo.

1.4 Air Freight Critical issues

- Airport Access: congestion and substandard roadway conditions reduce the benefits of fast-moving air cargo in many metropolitan areas.
- Airport support System: the land near many metropolitan area airports is subject to development pressures and warehouse and refrigeration facility are not always available to meet the demand.
- Public policy: environmental issues, new de-icing procedures, noise regulations, air quality concerns, hazardous material regulations will continue to impact the operations at airports and the air cargo industry.

1.5 The New York Metropolitan Region Air Cargo Industry

In 1998, the value of cargo shipped by air via the region's three major airports, Kennedy, Newark and LaGuardia, was approximately $169 billion or $62,000 per ton. The value of oceanborne general cargo was approximately $3,300 per ton. For comparison of tonnage and value of freight handled in the region's seaports and airports *see Table A1-2.* According to the Port Authority of New York and New Jersey, in 1998, air cargo handling contributed $8.9 billion in economic activity, including

$2 billion in salaries and wages, $3.5 billion in gross regional product and it provided over 84,000 jobs in the region [Ref. A-43].

Table A-2
Comparison of Waterborne and Air Cargo in 1998 in New York Region's Airports [Ref: A43, A44]

	Tons (millions)	Dollar Value (billions)
Seaports	56.0	$70
Airports	2.7	$169

Three major airports and several smaller facilities serve the New York metropolitan region. Presently, the region's airport have no direct connection to marine and rail transportation modes. Ground access to these airports, which handle millions of passengers and tons of cargo each year and serve as major employments centers, is problematic. The principal access roads to the airports are often congested and those roads designated as parkways bar commercial traffic. This access problem leaves the region at a competitive disadvantage in the global economy

Truck access to Kennedy International Airport is principally via the Van Wyck Expressway which connects the northern entrance of the airport to the Long Island Expressway and other limited access highways in Queens. The Van Wyck experiences serious congestion in both directions during several hours of each day and the congestion is expected to worsen as freight movements to and from the airport continue to grow. The light rail system, currently under construction, will link the airport to the New York City subways and the Long Island Rail Road at Jamaica Station. This new transit facility, designed to move people to and from the airport, has the potential to relieve congestion on the Van Wyck by reducing the number of passenger vehicles using the expressway and freeing roadway capacity for freight vehicles.

For the top freight-handling airlines in the New York-New Jersey region in 1999 and for main commodities shipped by air see *Table A1-3 and A1- 4.*

Table A-3 [Ref.A25, A43]
Top 15 Airlines Ranked by Freight Volume

Rank	Airline Name	Tons (1999)
1	Federal Express	683,378
2	United Parcel Service	200,821
3	American	142,892
4	Lufthansa	125,486

Table A-4 [Ref. A13]
Top 15 Commodities Shipped by Air via New York (1999 data)

Commodity	Quantity (1,000 tons)	% change (1999/98)
Machinery	188,653	3.1%
Electrical Machinery	157,983	20.8
Woven Apparel	119,307	10.7
Knit Apparel	83,631	22.6

Rank	Airline Name	Tons (1999)		Commodity	Quantity (1,000 tons)	% change (1999/98)
5	United	108,279		Optical and Medical Instruments	67,610	-0.3
6	Continental	108,224		Plastic	45,014	16.0
7	Delta	101,950		Books, Newspapers	44,101	8.2
8	Korean	82,921		Vegetables	41,394	-8.6
9	Polar Air Cargo	75,930		Fish and Seafood	40,823	22.7
10	British Airways	67,675		Footwear	33,056	12.2
11	Northwest	63,803		Vehicles (not Railway)	26,116	22.9
12	Asiana	58,125		Paper, Paperboard	25,136	14.0
13	Air France	56,498		Special Others	24,895	6.0
14	DHL Airway	53,210		Organic Chemicals	24,764	24.0
15	Airborne	50,306		Pharmaceutical Products	21,716	17.4

To accommodate the forecasted increases in volumes of air cargo handled at the region's airports, new and expanded cargo facilities are coming on line. About $400 million has been spent or approved for construction of eight cargo facilities at Kennedy. Northwest Airlines has just completed a new 90,000 square foot cargo facility which would use automated elevating transfer vehicles (ETV) to store and retrieve freight in the facility. At Newark, Continental Airlines is building a new cargo facility. For proposed rail access option to the New York City airports see *Fig. A-2B.*

For the air traffic in the three major airports of the region in 1999 *see Table A1-5.*

Table A-5
Air Traffic in the Metropolitan Region, 1999 (Ref. A14)

		% change 1999-1998
Total Revenue Passengers	89,258,040,	3.3
Total Non-Revenue Passengers	3,439,737	-0.9
Flights		
Domestic Air Carrier	629,764	2.6
International Air Carrier	198,884	3.5

Commuter	279,150	-4.9
General Aviation	55,778	-0.1
Total	1,163,576	0.7
Freight (in tons)		
Domestic	1,313,361	4.4
International	1,545,858	5.4
Total	2,859,219	4.9
Mail (in tons)		
Total	331,409	4.6

1.6 Airports Classification

To understand airport capacity and its potential for freight movement, it is important to know the type of airport that exists in the region. The NPIAS (National Plan of Integrated Airport Systems) has classified national airport types (Ref. A3) as follows:

Classification	Characteristics
Basic Utility (BU)	Small airports designed primarily for single-engine aircraft. Precision approach operations are not anticipated.
• Basic Utility I	2,00 ft. runway; precision instrument approach operations not available.
• Basic Utility II	3,200 ft. runway; precision instrument approach operations are not generally available.
General Utility (GU)	Airport designed for broader spectrum of general aviation needs including some air taxi, commuter traffic and small business jets with low approach speeds.
• General Utility I	3,800 ft. runway; precision approach is not generally available.
• General Utility II	4,300 ft. runway; precision approach capabilities are available.
Transport (TR)	An airport for use by aircraft that cannot be accommodated adequately by a general utility airport. Typically these are jets with approach speeds of more than 121 knots. Runway lengths of 5,400 ft. or more and precision capability is available.

1.7 Major Freight-Handling Airports in the Metropolitan Region

The following airports are included in this inventory.

- John F. Kennedy (JFK) International Airport, Queens County, New York City
- LaGuardia Airport (LGA), Queens County, New York City
- Newark International Airport (NIA), Essex and Union Counties, New Jersey
- Long Island MacArthur Airport, Suffolk County, Long Island, New York
- Stewart Airport (SWF), Orange County, New York

JFK International Airport, LaGuardia Airport, and Newark International Airport (NIA) are the region's major airports that handle cargo. All three are operated by the Port Authority of New York and New Jersey (PANY&NJ). The PANY&NJ contact person is James E. Larsen, One World Trade Center, 65 South, New York, NY 10048, telephone: 212- 435-3710, fax: 212-435-3717.

These three airports together comprise the largest regional freight and passenger carrying airport complex in the United States and in the world, and they serve as a significant source of jobs and economic activity in the New York/New Jersey area. Based on the Airport Council International report, in 1998, the New York area airports combined, ranked number four in term of cargo volumes (after Memphis, Los Angeles and Hong Kong International). According to the PANY&NJ (Ref. A25), in 1997 these airports generated more than 65,000 direct jobs and help to create over 380,000 indirect jobs in the aviation, airport construction and service industries. The wages alone accounted for over $12 million. These airports connect the region with international and domestic markets. They generate more than $39 billion in economic activity to the New York/New Jersey region. In 1999, over 90 million passengers traveled through these airports, which represents a 3% increase from 1998 (Ref A14, A22, A25).

For the two smaller freight handling airports (Stewart and MacArthur airports), cargo tonnages are approximately 4.2 % of the total cargo tonnage in the region (Ref.A8). Republic Airport in Farmingdale (Suffolk County) and Teterboro Airport in Bergen County, New Jersey, also conduct some freight operations, but the volume of their operations is not significant. However, due to PANY&NJ recent plans to improve operation at Teterboro (Ref. A45), some information related to this airport are included in this report.

Calverton Airport (in Suffolk County, Long Island) has future potential to serve freight in the region, but is currently not utilized. There is no major freight operation in southwest Connecticut airports. *(For locations of airports and access routes see Figs. A-2 and A-2A. For forecast of the regions activities see Table A1-6.)*

Table A-6 (Ref. A-14, A-26)

New York/New Jersey Regional Air Cargo Movement Recap and Forecasts (In Tons of Cargo)			
Year	*Domestic*	*International*	*Total*

New York/New Jersey Regional Air Cargo Movement Recap and Forecasts (In Tons of Cargo)			
1998	1,271,698	1,459,143	2,730,842
1999	1,313,361	1,545,858	2,859,219
2000 (forecast)	1,380,000	1,666,000	3,046,000
2003	1,498,000	1,816,100	3,314,300
2005	1,581,000	1,921,200	3,502,200
2008	1,698,200	2,076,400	3,774,600

John F. Kennedy International Airport (JFK) (Ref. A12, A-25, A-29, A-39)

In 1999, JFK International Airport celebrated its 50th anniversary of operation. The current Airport redevelopment effort totaled $4.4 billion in public and private investment *(for the airport layout see Fig. A-3).*

- *Contact Person:* Charles Seliga, Airport Manager, Telephone: (718) 244-3500.
- *Location/address:* This airport is located 15 miles from the Manhattan central business district, in Queens, New York. Its latitude is 40°38' North and its longitude is 73°46' West. The airport is located 12.7 feet above sea level. Mailing address is: John F. Kennedy Airport, Building No. 14, 2nd Floor, Jamaica, NY 11430.
- *Owner/operator:* It is operated by the Port Authority of New York & New Jersey. Since June 1947, the PANY&NJ has leased the airport's land from the City of New York. The lease payments are linked to airport revenues and capital expenditures.
- *Airport Type:* The airport type is general transport. The typical aircraft approach speed is more than 121 knots.
- *Size/Area:* The airport covers 4,930 acres, including 880 acres of the Central Terminal Area.
- *Nearest Highway:* The Van Wyck Expressway is the main limited access facility serving the airport allowing commercial vehicles. The Van Wyck is a continuation of the Whitestone Expressway which directly links to the Bronx Whitestone Bridge.
- *Access:* The primary access to airport is from the Van Wyck Expressway Exit number 1, and the secondary access is from Nassau Expressway and from Rockaway Boulevard. The southern end of the Van Wyck Expressway enters directly into the airport's internal circumferential road and the JFK Expressway. The Belt Parkway also serves airport-bound trips; however, no trucks are allowed on the parkway.
- *Ground Transportation:* Within the airport there are various modes of transportation service

available, such as airport coach, transit buses, privately operated bus services, limousines, taxi service, and rental cars. A light rail transit project is currently under construction. The JFK AIRTRAIN will link nine terminals at JFK and connect with the Jamaica railroad station of the Long Island Rail Road, with connecting service to Manhattan. AIRTRAIN will also provide service to the Howard Beach station of the New York City subway, serving other stops in Queens, Brooklyn and Manhattan.

- *Runway/Taxiway:* The airport has more than 30 miles of roadways. The runway system consists of two pairs of parallel runways:
  4L-22R, which is 11,351' x 150'; 4R-22L, which is 8,400' x 150'; 13L-31R, which is 10,000' x 150'; 13R-31L which is 14,752' x 150' - the largest commercial runway in North America. Taxiways total over 25 miles in length, and their standard width is 75 feet with 25-foot heavy duty shoulders and 25-foot erosion control pavement on each side.
- *Employees:* The number of employees is over 37,000.
- *Passenger Use:* In 1998, JFK International Airport served over 31 million passengers, reflecting a 1% decrease from 1997 (31.2 million passengers).
- *Fuel Storage:* JFK has a total storage capacity of 32 million gallons of aviation fuel, and uses three million gallons of domestic water per day (Ref. A29).
- *Capacity/Volume:* In 1999, JFK International Airport was responsible for 60% of the entire regional air cargo movement of 2.9 million tons.
- *Parking:* There are over 11,000 parking spaces for air travelers, and there are 750 spaces for cargo-handling trucks (Ref.A12,A14). In 1998, a new three-level parking structure was opened to accommodate traffic generated by the newly opened Terminal One covering 634,000 square feet.
- *Equipment/Services:* JFK International Airport has thirty-five warehouses/cargo handling centers to serve increasing freight needs. These warehouses are located on the airport property and amount to 4.1 million sq.ft. of dedicated warehouses, 90% of it occupied. The condition of the existing warehouse facilities varies, from state of the art to those that need improvement. The replacement of existing buildings and the development of new modern facilities is in progress, and over 1 million sq. ft. of additional warehouse space was recently completed or is under construction.

Kennedy Airport can handle perishable cargo in the climate controlled air line operated facilities. The facilities are able to handle refrigeration for cut flowers, perishable food, and frozen goods. Other services at the airport include an animal handling and holding center with 24-hour veterinary service and quarantine service; Hazardous Materials (Hazmat) handling service; the largest U.S. Customs

installation in the United States; aircraft maintenance services; 80 off airport container freight stations; customhouse brokers and freight forwarders; Department of Agriculture services; and compression chambers (Ref.A10,A11,A12). JFK International Airport utilizes advanced technology in its operation, including: electronic cargo clearance; video and electronic detection security systems; navigational aids such as approach radar, terminal area radar, airfield surveillance radar, secondary surveillance radar, instrument landing system (ILS), VHF omnidirectional range navigation facility (VOR), distance measurement equipment (DME), and runway visual range (RVR) measurement, as well as an electronic tracking and billing system (Ref.A10).

- *Terminal Condition:* Based on a NYMTC's 1999 survey response (Ref. A12), the terminal's condition is acceptable.
- *Air Carriers:* Presently, there are 115 air carriers, serving over 300 domestic and international destinations daily. There are 38 all-cargo server (Ref. A1-c).
- *Aircraft Operations:* In 1999, there were 343,269 airplane operations, including freight flights, representing a 0.1% decrease from 1998. This number includes109,292 domestic flights, 117,021 international flights, and 116,956 other commercial flights (scheduled commuter, air-taxi) plane movements (Ref. A14, A36).
- *Aircraft Types:* Aircraft that operate into JFKIA are wide-body aircraft and smaller aircraft including DC-8, DC10, B-727, B747, B-757, B767, B777, MD11, and Airbus A300.
- *Commodities:* In 1999, the total volume of commodities handled was 1.62 million tons representing a 7.8% increase from 1998, which includes 449,085 tons of domestic cargo and 1,303,082 tons of international cargo. The total mail freight in 1999 (domestic and international) was 153,238 tons (Ref. A14, A36).
- *Economic Activity:* In 1998, economic activity connected with JFK generated $20.4 billion to the NY/NJ metropolitan regional economy, generating 207,700 jobs and $6.6 billion in wages and salaries (Ref. A29).
- *Future plans:* Based on the Citywide Industry Study (Ref. A-9), there are two possibilities for developing warehousing for high value but not severely time-sensitive cargo. The eastern end of the airport (east of Thurston Basin) has over 100 acres of underutilized land that could be allocated for on-airport warehouses, with direct access via the Nassau Expressway. However, without the proper infrastructure or a connecting roadway this plan has a low probability to materialize.

The Port Authority recently purchased part of the Aqueduct Raceway property, which could be turned into an off-airport warehouse

distribution facility with good access to the airport (via Rockaway Boulevard and Conduit Avenue). Also, existing warehouses in the Springfield Gardens neighborhood of Queens could be consolidated at the Aqueduct site to provide some relief to the congested local street network (Ref.A9).

In 1999, JFKIA announced an ambitious redevelopment effort totaling $4.4 billion in public and private investment. The PANY&NJ has set aside $2.5 billion for a rehabilitation/redevelopment program, which entails construction of a reconfigured airport roadway system, modernized airport utilities, a modernized passenger transportation and transfer system (such as the light rail system currently under construction), an on-airport hotel, a new 321 foot Air Traffic Control Tower, and various other terminal improvements (Ref. A12, A39). Airport tenants and the New York City Industrial Development Agency have also contributed $1 billion for facility improvement, including a new international Terminal One, serving Air France, Japan Airlines, Korean Air, and Lufthansa. This terminal was opened in 1998 for operations. Work continues on the $1.2 billion Terminal 4 expansion and renovation, scheduled for completion in 2006, a joint venture by private-sector consortium to operate and rebuild JFKIA.

Other terminals are being updated as well, including a $100 million improvement to Terminal 7 by British Airway and new $1.3 billion terminal complex for American Airlines to replace Terminal 8 and 9 (Ref. A31, A33). The PANY&NJ plans to build a $300 million parking structure and make infrastructure improvements (Ref. A33). New American Airlines terminal will be linked to other JFK terminals and parking areas by the airport's light rail system. A new short-term parking garage with capacity of 2,500 vehicles, will be built in front of the new terminal (Ref. A34).

Also, new cargo facilities are expected to significantly improve efficiency of the airlines and reduce turnaround time for forwarders picking up freight at its docks. These facilities have a railroad track-like system that takes cargo from the door to storage locations and retrieves it when needed, with help of five computer systems.

The recently completed or in construction new cargo handling facilities are: completed in 1995, covering 260,000 sq. ft. Japan Airlines most advanced cargo facility; covering 175,000 sq. ft. *Nippon Cargo Airlines Facility* which was opened in 1994 and can accommodate two 747 freighters; the 225,000 Halmar Cargo Center, opened in 1992, providing storage and clearance services; 105,000

sq. ft. Air Express cargo facility, opened in 1998; United AirLines 98,500 sq. ft. Cargo Transfer Center opened in 1998, which is equipped to handle bulk containerized shipments as well as provide 2,000 sq. ft. of cooler space, security and office space; and 195,000 ft. sq. Korean Air Cargo building, still under construction, is scheduled to be completed in fall 2000 (Ref. A1-c, A29). The new, 90,000 square feet, $33 million Northwest Cargo building (automated cargo facility) was opened in 1999, however it is not yet fully operative (Ref. A28-e).

Other plans to improve the JFK International Airport include:

Short-term:

- Expanding further warehouse/distribution facilities on/off the airport property;
- Improving access via the Van Wyck Expressway, in conjunction with NYSDOT;
- Continue study of waterborne transport between airport and other intermodal facilities (on-going efforts).

Long-term:

- Initiate long-term improvement of the Van Wyck Expressway;
- Investigate the connection of a possible Trans-Brooklyn Freightway (Bay Ridge railway *right-of-way* or ROW) to the airport, and creation of the NY/NJ Circumferential Commercial Corridor, circling Manhattan and providing direct connection between airports (Ref. A9, A16);
- Investigate possible use of off-airport space for warehouses in Springfield Gardens area;
- Continue signage improvement program and ITS development;
- Complete AirTrain light rail system described above. There is also plan announced in January 2000 by the Empire State Development Corporation to develop a direct rail link between Penn Station and JFK, which will allow the entire ride to take 25 minutes (Ref. A-30).

■ *Issues:*

The delay during cargo transfer, from one mode to another, varies depending on the commodity type, time of day and year, document handling and processing time. Based on NYMTC's 1999 survey results, the main hindrances blocking improvement of the airport's performance are: access to critical roadways and highways congestion and truck restrictions on the Belt Parkway. Also, according to the survey, the Metropolitan Planning Organization should to a greater degree recognize the impact of aviation on the economy, and to include all significant airport projects in the federally funded programs.

LaGuardia Airport (LGA) (Ref. A12, A35, A36)

(For layout and location plan see Fig. A-5 and A-5A.)

- *Contact Person:* Warren Kroppel, General Manager, Airport Services, Telephone: (718) 533-3401.
- *Location/address:* This airport is located eight miles from the Manhattan central business district in Flushing, Queens County, New York, bordering on Flushing Bay and Bowery Bay. Geographic references: 40°46'36.2" North, 73°52'23.7". The airport is 12.7 feet above sea level. The mailing address is: LaGuardia Airport (LGA), Hanger 7 Center, Flushing, NY 11371
- *Owner/operator:* This airport has been operated by the Port Authority of New York & New Jersey under a lease with City of New York since June 1, 1947.
- *Airport Type:* The airport type is general transport. The typical aircraft approach speed is more than 121 knots.
- *Size/Area:* LaGuardia consists of 680 acres and has 72 aircraft gates.
- *Nearest Highway:* The nearest major highway (less than 1 mile away) is the Grand Central Parkway (GCP), from which direct access is provided. However, commercial traffic is prohibited on the Grand Central Parkway, as a result there are only local truck routes to the airport.
- *Access:* The primary local access to the airport is from 94th Street/Junction Boulevard. The secondary access to the airport is from 102nd Street/23rd Avenue/Astoria Boulevard. The Van Wyck Expressway and the Brooklyn-Queens Expressway are located in the vicinity but there is no direct access from these roadways to the airport.
- *Ground Transportation:* The number of vans and trucks serving the airport is significant in numbers and it affects the local road network in the area. Extensive passenger movements are possible due to various modes of transportation available within the airport facility such as: airport coach, transit buses, privately operated bus services, limousines, taxis, and rental cars. There is no rail connection, and the light rail line under construction from JFK to Jamaica does not currently consider an extension to LGA.
- *Runway/Taxiways:* There are two main runways, 4-22 and 13-31. Each is 7,000 feet long by 150 feet wide. They are equipped with navigational aids such as Instrument Landing System (ILS), Approach Lighting System (ALS), Touchdown Zone Landing (TZL), Runway End Indicator Light System (REILS), Visual Approach Slope Indicator System (VASI), and Precision Approach Path Indicator (PAPI). All taxiways are equipped with centerline lights, except for taxiways between Runways 22 and 13. Nine additional aircraft parking spaces have been constructed at the end of taxiway "E".
- *Employees:* LaGuardia Airport employees over 9,000 people and generates 63,000 jobs in the region by on- and off-airport aviation and

indirectly related businesses.

- *Passenger Use:* In 1999, LGA served 23.9 million revenue passengers (4.9% increase from 1998) and 930,931 non-revenue passengers. The commuter traffic represented 1.57 million passengers and shows an increase of 22.8% from 1998 (Ref. A14, A36).
- *Fuel Storage:* Not available
- *Capacity/Volume:* In 1999, LGA was responsible for about 1% of the entire regional air cargo movement of 2.9 million tons.
- *Parking:* In 1999, the parking facilities served a total of 2.76 million paid parked cars (an increase of 4% from 1998), and a total of 377,300 airport coach passengers (an increase of 13.9% from 1998) (Ref. A-14). Currently, there are 10,400 parking spaces available for passengers (including hourly, metered, and parking garage space) and 100 parking spaces available for cargo transporting vehicles. There are fifty truck docks available for cargo transfer (Ref.A12).
- *Equipment/Services:* Over 100,000 square feet of modern and dedicated air cargo warehouse space is available (Ref.A11). Based on limited adjacent land area, the current amount of warehouse space available and growth in air freight transportation regionally, demand for additional warehouse space will be difficult to meet in the future. The airport has a 35,000 sq.ft. multi-tenant air cargo handling facility equipped with truck docks, an upgraded storage area, and refrigeration warehouses for perishable material (Ref. A1-c). At present, there are no animal handling services available. The advanced technology implemented at LGA includes electronic billing, electronic tagging, wide area video detection (in security systems), electronic tracking, and modern navigational aids, such as approach radar, terminal area radar, airfield surveillance radar, instrument landing system (ILS), VHF omnidirectional navigation facility (VOR), distance measurement equipment (DME), non directional beacon (NDB), and microwave landing system (MLS) (Ref.A10).
- *Terminal Condition:* Based on NYMTC's survey response, the terminal's condition is acceptable.
- *Air Carriers:* The present cargo carriers include over 27 domestic carriers which operate 900 flights daily to over 100 U.S. destination and international routes (Ref.A11).
- *Aircraft Operations:* In 1999, there were 362,996 airplane movements, an increase of 1.9% compared to the 1998 figures. Total domestic airplane movements were 232,279 including scheduled passenger, scheduled cargo, and scheduled non-revenue flights. There were 21,372 total international airplane movements, 88,819 commuter flights, and 20,526 other (general aviation) flights.
- *Aircraft Types:* The types of aircraft that operate at LaGuardia are wide-body aircraft and smaller aircraft including DC10, B-727, B-757, B767, and

MD11.

- *Commodities:* Although the amount of freight handled at LaGuardia is relatively small compared to the other two region's major airports, it is an important site for the US Postal Service operation (Ref.A9). LGA is mainly a passenger airport. Cargo that is transported through this airport is mainly carried in passenger aircraft cargo holds. The movement of freight through LGA in 1999 was 22,392 tons, a decrease of 6.1% from 1998. Additionally, the airport handled 57,051 tons of mail, representing a 9.7% increase from the year 1998. The main commodities handled at this facility were:

  Imports: apparel, articles and accessories, machinery, office equipment/computers, electric machinery, footwear, edibles, optics, and leather articles

  Exports: machinery, office equipment/computers, electric/sound equipment, optic, photo, medical instruments, fish, books, and newspapers

- *Economic Activity:* Jobs generated total annual earnings of $2.3 million. This income contributes significantly to the regional economy. In addition, this airport contributes $5.7 billion in economic activity to the region.

- *Future plans:* Expansion and modernization of the existing terminals has been completed recently or are still in construction, such as ongoing modernization of the Central Terminal Building (scheduled for 2001), renovation of American Airline wing and US Airway Terminal completed in 1992, and redevelopment of Delta Airway Shuttle Terminal, opened in 1992. Marine Air Terminal and a new parking (Lot 3) were completed in 1998. Approximately $30 million is allocated for ongoing runway and taxiway pavement rehabilitation. Aircraft maintenance is provided by American Airlines, United Airlines, and Trans World Airlines (Ref.A10).

  Short-term plan covers:
  The LaGuardia Redevelopment Program plans the expansion and modernization of the Central Terminal Building; reconfiguring and widening internal roadways; improving runways and taxiways. The recently completed passenger terminal in the east end of the Airport and modernization of gate areas and service areas are examples of the Program's airport rehabilitation efforts. Expected completion of the program is year 2000 and beyond, with expected cost of $800 million.

  Long-term plan covers:
  * Raise the bridges' clearance along the access corridor and permit trucks to move on the Grand Central Parkway between the Triborough Bridge and Northern Boulevard to provide better access to the airport and a better connection to the Brooklyn Queens Expressway (Ref.A4, A9).

  * Development of the NY/NJ Circumferential Commercial Corridor to circle Manhattan and to provide direct connection between airports (PANY&NJ study, 1994) (Ref. A16).
  * MTA New York City Transit in cooperation with Mayor Office of Transportation

and PANY&NJ is conducting a transit study on extension of subway system from Manhattan to LGA. Expected completion date is 2001. For further information call Thomas Jablonski, 718–694-5626.

- *Issues:* The airport's major transportation problem is a result of restricted use of the Grand Central Parkway. This deficiency creates congestion on the local roads. Commercial vehicles are not permitted to use the Grand Central Parkway.

  Based on the 1999 NYMTC survey (Ref. A12), the commodity transfer delay that the airport is experiencing varies depending upon the commodity type, the time of day, the time of year, and the administrative manipulations. Insufficient road turning radius and insufficient width of access roads to the airport are the major cause for the external network congestion by the airport. The internal road circulation condition is affected by congestion on access roads, insufficient road turning radius and insufficient lane width to accommodate big trucks.

Newark International Airport (NIA)

Although, this airport is not within NYMTC's 10 downstate New York counties region, its role in cargo movement is very crucial in the economy of the New York metropolitan region. Newark International Airport (NIA) is one of the ten busiest cargo airports in the U.S. (Ref.A7). This airport also has the fastest growing air freight tonnage among the three region's major airports (JFK, LaGuardia, NIA). Newark International handled 5 times more cargo tonnage in 1998 than in 1980, and of the 3 million tons of air cargo handled in the metropolitan region in 1998, approximately 1.2 million tons were handled at Newark International Airport (Ref. A12, A21, A36) *(for layout see Fig.A-4).*

- *Contact Person:* Susan Baer, General Manager (973) 961-6161
- *Location/address:* Newark International Airport is located in Essex and Union Counties, New Jersey, 16 miles from midtown Manhattan. The address is: Newark International Airport, Building 10, Tower Road, Newark, NJ 07114. The geographic references are: longitude 40°41'36"N; latitude 74°10'7"W. The airport is located at 18.3 ft. above sea level (ASL) (Ref. A21).
- *Owner/operator:* This airport is operated by the Port Authority of New York and New Jersey, under a lease with the City of Newark since 1948.
- *Airport Type:* The type of airport is general transport (Ref.A21).
- *Size/Area:* The airport size is 2,027 acres
- *Nearest Highway:* The nearest major highways are the New Jersey Turnpike (accessible from exits 13A and 14), Routes 1 & 9, and I-78 at a distance of less than 1 mile.
- *Access:* The primary access is from Routes 1 and 9 and the secondary access is from the New Jersey Turnpike (exits 13-A and 14).

- *Ground Transportation:* Various modes of transportation, such as coach, buses, monorail, cars are used within the airport.
- *Runway/Taxiway:* The runway system consists of two parallel runways (4R-22L and 4L-22R) and a third runway, 11-29, which is primarily used for commuter traffic. Runway 4R-22L is 9,980 feet long by 150 feet wide and Runway 4L-22R is 10,000 feet long by 150 feet wide. Runway 11-29 is 6,800 feet long by 150 feet long. The airport has more than 12 miles of 75-foot wide taxiway that link the three runways with the central terminal and cargo areas. The taxiways are equipped with centerline lighting and an erosion control pavement.
- *Employees:* The number of employees was over 18,000 in1998. In addition, Newark International is providing 110,000 jobs with on- and off-airport aviation and indirectly related businesses.
- *Passenger Use:* In 1999, there were 33.6 million revenue passengers entering or leaving the airport, and an additional 1.5 million non-revenue passengers (up 3.2% and 4.2%, respectively, from 1998).
- *Fuel Storage:* Not information available
- *Capacity/Volume:* In 1999, NIA was responsible for over 37% of the entire regional air cargo movement of 2.9 million tons.
- *Parking:* The parking facility consists of 17,000 passenger parking spaces, 3,000 parking spaces for cargo transport vehicles (including employee parking), and 200 truck docks.
- *Equipment/Services:* On-airport warehousing space totals over 775,000 sq. ft. including a recently completed 275,000 sq. ft. international air cargo center, utilized by SAS, Virgin and EVA airlines. There are warehouses located in both the South Area Cargo Complex (265,000 sq.ft. of multi-tenant warehouse space and 55,000 sq.ft. of offices) and in the North Area Cargo Center. Refrigeration service is available for perishable cargo.

  Other special services include aircraft maintenance service, fuel storage, central heating and refrigeration plant, US Customs station, and US Department of Agriculture services. The following advanced technologies are employed at Newark: electronic billing, tagging, electronic tracking (AMS), wide area video detection system, electronic security, and navigational aids. The facility's navigational aids include Instrument Landing System (ILS), Approach Lighting System (MALSR), Visual Approach Slope Indicator (VASI), Runway End Identifier Light System (REILS), radars for approach, terminal and airfield surveillance, distance measuring equipment, DME, RVR (runway visual range) measurement, non directional beacon, and ATIS (airport traffic information system) (Ref.A10).
- *Terminal Condition:* Based on the 1999 NYMTC survey response, the terminal's physical condition varies from building to building, but generally the airport

condition is acceptable.

- *Air Carriers:* Presently, there are 33 air carriers operating in Newark International Airport, including United Airlines, American Airlines, Delta Airlines, Continental Airlines, and Federal Express. Among these air carriers, Federal Express dominates the cargo activity by moving 40% of the total cargo that passes through this airport.
- *Aircraft Operations:* In 1999, the number of airplane movements, including freight flights, was 457,311 (288,193 domestic operations; 60,491 international operations; 88,859 commuter flights; and 19,768 other plane movements (general aviation). Total number of flights increased by 0.3% from 1998.
- *Aircraft Types:* The types of aircraft that operate at Newark are wide-body aircraft and smaller aircraft including DC-8, DC10, B-727, B747, B-757, B767, B777, MD11, and Airbus A300.
- *Commodities:* In 1999, 1,084,660 tons of cargo were handled at Newark International Airport, an increase of 0.9% from 1998. It was comprised of 842,637 tons of domestic freight (decrease by 0.2%) and 242,023 tons of international freight (increase of 5.3% from 1998). Also, 121,120 tons of mail were handled there, an increase of 0.8% from 1998 in mail volume (Ref. A-1b, A14). The commodities handled at Newark International are mostly high-value packaged goods; perishable goods (such as flowers and vegetables); pharmaceuticals; electronic parts and equipment; and domestic and international mail. The principal integrated carriers operating at the airport are the U.S. Postal Service, United Parcel Service, and Federal Express (Ref.A7).
- *Economic Activity:* In 1998, the Newark International Airport generated $11.3 billion to the New York/New Jersey regional economy, including $3.3 billion in wages from airport-related jobs.
- *Future plans:* Due to an increase in demand, a new area for air cargo was constructed in recent years at the southern end of Newark International. This multi tenant cargo complex (Buildings 155 and 156) includes 265,000 square feet of warehouse space and 55,000 square feet of offices, aircraft ramp and parking area. The current tenant is Federal Express. The FedEx Cargo Complex, located in Buildings 347 and 155, was completed in 1995 and it is a highly automated facility. Other improvement projects include (Ref. A21):

  - Extension of a $378 million on-airport monorail system to the transit system at a new station on the North East Corridor (scheduled date of completion: 2001);
  - Construction of vehicular access to the monorail station and related parking modifications (currently under construction);
  - Runway and Taxiway improvements, with costs of $160 million;
  - New cargo facility (opened in 1999, costs: $310 million);
  - New FAA Air Traffic Control Tower, currently under construction. Scheduled completion is the end of 2002. Costs $22 million;

- Terminal A and B improvement, with allocated funds of $710 million;
- The new parking facilities in Parking Lot E and Terminal C, scheduled for operation in 2001;
- Improvement of airport access and roadways, including NJ Turnpike Interchange 13A, Rt. 1&9 and I-78 improvements. The estimated completion date is end of 2003;
- Terminal C new concourse and immigration facility, scheduled completion date is the end of 2001;
- Studies to improve access to the east of Hudson River area (75% of all air cargo into and out of EWR originates or is destined for the areas east of the Hudson). Studies include analysis of the accesses and major route improvements;
- The North End Redevelopment with approximately 320,000 sq.ft. of new space and a supporting signage program has been completed.

■ *Issues:*

Land within 1 mile of the facility is almost completely developed comprised of low density residential, commercial, and industrial land uses. Based on the survey, vacant adjacent land should be preserved for future airport-related uses.

The 1999 NYMTC survey response stated that the Metropolitan Planning Organization should recognize the impact of the aviation industry on the region's economy and the MPO should include airport improvement projects in the regional planning process (Ref.A12).

Other issues include:

- clearance limitation in the vehicular tunnels to New York City
- insufficient road turning radius, and access routes congestion, especially on Routes 1&9 and on the New Jersey Turnpike.

Long Island MacArthur Airport

(For layout and location see Fig.A-7 and A-7A.)

■ *Contact Person:* Brad Ringhouse, Airport Manager, Telephone: (516) 467-3300

■ *Location/address:* The address is: Long Island MacArthur Airport, 11 Arrival Avenue, Ronkonkoma, NY 11779-7398. Airport is located in Suffolk County, Long Island, New York

■ *Owner/operator:* This airport is owned and operated by the Town of Islip (Ref. A12, A17, A38).

■ *Airport Type:* This is a general transport type of airport.

■ *Size/Area:* The airport size is 1,311 acres.

■ *Nearest Highway:* The airport is located 5 miles from the nearest major highways which are the Long Island Expressway (NYS Route 495) to the north and the Sunrise Highway (NYS Route 27) to the south.

■ *Access:* The airport's primary access is from the entrance road which is four-lane Johnson Avenue that spurs off Veterans Memorial Highway (NYS Route 454). Secondary access to airport is from Lakeland Avenue, off the

Sunrise Highway.

- *Ground Transportation:* Rail access to the airport is indirectly provided by the MTA-Long Island Rail Road, which stops at the Ronkonkoma station. No scheduled bus service is available from the station to the airport. However, there is a scheduled bus (Hamptons Bus Lines), which runs from the Hamptons to JFK International Airport and LaGuardia Airport with a stop at MacArthur Long Island Airport. Rental cars, taxi or limousine services are not available, although passengers can make arrangements with Colonial Tours taxi service for ground transportation to and from the airport (Ref.A17).
- *Runway/Taxiway:* This airport has four runways:
  6-24 is 7,002 ft long by 75 ft wide
  15/33 is 5136 ft long x 75 ft wide.
  Remaining runways are 5,033 ft and 3,225 ft long, respectively. Expansions for the runways to a length of 7,200 ft and 5,700 ft respectively are planned (Ref.A17) in the future.
- *Employees:* Based on NYMTC's survey (Ref.A12), the airport currently has 400 employees.
- *Passenger Use:* In 1998, the number of passengers served was 1.1 million, a 37% decrease from 1.43 million in 1997. By 2005, the projected number of passengers is forecasted to reach 1.3 million passengers (Ref.A17).
- *Fuel Storage:* N/A
- *Capacity/Volume:* N/A
- *Parking:* At present, the parking facilities have 1,300 available spaces for passengers. The parking capacity, according to the NYSDOT master plan, will be increased to 2,022 spaces by the year 2006 (Ref.A12, A17). The number of available spaces for cargo carriers is sufficient, according to the airport manager's assessment.
- *Equipment/Services:* Warehouses are not available within the airport. There are no refrigeration or special services available (Ref.A12). The advanced technologies utilized in this facility are electronic billing, electronic tagging, and a wide area video detection system for security.
- *Terminal Condition:* Based on NYMTC's survey, due to extensive and continuous road maintenance, the internal circulation conditions within the airport are acceptable.
- *Air Carriers:* There are 260 based aircraft, and it is forecasted to increase to 520 in year 2006. Present cargo air carriers (mixed services, handled by aircraft servicing passengers) include American Airlines, US Air, United Express, Carnival Air Lines, South West Airlines, Delta Business Express, and Midway. Airborne Express provides all-freight one fly per day. Besides these carriers there are commuter airlines: Precision Airlines, Henson Airlines, Suburban Airlines, which occasionally can handle freight transport in addition to passengers (Ref. A12, A17, A38).
- *Aircraft Operations:* In 1998, the number of airplane movements was 195,000 per year, up

from 179,986 operations in 1997. It is expected to grow to 317,000 airplane movements by the year 2005 [Ref.A12].

- *Aircraft Types:* The airport currently handles narrow body commercial aircraft, single engine to small to mid-size commercial jets [Ref. A38].
- *Commodities:* In 1998, the volume of commodities handled was 1,307 tons, exclusively domestic, a decrease from 2,500 tons in 1997. The cargo handling space is 3,000 sq. ft.[Ref. A12, A37, A38].

  Commodities include mostly UPS packages, and general cargo carried in the bellies of passenger aircraft. Based on the Master Plan forecast for year 2006, the commodity volume can increase to 5,736 tons. Major domestic destinations are Albany, NY; Baltimore, MD; Boston, MA; Chicago, IL; Philadelphia, PA; Pittsburgh, PA, Raleigh, NC; Syracuse, NY; Washington, D.C.; Ft. Lauderdale and Orlando, FL, and Hartford, CT. This airport does not handle international cargo movement [Ref.A17].
- *Economic Activity:* N/A
- *Future plans:* The annual vehicle trips are expected to grow from 756,000 in 1991 to 1,195,500 in 2006. Based upon the forecast, a new terminal with a new access will be constructed to serve the additional demand in the future [Ref.A17]. Long Island MacArthur Airport began its $15.2M Terminal Improvement Program in April 1998. Terminal renovation will add 63,000 sq. ft. to existing terminal, including a new baggage claim wing, concluded in 1999 [Ref. A31-a].

  Based on the NYS master plan and currently obtained information, the following is the list of planned future improvements:

  Landside Development:
  - Construct a new terminal located at the north side of the airport. Expansion of the existing terminal as an alternative to building a new terminal is also being considered;
  - Expand main terminal apron;
  - Develop east side general aviation facilities.

  Airside/Landside Projects:
  - Develop additional taxiway;
  - Overlay all taxiways and complete airport service road;
  - Improve terminal access roads;
  - Provide navigational lights such as runway end identifier lights, precision approach path indicator, and non-precision instrument approach on runway 15R;
  - Retain property on the north side of the airport for future development;
  - Install windshear detection system;
  - Continue property acquisition for noise abatement.
- *Issues:* The land in the immediate surroundings of the airport is zoned for industrial use. Commercial and residential facilities are zoned in a distance over 1 mile from the airport. Some land is presently

undeveloped or vacant and should be reserved for future airport use (Ref.A17).

There are an insufficient number of lanes at the exit from Veteran Highways. The access needs improvement.

Stewart International Airport (SWF)

(For layout see Fig. A-6)

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- *Contact Person:* David McCormick, Airport Manager (914) 564-7200 x 250, Fax: 914-567-0532
- *Location/address:* The airport is located in Orange County, New York. The airport latitude is 41°30'25"N; longitude is 074°06'29"W. Airfield elevation is 491 ft. ASL (above sea level). The mailing address is: Stewart International Airport, Building 138, 1035 First Avenue, New Windsor, NY 12550.
- *Owner/operator:* This airport is located approximately 50 miles north of New York City in Orange County and is owned by the New York State Department of Transportation (Ref. A12). On April 3, 1998, New York State awarded a 99-year lease to National Express Group PLC, a private British company, to manage Stewart International Airport. New York State DOT will retain ownership of the airport under the agreement (Ref. A31-b) Stewart and Brown Field in San Diego are the first privatized airports in the U.S. Air cargo from Stewart (located at junction of I-84 and I-87), which is currently underutilized and undermarketed, is expected to benefit from privatization.
- *Airport Type:* The airport type is general transport (Ref.A12).
- *Size/Area:* The airport size is 1,900 acres.
- *Nearest Highway:* Stewart Airport is located 2 miles from the nearest major interstate highways which are at the intersection of I-84 and I-87.
- *Access:* Primary access to the airport is via Route 207. Secondary access is via Route 17 K. This secondary access is mainly used by truck traffic (Ref.A18). The access roads are adequate and in good condition.
- *Ground Transportation:* There is no major traffic problem on the access road to the airport and on the internal road of the airport. Presently the only modes of transportation to reach the airport are private car and taxi. There is no direct rail connection, and the distance to the nearest rail terminal is 60 miles, and to an ocean port is 70 miles. (Ref. A1-c, A12)
- *RunwayTaxiways:* The airport is equipped with two runways that have the following measurements: R/W 9-27 is 11,818 ft x 150 ft and R/W 16-34 is 6,006 ft x 150 ft (Ref.A12).
- *Employees:* There are 400 employees in the airport, whose earnings add to the local economy (Ref.A8. A12).
- *Passenger Use:* In 1998, Stewart handled about 743,757 passengers, 13% decrease from 1997. The total number of passengers (enplanements and deplanements) is expected to reach 2,599,402 by the year 2012 (Ref. A12, A19, A36).

- *Fuel Storage:* N/A
- *Capacity/Volume:* N/A
- *Parking:* There are 1,400 spaces available for long and short term parking for passenger and cargo transport vehicles.
- *Equipment/Services:* Within the airport there are warehouses with refrigeration service. Warehouse space covers 79,912 sq. ft. and has100% occupancy (Ref. A1-c). Other special services are also available, such as large animal and equine handling service, A/C maintenance, United States Department of Agriculture (USDA) Customs, USDA Animal Import Center, and perishable material center. Currently, there is 240,500 square feet of total ramp/tarmac surface for cargo handling in the airport, with a projected increase to 330,000 square feet by the year 2012. In addition, loading equipment is available, such as Dock Loader for B727 planes. The airport has five loading/unloading gates (Ref.A12, A18).
- *Terminal Condition:* The current terminal condition is acceptable.
- *Air Carriers:* In 1998, there were 8 air service carriers, 4 all-cargo carriers, and 4 non-scheduled charters, using the airport (Ref. A1-c). For now Stewart is served by Emery Worldwide (the largest cargo carrier at the airport), FedEx, UPS and Airborne Express, AA, Midway and regional carriers operated by Delta, US Airways and United Airlines (Ref. A28-d). The main domestic flight destinations are Atlanta, Buffalo, Bangor, Philadelphia, Chicago, Raleigh-Durham, Charlotte, Dayton, and Memphis. The typical international cargo destinations are the Far East and Western Europe (Ref.A18).
- *Aircraft Operations:* In 1998, there were 154,046 airplane movements from/to Stewart Airport, an increase of 0.1% from 1997.
- *Aircraft Types:* The types of aircraft that are used in this airport were DC-8, F100, B-727, MD80, RJ60, and DC9 (Ref. A12).
- *Commodities:* Export from the Hudson Valley region of NYS totaled $1.4 billion in 1994 (last year when such figures were available). In 1998, Stewart handled about 54,000 tons of cargo; a decrease of 29% from 1997. Sixty percent of the cargo moves in the bellies of passenger planes (Ref. A12, A28-d). The major commodities handled in this airport are overnight packages, mail, general cargo, and animals. The volume of commodities handled in the airport during 1998 was 57,490 tons, 80% of it domestic cargo (increase of 24% from 1997). 60% of the cargo moves in the bellies of passenger planes. The expansion project forecasts increase to 355,053 tons by year 2015 (Ref.A1-c, A12, A18, A28-d).
- *Economic Activity:* N/A
- *Future plans:* PANY&NJ views Stewart as complementing its major regional airports rather than a competitor. Improved air service there will benefit exporters in the Hudson Valley region while alleviating congestion at JFK, LGA and EWR. The expansion program includes expansion to 2300 acres, and construction of a 5-story world trade center and hotel (Ref. A28-d). The land

use within a one mile radius from the airport is divided among residential, commercial, light industry, recreation space, and open space. In the future, this land will be used for the development of Stewart Industrial Park and the Southwest Cargo Facility [Ref.A19]. Currently, there is 240,500 sq.ft. of total ramp/tarmac surface for cargo handling in the airport, with an expected increase to 330,000 sq.ft. by year 2012 [Ref.A1-c, A18]. The airport recently renovated and expanded its terminal building (opened in 1998) and plans other capital improvements. There are plans under discussion to connect SWF to the port and rail line in Newburgh. If that project reaches realization, the cargo handled from airplanes may be distributed to final destination by barge or rail [Ref. A12].

- *Issues:* According to NYSDOT's Stewart Airport Master Plan, there is a need to establish full time scheduled transit service from the city of Newburgh to the airport. Development of the main terminal is partly completed. There is a plan to expand and develop south cargo areas [Ref.A12, A19].

Calverton Airport

(For layout and location see Fig. A-8 and A-8A.)

This former military airport was used by the Grumman Corporation for its jet aircraft flight operations and for U.S. military aircrafts. It has been abandoned and its future has not yet been decided. Based on a 1993 study [Ref.A20], this airport has the potential to enhance the economic development of the area with the possibility of federal or local control, or privatization.

- *Contact Person:* Mr. Roy Fedelem, LI Regional Planning Board, tel: 516-853-5191, P.O.Box 6100, Veteran Memorial Highway, Hauppauge, NY 11788
- *Location/address:* The airport is located in Brookhaven, Long Island, Suffolk County, about 97 miles from Manhattan.
- *Owner/operator:* It is currently owned by the U.S. Navy. Since 1954, the Grumman Corporation leased and operated 944 acres of this property. The lease has not been renewed.
- *Airport Type:* Industrial, with opportunity to serve general aviation
- *Size/Area:* Calverton Airport covers 6,000 acres. 5,000 acres is in the Town of Riverhead, balance is in the Town of Brookhaven.
- *Ground Transportation:* Possible use of the rail (LIRR, NYA), bus, cars for the passengers
- *RunwayTaxiways:* Airport has two runways (14/32 SE-NW and 05/23 NE-SW) of length 10,001 ft and 7,001 ft, respectively. Width is a 200 ft., with concrete/asphalt surface, in good condition.
- *Employees:* Currently none
- *Passenger Use:* The airport is underutilized, and at present it has no civilian activity.
- *Fuel Storage:* Data not available
- *Capacity/Volume:* Data not available
- *Parking:* Space available
- *Equipment/Services:* The Calverton Airport, being primarily a military facility, provides navigational aids required for that type of operation, such as two non-

precision approaches (CTO) and Vortac (VHF Omnidirectional range & tactical air navigation), part of National Airspace System, providing service for Long Island and Connecticut

- *Terminal Condition:* Abandoned. Needs extensive renovation.
- *Air Carriers:* Integrated carriers (FedEx, UPS, Airborne Express, DHL) and some major airlines have been interviewed (Ref. A20) and expressed interest in eventual future use of this airport.
- *Aircraft Operations:* Over a six year period (1982-87) Calverton averaged 7,300 operations a year. The number of operations steadily declined and stopped by 1999.
- *Aircraft Types:* All type (future)
- *Commodities:* All type (future)
- *Economic Activity:* Currently none. Wilbur Smith Associates study calculated economic impacts of LI's airports of Suffolk County for $7.5 million, $2.3 million of on-airport impacts (Ref. A20, pg. 2-10).
- *Future plans:* Based on a 1993 study conducted by the Long Island Regional Planning Board (Ref. A20), this airport has a potential to enhance the economic development of the area with the possibility of Federal or local control, or privatization.
- *Issues:* Pending decision about the future use of the facility.

Teterboro Airport (Ref. A45)

- *Contact Person:* Lewis M. Eisenberg, Telephone: (212) 435-4871
- *Location/address:* Teteboro Airport is located in the Boroughs of Teterboro and Moonachie in Bergen County, New Jersey. It is 12 miles from midtown Manhattan via the George Washington Bridge or Lincoln Tunnel.
- *Owner/operator:* This airport is owned by the PANY&NJ, and was operated by Johnson Controls World Services, Inc. In June 2000, PA contracted American Port Services Inc. to operate Teterboro. The privately owned company will manage Teterboro, but PANY&NJ will now keep all revenues so it can direct future investments, including an expected $100 million in improvements.
- *Airport Type:* This is a general aviation reliever airport.
- *Size/Area:* The airport size is 827 acres, including 408 acres for aeronautical use.
- *Access:* The airport's access is from the New Jersey Turnpike.
- *Ground Transportation:* Taxi, private cars.
- *RunwayTaxiways:* This airport has two runways, runway 6-24 and 1-19.
  Runway 6-24, is 6,015 ft long by 150 ft wide. Runway 11-19 is 7,000 ft long by 150 ft wide. On airport, there are 4.2 miles of taxiways, most are 60-feet wide and equipped with lighting system.
- *Employees:* The airport currently has 1,041 full-time employees and 96 part-time employees.
- *Passenger Use:* N/A
- *Capacity/Volume:* N/A.

- *Parking:* N/A
- *Warehouse Services:* None
- *Equipment/Services:* Runways approaches have an instrument landing system (ILS), high-intensity runway edge lights (HIRL) and short approach lighting system (SSALR), as well as VASI and REILS systems.
- *Terminal Condition:* According to the PANY&NJ, it needs improvement.
- *Air Carriers:* Based aircrafts: Piston - 150; Turbo - 13; Jet - 99; Helicopters -14; Total: 276 based aircrafts.
- *Aircraft Operations:* In 1998, the number of airplane flights was a185,098 per year, up from 168,898 operations in 1997, and up from 158,143 movements in 1994.
- *Aircraft Types:* The airport currently handles narrow body commercial aircraft, single engine to small to mid-size commercial jets.
- *Commodities:* N/A
- *Economic Activity:* This airport will complement the main region's airports and provide economic opportunity to the region.
- *Future plans:* N/A

1.8 Major Regulations in the Air Transport Industry

• The deregulation of the air cargo industry *(Airline Cargo Deregulation Act of 1978)*, allowed for the successful integration of carriers and the expansion of the air industry. Since deregulation, the industry revenues has grown 16-fold. (Ref. A15, A27-B)

• *Airport Improvement Program* (AIP) *Reauthorization*, approved in 1996, provided stable long-term funding needed to meet increasing demands on facilities. AIP took action to protect small carriers against predatory pricing and other unfair practices. In June1998, a Congressional committee affirmed DOT authority to issue enforcement guidelines on airline competition and expanded its power to review alliances.

• *Federal Aviation Administration (FAA) Reauthorization Bill*, approved in 1996, included proposed legislation which requires FAA to conduct a cost-benefit analysis of any new proposed rules and standards, and to seek competition for smaller markets. This bill also proposed to improve the air control system and to make FAA a separate government agency, independent of DOT.

• *Indirect Air Carrier Security Regulations*, issued by FAA, and published in Federal Register on March 21,1997, prescribes aviation security rules governing each air carrier, including the air transportation of property and package cargo.

• *FAA and Environmental Protection Agency (EPA) Agreement on collaboration*, signed in April 1998, discusses collaboration on aircraft emission and other clean-air aviation issues.

• *Montreal Protocol No. 4*, passed by the Senate in October 1998, paves the way for airlines to use electronic air waybill to process international shipments, and U.S. Customs Modernization Act, which in 1998 introduced Automated Export System (AES) - a joint program of the U.S. Customs

Service and the Census Bureau, Automated Manifest System (AMS), and Automated Broker Interface (ABI) in border crossing cargo handling. Due to increases in imports, the US Customs started to upgrade and modernize the system. Under the Customs Modernization Act, importers are fully responsible for the accuracy of their declarations.

Region's Airports - List of Contacts:

Contact Person(s)	Tel/Fax/E-Mail	Address
JFK International Airport		
Charles Seliga, Airport Manager	Tel: (718) 244-3500	JFK, Bldg. 14, Jamaica, NY 11430
LGA		
Alfred Graser, General Manager	Tel: (718) 533-3401	Hanger 7 Center, Flushing, NY 11371
Newark International Airport (EWR)		
Susan Baer, General Manager	Tel: (973) 961-6161	Building 10, Tower Road, Newark, NJ 07114
Long Island MacArthur Airport		
Brad Ringhouse, Airport Manager	Tel: (516) 467-3300	11 Arrival Avenue, Ronkonkoma, NY 11779-7398
Stewart International Airport		
David McCormick, Airport Manager	Tel:(914) 564-7200 x 250 and x 264, Fax: 914-567-0532	Building 138, 1035 First Avenue, New Windsor, NY 12550.

Tables in Text:

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A24 "Outlook 2000" by NYMTC, September 1999, and USDOT proposal, issued on 8/6/99
A25 Airport Traffic Report, years 1997 and 1998, by PANY&NJ
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List of Figures and Tables

MARINE

CHAPTER 2

MARINE

2.1 Introduction

2.1.1 Global Issues in the Marine Industry

A significant amount of goods move over the waterways and through the ports all over the world. The recent changes in the world economy, fueled by the trend toward globalization and mergers, impact the freight distribution system and challenge its existing physical infrastructure. This is especially true for the key marine ports and intermodal facilities, which are major economic assets and play a key role in allowing regions to participate in the global market. Where once the U.S. market was largely domestic, trading primarily within the nation, now the economy has gone global. While in 1970, 11 percent of the Gross Domestic Product was the result of import/export of goods and services, by 1995 that number had risen to 25 percent (Ref: M 4). In 2000, oceanborne trade is forecast to expand by 3.5% to 5.3 billion tons (Ref: M 6-t). Several trends lend urgency to the need for port development. The major trend is the predicted increase in containerized cargo entering the ports. The growth of the global marketplace affects the direction of change in the following ways:

- Globalization of commercial activities which often cause shifts in trading pattern
- New and emerging technologies, such as containerization, fast ships, electronic data interchange, and the Internet
- Deregulation, re-regulation (NAFTA), and privatization of the transportation industry

Containerization in the marine industry is rapidly growing. For container equipment and containership types see *Fig. M-1 and M-2*. In terms of speed, pricing and efficiency, containerization has had as profound an impact on shipping and global trade as the e-commerce and World Wide Web. In 1998, the U.S. DOT estimated that by 2010, 90% of the world's deep-sea general cargo freight will move in containers, up from 60% in 1997. For containership fleet see *Fig. M-2B*. In order to capture trade, the port cities must upgrade their port facilities and their rail/highway intermodal system. Ships carrying 4,000 TEUs are now the standard, and the new generation of ships will be able to hold 8,000 TEUs and more in the future. Larger ships will require deep water access and access to mega-terminals with modern equipment. Mergers, global shipping alliances and large shipping lines (such as combined Maersk/Sea-Land), will create the need for fully modernized terminals with easy road and rail access and waterways of 50 foot depth, such as Rotterdam and Singapore. So far, port development in the U.S. has lagged far behind ship development.

The nature of goods to be transported by ship, their intermodal requirements and limitations usually determine the type of ocean vessel used. The oceanborne cargo is divided into two categories:

* General Cargo, which include breakbulk and containerized cargo
* Bulk cargo

General cargo refers to all types of cargo that could be containerized, roll-on/roll-off, and other pre-packaged cargo. Bulk cargo refers to homogeneous commodities shipped in large quantities, such as stone, sand, iron ore, grain, coal, cement, and petrochemicals. About 80% of general cargo (80 million tons) moves in containers, and liners are the most common type of ships used to move these higher value goods. Tankers move liquid goods such as petroleum and chemicals. General cargo carriers use mostly liner ships to move containers, and break bulk handling ships for other general cargoes. For international bulk cargo, dry bulk handling ships are used to move commodities.

Port limitations, including container-handling capabilities, water depth for larger containerships, transshipment requirements, available equipment and size of pieces, and other factors affect the decision on type of vessel used. In 1996, slightly over 25 ports worldwide handled more than one million TEUs each. In 1998, over 42 million TEUs were handled across the globe, and that number is expected to grow about 6% to 8% annually. In 2000, post-Panamax tonnage accounts for about 8% of all liner tonnage deployed (Ref: M 1).

Table M-1
Global Container Transshipment Volumes (in thousands TEUs) (Ref: M 7-f)

Region	1990	1995	1998	1999	Forecast	
					2000	2005
North Europe	3,396	5,238	6,263	6,556	6,873	9,301
South Europe	1,656	2,970	4,910	5,478	6,038	8,469
Middle East	968	2,235	2,976	3,480	4,050	5,787
South Asia	409	703	1,019	1,029	1,076	2,147
South East Asia	3,876	9,455	12,958	14,353	15,804	24,325
Far East	4,343	7,724	9,522	10,171	10,809	14,048
North America	1,087	1,604	1,707	1,713	1,742	2,035
Carribean	222	781	1,775	2,092	2,405	3,181
South America	0	89	213	365	557	2,202
Oceania	44	81	102	109	117	162
Africa	225	1,177	1,382	1,474	1,565	1,988
World Total	16,163	31,886	42,827	46,820	51,034	73,645

Table M-2 (Ref: M 1)
Cargo Movements (in thousands TEUs) on Three Major Trade Routes

	Trans-Pacific		Trans-Atlantic		Europe-Asia	
Year	Asia to US	US to Asia	US to Europe	Europe to US	Europe to Asia	Asia to Europe
1995	4,009	3,471	1,208	1,448	2,306	2,834
1996	4,104	3,520	1,219	1,421	2,584	3,142
1997	4,459	3,705	1,276	1,556	2,788	3,558

The shifting pattern for the liner trades shows that the market trend has shifted to the Pacific Rim. Container movements to Japan and the South East Asian markets will continue to grow in the future. However, the trade between the U.S. Atlantic coast and Asia is also growing. In 1998, the PANY&NJ formed an alliance with the Egyptian Suez Canal Authority to capture more Asian trade via the Suez Canal. Egypt is building a new 1.5-million TEU-a-year port at the mouth of the Suez Canal with a massive free trade zone which will allow massive increases in the marine trade with Asia and North America (Ref: M 6-s, 11/18/99).

2.1.2 Main Issues in Port Development

The issues facing ports and landside intermodal support infrastructure can be divided into these areas: maintenance and deepening dredging, landside infrastructure, and intermodal support facilities.

On the water side, channel depth, dredging and environmental problems associated with it, are the main issues that can impede the efficiency of cargo movements to the port of destination. Thus, for the port to be able to compete in the global market, it should be accessible. In order to be more cost effective, the competitive global market requires larger vessels. As cargo activity in metropolitan ports continues to increase, the dredging problem in many locations, including New York ports, has prevented its optimum growth. Due to the shift to significantly larger container ships that require a channel depth of more than 42 feet, preferably 50 feet, improvement of channels is crucial in order to have a continuous deep-draft navigation throughout the metropolitan waterways. Several of the Post-Panamax ships (large vessels whose size precludes them from using the Panama Canal) are already in use or under construction in some other parts of the world. This type of vessel can hold 5,000 or more 20-foot containers (TEUs), which represents 20% more capacity than most of the vessels currently in operation. Fully loaded, these vessels will require 42 to 45 feet of channel depth (Ref: M 23). New requirements call for 50-plus feet access channel depth.

Dredging is costly and the dredged material has to be disposed of without affecting the environment, which often creates problems. In some cases, the dredged material is contaminated by chemicals or minerals. The laws forbid the Army Corps of Engineers to ocean-dump dredged materials, unless samples of the spoils to be dredged first pass strict tests controlled by the U.S. Environmental

Protection Agency (EPA). Actual disposal costs of contaminated harbor material remains high. Disposal costs in our region (not including dredging operations) now range from $29 to $60 per cubic yard, depending on the site, compared with $2 - $5 per cubic yard for the Port of Norfolk. In 1997, the Port of New York & New Jersey (PONY/NJ) used 50% (over $100 million) of the total national budget for dredging projects (Ref: M 17).

The land-use issue is also an important factor for the future development of marine terminals. In terms of size, marine cargo terminals grew from the basic 2 acres per ship berth size, usually associated with break-bulk ships, to 70 or so acres per berth for the more modern container terminals, including on-dock rail (Ref: M 1). As commercial and residential development encroaches on port complexes, there is growing concern of preserving rights-of-way around the current transportation corridors that serve the ports. Growing waterfront land values in this metropolitan region and the competition for this land with non-maritime commercial development are restricting the port's development and landside access improvements (Ref: M 25).

The growth of intermodal transportation has had a profound effect on the port industry. The introduction of the doublestack rail in the 1980s in intermodal container traffic has focused attention on the tremendous growth in ocean-to-rail intermodal traffic, and presented ports with a new and vital planning issue. Access to the intermodal marine facility requires development of multi-modal infrastructure, such as near- or on-dock railyard and an adequate highway system in the vicinity of marine facilities.

2.1.3 Changes In Ship's Parameters And Its Impact On Ports

According to a 1999 Clarkson Research Ltd. study, giant containerships able to carry more than 7,000 TEUs will assume more importance by the beginning of the new millennium. U.S. ports, including the Port of New York and New Jersey, are going to have to invest hundreds of millions in infrastructure and equipment (such as new generation of cranes) to be able to handle these giants (Ref: M 38). Ships delivered in 2000 will add almost 450,000 TEUs of capacity to the world fleet. The bulk of the new deliveries will be ships with a capacity above 3,000 TEUs. The 34 so-called post-Panamax vessels will account for 195,000 TEUs of the new capacity. The average capacity of these ships (all too large to transit the Panama Canal) is 5,740 TEUs. The market for small container vessels has temporarily decreased, with deliveries of only 7,800 TEUs in 2000, a mere 2% of the fleet. Most of the large ships are ordered by the container shipping lines for dedicated trade routes, while the smaller vessels tend to be built speculatively for the charter market (Ref: M 6-r, 10/15/99). For containership evolution see *Fig. M-2A and M-2C.*

The general cargo ships, which played a key role in the spectacular post-war boom in world trade, are shrinking in the face of greater productivity of container ships (Ref: M 29). While the containership fleet in 1999 totals 56.7 million DWT (deadweight tons - the lifting capacity of a ship, expressed in long tons), the general cargo fleet has shrunk to 18.8 million DWT, and is used mostly for breakbulk shipment to limited destinations (Ref: M 6-o, 8/17/99). The arrival of the new large ships will have significant impacts on the port's infrastructure and equipment. For containership fleet see *Fig. M-2B.*

2.1.4 Merger/Acquisition Trend in Marine Industry

The increased pressure on carriers to go global, growing impatience by investors with low returns, the need to cut costs in an age of rate wars, and the fading importance of national-flag identities, has created an array of mergers, partnerships and alliances. Of the world's 10 largest containership carriers, only 3 in 1999 operated as a single carrier - Evergreen, ZIM and MSC (Mediterranean Shipping).

The trend toward increasing consolidation in the marine industry is not new. According to *Containerisation International*, the top 20 steamship lines in 1999 had about 56% of the global vessel capacity (Ref: M 18-a), up from 35% in 1986. Current major consortia operating in the North Atlantic are:

- Vessel Sharing Agreement (VSA), covering P&O Nedlloyd, Orient Overseas Container Line, Sea-Land Service Inc., and Maersk Line (Ref: M 18-a);
- Grand Alliance, grouping Hapag-Lloyd, NYK Line, P&O Nedlloyd, PAX and Orient Overseas Container Line (Ref: M 18-a);
- New World Alliance, grouping Mitsui O.S.K. Lines, Neptune Orient, APL and Hyundai Merchant Marine (Ref: M 18-a);
- MSC-ACL, combining Mediterranean Shipping Co. and Atlantic Container Line (a slot-sharing arrangement);
- Cosco-Yang Ming - "K"Line, grouping China Ocean Shipping Co., Yang Ming Line and Kawasaki Kisen Kaisha. (Ref: M 6-o, 8/3/99)

Mergers, alliances and acquisition activity have been in the news. See *Fig. M-27B* for later mergers. In 1995, Canada Maritime, a subsidiary of Canadian Pacific, merged with the CAST Group. In 1996, P&O Lines merged with Nedlloyd Lines, and CP Ships bought Lykes Steamship Co. In 1997, CP Ships acquired Contship Containerline, Singapore's Neptune Orient Lines bought American President Lines, and Hanjin Shipping Co. agreed to buy Germany's DSR Senator Lines (Ref: M 1). In July 1999, A.P. Moller-Maersk Line, a Danish company, announced that it would acquire Sea-Land Service Inc.'s international business for $800M. CSX Corp, which was a parent company to Sea-Land, retains Sea-Land's domestic shipping services and related terminals. The domestic shipping business of Sea-Land goes by the name *CSX Lines LLC* (Ref: M 6-s, 11/18/99). CSX, a railroad and intermodal transportation company, acquired Sea-Land in 1986 (Ref: M 6-n, 7/26/99).

The Sea-Land Maersk merger is expected to facilitate the construction of a deepwater container hub at the PONY&NJ, which was announced in May 1999. Maersk-Sealand operates 250 vessels, and uses 24 container terminals worldwide, 13 of them in the U.S. The U.S. terminals are: Port Elizabeth in New Jersey, ports in Boston, Baltimore, Norfolk, Charleston, Jacksonville, Port Everglades, Miami, New Orlean, Houston, Long Beach, Oakland, and Tacoma. The intermodal assets include more than 500,000 containers and 75,000 chassis, and the port of calls include more than 20,000 port calls annually in approximately 100 countries (Ref: M 7-d, 8/2/99). The creation of P&O Nedlloyd and NOL/APL, and Maersk - Sea-Land deal, shows that the future of the steamship industry may be consolidation (Ref: M 6-n, 7/29/99).

2.1.5 Worldwide Trend in Marine Technology

Changes in vessel size determine the need for modernization of the ports and equipment. The bigger vessels carry from 3,200 TEUs (20-foot equivalent units) to 6,000 TEUs and more. Future larger vessels will also utilize fewer crew members. In addition, new 48-foot and 53-foot domestic containers, which offer 13% more cubic capacity, create a challenge to intermodal operations at the ports where a typical ocean carrier's container is 20 or 40 ft long and 96 inches wide (Ref: M 2).

In a 1997 analysis of the most recent updated database, the UK's firm, Ocean Shipping Consultants Ltd., projected that containerports will handle between 306 million and 335 million TEUs by 2005. And if the world economy remains strong, global containerport throughput could reach 465 million TEUs by 2010. During the mid-1980s, global containerports moved only 36 million TEUs. By 2000, over 50% of that activity will be in Asia, largely because of the expected growth in China in that field, while European and North American ports will handle about 17% and 10%, respectively. The remaining volume will be scattered around the globe, with the largest potential in South America. Other major factor affecting ports are deregulation and the increased trend to privatization of ports. That move sparked a wave of investment that has boosted profit and improved efficiency.

Table M-3
Leading Containerports by Region, 1996 data (Ref: M 15)

Asian Ports		
No	Port	1996 TEUs
1	Hong Kong	13,460,343
2	Singapore	12,943,900
3	Kaohsiung	5,063,048
4	Busan.	4,725,206
5	Yokohama	3,911,927
6	Keelung	2,320,397
7	Tokyo	2,311,453
8	Kobe	2,229,320
9	Manila	1,971,524
10	Shanghai	1,930,000

North American Ports		
No	Port	1996 TEUs
1	Long Beach	3,007,425
2	Los Angeles	2,682,803
3	NY/NJ	2,269,145
4	Oakland	1,498,202
5	Seattle	1,473,562
6	Charleston	1,151,401
7	Hampton Roads	1,141,357
8	Tacoma	1,073,529
9	Jacksonville	1,045,660
10	Montreal	852,530

Mideast & Neareast Ports		
No	Port	1996 TEUs
1	Dubai	2,247,024
2	Jeddah	827,073
3	Damietta	808,608
4	Khor Fakkhan	655,046
5	Fujairah	604,889
6	Haifa	548,120
7	Ashdod	391,860
8	Dammam	307,184
9	Mina Zayed	244,794
10	Bandar Abbas	237,174

North European Ports		
No	Port	1996 TEUs
1	Rotterdam	4,935,616
2	Hamburg	3,054,320
3	Antwerp	2,653,909
4	Felixtowe	2,042,423
5	Bremen	1,543,405
6	LeHavre	1,020,040
7	Southhampton	805,397
8	Zeebrugge	553,175
9	Gothenburg	488,636
10	Liverpool	420,000

European Mediterranean Ports		
No	Port	1996 TEUs
1	Algeciras	1,306,825
2	La Spezia	871,100
3	Genoa	825,752
4	Barcelona	767,236
5	Valencia	708,332
6	Marsaxlokk	593,013
7	Piraeus	575,256
8	Gioia Tauro	571,951
9	Marseilles	544,449
10	Leghorn	416,622

African Coastal Ports		
No	Port	1996 TEUs
1	Durban	928,566
2	Cape Town	355,400
3	Abidjan	309,713
4	Las Palmas	300,423
5	Santa Cruz	222,302
6	Casablanca	194,806
7	Port Elizabeth	172,128
8	Port Reunion	124,603
9	Rades	106,710
10	Douala	106,167

Australasia and Pacific Island Ports (1996 data)		
No	Port	TEUs
1	Melbourne	890,000
2	Honolulu	649,966
3	Port Botany	633,959
4	Auckland	464,056
5	Brisbane	272,632

Australasia and Pacific Island Ports (1996 data)		
No	Port	TEUs
6	Fremantle	212,000
7	Apra	155,311
8	Lyttleton	150,118
9	Burnie	122,198
10	Sydney	93,228

(Ref. M 15)

Table M-4
Top Container Lines and Ports in 1998 (Ref: M 2-c)

In 1998, the top container lines were:	
Mersk/Sea-Land	617,082 TEU
Evergreen	315,064 TEU
P&O Nedlloyd	273,237 TEU
Hanjin/DSR Senator	231,701 TEU

In 1998, world top container ports were (Ref. M2-c).	
Singapore	15,100,000 TEU
Hong Kong	14,582,000 TEU
Kaohsiung	6,271,000 TEU
Rotterdam	6,032,000 TEU

In 1998, the top container lines were:	
Medite Shg Co (MSC)	220,549 TEU
NOL/APL	208, 249 TEU
COSCO Container	200,737 TEU
NYK	165,446 TEU
CP Ships & Americana	140,499 TEU
ZIM	135,469 TEU
Mitsui-OSK	135,144 TEU
CMA/CGM	123,266 TEU
"K" Line	104,757 TEU
Hyundai	102,314 TEU
Hapag-Lloyd Group	99,163 TEU

In 1998, world top container ports were (Ref. M2-c).	
Pusan	5,752,000 TEU
Long Beach	4,098,000 TEU
Hamburg	3,550,000 TEU
Los Angeles	3,378,000 TEU
Antwerp	3,266,00 TEU
Shanghai	3,066,000 TEU
Dubai	2,800,000 TEU
New York/New Jersey	2,518,000 TEU
Felixstowe	2,462,000 TEU
Tokyo	2,450,000 TEU
Gioia Tauro	2,125,000 TEU

The two most costly capital items on a container terminal are the terminal's infrastructure cost and the container cranes, the productivity of both depending heavily on the density of stacking. Increased volumes, larger and faster ships and the continuous trend toward larger shipping consortiums created the current trend of high density stacking in the yard. The concept of container-on-chassis system permits containers to be retrieved at random from the yard, thus minimizing stability problems and allowing export containers to be received up by the last minute without major problems. However, computer technology and the high cost of land has eroded the advantage chassis had over stacked container operations. High-density stacking are used more frequently in the modern terminals.

Currently, most US terminals which use chassis operations are very spread out, resulting in lower berth and crane utilization, while modern terminals such as Hong Kong are more compact. Hong Kong's 1998 volume was 14.6 million TEUs, with a productivity of 149,682 TEUs per quay cranes, 1,428 TEUs per yard of quay, and 17,528 TEUs per acre of area. By comparison, the larger US containerport in LA/Long Beach had 1997 volume of 6.5 million TEUs, with 77,831 TEUs per quay cranes, 435 TEUs per yard of quay, and 4,068 TEUs per acre of area. Hong Kong terminals cover 538 acres, with 6,604 yards of quay, while PONY&NJ covers 2,100 acres of terminal and LA/Long Beach has 1,588 acres of terminal and 14,853 yd. of quay length. Decrease of port size is possible due to modern technology, which can detect the exact location of every yard crane and consequently every container in the terminal. This keeps the shifting through rows of boxes to retrieve particular container to a minimum (Ref. M 6-l, 5/21/99).

The trend of increasing cargo travel speed is presented in the proposed FastShip concept. Fast ships, defined as vessels that can travel at a speed of 30 knots or more, have been in operation for a long time, but until recently were used to carry passengers only. Currently, FastShip Atlantic Inc. of Philadelphia intends to put four jet-powered cargo ships that could travel to 40 mph into service in

the trans-Atlantic trade by 2001. To cut travel time, FastShip plans only two ports of call; Philadelphia and Cherbourg in France (Ref. M 6-e, 8/7/99). However, the real benefits will require a speed up in landside cargo handling operation (Ref. M 6-d, 1/6/98).

Information technology is one of the key components of the transportation decision-making process for shippers, carriers, facilitators and government agencies, such as the US Custom Service. Enhanced communication systems benefit ports with accelerated gate movements, greater terminal security, cheaper and more accurate data entry, and improved management of container operations. Information transactions include booking or reservation requests, shipping information, ensuring regulatory compliance and achieving cost effectiveness. Cellular phone communication system and satellite communications permit the sending of high-speed data over the route. By entering customer information such as invoice or waybill via World Wide Web sites, several processes can be done more accurately, quickly, and in real-time.

2.2 Marine Industry in USA: Trade and Issues

2.2.1 Trade Issues:

* *International Trade*

> Based on tonnage, the major US partners are Japan, Venezuela, Mexico, Canada and Saudi Arabia, and based on volume: Japan, China, Taiwan, Germany and South Korea.

For U.S. trade volume and regional forecast *see Fig. M-27, M-27A, and M-27B.* The rising economy and growing competition in the international markets has increased the dependence of producers in the U.S. on an extensive and efficient transportation system. Domestic transportation revenue growth went from $463.1 billion in 1994 to $515.1 billion in 1999, and is expected to reach $573.5 billion by 2004. Marine transportation revenue grew from $7.8 billion in 1994 to $8.1 billion in 1999, and is forecast to reach $8.5 billion in 2004, representing an 8.5% change (Ref. M 5-b). Waterborne freight transportation in U.S. will rise from 9.9% of all domestic freight volume shipped in 1997 to 11.7% of all freight volume shipped in 2007 (Ref. M5-a). As the United States economy depends more and more on producers and consumers from all over the world, connections to the outside world have to be maintained. As with airports, the marine ports are the gateway to the world. The efficiency of these ports is very critical. In international trade, about 95% of the goods on a volume basis enter or leave the U.S. by ship.

In 1994, the international freight tonnage was split about 59% imports and 41% exports. The largest imports were petroleum and petroleum products (67%), and for export: food and farm products (34.3%), coal (18.3%) and chemicals (11.3%). Based on the value, the top U.S. ports for international traffic are Long Beach, Los Angeles, Port of New York and New Jersey (PONY&NJ), Seattle, and Houston, Texas. Based on volume, New York is 5th, after Louisiana, Houston (Texas), New Orleans, and Hampton Roads, Virginia.

Table M-5 (Ref. M 2-b, 7/99)

Top North American Container Ports in 1998		
Rank	*Port*	*TEUs*
1	Long Beach	4,097,689
2	Los Angeles	3,378,217
3	PONY&NJ	2,466,013
4	San Juan	1,990,275
5	Oakland	1,575,406
6	Seattle	1,543,726
7	Charleston	1,277,514
8	Hampton Roads	1,251,891
9	Tacoma	1,156,495
10	Houston	968,169

Table M-6 (Ref. M 2-b, 7/99)

Top Carriers in US trade in 1998				
Rank	*Carrier*	*Total (TEUs)*	*Import (TEUs)*	*Export (TEUs)*
1	Sea-Land	1,376,887	784,692	592,195
2	Evergreen Line	1,298,143	745,394	552,749
3	Maersk Line	1,064,916	621,150	443,766
4	Hanjin Shipping	902,305	577,282	325,023
5	APL Ltd	895,518	650,720	244,799
6	China Ocean Shipping	657,531	457,065	200,466
7	Hyundai Merchant Marine	637,103	400,087	237,016
8	P&O Nedlloyd	551,830	307,195	244,635
9	Nippon Yusen Kaisha	527,027	329,928	197,098
10	Yangming Marine Line	525,422	327,051	198,371

Factors determining the success of an intermodal terminal investment are both market considerations and physical considerations. The New York metropolitan region's terminals typically handle approximately 2,000 lifts/acre annually. The acreage for a modern terminal can exceed 300 acres. Ideal form is square, compact, and with on-dock rail facilities, to minimize operating costs. The length of a facility is driven by the expected type and volume of ship arrivals and train sizes, while its width is driven primarily by trailer and container storage requirements (Ref. M 10-f).

The Association of Port Authorities is urging the adoption of a national dredging policy that will include the port as a key element in intermodal transportation. The recent changes in regulations and passage of the Water Resources Development Act (WRDA-99) are intended to expedite dredging permits. However, a sensitive dredged material management strategy is needed in order to protect the environment and economic growth of the port region (Ref. M 6-a, 5/18/95, M 7-c, 9/7/98).

Table M-7 (Ref. M 6-i, 2/17/99)

Top markets for US imports and exports of roll-on, roll-off cargo

No.	Country	Export 1998in Metric Tons	Import 1998in Metric Tons
1	Japan	112,674	2,541,531
2	Germany	141,846	706,358
3	Belgium	128,467	252,940
4	Britain	102,512	272,349
5	South Korea	8,421	341,023
6	Mexico	48,804	248,305
7	Canada	200,662	38,953
8	Sweden	13,825	166,983
9	Australia	115,256	21,267
10	Saudi Arabia	116,088	1,014

Top US ports for imports and exports of roll-on, roll-off cargo

No.	Port	Export 1998in Metric Tons	Import 1998in Metric Tons
1	New York	251,758	626,599
2	Baltimore	269,303	516,322
3	Long Beach	70,818	501,847
4	Jacksonville	131,356	434,974
5	Portland, Oregon	22,441	382,875
6	Los Angeles	69,296	327,302
7	Houston	165,392	200,510
8	Charleston	112,372	219,642
9	Seattle	181,976	140,320
10	Norfolk	90,758	194,157

Table M-8 (Ref. M 6-j, 3/29/99)

List of 10 Top US Importers in 1998 (in TEU's)

Name:	Product	TEUs
Dole	Food	142,500
Chiquita Brands	Food	82,000
Dayton Hudson	Household goods	80,000
Payless Shoe Source	Clothing, textiles	37,200
J C Penny	Household goods	36,000
Michelin Tire	Chemicals, plastics	32,100

Top US Non-Container Importers in 1998

Name:	Product	Thousand of metric tons
Mobil Oil	Fuels	35,600
Chevron	Fuels	30,300
Exxon	Fuels	27,200
Citgo	Fuels	25,500
Shell Oil	Fuels	23,700
Koch Industries	Fuels	21,700

List of 10 Top US Importers in 1998 (in TEU's)		
Name:	Product	TEUs
Mattel	Household goods	31,600
Bridgestone Firestone	Chemicals, plastics	28,000
North American Philips	Electronics, machinery	26,700
Pier One Imports	Household goods	22,200

Top US Non-Container Importers in 1998		
Name:	Product	Thousand of metric tons
Amoco	Fuels	19,300
Valero	Fuels	15,600
Coastal Corp	Fuels	15,500
Lyondell Petrochemical	Fuels	14,800

* *Domestic Trade*

Within the U.S. and its territories, more than 16% of the nation's freight tonnage, or about 5% of total freight value, is moved by water. The nation's waterway system comprises more than 25,000 miles of navigable waterways. Shallow draft operations occur on about 11,000 miles of inland river systems, mostly in the central U.S. These waterways are critical links in the movement of dry and liquid bulk commodities such as grain, coal and petroleum. More than 93% of domestic water cargo are bulk hauls. The most common operators are barge carriers for dry bulk goods, which operate mostly on the inland water systems, and tankers for liquid bulk. A single barge holds about 1,500 tons which is equivalent of 15 100-ton railcars or 60 25-ton trucks. Barges compete with railroads for goods such as coal and grain. On short routes, freight handling ferries are used *(see Fig. M-8)*. Ocean-going barges are also used to transport these goods. The waterborne cargo movement is intermodal. Once the cargos arrive at the port destination they have to be transferred to other modes such as barge, truck or rail.

* *Government Policy*

There is substantial government involvement in the oversight of waterborne commerce. U.S. Maritime Administration (MARAD) is responsible for the enforcement of the infrastructure and safety activities. Dredging, infrastructure and safety are the domain of the Army Corps of Engineers and the U.S. Coast Guard. MARAD manages a subsidy program for U.S. flag fleet to help them compete in international trade, and oversees certain economic activities of water carriers and is responsible for Jones Act of cabotage requirements for vessels operating in US domestic service (Ref. M 19).

2.2.2 Landside Access to Ports

** Deficiencies in land access to the port*

Among the infrastructure inadequacies faced by U.S. ports, the most important are growing traffic congestion on the major truck routes that serve terminals and inadequate rail service. More than half (64 percent) of U.S. ports reported congested truck routes. That increases transport costs and vehicular emissions and degrades air quality. Other issues that are causing bottleneck conditions to freight movements are at-grade rail crossings on local streets which can tie up traffic and increase accident rates, and missing or inadequate signs for truck routes. Almost half of the U.S. ports report numerous at-grade rail-highway crossing and inadequate clearances for high-cube double stacks. Traffic conflicts between automobiles, trucks and trains serving the port increased the need for land. Increases in these conflicts will also raise concerns about the future ability of the ports to handle the massive movement of cargo required to support the U.S. military forces deployed abroad (Ref. M 25).

However, landside transportation systems are undergoing major logistical changes similar to the waterside changes. The example of one such approach is the $2.4 billion Alameda Corridor project, serving the nation's two busiest containerports (Long Beach/Los Angeles), which will be completed in 2001. The 20-mile long railroad freight expressway links these ports to the transcontinental railyards near downtown. (Ref. M 6-c, 12/18/96; M 6-g, 11/20/98)

** Warehousing/Distribution Centers*

Warehousing has also been transformed in view of changes in the logistical movement of cargo. It is increasingly rare that warehousing is limited to the housing of goods over a specific period of time. Warehouse operators make more money if they can turn over the inventory quickly and can perform some value added activity such as minor assembly, labeling, packaging and other similar activities. Goods enter a port as lower value "unfinished" products, and are then "finished" for entry into the economy. A major port attracts this kind of business, ideally located within a quick truck drayage from the port or nearby intermodal terminals. Both brownfield and greenfield sites are attractive for this type of light manufacturing activity, depending on site location and quick road or rail access to markets (Ref. M 17). In the vicinity of the New York/New Jersey ports, the warehouses can perform the following functions:

2. Container Freight Stations (CFS) for stuffing and stripping
3. Heavy Container (HC) cross dockage, to adjust shipment for differences in domestic and international shipping weight limits
4. Just In Time (JIT) distribution, for same day order picking and shipping
5. Drayage Cost and Access Time (DCAT) for handling a price and time sensitive commodities
6. Foreign Trade Zone (FTZ), to handle international cargo
7. Special Services (SS), such as product labeling, tagging etc.

The port-related public warehouses in the region comprise nearly 6 million square feet, and the annual space requirements are projected to increase to 13.7 million square feet by 2020. The vast

majority of public warehouse space is located in New Jersey, adjacent to the Port Newark and Port Elizabeth marine terminals (Ref. M 35).

* *Improvement strategies*

Because of the deficiencies in the freight transportation network system, ISTEA and TEA-21 federal legislations started to provide a variety of new opportunities for responding to the port landside access problems. Some strategies to reduce truck traffic include increasing reliance on barge or intercoastal vessel freight movement, expansion of rail service, development of freight corridors between terminals and major highways, and the development of inland intermodal terminals, serving the ports.

With the expansion of double-stack train services, the container ports are trying to have direct railroad access to their facility. This can be achieved by adding on-dock or near-dock rail transfer facilities. The expansion of double-stack services in many corridors together with improvement of railroad clearances will further enhance the popularity of the land-bridge concept. This land-bridge concept helps the shipper to reduce costs and improve the port's competitive positions (Ref. M 1).

2.2.3 Outlook for U.S.A. East Coast Ports

The maritime industry, and particularly ports on the East Coast of North America, face a rapidly changing landscape, largely as a result of development that began during the 1990s. The shift of China and South East Asia trade from West Coast ports to the East Coast is precipitated by the revitalization of the Suez Canal and the development of a strong market along the East Coast. A PANY&NJ analysis forecasts an increase in the Asian trade from 6% in 1998 to 13% in 2020, which means shifting 2.5 million TEUs to the East Coast by 2020. In the same time, West Coast ports' Asian trade is expected to decrease from 80% to 73% (Ref. M 20). Ocean shipping reform, the purchase of Conrail by CSX and NS, the move toward greater port consolidation in the North Atlantic, and the arrival in 1998 to East Coast ports including New York of the Regina Maersk - the largest containership in operation: all these events signaled the beginning of a new era for the East Coast marine industry. The expected growth in volume and the pace of international trade over the next decade will set off an intense period of new investments in deeper channels and berths, new and reconfigured marine terminals, and more efficient inland connections. In the New York/New Jersey region forecasted container demand will outstrip existing terminal capacity by 2006 (Ref. M 27-a). This situation calls for a new port redevelopment strategy and for carefully targeted, cost-effective investments to prepare our region for the expected increase in trade (Ref. M 6-h, 1/4/99).

To accommodate future needs, the Army Corps of Engineers in the New York/New Jersey area began deepening port access channels to 45 feet. The further deepening of the channels to 50 feet will be completed in 2000. In the winter of 1999, PANY&NJ and NYCEDC released their master plans detailing a range of investment options for the harbor (Ref. M 32).

2.3 The New York Metropolitan Region Port

2.3.1 Introduction

In the New York metropolitan region, the waterway network *(Fig. M-16)* is one of the most important economic assets. The metropolitan region receives over 40% of its inbound tonnage by water with an average distance traveled of 2,700 miles. Of its outbound tonnage, 13% is shipped out by water over average distance of 2,600 miles. A quarter of its local tonnage is distributed by barges and small tankers (Ref. M 17, M 30). For port location see *Fig. M-3*.

Before 1960, most waterborne cargo in the region was carried in breakbulk ships. The total volume of general cargo, shipped through the metropolitan area, was handled by NYC facilities. This volume has declined from 75% of the total goods shipments prior to 1960 to about 15% in 1998. The rapid growth of the container trade has had major economic implications for the ports. In 1998, the total container traffic in the Port of New York and New Jersey was 2.5 million TEUs (Ref. M 18-a), equal to 1.5 million containers (this number includes international and domestic freight, and loaded and empty containers). The total ocean borne foreign trade handled by PANY&NJ (bulk and general cargo) accounted in 1996 for 51.3 million long tons, with a value over $66.4 billion, whereas in 1993 the tonnage was 40.7 million long tons, with value of $56.3 billion. Domestic cargo (exports and imports) accounted for 814.7 thousand long tons in 1996, about 36% more than in 1995, with value of $6.9 billion (Ref. M 8).

Despite this increase in port tonnage, the port share of nationwide cargo compared to the1960s has been declining. Whereas, in 1961 the Port of New York and New Jersey represented 14.4 percent of the national oceanborne foreign trade, in 1996 it represented only 5.6 percent of the total. This decline has resulted from the competition of other ports nationwide that can accommodate the increasing size of ocean vessels, the changing trend in the global market (the increasing of the Pacific rim trade), and the relocation of manufacturers to the west and the south of the United States (Ref. M 22).

Most waterborne freight uses the New Jersey side of the harbor, because of the land availability for storing containers, better access to the nation's rail and highway network, and better accessibility to warehouses than the east side of the Hudson River. Based on the 3% annual growth rate in the gross national product, it is expected that total international trade will grow faster (5% annually) than the general economic growth. As a result, the containerized trade is expected to grow annually by 6% annually over the next 10 years (Ref. M 2, M2-a).

With a capacity of 6,000 or more 20-foot container units, today's container vessels are very different from dual-purpose ships that in the 1960s carried loose cargo in the hold and containers on the deck (*see Fig. M-1, M-2, M-2A* for container equipment and ship silhouette). They require a depth of 45 feet or more. Such depths are necessary today to accommodate a fully loaded mega-ship, such as the Regina Maersk. PANY&NJ recently developed a master plan which calls for spending $979M on improvements and $537M for expansion over the next 5 years. This plan includes dredging waterways to 50 feet, acquisition of 1,500 acres of new or expanded terminal space, highway, rail lines and warehouse/distribution facilities in New Jersey, Brooklyn, and Staten Island (Ref. M 6-k, 4/21/99). PANY&NJ projects a twofold increase in marine transported volume by 2010 (up to about 5 million

containers per year) and a sixfold increase by 2040.

2.3.2 Significance of the Port of New York and New Jersey as a Megaport on the Atlantic Coast

The Atlantic Coast needs a port that is able to handle large ships and continue to serve the shipping requirements of its customers. Most goods are shipped in containers on large ships which operate under tight schedules and ships are limited in the number of ports they can call on because of their time constraints and the port infrastructure *(see Fig. M-5)*. The Port of New York and New Jersey has an opportunity to become the mega port on the East Coast. Its advantages are:

- Port of New York and New Jersey (PONY&NJ) *(see Fig. M-4)* continues to be the top marine facility on the East Coast and a focal point of the international movement of goods, with access to the biggest U.S. consumer market (Ref. M 10-c). The area's massive population, combined with its vast manufacturing, packaging, merchandising and storage infrastructure, make the Port the first stop for many of the goods consumed by the population in half the states in the nation;
- The majority of goods are destined for the Port's region which encompasses a 260-mile radius;
- PONY&NJ is a major asset to vessel operators because containers can be handled quickly allowing for efficient distribution of goods to local as well as distant markets;
- PONY&NJ has easy access to the national rail network capable of double-stack operations;
- Closeness to other Northeast cities and the Midwest;
- Good highway access;
- With a critical shortage of undeveloped land along the waterfront for terminals to expand, the port's productivity is anticipated to increase dramatically, using advanced technology and operating procedures. Annual productivity is predicted to more than double from today's 1,500 container lifts per acre to about 3,500 lift per acre by 2040. Shippers demand for services will grow accordingly. The quantity of throughput demanded is projected to grow to 14.4 million TEUs per year by 2040 (Ref. M 18-a);
- The PONY&NJ international trade is growing fast. In the 1999 PONY&NJ increased its ability to handle perishables by opening a 66,000 sq-ft refrigerated fruit terminal in Howland Hook. In Newark, PANY&NJ opened a 1.6 million cubic-foot public freezer facility operated by Newark Refrigerated Warehouse Inc. In Jersey City, a 265,000 sq-ft warehouse facility was recently completed. Also, East Coast Warehouse and Distribution Corp., has recently raised the capacity of its Port Elizabeth reefer terminal by more than 10%. These expansions will make the bi-state port more attractive to shippers of perishable foodstuffs and make it possible to lure some of the South American fruit trade. (Ref. M 3-b, 11/22/98; M 10-a, M 6-n, 6/14/99)

2.3.3 Significance of International Trade

Table M-9
Cargo Volume: Loaded TEUs via Port of NY/NJ (Ref. M 18-a)

via Region	*TEUs, 1998*	*TEUs, 1997*
Europe (North and East)	651,690	578,530
Far East	370,176	331,811
Latin America (incl. Mexico)	227,496	230,967
Mediterranean	255,461	228,592
SE Asia	217,858	217,103
Middle East	85,446	81,091
Africa	46,648	42,967
Australia/Oceania	7,920	7,874
Others (incl. Other North America)	14,804	16,384

The Port of New York and New Jersey's main export markets are in Northern Europe (see *Table M-5).* However, in 1997, Asian trade was up 8% from 1996, trade with China was up 22%, Indonesia 40%, and Malaysia 30% (Ref. M 7-e, 4/19/99; M 9). The leading import/export sources are shown in *Table M-6.* Most New York-bound cargo from Asia is currently shipped across the Pacific Ocean to West Coast ports where it sent by rail (landbridge) to the East Coast. In the future, greater use of the Suez Canal is expected to capture more Asian trade. In Spring1999, the PANY&NJ signed the first marketing agreement for a joint study with the Suez Canal Authority to develop the Suez Canal alternative to trans-Pacific cargoes. The one-year project is expected to expand into the longer term (Ref. M 6-j, 3/25/99). The alliance with the Suez Canal Authority to capture more Asian trade will increase PONY&NJ competitiveness. Only about 6% of the containerized cargo between the Far East and the U.S. currently moves to the East Coast via the Suez Canal, and it is projected to jump to 13% by 2020 (Ref. M 6-j, 3/5/99).

Table M-10 (Ref. M 8)
1996 PONYNJ Trade In Bulk and General Cargo With Various Trading Partners

Percentage of Total 1996 Trade (import/export)		
Region	% tons	% value
Europe	36.1	49.8
South America	19.4	7.5
Far East	9.1	20.2
Middle East	2.0	4.9

Top 1996 Trading Partners (import/export) (Total Bulk and General Cargo)		
Rank	Country	Tonnage
1	Norway	4,739,239
2	Venezuela	4,435,080
3	United Kingdom	3,981,776
4	Angola	2,790,420

Percentage of Total 1996 Trade (import/export)		
Region	% tons	% value
Central America and Caribbean	5.5	1.9
Africa	15.0	3.7
South East Asia	5.9	8.2
North America	4.6	0.4
Australasia	0.2	0.3
In transit cargo	2.2	3.1

Top 1996 Trading Partners (import/export) (Total Bulk and General Cargo)		
Rank	Country	Tonnage
5	Canada	2,394,091
6	China	2,293,153
7	Columbia	2,010,557
8	Germany	1,867,247
9	Algeria	1,783,924
10	Chile	1,328,591

Note: "In Transit" refers to cargo originating in or destined to a foreign country, moving via New York/New Jersey to or from another foreign country.

Oceanborne bulk cargo imports handled by PONY&NJ for 1998 was 37.9 million tons with a value of $4.1 billion, and exports was 1.4 million tons with value of $621 million. Total bulk cargo was 39.4 million tons, 9.2% more than in 1997. In comparison, in 1982, the bulk cargo imports was 31.2 million tons with value of $6.5 billion, and exports in the 1982 was 2.4 million tons with value of $569 million. Whereas the bulk cargo tonnage for export has declined, the general cargo import tonnage and dollar value has increased. In 1998, the tonnage of PONY&NJ oceanborne general cargo trade (import and export) was 16.7 million tons (10.6% more than in 1997) with a dollar value of $63.7 billion (increase of 1.8% from 1997), while in 1982 the tonnage was 10.4 million tons with a dollar value of $35 billion.(Ref. M 8, M 9, M 10-b). According to the 1998 PANY&NJ master plan, last year's volumes of 2.4 million TEUs would expand to 4.6 million TEUs by the year 2010, assuming 45-foot depth, and to over 5.4 million TEUs if the channels can be deepened to 50 feet (Ref. M 6-p, 9/10/99).

Table M-11 (Ref. M 8)
Leading Commodities Handled by PONY&NJ (1996 data, volume in long tons)

General Cargo			
Import		Export	
alcoholic beverages	733,009	waste paper	1,050,143
organic chemicals	654,791	plastic materials	233,099
motor vehicles/parts	504,678	motor vehicles	232,890

Bulk Cargo			
Import		Export	
crude petroleum	12,206,004	iron & steel scrap	1,185,671
residual fuel oils	8,610,045	corn	322,159
gasoline	7,074,583	wheat	129,196

General Cargo			
Import		Export	
paper and paperboard	330,757	paper and paperboard	230,245
alcohols	285,889	lumber	199,994
clothing	238,105	machinery	114,690
bananas	233,226	hydrocarbons	97,354
vegetable oils	230,780	misc. food & food preps.	96,816
furniture	221,310	organic products	89,390
misc. food & food preps	213,375	toilet preparations	74,112

Bulk Cargo			
Import		Export	
kerosene and jet fuel	1,953,733	residual & distillate fuel oils	128,768
salt	1,678,060	nonferrous scrap & slag	91,224
gypsum	937,690	inedible tallow	66,023
building cement & lime	803,328	animal feeds	48,260
sugar	555,172	sand gravel crushed stone	41,551
pitch & asphalt	345,879	petroleum lubricants	34,666
nonmetallic minerals & slag	187,068	nonmetallic minerals	30,077

In 1998, the PONYNJ moved about $68 billion in ocean cargo (Ref. M 11-b). According to the "Cargo Watch", issued by PIERS *(Port Import/Export Reporting Service, New York, Tel: 212-837-7129)* database, covering key movements in 20-foot units (TEUs), the main cargo handled in Port of New York and New Jersey in month of July 1998 and 1999 were:

Table M-12
The Main Commodities Handled in PONYNJ (July/September 1999/1998) (Ref. M 6-r, 10/5/99)

Cargo (July 1998/1999)	July, 1999 (TEUs)	July, 1998 (TEUs)
Furniture from Italy	3,870	2,800
Beer from Netherlands	2,830	2,060
Wastepaper to Indonesia	1,950	2,660
Wastepaper to South Korea	2,480	1,570
Wastepaper to Thailand	880	1,560
Toys from China	1,320	1,140
Wastepaper to Taiwan	1,210	470
Chemicals from Germany	1,190	1,210

Cargo (September 1998/1999)	Sept. 1999 (TEUs)	Sept 1998 (TEUs)
Furniture from Italy	2,380	1,420
Wastepaper to South Korea	2,480	2,430
Wastepaper to Thailand	460	2,160
Beer from Netherlands	1,470	1,850
Toys from China	1,690	1,730
Wastepaper to Indonesia	890	1,820
Toys from Hong Kong	1,700	1,610
Decorations from China	1,560	1,200

Cargo (July 1998/1999)	July, 1999 (TEUs)	July, 1998 (TEUs)
Pasta from Italy	960	1,000
Beer from Germany	980	1,090

Cargo (September 1998/1999)	Sept. 1999 (TEUs)	Sept 1998 (TEUs)
Auto Parts to Belgium	750	1,360
Furniture from China	990	590

2.3.4 Regional Economic Impact of the Port

The economic impact of the port industry on the New York-New Jersey region is significant. In 1998, the port industry was responsible directly and indirectly for 166,500 jobs in the regional economy, $20.5 billion in total monetary impact, $6.54 billion in regional wages, and $540 million in regional income and sales taxes. The port industry was responsible for over a 2% share of the Gross Regional Product, and 1.3% share of total region's employment (Ref. M 8, M 10-a). PONY&NJ's market is concentrated on a 10-state, 260-mile radius. This region accounts for 34% of U.S.'s total trade. Seventy three percent of the PONY&NJ-handled containers flow to and from the West of the Hudson River. Also, huge regional/national distribution centers are located throughout the region (Ref. M 20).

The1998 PONY&NJ' Trade Statistics (Ref. M10-a, M11-b), has provided the following information on port activities:

Table M-13
Information on PONY&NJ Activities and Impact

General cargo tonnage	16.7 million long tons	Vehicle Imports/Exports	448,900 units
General cargo exports	4.5 million long tons	Ship arrivals	4,943
General cargo imports	12.2 million long tons	Total monetary impact	$20.5 billion
Bulk and General cargo	56.0 million long tons	Business Income	$2.3 billion
Containers	1.48 million	Income & sales tax generated	$540 million
TEUs	2.47 million	Jobs (direct & indirect)	166,500

2.3.5 Main Issues Affecting PONY&NJ

All of the region's maritime terminals have access to the ocean through the channel network *(see Fig. M-16A for marine terminals and access channel location).* The landside access is secured by the highway network and the rail system. The efficiency of the port operations are restricted by bottlenecks in the system. These bottlenecks are in the form of insufficient channel depth, substandard infrastructure (insufficient clearances, turning radius for trucks, narrow lanes, terminal condition), land use, or environmental and institutional impediments that reduce the efficiency of freight movements on the land access routes. The consolidation of industry and organizational changes has also profound effect on total system.

Among the above issues, dredging is one of the most important issues in development of marine industry in the metropolitan area.

* *Dredging*

Channel deepening is considered critical if the port is to end the recent diversion of cargo to other Atlantic ports such as Halifax and Norfolk and attract the larger ships (6,000 TEUs plus) already calling at East Coast ports (Ref. M 3-c, 3/19/99; M 6-h, 1/14/99). The need for deep-water facilities was graphically illustrated by the arrival of the Regina Maersk to the NY/NJ harbor on July, 1998.

The Regina Maersk is the largest containership ever to call at US ports. The Maersk shipping company brought her to call at the major US Atlantic ports to emphasize that this type of ship is the wave of the future and the need for channels, berths, cranes and other supporting infrastructure to handle these new ships. The company has already purchased 15 such ships, ten of which are even bigger than the Regina Maersk. Unfortunately, because of the shallow depth in the harbor, the ship had to come in with only a 20% load. The 7,000TEU vessels require a 50-foot depth. Megaships will make the Suez Canal a more competitive option for Asian cargo than the mini-landbridge through West Coast ports. Also, the shift from 3,000 to 7,000-TEU vessels will generate a 25% reduction in door-to-door per unit costs from Hong Kong to Albany, NY, via Suez Canal (Ref. M 6-j, 3/25/99; M 17).

For the past twenty years, the Port of New York and New Jersey has had to clear a yearly average of 4 to 5 million cubic yards of sediment to maintain existing channels and berths at authorized depths *(see Fig.M-9A)*. This is especially cumbersome for the main port facilities in Newark Bay-Port Newark and Port Elizabeth, because the main rivers that feed into Newark Bay (Hudson, Passaic, Hackensack and Raritan Rivers) have a history of significant upstream industrial contamination. The maintenance-dredging problem arose when objections were made by some environmental organizations to the historic practice of dumping dredged material at ocean dumpsites (Ref. M 17). About a third of dredged material in the metropolitan region meets the federal safety levels and can be dumped safely in the ocean, at a cost of $3 to $6 per cubic yard. The rest is contaminated with dioxin, heavy metals, pesticides, and other hazardous chemicals and needs to be disposed off at by different means which range in cost from $30 to $230 per cubic yard. This additional expense represents a tremendous cost and consumes a large portion of the capital program (Ref. M 18-a).

The search to find an approved method of sediment disposal has caused delay in dredging the harbor to a navigable depth. In 1996, after closing the mud dumpsite located approximately six miles off the Sandy Hook peninsula and used by the port for decades, the new disposal options were selected. These new methods include soil mixing and cleansing technologies as well as the development of new upland disposal sites (such as mine shafts in Pennsylvania and certain brownfield sites in New Jersey). In June 1996, White House issued a development plan for the New York/New Jersey port waste disposal, and in 1998, President Clinton signed the Water Resource Development Act (WRDA-99), an important legislation authorizing federal aids for port dredging program, with provision that requires Army Corps of Engineers to study feasibility of constructing the safe mud disposal sites (Ref. M 2-a; M 3-a, M 3-b, M 3-d, M 3-g, M 3-e; M 6-b (4/11/96, 5/10/96); M 7-a, M 7-b, M 7-c). In January1999,

PANY&NJ authorized $250 million for building up to 10 underwater containment pits for the disposal of dredged materials, and construction is already under way (Ref. M 39-a) .

In 1998, the Army Corps of Engineers (COE), after finalizing its study, recommended deepening the four major NY/NJ port's channels (Ambrose, Anchorage, Port Jersey, and Kill Van Kull) to 50 feet. The Bay Ridge Channel, which extends along the western shore of Brooklyn, is currently maintained at a depth of 40 ft MLW, and the COE recommended deepening it to a depth of 50 ft MLW (Ref. M 2-a). The current mode of operation calls for the tankers to lighter off in anchorages and enter the channel during high tides (Ref. M 7-c, 9/7/98).

In 1998, the PANY&NJ issued a $1 billion dredging plan with the following schedule:

- 2000: After finalizing report by Corps of Engineers New York District, get authorization and funding under annual Energy and Water Development Act
- 2003: Start dredging of Ambrose and Anchorage Channels, from 45 feet to 50 feet. Deepen Port Jersey Channel, which is currently dredged to 41 feet from 35-38 feet under project to be concluded in 2001, to 50 feet.
- 2005: Start deepening to 50 feet of Kill Van Kull. Under current project, Kill Van Kull will be dredged to 45 feet from 40 feet by the year 2004, and Howland Hook and South Brooklyn will be dredged to 41 feet from 38 feet by the year 2000 (Ref. M 6-p, 9/10/99).

2.4 Future Trends in Marine Industry in the New York Region

2.4.1 NYC Port Related Projects

The opening and planned expansion of Howland Hook Terminal on Staten Island and the purchase and planned reactivization of the Staten Island Rail Road will create better opportunities for the New York marine industry. Currently, the only major fully active container terminal on the Brooklyn side is Red Hook Marine Terminal, and limited activities are seen in the South Brooklyn Marine Terminal and Port Authority Marine Terminal.

In recent years, increased costs of dredging forced New York to refresh its interest in local port facilities in natural deep water locations. With its over 40-foot channel, Red Hook and other Brooklyn ports are able to handle deep draft vessels. Dredging costs for the soft bottomed Brooklyn channels are significantly less than high cost of dredging the rock bed of Kill Van Kull. In winter 1999, PANY&NJ and NYCEDC issued development proposals for Brooklyn ports, calling for port expansion and addressing the access to facilities (Ref. M 32). The NYCEDC plan calls for 1,200 total new acres and significant expansion of today facilities. That expansion will create 30,000 jobs and generate $300M in annual tax revenues (Ref. M 27-a). The NYCEDC contact person is Mr. Andrew Genn. For PANY&NJ port proposal (Ref. M 20) contact person is Mr. William Ellis).

New York City -comparison of NYCEDC and PANY&NJ port proposals

Terminal:	NYCEDC Plan: Acreage added/converted	Date/Cost		PANY&NJ Plan: Acreage added/converted	Date/Cost	
Howland Hook	100 from P&G site 150 for new terminal, inc. fill of North & Richmond Terrace	2005 2010	$173M $355M Total: $528M	200, incl. P&G site & fill north of Richmond Terrace	2006	$650 M, including deepening the Arthur Kill to 45'
South Brooklyn Terminal	105-acre auto & break-bulk terminal, 15 acre fill and mitigation Convert 150 acre auto terminal to container use, inc. 100-acre fill + 100-acre for rail & warehouse and 50-acre for inland port 50-acre North Terminal expansion, inc. 30-acre F&M	2005 2010 2015	$97M $616M $358M Total: $1,051M	Phase I: 100-acre multi-cargo distribution facility, incl. 50-acre of fill Phase II: Conversion of SBMT and Phase I to container use. This 250-acre container terminal includes additional fill	2008 2015	$500M, inc. deepening BayRidge to 45' $800M Total: $1,300M

New York City -comparison of NYCEDC and PANY&NJ transportation-related port proposals

Facility	NYCEDC Proposal	PANY&NJ Proposal
Howland Hook	- Reactivate the North Shore Railroad and expand Arlington Yard - Develop a 100-acre intermodal rail & warehousing yard at Port Ivory - SI Expressway ramp realignments - Widen & signalize local intersections - SI Expressway Special Use Lanes	- Staten Island Railroad connection and on-dock intermodal yard - Goethals Bridge expansion - Widen & signalize local intersections - SI Expressway ramp improvements (NYSDOT)
South Brooklyn	- Cross Harbor freight improvements, in near term improve carfloat service - Improve access to Gowanus Expressway, with a new on-ramp at 39th Street southbound, possible new ramp at 65th Street, work with NYSDOT on possible Gowanus tunnel, and extend 1st Avenue Railway line into the terminal	- Cross Harbor improvement, near-term carfloat service - Gowanus Expressway improvements, including possibility of new ramps and consideration of a truck-priority lane. - Signal improvements at local intersections - 65th treet Ramp
Red Hook	- Reactivate the carfloat connection - Second container barge - Container crane	- Second container barge - Additional crane

Both studies recognize the need to overcome Brooklyn's landside access problems as a prerequisite for container terminal development. Depending on the success of planned South Brooklyn Marine Terminal/Sunset Park development, Red Hook will either be considered for terminal expansion and more warehousing space, or have most of its container traffic shifted to Sunset Park. Both proposals are now in discussion.

2.4.2 Projects for Development of the West Side of Hudson River

In 1999, PANY&NJ presented its Master Plan (Ref. M 20) regarding harbor revitalization based on economic growth. It presented proposed 5-year capital program (1999-2003) which covers investment of $1.7 billion in maintaining, enhance and expand facilities, as well as long-term strategic investment options up to 2040. The Master Plan predicts $5 to $7 billion in new port investments, including new or expanded terminals in PONY&NJ needed to handle increases in cargo volume forecast over the next 40 years. PANY&NJ unveiled this plan to determine investments in marine terminal and related infrastructure required to meet the growth of international cargo (volume double by 2010, and more then quadruple by 2040) shipped through the PONY&NJ (Ref. M 31).

Other Major Projects

- Development of the new megaport for SeaLand/Maersk. PONY&NJ will expand the existing terminal to 350 acres, under a 28-year lease. That will allow combined SeaLand/Maersk to handle 500,000 containers a year by 2003 (Ref. M 6-l, 5/13/99).

- Port Newark is planning to create approximately 200 acres of new land and berthing areas, by extending the existing Newark peninsula out to the Elizabeth Channel, over existing Newark Bay Confined Disposal facility, at cost of $1.1 billion, by year 2035. Port Elizabeth plans 400 acres of new land built off the Allied Signal property adjacent to the Elizabeth peninsula, at cost of $1.5 billion (Ref. M13). The Port Newark plan also includes an improvement of access roads into the terminals and the improved access to ExpressRail.

- Jersey City is planning additional expansion in the Greenville Yard vicinity, by adding 300 acres to the facility at a cost about $1billion. Environmental approval would be required for land-filling activity.

- The "Portway" land-access project can fulfill many of the strategic capacity enhancements that will be needed on the landside to handle increased freight traffic feeding the port and nearby intermodal terminals. It was endorsed by New Jersey's Governor in 1998. The project will benefit traffic flows in the dense congested urban core area by diverting much of the truck traffic of major arteries (Ref. M 17).

Other current Port of New York/New Jersey related studies include:

- Cross Harbor Freight Movement Major Investment Study *(contact person: NYCEDC, Alice Cheng, tel: 212-312-3780).* This study addresses deficiencies in freight movement in the New

York City region, including an over-reliance on trucking and limited cross harbor freight movement options.

- New York and New Jersey Harbor Navigation Study *(contact person: New York District, U.S. Army Corps of Engineers, Thomas J. Shea III, tel: 212-264-5570).* This is an assessment of the impacts and economic costs and benefits of dredging deeper shipping channels in New York Harbor to handle next generation of containerships. The study area includes Ambrose, Anchorage, Bay Ridge, Red Hook, Buttermilk, Kill Van Kull, Claremont, Port Jersey, Newark Bay, and the Arthur Kill to Gulfport channels [Ref. M 25-b] .

2.5. Description of Existing and Potential Marine Terminal Network in the Region

Based on the IMS workplan and survey, the NYMTC Central Staff has identified the network of major freight marine terminals and connecting routes in the New York metropolitan region. These terminals are located both in the NYMTC ten-county region (Main Network) and outside the NYMTC region (the Peripheral Network), *see Fig. M-3A.* The following descriptions identify and describe these marine facilities in the New York metropolitan region and their freight transportation activities.

2.5.1 Main network - New York (see Fig. 3B):

- Brooklyn Facilities
    - South Brooklyn Marine Terminal (SBMT)*
    - Red Hook Container Terminal
    - Brooklyn Port Authority Marine Terminal
    - Bush Terminal*
    - Green Street Lumber Exchange Terminal
    - Brooklyn Navy Yard Terminal (potential)
    - Former Brooklyn Army Terminal (BAT)*
- Staten Island facility
    - Howland Hook Marine Terminal (HHCT)

* The Sunset Park waterfront consists of a mix of facilities stretching for about two miles and encompassing SBMT, Bush, BAT, and 65th Street Rail Yard. Current uses include warehousing, storage, and light manufacturing. For future development plans for that complex see [Ref. M32] .

2.5.2 The Peripheral Network - Northern New Jersey

- Port Newark/Elizabeth Marine Terminal *(for the layout see Fig. M-5),* covering terminals:
    - Bay Avenue Terminal *(see Fig. M-18)*

- Maher Fleet Street Terminal *(see Fig. M-19)*
- Maher Tripoli Street *(see Fig. M-20)*
- Universal Terminal *(see Fig. M-21)*
- Sea-Land Terminal *(see Fig. M-22)**
- Maersk Line Terminal *(see Fig. M-21A)**

** These terminals will be combined into a new entity. See description below.*

- Other West-of-Hudson terminals *(see Fig. M-3A):*

    - Global Marine Terminal, NJ *(see Fig. M-23)*
    - Auto Marine Terminal, NJ
    - Greenville Terminal, NJ *(for description of Greenville float yard see Chapter III, pg. R-50)*

2.5.3 The Peripheral Network - South-West Connecticut (see Fig. M-15 and M-16):

- New Haven Terminal
- Cilco Terminal
- Gateway Terminal

Since the waterborne traffic movements depend on the network of waterways, this section also includes a channel inventory table - *see p.68*. These channels provide entrances to the Port of New York and New Jersey.

2.6 *Descriptions of New York City Terminals*

Red Hook Container Terminal (RHCT) (Ref. M 12, M 13)

The terminal's location on the New York side of the harbor provides shippers with quick access to the lucrative consumer market east of the Hudson River. That multi-faced cargo handling facility plays an important role in the commerce of New York Harbor and the entire New York/New Jersey region. For cargo headed west, Red Hook features cross-harbor barge service to and from the Elizabeth Port Authority Marine Terminal which provides connections to inland transportation. Red Hook together with SBMT is the nation's largest cocoa port (Ref. M 18-b). See *Fig. M-4* for layout.

- *Contact Person:* Mr. Kevin G. Catucci, American Stevedoring Inc., Tel: 908-351-5600x212, Fax: 908-351-5580; or Mr. John Trutneff, PANY&NJ, Tel: 718-330-2968, Fax: 718-855-3618
- *Location/Address:* RHCT is located on the Brooklyn waterfront. The address is: 70 Hamilton Avenue at Van Brunt, Building 116, Brooklyn, NY 11231

- *Owner/Operator:* Red Hook Container Terminal (RHCT) is owned by The City of New York and managed by the PANY & NJ, which subleases the terminal to American Stevedoring, Inc. (ASI), which is responsible for the operation of the facility. The former operator of this terminal was Universal (up to 1994).
- *Size:* 80 acres
- *Employees:* The stable labor force is 500-strong.
- *Serving Rail Line:* Currently, there is no direct rail connection. Rail access to the terminal can be provided in two ways, since carfloat service by the New York Cross Harbor RailRoad (NYCHRR) was suspended and carfloat tracks were removed in 1998 (Ref. M 18-b):

    1. Via barge connection, where the cargo container is received by rail in New Jersey (ExpressRail Terminal) and barged overnight to RHCT, free of charge. For barge connection to Bay Avenue Terminal see above.
    2. Via train service. There is currently no direct connection between RHCT and rail service. However, there are plans to connect this terminal by carfloat to the NY&AR at 65th Street Intermodal Terminal, after completion of the float bridges. The train service can use the Bay Ridge Line, which connects the terminal to the CSX and CP network at Fresh Pond Junction.

- *Nearest Highway:* This terminal lies at the foot of Hamilton Avenue, one-half mile from the Brooklyn Battery Tunnel and the Brooklyn Queens Expressway (I-278/BQE) junction. Erie Basin is located to the south, while additional piers and warehouses (including Brooklyn Piers 1-8) are to the north.
- *Road Access:* RHCT is accessible to trucks from the BQE (Brooklyn Queens Expressway). The designated local truck route is Van Brunt Street between DeGraw Street and Hamilton. The primary access to the facility is from Hamilton Avenue, and secondary access is from Atlantic Avenue. The truck entrance gates are at Hamilton Ave, and the secondary entrance is from Congress Street at Columbia Street (empty container entry complex).
- *Water Access:* The Red Hook Container Terminal is located on the Atlantic Basin in Upper New York Bay in Kings County. Buttermilk Channel has depth of 40 feet MLW (which will be deepened to 50 feet) and width of 100 feet. It can be reached via Bay Ridge Channel. The Army Corps of Engineers (COE) recommended that Bay Ridge Channel be deepened to 50 feet. The berth length is 3,030 feet and the depth is 42 feet. There are seven berths. The number of vessel docks in the facility is three for containers, six for breakbulk, and one for Ro-Ro.
- *Berth/Pier Facilities:*

    * Berth numbers 9A North and 9A South - of length 750 ft and 700 ft respectively, and depth 35 ft and 32 ft respectively. These berths are used as container berths and as a Roll-on/Roll-off ramp. The 9A berth depth is insufficient, and will be deepened to 42 feet
    * Berth numbers 9B North and 9B South - length 700 ft and depth 32 ft, are

used for break-bulk cargo handling.

* Berth number 10 - length 1325 ft and depth 42 ft is the main container berth.
* Pier 12 - length 700 ft and depth 36 ft is leased from the warehouse company and used for storage.
* Pier 11 - length 1403 ft and depth 35 ft is used for break bulk handling and small vessels berthing.

■ *Type of Operation:* Red Hook Container Terminal serves container and conventional vessel operation.

■ *Shipping Lines:* The terminal is regularly served by 23 small to medium size shipping lines, the top five lines account for 75% of the total trade. The main shipping lines are: Hoegh Lines, Pan-American Independent Lines, Torm Line, Delmas African-American Line, CMA/GGM/RTW, Cho Yang Line, DSR Senator, Hanjin, Eimskip-Iceland Steamship, HOM Line, Lykes Brothers, Marfret, National Shipping of Saudi Arabia, Safbank Lines, US Africa Navigation, Wilhelmsen Line, and ZIM Interamerica (Ref. M 10-a, M 11-a). Approximately 30 ships of between 5,000 to 35,000 tons capacity (barges, break-bulkers, bulk ships and container ships) arrive each month. In 1998, 351 ship arrivals were recorded.

■ *Barge Operation:* There is a container barge service operation between its Brooklyn terminal and Bay Avenue Marine Terminal in Port Elizabeth. It provides customers with the option of picking up or delivering shipments at either New York or New Jersey locations. Around 85% of the terminal's containers are moved by a subsidized "Lift On/Lifft Off" barge across the Hudson, rather than being trucked from the terminal. The service is run by New York Cross Harbor Railroad and Intra Harbor Container Barge Service, currently operated by the American Import-Export Trucking, Inc. Currently, the barge operates "on demand", about four times per week, moving an estimated 50,000 trucks per year, by using leased commercial tugboat services. A 1997 PANY&NJ study performed by Booz, Allen & Hamilton, evaluated the market and potential for expansion of service, and recommended more efficient operating technology and equipment. According to the study, the number of barge trips could double to 100,000 per year. The RoLo-MAFI barge system was selected as most appropriate and cost-effective. In 1999, there were 57,000 containers moved by barges (from a total 61,257 containers transported that year to/from Red Hook). That number means replacement of 142,500 annual truck trips to New York by the barges (Ref. M18b, M 18-c).

The Red Hook terminal typically moves cargo that is directed to the final consumers; therefore this port is a destination port rather than a port of entry used for further inland movement. The main regions from which the cargo is shipped to RHCT are: Latin America (55.2%), Asia (19.9%), the Mediterranean (15.5%), and Africa (9.4%).

■ *Commodities:* The facility handles containers, break-bulk cargo (principally coffee and

cocoa from Central and South America), dry bulk (principally pepper and salt), lumber, paper, metal, machinery, vehicles, heavy lift and some ro-ro cargo as well.

- *Volume/Capacity:* Based on the 1999 NYMTC survey, in 1998 RHCT handled 55,293 containers, 82,794 TEUs (6,782 more than in 1997), and 262,000 tons of other cargo. It was 262,650 tons in international trade. RHCT estimated that it has a potential to handle1.4 million tons of cargo per year. Container throughput is projected to grow to 156,000 TEUs in year 2010. Breakbulk handling of cocoa, lumber, iron and steel is expected to increase (Ref. M 10-e).
- *Equipment:* Handling equipment includes: 5-Gantry Cranes (3 Paceco 40 LT with a reach of 120 ft, and 1-70 tons Star with outreach 335 ft, one -other), 11-Top Loaders (45 tons) and Front-End Loaders, 115 Forklift Trucks (15 to 26 tons), 30-Yard Tractors, Paper Handlers (22-45"), 20-Stevedoring Chassis, 4-15 ton Mobile Cranes, Tug, Payloader, Sweeper. Red Hook is currently buying two new container cranes. For truck receiving and delivery, there is a 20 ft wide loading dock, 17 bay doors and a 420-ft rail siding (Ref.10-a). Recently, ASI has purchased additional handling equipments, such as caterpillar top lifts and yard hustlers. Top loaders are used to stack containers. The facility also has 35 reefer stations with two 480V jacks each.

  The terminal has some of the most up-to-date facilities for containerized and non-containerized cargo. PANY&NJ investment in the Red Hook technology totaled $222 million through December 1998.
- *Warehouses:* 50-acre container storage yard and two warehouses- 177,000 and 271,000 square feet. There are 345,000 sq.ft. of stuffing and stripping facility, and fumigation facility.
- *Parking:* Facility can accommodate 2,000 trucks but there is a limit of 200 trucks backing to the platform. This terminal can store up to 2,396 grounded twenty-foot equivalent unit (TEU) containers per stack, 330 TEU's on wheels, and 710 TEU's containers on chassis only.
- *Special Services:* Available services are: maintenance, repair and administration, ten truck inspection lanes equipped with scales, 150 reefer plug slots, and 600,000 sq. ft. of warehousing. There is on-dock customs service at the terminal. For maintenance and repair purposes, the terminal has mobile units.
- *Terminal Condition:* Based on the NYMTC freight facilities inventory survey, the current condition of the terminal is good, however, for future trade growth in the region additional terminals and their support systems will be needed.
- *Future Plans:* Red Hook plans to add a second cross-harbor barge and a transfer bridge for on-terminal rail float service. The NYCEDC plans to develop Red Hook/Erie Basin to 170 acres and to support marine uses in Erie Basin (90 acres). The project includes expansion of cocoa warehouses and new intermodal/rail warehousing (100 acres), optimization of the existing container terminal (180 acres), and building in second phase a completely a new container terminal covering150 acres (Ref. M 27-a, M 27-b). PANY&NJ's "Strategic Plan for the

Redevelopment of Port of New York" considers an improvement of the existing facility. That plan does not propose further expansion of the facility because of current lack of rail access (Ref. M 13). Depending on the success of planned South Brooklyn Marine Terminal/Sunset Park development, Red Hook could be either considered for terminal expansion and more warehousing space, or have its container traffic shifted to Sunset Park. Both proposals are currently in discussion (Ref. M 32).

■ *Issues:*

- The main problem of the terminal's access is chronic congestion on the BQE (especially between Atlantic Avenue and Grand Central Parkway), LIE (Long Island Expressway), and the local truck routes in Brooklyn and Manhattan. Other access deficiencies are height restriction (to12'9) in the Brooklyn Battery and Midtown tunnels (which resulted in trailer trucks using bridges for trips to and from Manhattan); the Gowanus Expressway closing for long-term major repairs and reconstruction; substandard local streets and highway geometry; and inadequate signaling, as well as rail access.
- Another barrier to the expansion of the facility is the lack of modern refrigerated warehouse space in the New York City area. Most of modern warehouses are located on west side of Hudson River. Refrigerated warehouses are crucial for the perishable cargo trade, especially fresh fruit.

Table M-14
Primary Commodities Handled By RHCT

Import (1998 data)		Export (1998 data)	
Commodity	Percent	Commodity	Percent
coffee	18%	paper & paperboards including waste	11.2%
furniture	6.3%	apparels	7.7%
vodka	3.2%	general cargo	6.5%
canned foodstuffs	3.1%	sodium compound/bromide chlorate	5.7%
non alcoholic beverages	3.1%	fabrics/raw cotton	5.5%
candy/jam, confections	3.1%	auto parts	4.9%
copper/brass sheet strips	2.9%	rags	4.3%

Import (1998 data)		Export (1998 data)	
Commodity	Percent	Commodity	Percent
paprika/pepper	2.5%	synthetic resin	3.8%
ceramic & mosaic tiles	2.5%	shellac/varnishes/thinners	2.8%
gums	2.3%	rubber/synthetic	2.7%
hides, skins, furs	2.2%	milk/eggs/produce	2.2%
rugs/floor coverings	1.9%	mineral oil	2.2%
still wines	1.9%	photo equipment	1.9%
others	47.3%	trucks/lifts/parts	1.7%
		and others	36.9%

South Brooklyn Marine Terminal (SBMT) (Ref. M 12, M 13, M 36)

This terminal, once an active container terminal, is currently underutilized, however it is still one of the most active marine terminals on the east side of Hudson River. It handles general cargo, primarily cocoa beans, and Ro-Ro. For the terminal layout see *Fig. M-8.*

- *Contact Persons:* 1. Mr. Mike Scotto, American Warehousing, Tel: 718-797-4278, Fax: 718-797-5447
  2. Mr. Seth O.Kaye, NYCEDC, Tel: 212-312-3744, Fax: 212-312-3916 or Ms. Shari Colburn, NYCEDC, Tel: 212-312-3874
- *Location/Address:* SBMT is located at 39th Street and 2nd Avenue in Sunset Park in Kings County. The mailing address is: 30-39 Street at Second Avenue, Brooklyn, NY 11232
- *Owner/Operator:* South Brooklyn Marine Terminal (SBMT) is owned by the New York City Economic Development Cooperation (NYCEDC), and leased to American Warehousing/Commodity Storage located on the Furman Street Pier, for operation and management.
- *Size:* 111 acres
- *Employees:* 25 employees
- *Serving Rail Line:* Rail connection is made via a float bridge at 51st Street serving the Bush Terminal Yard of the New York Cross Harbor Railroad. The on-dock rail access is served by NYCHRR, and in 1998 handled 500 carloads. Street trackage provides an interchange with NYA Railway at the 65th Street Yard.
- *Nearest Highway:* The nearest major highway to the terminal is the Gowanus Expressway, at a distance of 0.25 miles.
- *Road Access:* There are five entrance points for access, and the main entrances are 39th Street, 29th Street and Second Avenue. Designated truck routes are along Second and Third Avenues. Hamilton Avenue, 65th, and 39th Streets are

the access roads to I-278 and to a portion of the Gowanus Expressway.

- *Water Access:* Terminal is on the Upper New York Bay. Water access is via the Bay Ridge Channel, 100-feet wide and 42-feet deep. The COE has recommended Bay Ridge Channel to be deepened to 50 ft MLW.
- *Berth/Pier Facilities:* There are seven berths of total length of 6,200 feet and depths of 32-35 feet.
- *Type of Operation:* The cargo, mostly cocoa beans, are stored or shipped to the consignee by truck or rail. The seven berths are currently used for general cargo and for Ro/Ro. Part of the terminal area is leased to the short-term tenants.
- *Shipping Lines:* Various types of oceangoing vessels (charter liners only) come to this terminal, mainly from South America (Brazil and Colombia), Indonesia and West Africa. Number of ships arriving in 1998 was 25.
- *Barge Operation:* N/A
- *Commodities:* The terminal is capable of handling containers, ro/ro, and breakbulk, however no containers are currently processed. During its last full year of container operation (1985) SBMT handled approximately 57,000 TEU's, in addition to 212,000 tons of break bulk and LCL (less than container load) container cargo. Today it is primarily a cocoa-handling facility. It is partly being used by short-term tenants such as auto dealers, who store new automobiles before delivery to local dealers, cocoa warehousing, and city services.
- *Volume/Capacity:* Currently this terminal handles approximately 100,000 tons of cargo per month. The primary cargo is cocoa beans and coffee. Berth container capacity is 85,000 moves per year and it is also estimated that the break bulk berths have the capacity to process 466,000 tons of break bulk per year and 143,000 containers per year (in future). The storage yard of the terminal has a capacity of 2,700 grounded TEU's per level and 1,389 TEU's on wheeled chassis. In addition, the terminal's 857,000 sq. ft. of covered storage space can handle over 700,000 tons of cargo per year. This terminal is projected to be able to handle 1 million tons of cargo per year, or 120,000 TEUs per year.
- *Equipment:* Cocoa beans are loaded and unloaded by ship cranes and light forklifts. Containers are not currently handled in the terminal, and two container cranes of 50 tons each capacity have been removed. The terminal utilizes modern technology such as computerized billing and tracking and a central security system. The gate complex at 39th Street has eight truck inspection lanes, six of them equipped with remnant of scales.
- *Warehouses:* Covered storage space includes 857,000 sq. ft. The enclosed storage facilities for stuffing and stripping cargo, are located within two pier sheds and one building (Bldg. N). Buildings N (100,000 sq. ft.) and J (350,000 sq. ft.) are leased to American Warehousing, which plans revitalization of the cargo shed on berth 5, across 35th Street.
- *Parking:* N/A
- *Special Services:* N/A
- *Terminal Condition:* Fair.
- *Future Plans:* To expand its marketing strategy NYCEDC and American Warehouses plan to attract additional customers by expanding cocoa processing to cocoa

grinding and butter melting, and in the future attracting other breakbulk users, such as recycling companies.

The NYCEDC plan (Ref. M27-a) calls for extension of this facility to 600 acres, by building Sunset Park/Inland Terminals. The expanded facility will consist of a new 100-acre auto terminal, new container terminal (on 300-acres, built in long term), new intermodal rail/warehousing on100 acres, and off-site rail/truck transfer terminal. The auto terminal has a strong market potential, as the Port of New York/New Jersey is one of the nation's leading ports for automobile imports and exports. Also, an environmental analysis found that auto terminals are not large generators of truck traffic and therefore no significant adverse traffic, air, noise impacts are expected. An additional 100 acres is proposed for public open space and waterfront access (Ref. M27-a, M27-b). According to the forecast, in the year 2005, development of an auto terminal will result in 1,058 jobs in the area, and $8 million annually in state and local taxes would be generated.

The problem of insufficient waterfront acreage for expansion of Brooklyn marine port and land access can be approached by use a cross-harbor freight tunnel and Bay Ridge Line "freightway". Under this scheme, containers arriving at terminal would be moved by rail flatcar in "shuttle train" to inland transfer facilities on the east and west side of the harbor, depending on the final destination. An other still unsolved issue, which can have a direct impact on a Brooklyn marine development, is the rail train tunnel between Brooklyn and Staten Island or New Jersey. If it is built, this tunnel would connect Brooklyn ports to main line rail traffic in New Jersey (Ref. M 33).

The PANY&NJ improvement plan for SBMT (Ref. M 20) includes a 100-acre expansion for general cargo. The new terminal will be used as a general cargo marine terminal/goods distribution facility, and later converted to a container terminal, once transportation issues have been resolved (possibly by building the rail tunnel). The facility can be in operation in 2008, after completing permitting requirements, extensive land filling in pier areas and after the terminal's construction. The short-term improvement proposal covers rebuilding of a rail access to SBMT at 39th Street, maintenance dredging, rehabilitation of the 33rd Street pier shed substructure, and building a container berth at SBMT's 35th Street pier, in place of the old 35th Street berth, scheduled for demolition. An expansion of a public open space is also planned.

■ *Issues:*

* Infrastructure requires improvement including rehabilitation of the piers and pier sheds.
* Difficulty in obtaining a dredging permit has caused a problem in maintaining sufficient berth and channel depth.

* Ongoing reconstruction of the Gowanus Expressway hinders truck movements in and out of the terminal.

Brooklyn Port Authority Marine Terminal (Ref. M 12).

It is lightly used as a marine facility. It uses Piers 6 to 8 on the East River. The piers comprise the largest single breakbulk/neo-bulk facility in New York Harbor.

- *Contact Person:* Mr. Arie VanTol, PANY&NJ, Tel: 718-330-2972, Fax: 718-855-3618 or Mr. Jon Trutneff, Marine Operation Manager, Tel: 718-330-2968
- *Location/Address:* The terminal is located on the East River in New York Harbor in Upper New York Bay, in Brooklyn. Address: 90 Columbia Street, Brooklyn, NY 11201
- *Owner/Operator:* The facility is owned and operated by the Port Authority of New York and New Jersey.
- *Size:* 10 acres
- *Employees:* Number varies, depending on needs.
- *Serving Rail Line:* There is no direct rail connection. The terminal expects to be served by New York Cross Harbor Railroad barge service.
- *Nearest Highway:* The closest major highway to the terminal is the Brooklyn Queens Expressway.
- *Road Access:* Truck access is at the foot of Atlantic Avenue and at the foot of Wolcott Street.
- *Water Access:* Off East River, through Buttermilk Channel, which has 40 feet depth
- *Berth/Pier Facilities:* Length of ship berth is 5,880 feet. Pier 8 of length 900 ft and depth 36 ft, leased from warehouse company, is used for general cargo handling. Depth at dock is a 32 to 36 feet MLW
- *Type of Operation:* Primarily breakbulk operations. Occasionally, pier 8 is used for breakbulk shipping by the contract charter lines and for temporary ship parking. Additionally, space is utilized for tie-up, general cargo vessel discharge and vessel repairs, for barge storage and for other marine uses.
- *Shipping Lines:* Varies. Imports are mostly from South America and the Caribbean (Ref. M15).
- *Barge Operation:* N/A
- *Commodities:* The main commodities handled on this pier are Roll-on/Roll-off vehicles, cocoa and coffee, paper, steel products, and break bulk general cargo. Primary cargo type is breakbulk.
- *Volume/Capacity:* N/A
- *Equipment:* N/A
- *Warehouses/Storage:* The terminal includes four cargo sheds, located on piers 6, 7, and 8, ranging from 176,800 to 269,600 sq.ft. Covered storage area includes 622,800 sq.ft. of pier sheds plus 100,000 sq.ft. of warehouse and garage buildings. Tenants consist of American Warehousing - cocoa storage, and American Stevedoring - storage of waste paper, cocoa, playwood, and bulk general cargo. Sheds are used as warehouses and barge storage, and for storing ships for repair.

- *Parking:* The piers offer 30 acres of paved open area.
- *Special Services:* None
- *Terminal Condition:* Fair
- *Future Plans:* At present, the PANY&NJ has no plans to use this terminal for container trade. No major improvement or expansion of facility is planned.
- *Issues:* N/A

Howland Hook Marine Terminal (HHMT) (Ref. M 12, M 13)
(see Fig. M-11 for layout)

After an extensive $32 million, rehabilitation (electrical distribution system, upland paving, crane rail and wharf rehabilitation, a new storm and sanitary systems, and restoration of fender system), this terminal resumed operations in September 1996.

- *Contact Person:* Mr. Arie VanTol, PANY&NJ, Tel: 718-330-2968, Fax: 718-855-3618
  Mr. Chris Ragucci, VP HHCT, Tel: 718-273-7000, Fax: 718-273-7050 or
  Mr. Andrew Genn, NYCEDC, Tel: 212-312-3669
- *Location/Address:* Howland Hook Marine Terminal is located in Richmond County, north of the Goethals Bridge (Ref.M14). Address is: 300 Western Avenue, Staten Island, NY 10303
- *Owner/Operator:* Howland Hook Marine Terminal is owned by the New York City Economic Development Corporation. Port Authority leased this terminal from the City in April 1995. This terminal is operated by the Howland Hook Container Terminal, Inc., which leased it on a long-term basis from PANY&NJ.
- *Size:* 187 acres.
- *Employees:* About 150 employees.
- *Serving Rail Line:* It will be served by the soon-to-be reactivated Staten Island RailRoad (SIR). The yard has 3,800 ft. of on-dock rail, parallel to the wharf, currently in reconstruction. Arlington Yard is connected to the SIR. The rail line can accommodate double stack trains and will be connected to Chemical Coast railway and the 1st Class rail lines in New Jersey.
- *Nearest Highway:* The Staten Island Expressway (SIE, I-278.) is 0.5 miles away from the terminal. In addition, the terminal has excellent access to several interstate highways, such as I-440, I-95, I-78, and U.S.1-9. It is also close to Newark International Airport and other intermodal facilities in the North Jersey region.
- *Road Access:* Access is from North Washington Avenue and Western Avenue.
- *Water Access:* The terminal is adjacent to the Arthur Kill Channel (deepened to 41-foot, and in future to 50 feet). The dredging of 150,000 cubic yards of sediment is completed. Currently, the Kill Van Kull channel which is located close to HHMT is undergoing dredging to increase available depth of 45 feet, and in future to 50 feet.
- *Berth/Pier Facilities:* Two berths of sizes 2,000'x42', and 500'x37'. The berths are capable of handling three vessels simultaneously (Ref.M 10-a).

- *Type of Operation:* The terminal is designated for high-volume container operations. It also handles other general cargo and breakbulk. Also, Howland Hook has been designed by the military as its northeast load center. Currently, the Army is using Howland Hook as the deployment staging area for its activities in the Balkans. Manifests include tanks and helicopters. This facility can also handle sophisticated packing, rigging and trucking especially difficult cargo (Ref. M 6-r, 10/8/99).
- *Shipping Lines:* N/A
- *Barge Operation:* N/A
- *Commodities:* The primary cargo is: containers, general cargo, bananas, and breakbulk.
- *Volume/Capacity:* Terminal has the capacity to handle up to 425,000 containers annually. In 1998, the volume of cargo handled in this terminal was 117,856 containers, 194,395 TEUs, and 201,060 long tons of breakbulk (Ref. M 10-e). As of December 1999, Grand Alliance (four-container-carrier partnership) started its Far East services via Suez Canal out of Howland Hook, which provides the terminal with the opportunity to handle about 70,000 additional lifts a year (Ref. M 6-s, 11/22/99).
- *Equipment:* Currently the terminal has 16 gates that are equipped with 13 scales. Four additional gates will be added in the future. The terminal has container cranes: 4 IHI of height 75 ft, outreach 115 ft., and tonnage 40 LT, 2 Paceco with height 100 ft, outreach 135 ft., and tonnage 45 LT, and 1 Peiner with height 75 ft, outreach 106 ft., and tonnage 50 LT. Other equipment consists of yard tractors, toploaders (45-ton), hi-los (3-ton to 5-ton), lift trucks (13.5-ton to 30-ton) and forklifts. The site contains 368 reefer outlets, and 13 scales (Ref. M16).

  The terminal has on-line integrated terminal control system and fully automated paperless gates. All of gates are computerized, so the cargo can move efficiently.
- *Warehouses:* Terminal has a 208,000 square feet of warehouse facilities, which include deep freeze and complete Container Freight Station (CFS) service.
- *Parking:* The terminal's parking spaces can accommodate up to 150 trucks simultaneously along the stripping facility.
- *Special Services:* There is full maintenance/repair facility, roadability inspection station and 500 reefer plug slots.

  In1999, HHMT opened a new 67,000 square-foot refrigerated fruit terminal, hoping to attract some of Chilean fruit market and other fruit exporters. Until now, the banana trade at HHMT had been handled in a converted freezer facility of 20,000 sq.ft. Once the freezer is converted back to deep-freeze capability, it will attract frozen meat from South America. Other available services include U.S. Custom and Animal Quarantine Inspection (AQI).147-acre of the space are open area for container storage, and the remainder is shaded area for dry and hazardous cargoes.
- *Terminal Condition:* Good

■ *Future Plans:*

* Howland Hook is expected to generate 1700 jobs in transportation.

* The NYCEDC strategic plans for redevelopment of Port of New York (Ref. M27-a) calls for the following improvements:
  - An increase of terminal area to 430 acres - optimizing existing 180-acre terminal by extending the container wharf by 500 ft and adding two new container cranes,
  - Paving and gate improvement; create new intermodal rail/warehousing (100 acres)
  - Building a new 150-acre container terminal.
  - NYCEDC's Program 2 calls for redevelopment of the P&G site as a major *"on-dock"* intermodal rail terminal, float bridge, and goods warehousing and distribution center (Ref. M 13).
* Second phase of the NYCEDC plan (year 2005) includes creation of 100-acre on-dock rail intermodal yard on the adjacent Port Ivory property, warehousing and a rail floatbridge.

  Third phase of the NYCEDC plan (around 2010) involves development of three additional berths on 150-acre along the Arthur Kill on City-owned property east of Port Ivory. Economic benefits will include additional 1,000 jobs in New York City alone (on and off-site) during the first phase, 2,400 additional jobs in second phase, and 12,000 total NYC jobs by 2020. Annual tax revenues to the city and state expect to escalate from approx. $21M in 2005 to nearly $160M by 2020. To protect wetlands, the plan calls for expanding and enhancing the existing wetlands north of existing terminal by using a portion of P&G industrial site. EDC is also exploring the opportunity for converting 440-acre former petroleum storage facility into a habitat area for birds and wildlife species (Ref. M 27-b).

* PANY&NJ' strategic investments plan (Ref. M 20) includes the purchase of the adjacent Proctor & Gamble property and creation of new land and berthing by filling actions north of Richmond Terrace. The expanded facility could include a new railyard linked to SIR. This expansion would cost $650M and would require a number of approvals, including environmental permits.

■ *Issues:*

Some of the issues that hinder the efficiency of the terminal are the federal and local policies on disposing of the contaminated sediment which results from the dredging. Shallow channel depth is the major issue for large ships.

In addition, the terminal's ability to handle double stack cargo is dependent on the reactivation of the adjacent Staten Island Railroad. Currently, the only intermodal connection available is between ship and truck.

Green Street Lumber Exchange Terminal (Ref. M 12).
For layout see Figure M-8.

- *Contact Person:* Mr. Stephen L. Stulman, Manager, Tel: 718-383-5000
- *Location/Address:* The facility is located in Greenpoint, Kings County, New York, at the foot of Green and Huron Streets. Address is:171 West Street, Brooklyn, NY 11222
- *Owner/Operator:* The terminal is operated and owned by Lumber Exchange Terminal, Inc.
- *Size:* 25 acres
- *Employees:* 20 to 30, depending on needs
- *Serving Rail Line:* The closest rail line is NY&A in Long Island City. Some of commodities arrive that way and are distributed by truck.
- *Nearest Highway:* The nearest major highway to the terminal is the Long Island Expressway and the Brooklyn-Queens Expressway, at a distance of a half mile(Ref. M12).
- *Road Access:* The primary access to the facility is from West Street and the secondary access is from Green Street. In addition, there is also access from Commercial, Dupont, Franklin, and Freeman streets (Ref. M12).
- *Water Access:* The access channel is from East River - by the 25-foot deep Newtown Creek. The Green Street Pier has a 35 foot draft.
- *Berth/Pier Facilities:* Two berths with size: 700'x35' (south side) and 700x28' (north side)
- *Type of Operation:* It is a bulk cargo type of terminal. Commodity arrives by truck, ship, or by rail. The facility has one finger pier for vessel docking.
- *Shipping Lines:* The lumber shipping lines calling the terminals are: Saga Shipping, Gearbulk Inc., Canadian Transport Inc., Sanko Kisen Group, West Ship International, and Western Bulk Carriers (Ref. M12). The ships calling the terminal are mainly bulk carriers with a typical capacity of 30 to 40,000 tons (gross). Number of ships arriving is about 12 per year.
- *Barge Operation:* N/A
- *Commodities:* The primary cargo is lumber that comes mostly from Western Canada arriving via water, rail, or truck (Ref. M12) .
- *Volume/Capacity:* An average volume is 2,000 tons of lumber per month for domestic and 8,000 tons per month for international shipment (Ref. M12) .
- *Equipment:* There are six gates, one is serving trucks. Equipment consists of 14-15 tons forklifts (Ref. M12). The facility uses reliable low-technology for billing and other data processing, security system with video-camera, automated billing, and EDI system.
- *Warehouses:* The existing warehouse has no refrigerated service.
- *Parking:* Number of truck parking spaces is 100+. Number of truck trips - turn around is about 50 trips per day.
- *Intermodal:* The typical transfer time from one mode to another, which is typically from ship to truck, from rail (by barge) to truck, or truck to truck, is 20 minutes plus five minutes for administrative processing time.
- *Terminal Condition:* The physical condition of the bulkhead and wharf is good.
- *Future Plans:* To build a car-float bridge, with government financial assistance.

- *Issues:*
  - The lack of a rail car-float bridge is a serious limitation to this facility, since the nearest rail siding from the terminal is one mile away. An other barrier listed in the NYMTC survey is competition from the Port of New York and New Jersey and the high cost of cargo transfer to NY&AR[Ref. M12].
  - The terminal operator suggested, based on the survey's result, that the MPO promote waterfront development and interest in freight transportation.

Piers 1-5 [Ref. M 12].

The site is currently inactive as marine terminal. Tenants consist of Express Industries - paper distribution, American Warehousing - cocoa storage, and Strober Brothers - Building Supplies. In the future, this site can be reactivated for marine purposes.

Contact Person:

- *Contact Person:* Mr. Arie VanTol, PANY&NJ, Tel: 718-330-2968, or Mr. Andrew Genn, NYCEDC, Tel: 212-312-3669
- *Location/Address:* Brooklyn Heights, South of Brooklyn Bridge, off the East River
- *Owner/Operator:* PANY&NJ is the owner/operator of these piers.
- *Size:* 60 acres.
- *Employees:* None
- *Serving Rail Line:* None
- *Nearest Highway:* BQE
- *Road Access:* The entrance gates are at foot of Fulton Street and along Furman Street.
- *Water Access:* East River.
- *Berth/Pier Facilities:* Pier 2 and 5 have length 700 ft each and depth 32 ft.
- *Type of Operation:* Currently, facility is used mostly for coffee storage. The sheds are leased to various short-term tenants.
- *Warehouses:* There are 4 cargo sheds, ranging from 168,200 sq. ft. to 257,200 sq. ft. used for warehousing.
- *Terminal Condition:* Fair
- *Future Plans:* N/A
- *Issues:* N/A

Brooklyn Navy Yard Terminal

Brooklyn Navy Yard is no longer used as a marine facility and it has been turned into an industrial park, with over 200 tenants, consisting of variety of businesses and manufacturers. On the south-eastern part of facility is 28-acre parcel of land still in the hands of the Navy. That site is unoccupied and will be transferred to the City of New York, to be used for industrial purposes (recently, Micro Corp. acquired 8 acres for manufacturing). The material (cement, gravel) arrives by ships (mostly large bulk ships using foreign flag) and is conveyed to barge, and from it wheeled to trucks for local distribution.

It may have the potential for future development depending on the marine industry growth and the intermodal transportation trends in New York City. The terminal may also be used as a passenger ferry terminal in the future.

The ships are berthed on the two eastern finger piers, the third most-eastern pier is in a state of disrepair and is unused. The other two piers (west edge of basin) are used for barging incoming products for manufacturers, for overnight mooring, and for ship repairs. Some of the large vessels (such as Staten Island Ferry, cruise ships, or commercial barges) are repaired there.

- *Contact Person:* Mr. Richard Drucker, Senior Vice-President, BNYDC, Tel: 718- 852-0425
- *Location/address:* The address is: Brooklyn Navy Yard, 63 Flushing Avenue, Bldg. 292/3rd Floor, Brooklyn, NY 11205. The facility is located on the East River between the Manhattan and Williamsburg Bridges, bordered by Flushing, Hudson and Kent Avenues.
- *Owner/operator:* This former ship building military terminal is now owned and operated by the Brooklyn Navy Yard Development Corporation.
- *Size:* 260 acre
- *Nearest Highway:* The nearest highway is the Brooklyn-Queens Expressway which is a half mile away.
- *Road Access:* The primary access roads to the facility are from Flushing and Clinton avenues, and the secondary access roads are from Kent and Clymar Streets in Brooklyn. These roads are in fair condition.
- *Water Access:* The access channel is a East River Channel.
- *Berth/Pier Facilities:* The terminal has a float bridge
- *Type of Operation:* The former marine terminal is presently used as a ship repair facility and industrial park.
- *Employees:* There are 2,700 employees in the facility. The two largest tenants using water access are Novell cement business and New York Sand and Gravel. The dry docks are used by Eastern Technical and GMD entrepreneurs. Other large tenants include Brincks Armored Cars company, which employs 500 people and transports cash boxes and banks assets, and Cumberland Packing Corp., "Sweet & Low" manufacturer.
- *Rail tracks:* This facility has an on-dock connection to the NY&A, which is currently not being utilized (Ref. M12). Even though this facilities has had limited rail access, the existing rail yard and most of tracks have been paved and rails partially removed.
- *Capacity/Volume:* N/A
- *Equipment/Services:* The site has total of 4.3 million sq. ft. of building space, six dry docks, and five piers with overhead cranes.
- *Terminal Condition:* The buildings condition is fair. The existing floatbridge is abandoned and in a state of disrepair. The yard could be accessible by the carfloat railroad system, however it needs repair work and new tracks installed through the park.
- *Rail Operation:* None.

- *Commodities:* Varies
- *Future plans:* The future plans involve dredging of basin, access canal and berths to 35 feet MLW. The contract is done with Army Corps of Engineers and work is expected to be completed in 2001. The other plans cover possibility of repair of floatbridge and use it for intermodal movement of containers, filled up by tenant, and transferred between new installed short rail, trucks and barges.
- *Issues:* N/A

2.7. *Description of Peripheral Network Facilities*

This part covers Marine Terminals located in the larger metropolitan region, but outside of NYMTC's ten-county region.

2.7.1 Port Newark/Port Elizabeth Marine Terminals (Ref. M 10, M 10-a, M 13).
(see Fig. M-5 for layout)

The Port Newark/Port Elizabeth is the premier port on the East Coast of North America and a vital component of the economic life of the NY/NJ region. This maritime complex is not only important at the local and state level, but also at the national and international level. Located in the midst of the largest and most affluent consumer marketplace in North America, it provides same day access to more than 18 million consumers. With intermodal connections to inland markets, it provides second-day access to another 80 million consumers in the US Midwest and Eastern Canada.

This complex is a third largest container port in North America (after Los Angeles and Long Beach ports) and the largest container center on the East Coast, handling more than 2.47 million TEUs in 1998. It is also a largest auto port in the U.S. The complex is a home of four large container terminals (Maersk/Universal, Maher Fleet Street, Maher Tripoli Street, and Sea-Land) and some other facilities. It is designated as Foreign Trade Zone. Covering 1,254 acres, the Elizabeth Marine Terminal, with its 16,934 linear feet of wharf, is the most active container port in North America. In addition, more than five million long tons of bulk and ro-ro cargo pass annually through the adjacent 930-acres Port Newark (Ref. M10). The position of the port was lately threatened by the dredging costs and concern over the disposal of dioxin-laden silts. However, the dredging plan is currently in the work.

- *Contact Person:* Mr. Ken Spahn, PANY&NJ, 260 Kellogg St, Pt. Newark, NJ 07114, or Mr. R. Hoban, tel: 973-578-2131.
- *Location/Address:* Port Newark/Port Elizabeth is located on the eastern shore of Newark Bay, in Essex and Union counties in New Jersey.
- *Owner/Operator:* PANY&NJ
- *Size:* Covers 2,100 acres
- *Serving Rail Line:* CSX, Norfolk Southern, and Canadian Pacific companies provide rail service to and from the port. Additionally, several short lines connect the port to the region. Included in the complex is ExpressRail, an on-dock transfer facility (Ref. M 6-j, 3/15/99).

- *Nearest Highway:* New Jersey Turnpike, Rt. 1 & 9.
- *Water Access:* The access channels are 40 feet deep, about 700 feet in width, and 9,000 ft. long.
- *Berth/Pier Facilities:* The port has more than 17,000 linear feet of containership berth space, and additionally, there are more than 19,000 linear feet of berth space for non-containerized cargo.
- *Type of Operation:* It is a multi-dimensional cargo center, handling a full range of oceanborne cargoes-containers, roll-on/roll-off, breakbulk, bulk, heavy-lift, and project cargo. Port facilities are located through New York Harbor in NY, and Bayonne, Newark and Elizabeth in NJ.
- *Shipping Lines:* More than 75 ocean carriers provide regularly scheduled service between the port and all major trade routes in the world.
- *Commodities:* Containers, break-bulk, ro-ro.
- *Volume/Capacity:* The complex handles more than 12 million long tons of container cargo a year and more than 1 million containers. In 1997, containerized volume handled was over 2 million TEUs and 1.2 million lifts/year (Ref. M 10-e, M13)
- *Equipment:* The berth space is worked by 32 container cranes. The port developed communication systems that encompass both land and water-based operations. For the last two years it has been working on a Port Information Network System, linking navigational systems such as chart information to Oceanographic Real-Time System that measures the rise and fall of tides and vessel clearances in navigation channels. There are also plans to link the ports vessel management system to computer aboard the ships, so pilots have updated information on traffic patterns in the harbor. On the land side, the Freight Information Real Time System is a web-based information system that makes freight traffic information available to terminal operators, shipping lines and truckers. Port plans to extend this system to internal facilities such as warehouses (Ref. M 7-d, 8/9/99).
- *Warehouses:* The complex contains approximately 5 million square feet of warehousing and distribution space, including U.S. centralized Customs Examination Station.
- *Truck Operations:* The Port is served by thousands of trucking companies making about 10,000 pick-up/deliveries each day.
- *Special Services:* Several Port's Marine Terminals enjoy foreign-trade zone status: Port Newark/Elizabeth and the PA Auto Marine Terminal (Foreign-Trade Zone No.49) and Howland Hook Marine Terminal (Foreign Zone No.1).
- *Issues:* * New York Harbor has long been the top seaport on the East Coast, providing thousands of jobs and estimated $20 billion in annual business activity. But this status has grown shakier in recent years, because of dredging costs and concern over the disposal of dioxin-laden silts, and as the harbor grow shallower, larger tankers and freighters have headed for deeper ports in Nova Scotia, Maryland and Virginia. The new dredging plan is currently in the work.

* After year of threats to move to competing East Coast ports, the two major ocean shippers-Sea-Land Service of Charlotte, NC, and Maersk of Madison, NJ, (which supply near 25% of approximately 1.7 million TEUs of cargo that goes through the port and provides at last 1,000 jobs) decided to stay in NY area. Sea-Land and Maersk have been threatening to move their operation elsewhere, unless Port Authority dredges the Port Newark-Elizabeth channel and upgrade the facilities at the Elizabeth Marine Terminal (Ref. M 3-f, 4/28/99). The existing rail service for moving cargo between Baltimore and NY regions - were instrumental in carriers decision for mega-port selection The additional rail expenses convinced global partners to build America's largest container terminal in NY-NJ, under a 28-year lease (Ref. M 6-l, 5/11/99). The location of a new mega-terminal has been not yet decided.

Bay Avenue Marine Terminal (Ref. M 10, M 10-a, M 18-b)
For the facility layout see Fig. M-12.

The terminal is currently inactive as a deep sea marine terminal, but it is used for carfloat transport across the river to Brooklyn terminals. A container barge service shuttles containers between Red Hook and the Bay Avenue Terminal, Berth 70. Recently, the operation has been moved to a new terminal in Port Newark, and there are plans to consolidate the Bay Avenue with the Maher Fleet Street Terminal.

- *Contact Person:* Mr. Kevin Catucci, American Stevedoring, Tel: 908-351-5600, Fax: 908-351-5580, or F. VanRiemsdyk, Maher Terminal, Tel: 908-527-8400.
- *Location/Address:* The terminal is located at the Port Elizabeth Port Authority' Marine Terminals complex in Union County, New Jersey. Address: 2170 N. Fleet St., Port Elizabeth, NJ 07201
- *Owner/Operator:* The terminal is owned by the Port Authority of New York and New Jersey and operated by American Stevedoring Inc. The terminal is currently in the process of being consolidated with Maher Fleet Street Terminal.
- *Size:* 94 acres
- *Employees:* N/A
- *Serving Rail:* There is a connection with the adjacent ExpressRail intermodal facility.
- *Nearest Highway:* The nearest highway is the New Jersey Turnpike (exit 13A) at a distance of less than one mile.
- *Road Access:* The primary access road is East Fleet Street and the secondary access road is Bay Street. Access roads are in fair condition (Ref. M15).
- *Water Access:* Newark Bay
- *Berth/Pier Facilities:* Length of Ship Berth: 2,825 feet. In 1994, the depth at dock was dredged to 35 feet.
- *Type of Operation:* Facility is a ro-ro/container cargo type terminal (Ref. M14).
- *Equipment:* The terminal used to have three cranes, but last year the cranes were moved to Universal Terminal except one Paceco crane which is in good condition.
- *Warehouses:* Warehouses are available, but without refrigeration services. The stuffing &

stripping facility was torn down. There are approximately 212 reefer plug slots available [Ref. M14].

- *Special Services:* There is a maintenance/repair shop and roadability inspection service within the facility.
- *Terminal Condition:* Fair
- *Future Plans:* The PANY&NJ plans to activate the terminal in connection with Maher.

Maher Fleet Street Terminal [Ref. M 14, M 36-b, M 36-c]

For the facility layout see Fig. M-12.

- *Contact Person:* Mr. Frans VanRiemsdyk, Tel: 908-527-8200, Fax: 908-526-9894
- *Location/Address:* The terminal is located in the Port Newark/Elizabeth Marine Terminals complex, Union County, New Jersey. The address is: 1020 North Fleet Street, Port Elizabeth, NJ 07201
- *Owner/Operator:* Maher Fleet Street Marine Terminal is owned by PANY&NJ and operated by Maher Terminals Inc.
- *Size:* 195 acres
- *Employees:* There are about 450 employees in the terminal [Ref. M12]
- *Serving Rail Access:* Access is via the adjacent on-dock ExpressRail facility, operated by Maher. The rail terminal is located 900 yards from the ship berths [Ref. M12]. The on-dock rail facility has 15,000 feet of track plus 1,800 foot of loading tracks.
- *Nearest Highway:* New Jersey Turnpike (I- 95, exit 13A), at a distance of 2.5 miles
- *Road Access:* The primary access is from Lyle King Street and the secondary access is from Corbin Street. Both streets need improvement [Ref. M15].
- *Truck Movement:* Maher Terminals (collectively at both Fleet Street and Tripoli Street) handles nearly 500 truck trips per working day.
- *Water Access:* The access channel is Elizabeth Channel with a width of 800 ft and a depth of 40 ft MLW.
- *Berth/Pier Facilities:* There are eight ship berths with a total length of 4,200 feet. Depth at the dock ranges from 38 to 45 feet MLW.
- *Type of Operation:* Primary cargo are containers and autos.
- *Shipping Lines:* Typically, there are sixty-five ship arrival/sailings per month. There are 22 regular steamship lines served by Maher. The types of vessels handled at Fleet Street range from small Ro-Ro type vessels to container ships with a capacity of 4,000 TEUs, as well as pure car carrier ships.
- *Barge Operation:* N/A
- *Commodities:* The commodities handled in terminal are general cargo and automobiles [Ref. M12].
- *Volume/Capacity:* In the year1998, Fleet Street handled about 400,000 TEUs. Maher Terminals currently handles approximately 650,000 containers per year for Fleet Street and Tripoli Street terminals combined. Overall vessel productivity ranges from 25 to 40 containers per container crane hour for both terminals.
- *Equipment:* Terminal has two 30-ton Star cranes and five 50-ton Paceco cranes. Other equipment are straddle carriers, yard hustlers, stackers (30 tons, 15 tons and

5 tons), toploaders (40 ton), empty-handlers/five high, flatbeds, and mafis 20/40. There is a chassis storage system-cooperative steamship chassis pool, and trucking service. The terminal is capable of stacking 360 chassis vertically, but vertical stacking is presently not provided on the terminal.

Maher is a leader in the use of information technology and management of cargo-related information flows to enable seamless transfer of containers between modes. Its subsidiary, Maher Terminal Logistics Systems, is a major developer of software for port management and logistics application (Ref. M 28). Advanced technologies used in the terminal are EDI (Electronic Data Interchange), Optical Character Reading of Container Data (OCR), and Barcoding (Ref. M12, M15, M 18-b).
Computer access is via on-line VAX Cluston, which is integrated with the terminal management systems and the steamships' accounts.

- *Warehouses:* Terminal does not features warehousing.
- *Parking:* N/A
- *Special Services:* There is on-site container and chassis repair shop, reefer maintenance/repair, 200 reefer plug slots, and roadability inspection service
- *Terminal Condition:* Fair
- *Future Plans:* The new chassis depot and empty-container station will further reduce the truck drivers delay in the terminal.
- *Issues:* N/A

Maher Tripoli Street Terminal
For facility layout see Fig. M-12.

- *Contact Person:* Mr. Frans VanRiemsdyk, Journal Square Plaza, Jersey City, NJ 07306, Tel: 908-527-8400, Fax: 908-526-9894, or tel. 201-963-2100.
- *Location/Address:* Maher Tripoli Street Terminal is located in the Port of Newark/Elizabeth Marine Terminals complex, Union County, New Jersey. Address: 4010 Izmir Street, Elizabeth, NJ 07201
- *Owner/Operator:* This terminal is owned by the PANY&NJ and operated by Maher Terminals Inc.
- *Size:* 243 acres
- *Employees:* About 400
- *Serving Rail Line:* The rail connection is via the adjacent ExpressRail facility, located 1,800 yards from the ship berths.
- *Nearest Highway:* New Jersey Turnpike (I- 95 exit 13A) at a distance of 2 miles (Ref. M12).
- *Road Access:* The primary access is from Tripoli Street and the secondary access is from Bay Street.
- *Water Access:* The access channel is Newark Bay with a depth of 40 ft MLW with a 1,810 foot long pier head.
- *Berth/Pier Facilities:* There are five ship berths with a total length of 3,150 ft and the depth at the dock is 38 feet MLW.

- *Type of Operation:* Primary cargo are containers and autos.
- *Shipping Lines:* Typically, the terminal receives about forty-five ships arrival/sailing per month. Starting in December 1999, the four-carrier partnership (Grand Alliance, which includes P&O Nedlloyd, NYK, Hapag-Lloyd and Orient Overseas container lines) started to use Maher Terminal for its Panama Canal services. This can significantly increase the terminal's activity (Ref. M 6-s, 11/22/99).
- *Barge Operation:* N/A
- *Commodities:* This terminal handles general cargo, ro-ro and containers
- *Volume/Capacity:* The volume of cargo handled in this terminal is approximately 380,000 TEUs/year. There are typically 1,500 - 2,000 gate transactions per day.
- *Equipment:* The terminal is equipped with 3-Morris (30 LT), 5-Paceco (40 LT), and 1-Canron (40 LT) cranes. In addition, there are also yard hustlers, stackers (30-ton, 15-ton, and 5-ton), toploaders-40-ton, forklifts (4 and 2.5-ton), empty-handlers (5-high), flatbed mafis (20/40), and transtainers-30-ton (Ref. M14). The facility uses EDI (Electronic Data Interchange) and has computer access via on-line VAX Cluston, which is integrated with the terminal management systems and the steamships' accounts.
- *Warehouses:* Terminal does not provide on dock warehousing service.
- *Parking:* N/A
- *Special Services:* On-site container and chassis repair, reefer maintenance/repair, 200 reefer plug slots, and roadability inspection. Terminal has vertical chassis stacking capability (1280 chassis in vertical stacking). This capability is resident at Tripoli Street Terminal, but not at ExpressRail.
- *Terminal Condition:* Fair
- *Future Plans:* Recently, the new gate complex system was completed. The other plans call for new container crane acquisition, further berth deepening, and further integration of data processing services. Future plans call for combining Tripoli Street and Fleet Street Terminals into one facility.
- *Issues:* At access, there is a grade crossing for local train.

Universal/Maersk Marine Terminal (Ref. M 12)

Universal is adjacent to Maersk terminal. According to the NYMTC survey, both terminals are unified (Ref. M12). Maersk and Sea-Land merged recently into the new entity named Maersk-SeaLand (Ref. M 6-s,11/22/99). Maersk- SeaLand plans to move its operations into a new 350-acre terminal at the port or elwhere. Universal terminal is now empty and will be leased to other shipping line, P&O. *For the facility current layout see Fig. M-10.*

- *Contact Person:* Mr. Ken Karahuta, UMTS Corp., Manager, Tel: 973-589-6200, Fax: 973-465-5806. *(Note: new operator will be designed.)*
- *Location/Address:* This terminal is located in the Port Newark/Elizabeth Marine Terminals complex, Essex County, New Jersey. The address is: UMTS, 231 Tyler St., Port Newark, NJ 07114
- *Owner/Operator:* The Universal/Maersk Terminal is owned by the PANY&NJ and is operated

by Universal Maritime Services Corp. (UMS).

- *Size:* 153 acres
- *Employees:* approximately 500
- *Serving Rail Line:* The intermodal connection is provided by ExpressRail , the on-dock rail yard
- *Nearest Highway:* New Jersey Turnpike (I-95, exit 14), within a distance of three miles
- *Road Access:* Calcutta Street and Tyler Street. The primary access is from Tyler Street. These roads are in fair condition
- *Water Access:* The access channel is Elizabeth Channel.
- *Berth/Pier Facilities:* The total length of the six ship berths is 3,822 feet with the dock's depth of 35 feet to 40 feet. In September 1994, 1200 feet of dock space was sheeted down to 42 feet deep in order to accommodate deep-draft vessels (Ref. M3).
- *Type of Operation:* Containers, general cargo, autos.
- *Shipping Lines:* The steamship lines using the terminal are Maersk, Hapag-Lloyd, P&O Nedlloyd, NYK, OOCL, and Sea-Land. Origin and destination of cargo is worldwide. There are approximately 28 ships arrival/sailing per month
- *Commodities:* Containers, ro/ro
- *Volume/Capacity:* In 1998, this terminal handled approximately 245,000 containers, and the approximate volume was 350,000 TEUs per year.The transfer times from ship to shore is 26 containers per hour. The delay time during the transfer process is insignificant.
- *Equipment:* Container cranes are: 3 Paceco-50 tons and 5 Paceco-40 tons. Cranes capabilities: height - 100', outreach - 150', breakbulk tonnage - 58LT.
  Other equipment includes: Stackers, 15 and 28-ton; Toploaders - 50-ton, 35-ton, 13-ton; Hi-los, 5-ton to 7-ton; yard hustlers, and forklifts.
  Modern technology used include Electronic Data Processing (EDP) system, Sea-Link, electronic billing, and security system. There is an IBM on-line computer system in use.
- *Warehouses:* No refrigeration services. Stuffing and stripping facilities cover 175,000 square feet
- *Parking:* 6,000 container slots.
- *Special Services:* 12-bay reefer shop, 30-bay maintenance/repair garage, 12-bay roadability inspection, 421 reefer plug slots, and mobile units. Wheeled and stacked chassis pool.
- *Terminal Condition:* Fair
- *Future Plans:* In 1999, Maersk and Sea-Land selected Port of New York & New Jersey as the location of its East Coast megaport. In 1999 Maersk Line acquired Sea-Land Service Inc.'s international businesses. Maersk-SeaLand plans to expand the existing Sea-Land terminal to 350 acres and consolidate all operations there under a new 28-year lease. The new port will be able to handle 500,000 containers per year by 2003, and could expand to handle as many as 700,000 containers over the next 4 years, if the growth of cargo justify additional expansion. Six companies bid to operate the Maersk/Universal when Maersk vacates the property (Ref. M6-s, 11/22/99). The plan

calls for an expansion of truck gates activity by 20%. Truck movements are particularly important for the port, because 85% of cargo moves within a 285-mile radius, and virtually all of it is handled by trucks.

- *Issues:* Construction of a future mega-port for Maersk-SeaLand.

Maresk/Sea-Land Terminal (Ref. M 12)
For facility layout see Fig. M-10.

In 1999, A.P. Moller-Maersk Line, Danish company, announced that it acquired Sea-Land Service Inc.'s international business for $800M. CSX Corp, which was the parent company to Sea-Land, retained Sea-Land's domestic shipping services and related terminals. CSX, railroad and intermodal business company, acquired the Sea-Line in 1986. The new shipping industry giant Maersk-SeaLand is operating 250 vessels, and uses 24 container terminals worldwide, 13 in U.S., including Port Elizabeth' seaport.

- *Contact Person:* 1. Mr. R. Hoban, PANY&NJ, Tel: 973-578-2131
  2. Ms. Nancy Bartulewicz/Jim Devine, SeaLand, Tel: 908-558-6000 *(Note: new contact person will be determined later)*
- *Location/Address:* This terminal is located in Port Elizabeth Marine Terminal complex, in Essex County, New Jersey. The address is: 5080 McLester St., P.O.Box 2000, Pt. Elizabeth, NJ 07207
- *Owner/Operator:* This terminal is owned by the PANY&NJ and operated by Sea-Land, Inc.
- *Size:* 266 acres.
- *Employees:* approximately 600 employees.
- *Serving Rail Line:* Terminal is adjacent to ExpressRail with daily double-stack trains to Midwest and Canada. The rail terminal is located approximately 0.5 mile from the ship berths. New ExpressRail located between Maersk and SeaLand sites will be opened in 2003.
- *Nearest Highway:* New Jersey Turnpike (I-95, exit 13A), within a distance of two miles
- *Road Access:* The primary access is from McLester Street, and secondary access is on Tripoli Street. Access condition is not good, with narrow intersections and insufficient turning radius. In addition, there is an insufficient turning radius and congestion at North Avenue.
- *Water Access:* The access channel is Elizabeth Channel with a depth of 35' MLW.
- *Berth/Pier Facilities:* 6 berth of 4,519 feet with the dock's depth of 40 feet MLW.
- *Type of Operation:* Container handling facility
- *Shipping Lines:* Sea-Land owns 37 vessels out of 83 vessels that are operating in this port. Other main ship lines operating from this port are Hanjin, P&O Nedlloyd, Columbus, CSAV Alianca, Hopag Lloyd, CMA, OOCL (Orient Overseas Container Line), and Maersk Lines. All these ships are foreign flags. Recently, Sea-Land and APL have been approved by MARAD to carry a foreign flag. The Sea-Land facility serves more than 100 countries, primarily in Western Europe, the Caribbean, the Middle East and Far East.
- *Commodities:* Containers, ro-ro, LoLo cargo. The commodity types are freight of all kinds.

- *Volume/Capacity:* The local stevedoring company serves 9-10 vessels per week. In 1998, Sea-Land terminal handled 385,000 container lifts (empties and full) and for 1999, 450,000 container lifts are projected. In general, the terminal handles approximately 44 arrival/sailing vessels per month, and the volume of cargo is estimated at 390,000 TEUs per year.
- *Equipment:* Container cranes are: 6 Paceco-30 tons and 1 Mitsubishi-40 tons. Cranes capabilities respectively: height - 81' and 88', outreach - 115' and 126', tonnage - 30 and 40 LT. The other equipment consists of toploaders - 30-ton; yard hustlers and forklifts 2.5-ton to 25-ton; transtainers - 40-ton.
  Many ITS-based technological systems are used. One example is the Automated Cargo Expediting System (ACES), port-wide computerized service providing information on the location and status of international marine shipment. Sea-Land has installed a new gate system in their terminals (TAS - terminal automated system). This method will enhance terminal operation and minimize the truck driver's waiting time. In addition, new "Sea-Link" electronic trucker ID with photograph will also enhance the speed of security checks (this method will eliminate the regiscoping method which is currently being used and creates bottlenecks in the delivery windows). There is a computer-integrated terminal operation, with real-time access to an international computer network. The terminal uses an IBM on-line system.
- *Warehouses:* Warehousing is not available. There are no refrigeration services. Stuffing and stripping facilities cover 306,000 square feet
- *Parking:* The terminal can accommodate 7,300 wheeled container parking slots.
- *Special Services:* Complete on-site maintenance facility, roadability inspection. There are 540 reefer plug slots.
- *Terminal Condition:* Good.
- *Future Plans:* The operator's plan covers general facility improvement and maintenance such as paving, lighting, maintaining the water depth of 40 feet (so it can accommodate bigger ships), build an on-dock terminal between the Sea-Land Terminal and the Tripoli Street Terminal, and to use more advanced technology for its operation, such as an advanced gate system, electronic tagging, to monitor internal movement and speed up the administrative process for trucks.
  The proposal of a new Internet-based real-time network called the Freight Information Real-Time System would integrate available information on ship arrival, up-to-date cargo status and real-time video showing conditions and congestion at entry gates, is currently in preparation stage.
- *Issues:* The operations will be more efficient while an on-dock rail terminal is built. At present, containers are drayed to off-dock terminals. New ExpressRail facility is being built adjacent to the SeaLand site.

  In the future, a new Maersk-SeaLand deep hub port complex will be built, able to handle the new generation of post-Panamax ships. The new 350-acre

port will have ability to handle 700,000 TEUs.

2.7.2. *Other New Jersey Marine Terminals*

Global Terminal and Container Sevices (Ref. M 12, M 26)
For facility layout see Fig. M-9.

Global was formed in 1969 as a private enterprise by several steamship interests which owned terminal facilities through the world and wanted to have a terminal in the Port of New York to serve their lines as well as other commercial containership operators. Operations began in June 1972. This is the only privately owned container terminal in the Port District.

- *Contact Person:* Ms. Kathy Mack, VP, Tel: 201-451-5200
- *Location/Address:* It is located in the upper New York Bay, Jersey City, Hudson County, New Jersey. The address is: 302 Pt. Jersey Blvd, Port Jersey, NJ 07305
- *Owner/Operator:* The terminal is owned by the Global Terminal & Container Services Inc. and is operated by OOCL (Orient Overseas Container Line), Tung Group.
- *Size:* 100 acres, including 78 acres of paved and lighted marshaling areas for chassis-mounted containers and container stacking (Ref. M12).
- *Employees:* approximately 50
- *Serving Rail Line:* The rail connection is currently with Oak Island, which is about half a mile from Global, and can accommodate COFC/TOFC double-stacked trains. The connection is via shortline (Port Jersey Rail) to Greenville Yard, then connecting via Conrail to CSX, N/S, and CP at Oak Island. The other nearby yard, Greenville Yard, has access to CSX and N/S railroads. Also available is a drayage service to the nearby (7.8 miles from terminal) ExpressRail intermodal rail terminal. (Ref. M14). There are future plans to provide a new on-dock intermodal rail terminal nearby (Ref. M18-b).
- *Nearest Highway:* New Jersey Turnpike, Rt. 1 & 9, at a distance of about 1.5 miles
- *Road Access:* The primary access is from Port Jersey Boulevard and the secondary accesses are Routes 1 and 9.
- *Truck operation:* The terminal has 16 newly renovated truck gates and the gates turn around time has improved significantly.
- *Water Access:* The access channel is 6,000 ft long Port Jersey Channel with a width of 350 ft. At the west end is a 1,200 ft turning basin. The channel was dredged to 40 feet. The COE plans to finish dredging the main channels to 50-feet by 2015. In 1998, the outer channel connecting Port Jersey Channel to Anchorage Channel was deepened to 35 feet from 33 ft and to 450-foot wide. This work gives vessels 38' deep access to Global Terminal at mean low water. At high tide, vessels gain 5 more feet.
- *Berth/Pier Facilities:* There are two berths with a total length of 1800 feet and a depth dredged to 42 feet MLW, providing safe berth during 4.5 ft tidal difference
- *Type of Operation:* The terminal handles general cargo (Ref. M14). Turn-around time for transfer of goods between transportation modes is 35 to 45 minutes. Advance

information about upcoming ship and cargo is transmitted to the terminal three days prior to vessel arrival, permitting preparation of chassis, paperwork and other formalities.

- *Shipping Lines:* Tenants at Global include an alliance of Hanjin, Cho Yang and DSR Senator, United Arab Shipping Line, Turkish Container Line, and Evergreen. Other customers include Alianca (South America service), Blue Star Pace Ltd (Australia/New Zealand service), Columbus Line Inc., Cosco North America, Iceland Steamship Co., Ltd, Ocean Star Container Line, and Polish Ocean Line. The type of vessels coming to the ports are container and cellular. There are approximately 21 ships arriving and sailing per month.
- *Commodities:* Containers, ro-ro, heavy lift cargo
- *Volume/Capacity:* Volume of cargo was in 1998 180,000 TEUs.
- *Equipment:* The facility is equipped with 3-Star (40-ton) and 1 Krupp (45 tons) cranes, with height 90 feet, outreach 133 ft and tonnage 45 LT. Productivity level is 22 boxes per working gang hour. Four post-panamax gantry cranes, large enough to reach across 21 rows of containers are being installed in November, 1999. The Chinese-built cranes booms had to be lowered to fit under the Verazzano Narrows Bridge (Ref. M 6-s, 11/15/99; M 26).
  The other equipment include: Toploaders - 30-ton; Sideloaders -8-ton, yard hustlers and forklifts 30, 26, and 15-ton. Facility has 52 tractors.

  Two bobtail gates are fully equipped with modern computer terminals, printer, barcode readers, and Equipment Interchange Receipt (EIR) for truckers. Seven of gates are equipped with electronic rollover truck scales, exclusively for export loads. Other systems are ACES (Automated Cargo Expediting System), and Sea-Link (trucker identification system). The terminal has an IBM real-time on-line system.
- *Warehouses:* Warehousing is available. There is refrigeration service, and other services such as USDA/custom inspection. Stuffing and stripping facilities cover 125,000 square feet
- *Parking:* A truck parking facility is available. Marshaling area has capacity for 5,300 TEU chassis-monted container units and 4,750 TEU stacking spaces.
- *Special Services:* Roadability inspection station; Mobile/Chassis container repair vans; 10 Chassis repair bays; 5 roadability lanes. Wheeled and stacked; Chassis pool; 88 reefer outlets to support a like number of chassis-mounted reefer units.
- *Terminal Condition:* Good
- *Future Plans:* The port plans to maintain a channel depth of 40 feet, and provide regular maintenance of the facility. With the short distance from pierhead to main channel, and Global's 42 feet along side its berths, vessels using Global will be able to carry more cargo and better utilize vessel space.

  PANY&NJ plans to expand existing Global Marine Terminal by including part of Auto Marine Terminal, however a new location for handling of cars and other vehicles would have to be identified. The first phase of terminal

expansion will be completed by 2005 [Ref. M 10-d].

- *Issues:* Intermodal linkages are available between ship and truck, ship and rail (off-dock), and ship and barge. Main obstacles are dredging policy, road congestion, insufficient warehouse space, and lack of on-dock rail access.

Military Ocean Terminal - Bayonne (MOTBY)

This historic Navy base has served as the region's primary military supply terminal from World War II up through the Gulf War. Recent Congressional legislation decided to close a number of military bases, and MOTBY was one of those. MOTBY offers a strong intermediate to long-term alternative to the high costs and lengthy delays entailed in the deepening of the KVK and Newark Bay channels.

- *Contact Person:* The City of Bayonne
- *Location/Address:* The terminal is located on the lower New York Harbor, near the southern end of the Jersey City/Bayonne peninsula
- *Owner/Operator:* The City of Bayonne
- *Size:* 437 acres
- *Employees:* N/A
- *Serving Rail Line:* CSX and N/S via Conrail
- *Nearest Highway:* New Jersey Turnpike
- *Road Access:* New Jersey Turnpike
- *Water Access:* Port Jersey Channel
- *Terminal Condition:* Fair
- *Future Plans:* The City of Bayonne plans 200-acre expansion of the former Military Ocean Terminal in Bayonne and Port Jersey, to handle containerized cargo, to be available by 2005. The "Portway" project envisions the creation of a special truck ramp off the Turnpike for direct truck access to the facility from the Port Jersey complex. Modest landfilling on the western portion of the Port Jersey Channel could add to the acreage devoted to port operations, as well as new rail and truck access to the facility [Ref. M 17].
- *Issues:* The Port Jersey marine complex can be dredged well over 50 feet without encountering bedrock blockage. It offers a far smaller "footprint" for maintenance dredging than KVK and Newark Bay and its siltation rate (key to the cost of long-term maintenance dredging) is significantly lower than Newark Bay.

  It is directly straight ahead after ships clear the Verrazano Narrows, thus eliminating the extra navigation operations (tugs), transit time and hazards of traversing the KVK. Current proposals to reconfigure rail operations in the area would provide on-dock service to both Global and MOTBY, thus increasing the facilities intermodal capabilities.

Greenville Terminal

This carfloat terminal is located on the New Jersey shore and is an intermodal terminal servicing both marine and land customers. In the future this terminal will provide an important link between barges and rail. Carfloats to Brooklyn shore terminals are carrying various cargo, which includes a large amount of waste. Carfloats are operated by NYCHRR. This waste is loaded on trains and moved to the final destination which is Sierra Blanca in Texas. A connection to Staten Island shore is also considered. NYCEDC considers a possibility to build floatbridges at HHMT with connection to NJ and Brooklyn.

For more information see rail terminal inventory report *(Chapter 3).*

2.7.3 Vehicle Terminals (Ref. M 10-a, M 14)

The PONY&NJ is the leading port in the US for automobile imports and exports. Five individual vehicle processors, offering an extensive range of services on over 430 acres, are located at the Auto Marine Terminal (AMT) on the Jersey City/Bayonne border, and at the Port Newark/Elizabeth Marine Terminal. Each terminal provides immediate access to major interstate highways and rail services. In 1998, the Port handled 448,900 vehicles (369,514 imports and 79,386 exports). The vehicle terminals are owned by the PANY&NJ and operated by the North East Auto Terminal Inc./ BMW (AMT) and by car distributors (Port Newark/Elizabeth Vehicle Facilities). For the facility layout *see Fig. M-9*.

Northeast Auto Marine Terminal Inc. (NEAT) is located on 403 Port Jersey Blvd, Jersey City, NJ 07305, Tel: 201-432-7335. It occupies 115 acres of AMT and processes vehicles for several major vehicle manufacturers as well as private importers and exporters. NEAT's services include de-waxing, processing and storage.

BMW's Port Jersey Vehicle Preparation Center is located at 20 Colony Road, Jersey City, NJ 07305, Tel: 201-309-1948. This facility processes BMW vehicles in a modern multi-store building on 15 acres. Norfolk Southern and CSX serve the AMT with fully enclosed multi-level rail cars. Connecting service to Canadian Pacific Railway and other North American rail system is also available.

Auto Marine Terminals (AMT)

- *Contact Person:* 1. Mr. R. Hoban, PANY&NJ, Tel: 973-578-2131
  2. Mr. Dave Husak, NEAT Manager, Tel: 201-432-7335
- *Location/Address:* AMT is adjacent to Greenville Yard and Global Marine Terminal, and is located in Jersey City, Hudson County, along the Jersey City/Bayonne waterfront. It is strategically located on Upper NY Bay where it provides direct access to the ocean. The mailing address is: 403 Pt. Jersey Blvd., Port Jersey, NJ 07305
- *Size:* 130 acres
- *Employees:* Hired as needed
- *Rail Access:* It is close to the principal rail yards in Oak Island. A dedicated rail terminal

for rail inland distribution has been established close to the BMW facility [Ref. M 18-b]. The intermodal linkages are between ship and truck and ship and rail.

- *Nearest Highway:* AMT has excellent access to the interstate highway system. The nearest highway is the New Jersey Turnpike Extension (I-95 exit 14C) at a distance of approximately 3 miles.
- *Road Access:* The entrance gates are at Port Jersey Boulevard and the secondary access is from Berth Access Road.
- *Water Access:* The access channel is 6,000 ft long Port Jersey Channel with a width of 375 ft. At the west end is a 1,200 ft turning basin. The channel was dredged to 40 feet MLW.
- *Berth/Pier Facilities:* There are two berths with a total length of 1800 feet and a depth of 32 feet MLW which is sufficient for car ships.
- *Type of Operation:* AMT has open-vehicle storage area, office and processing building for its two tenants: NEAT and BMW. The facility also has an on-site maintenance/preparation facility and a separate area for auto distribution and auto services.
- *Shipping Lines:* In 1998 the terminal was served by the following ocean carriers: Hual A/S, "K" Line, Mitsui O.S.K. Lines, NYK & NOSAC-Ro-Ro service, Wallenius Lines, and Wilhelmsen Lines [Ref. M 37].
- *Commodities:* Primary cargo type are automobiles
- *Warehouses:* The terminal has one warehouse with a size of 100,000 square feet, that stores auto parts.
- *Terminal Condition:* Excellent
- *Future Plans:* N/A
- *Issues:* N/A

Port Newark-Elizabeth Vehicle Facilities

Port Newark/Elizabeth vehicle facility is adjacent to Doremus Avenue I and II automobile rail yards totaling 715 acres, a major center for the distribution of automobiles throughout the eastern U.S. Three vehicle processors operate at Port Newark/Elizabeth. *FAPS Inc.* (98 Craneway St, Port Newark, NJ 07114, Tel: 973-589-5656) handles a number of major auto/vehicle imports and exports as well as privately owned vehicles. D.A.S. (*Distribution and Auto Services Inc.*) is the exclusive processor for Nissan, located on 100 Polaris St, Elizabeth, NJ 07201, Tel: 908-355-0303. *Toyota Logistics Services Inc.* process Toyota imports and exports. Toyota is located in Bldg. 390, East Port Street, Port Newark, NJ 07114, Tel: 973-589-2051 [Ref. M 10-a].

- *Owner/Operator:* Privately owned. Vehicle Processors are: Distributor & Auto Services, Inc. (DAS), which uses 101 acres, FAPS, Inc. (113 acres along the Port Newark Channel), and Toyota Motor Sales, USA, Inc., which uses 90 acres on Newark Channel and Newark Bay.
- *Size:* 304 acres
- *Employees:* The facility employs 91 people.
- *Rail Access:* The facility has inland transportation via truck and rail. NS and CSX provide

direct service and connection to other railroads. Port Newarks Marine On-Dock Auto Rail Terminal (MODART) and the Elizabeth Port Authority Marine Terminal provides direct links between the FAPS, Toyota and DAS processing center, and the major rail lines serving the port. The intermodal linkages are between ship and truck and ship and rail.

- *Nearest Highway:* New Jersey Turnpike Extension (I-95) at a distance of approximately 2 miles.
- *Road Access:* The entrance gates are: for DAS at Polaris Street, for FAPS at Craneway at Port Streets and secondary access at Kellogg Street, and Toyota has access from Port Street.
- *Truck Operations:* The trucks that distribute the cars, park on the site, typically 500 trucks at a time (Ref. M14).
- *Water Access:* The access channel is Port Newark Channel of 40 feet MLW.
- *Berth/Pier Facilities:* There are 6 berths with a total length of 4300 feet and a depth of 35 to 40 feet MLW which is sufficient for car ships.
- *Type of Operation:* This facility has open-vehicle storage area, office and processing building for its two tenants: NEAT and BMW. Foreign Trade Zone is available to reduce, defer or eliminate US Custom duties. The terminal has one warehouse with a size of 100,000 square feet, that stores auto parts. The facility also has an on-site maintenance/preparation facility and a separate area for auto distribution and auto services.
- *Shipping Vessels:* About 20 ships arrive and sail from this port every month and all the vessels are pure auto carriers.
- *Commodities:* Primary cargo type: automobiles (import and export). Mostly, these cars are imported from Europe (Germany) and Japan (Ref. M14).
- *Volume/Capacity:* N/A
- *Equipment:* The facility does not have any crane. Barcoding technology is used to speed-up the car turnaround time, electronic billing, and a full security system is available (Ref. M12). A comprehensive and unique Quality Vehicle Handling Program is used to assure the utmost care to vehicles shipped through the Port.
- *Warehouses:* None
- *Parking:* The trucks that distribute the cars, park on the site, typically 500 trucks at a time (Ref. M14).
- *Special Services:* N/A
- *Terminal Condition:* Good
- *Future Plans:* The improvement plan covers general facility improvement and maintenance, building an on-dock terminal, and to use more advanced technology for its operation.
- *Issues:* Typically, the transfer time per car from ship to shore is around 75 autos per hour. Delay during transfer from one mode to another is insignificant.

2.7.4 Connecticut Shore Terminals (Ref. M 12)

The Port of New Haven in Connecticut includes several terminals operating on Long Island Sound.

Most of these terminals handle petroleum tankers for U.S. oil companies, and bulk cargo. Only terminals located in south-west part of the State are discussed in this report. Three important marine terminals are located on the eastern shore of New Haven Harbor about 0.5 mile south of Interstate Route I-95. They handle various types of dry and liquid bulk cargoes and some containers. They are owned and operated by New Haven Terminal Inc. and Gateway Terminal Inc.

New Haven Terminal (Ref. M 12, M 21)

Originally, this terminal was only a warehouse with one tank and one deep water berth. Currently, this terminal has docking facilities that can accommodate six ships, *For the facility layout see Fig. M-3.*

- *Contact Person:* 1. Mr. Martin Tristine, Tel: 203-469-1391x255
  2. Mr. Jim Schein, Tel: 203-469-1391x284
- *Location/Address:* The terminal is located in New Haven harbor, in New Haven County, in Connecticut. The address is: 100 Waterfront Street, New Haven, CT 06512
- *Owner/Operator:* The terminal is owned by New Haven Terminal Inc. and operated by Logistic Connecticut, Inc.
- *Size:* About 100 acres
- *Employees:* The facility employs 200 people.
- *Rail Access:* The connection to rail will be open in 2000, after completion of New Haven rail bridge. The off-dock rail located 500 yards from feeder terminal has a capacity for 5 rail tank cars and a private siding for loading and unloading with services provided by P&W.
- *Nearest Highway:* The closest major highway is I-95 exit 49 within a distance of 500 yards from the terminal. Also, Route I-91 and Route 1 are nearby (Ref. M12).
- *Road Access:* The primary access to the facility is Stiles Street and the secondary access is from Watefront Street.
- *Truck Movement:* There are about 100 truckload handled per day.
- *Water Access:* The access channel is New Haven Harbor channel, 800 ft wide and 35 feet deep.
- *Berth/Pier Facilities:* The facility has 3 ship berths with 35 feet and 39 feet draft MLW. These berths are 650 feet long each and can accommodate ships up to 750 feet long. There is one wharf and two finger piers.
- *Type of Operation:* Intermodal connections available from this terminal are between ships, barges, truck, and jet fuel pipelines.
- *Shipping Movement:* New Haven Terminal receives about 15 ships per month, which mainly are breakbulk ships with an average capacity of 45,000 DWT. Origin and destination of these ships are worldwide and the typical tonnage is 60-80,000 tons per month (Ref. M21).
- *Commodities:* This terminal type is a mixed cargo terminal. It is the largest independent liquid terminal in New England with over 2.5 million barrels of storage for chemicals and petroleum, and it also handles breakbulk. Main commodities

handled at this terminal are petroleum, chemicals, copper, aluminum, zinc, lead, tin, nickel, steel, paper products, wood pulp, crane parts, automobile, containers, pig iron, pumice, ferrous scrap, non-ferrous scrap, heavy lift, and lumber.

- *Volume/Capacity:* In 1998, the breakbulk cargo moved was about 800,000 tons.
- *Equipment:* The facility is equipped with 6 cranes, 100 forklifts, 5 straddle carriers, 24 flatbed trailers, 12 tractors, 2 hustlers, and 2 dump trucks.
- *Warehouses:* The terminal has 700,000 sq. ft. of warehouse space, and 65 acres of outside storage.
- *Parking:* Truck parking facilities can accommodate 40 to 60 trucks at one time, with 60 available spaces.
- *Special Services:* None
- *Terminal Condition:* Fair
- *Future Plans:* The future expansion plans include new warehouses which will cover a 100,000 sq.ft.
- *Issues:* N/A

GATEWAY Terminal (Ref. M 12, M 21)

For the terminal layout see Fig. M-15 and M-15A.

- *Contact Person:* Mr. Orest T. Dubno, Tel: 203-467-1997
- *Location/Address:* This terminal is located on the eastern shore of New Haven Harbor. It is situated approximately 68 miles from New York City and 179 miles from Boston. The mailing address is: 400 Waterfront Street, New Haven, CT 06512
- *Owner/Operator:* The terminal is owned and operated by Gateway Terminal, Inc. (Ref.M21).
- *Size:* 37 acres (12-owned and 25 acres leased).
- *Employees:* The facility employs 150 people.
- *Rail Access:* The terminal is linked by an off-shore dock in New Haven to the CSX rail system. The Boston & Maine Railroad offers service to Canada, and connects to other RR to service Buffalo and Washington, D.C. Facility has also direct access to P&W line.
- *Nearest Highway:* The closest major highway is I-95 within a distance of 0.3 miles from the terminal. Also, Route I-91 and Route 1 are nearby (Ref. M12).
- *Road Access:* Primary land access is from Waterfront Street.
- *Water Access:* The access channel is New Haven Harbor channel, 800 ft wide and 35 feet deep.
- *Berth/Pier Facilities:* Dry bulk facilities include three berths for ocean-going vessels up to 35' draft MLW (mean low water). Facility has also a newly constructed concrete pier (750 feet) that can provide berthing for 2-3 vessels at the same time.
- *Type of Operation:* The facility has its own petroleum transfer and oil storage tank farm and has an arrangement with nearby Gulf Oil to utilize their equipment. The terminal is equipped with a petroleum tank farm and oil discharge facility, cement silo storage and freight handling complex. The terminal handles not only oil

products, but also a wide range of dry cargos. Product from ship is moved to upstate New York and New England locations, and the terminal is planning to expand its business by attracting new customers.

- *Shipping Movement:* There are about 40 ships per year handling bulk cargo, and some products such as cement is transported by barges. Oil products also arrive by barges. The most important intermodal linkages are between ship and truck, ship and barge, and ship and rail.
- *Commodities:* Oil product and dry cargo. The types of dry bulk and semi-bulk cargos handled are: agricultural products, coal, ferrous ores and alloys, fertilizers, forest products, heavy duty vehicles, metal, minerals, and miscellaneous bulk cargos.
- *Volume/Capacity:* Oil storage tank farm has capacity of approximately 500,000 barrels The volume of handled dry cargo are about one million tons per year.
- *Equipment:* The available equipment includes two high-speed/high lift capacity gantry and crawler cranes, two manitowoc crawler crane. Also, facility is equipped with computer and security system, including cameras.
- *Warehouses:* There is no warehouse on the facility, only outdoor storage.
- *Parking:* The facility has its own truck fleet, and parking for 10 trailers. There are two secured gates from truck movement.
- *Special Services:* N/A
- *Terminal Condition:* Fair
- *Future Plans:* There are no plans for further expansion/improvement of facility, which is in good condition.
- *Issues:* N/A

CILCO Terminal (Ref. M 12, M 21)

- *Contact Person:* Mr. Martin Tristine, Tel: 203-469-1391x255
- *Location/Address:* The terminal is located on Bridgeport Harbor, in Fairfield county (ref.M21). The address is: 535 Seaview Avenue, Bridgeport, CT
- *Owner/Operator:* The terminal is owned by New Haven Terminal and operated by Logistic Connecticut, Inc.
- *Size:* 27 acres.
- *Employees:* The facility employs 60 people
- *Rail Access:* There is no direct rail connection available.
- *Nearest Highway:* The nearest major highways are I-95, exit 29 within a distance of 0.25 miles, I-91, and Route 1 (Ref. M12).
- *Road Access:* The land access to facility is from Seaview Avenue, from Newfield Ave and from Central Avenue in Bridgeport.
- *Water Access:* The water access is through 400 ft wide, 35 ft deep, Bridgeport Harbor channel. In 2000, the access and berths are scheduled for maintenance dredging.
- *Berth/Pier Facilities:* The facility has a 110 ft. dock with 33' draft MLW. Berths are 1,000 ft. long and 33 ft deep MLW.

- *Type of Operation:* Products from ship is moved to upstate New York and New England locations.
- *Shipping Movement:* Six to eight ships arrive/sail each month, more than eighty ships per year. The ships types are refers and general cargo bulkers. The intermodal linkages are among ship, barge, and truck.
- *Commodities:* The main cargos handled are fruits such as bananas, apples, citruses, juices, containers, paper, automobiles, and bulk cargo.
- *Volume/Capacity:* The terminal is capable of handling 140 trucks per day and handles approximately 700,000 tons of cargo per year.
- *Equipment:* The stevedoring equipment consists of 2 dockside cranes (up to 250 ton capacity), 48 forklift trucks including 30 electric forklifts, and 2 hustler yard jockeys for container yard shifting.
  Technology used in facility includes electronic billing, computer programs and security system.
- *Warehouses:* There are 80,000 sq. ft. of temperature controlled warehouse space, 20,000 sq. ft. of heated warehouse space, 100,000 sq. ft. of covered dry space, and 20 acres of open land for storage. Warehouses provide perishable freight handling service.
- *Parking:* The facility has its own truck fleet, and parking for 10 trailers. There are two secured gates from truck movement.
- *Special Services:* None
- *Terminal Condition:* Fair
- *Future Plans:* Future improvement plans include reconstruction of wharf, and expansion of warehouses.
- *Issues:* N/A

2.8 Important Regulations Affecting the Maritime Industry

- *Ocean Shipping Reform Act* of 1998, in effect on May 1, 1998. This legislation amending the 1984 Shipping Act, partially deregulated U.S. liner shipping industry. It allows confidential contracts between carriers and shippers, and more competition between individual companies. It eliminates tariff filing requirements and maintains antitrust immunity that the ocean industry operates, while retaining a level of public transparency and regulation of shipping conferences and alliances. It states that Federal Maritime Commission would be retained to watch antitrust requirements. Following this Act, several regulations were issued, such as 46 CFR Docket No. 98-28 presenting Federal Maritime Commission's regulation on freight consolidators licencing and financial responsibility.

- *Organization for Economic Cooperation and Development (OECD) Shipbuilding Agreement,* currently in process of approval by the Congress. That 1999 bill implements a 1995 treaty banning shipbuilding subsidies among industrialized nations of the Paris-based OECD. U.S. was the last remaining signatory of the International Shipbuilding Subsidy Ban bill, following long-standing opposition from six big US defense yards.

- Reform of the *Jones Act* - controversial 78-year old domestic shipping law, that requires cargo moved between U.S. ports to be carried exclusively in ships that are U.S.-owned, built, and crewed. Some reforms to the bill are expected. The legislation (HR 4006) to allow foreign-built and operated vessels in limited domestic coastal trade, was presented to Congress in 1996, and met with opposition by ship liners and ship builders. The Jones Act Reform Coalition leads the congressional battle to abolish the bill, saying that Jones Act protection from competition contributed to the decline of U.S. shipping industry, providing small group of shipping companies the power to charge U.S. businesses and consumers higher rates. The Act's supporters, grouped in Maritime Cabotage Task Force, state that the Act is protecting maritime industry from foreign competition and is necessary to preserve U.S. oceangoing fleet for the national defense.

- The1999 *Water Resources Development Act* (WRDA) authorizes infrastructure improvements to navigable waterways, and contains provisions that directly affect ports ability to support domestic and international trade. This Act authorizes several studies and projects to improve commercial navigation, institutes policy changes regarding U.S. Army Corps of Engineers and requires government to share costs of dredging disposal sites, enable quick removal of navigational hazards (wrecks), and cap the local share of feasibility study costs. Pending bill includes several million of dollars for deep water port projects, including dredging. House and Senate versions of the bill do not include changes in federal cost-sharing formula sought by AAPA, but would allow local authorities to raise money separately for dredging disposal costs, a change that may allow more difficult engineering projects to proceed. Currently, in Senate under discussion.

- *Harbor Maintenance Tax (HMT) Bill*, the 12-year old value-based law, renamed as *Harbor Maintenance Service Users Fee Bill,* was declared in March 1998 by Supreme Court unconstitutional in part regarding tax on export. The 1986 harbor maintenance tax was instituted to recover the federal costs of routine channel upkeep. In August 1998, President Clinton presented a replacement plan for an unpopular $1 billion a year maritime tax, which switched from a value-based fee to a charge based on a ship's size. The viable alternative to that tax is still in discussion in Congress. The American Association of Port Authorities and some other industry groups are opposed to any new taxes, and say that funding for channel upkeep should come out of general treasury, as it did before 1986.

- *Maritime Management System Bill* adopted by Congress in 1999, regulates maritime management systems and provides funding for technical studies under *Service Users Fee Bill*, and also includes *Port Ocean Navigation Study* (PORTS), which regulates real-time system.

- *Harbor Navigation Bill*, passed in 1998 in both Houses of Congress, provides funds for vessel traffic control systems.

- Resolution of *International Maritime Organization (IMO)*, prepared by Marine Environment Protection Committee and passed in 1999 by IMO General Assembly, will require ratification

by IMO member nations. That resolution will impose global prohibition on application of organotic compounds in anti-fouling systems on ships by January 2003.

- *Carriage of Goods by Sea (COGSA)* proposal for cargo damage limits update, issued by U.S. Maritime Law Association, currently under discussion. COGSA is based on widely ratified international treaty known as Hague Rules, partly modernized in 1968 to adopt weight-based limits. It is governing law in USA for all maritime cargo-damage disputes.

2.9 *Channel Inventory*

The following tables summarize the characteristics of channels that connect ports in the metropolitan area (Ref: M34-a, M34-b).

Upper New York Bay

Channel Name	Depth (MLW) Max/Minim. (in feet)	Width (feet)	Intermodal Facility Served	Issues	Type of Ship Ope-rating	Main Commodi-ties (LPMS * classifi-cation)	Volume (in thousand tons)
Bay Ridge Channel	40'	1750'	South Brooklyn Marine Terminal, 50th St. Float-bridge	Dredging completed in 1986, and in 1994 (Via Internat.Sept. 94)	all ships	21,22 to 26,31,32,41 to 44, 46,47,49,51 to 55, 61 to 68, 71 to 76, 79	3,540 - For Bay Ridge and Red Hook together
Red Hook Channel	40'	1200'	Red Hook Container Terminal	Dredging completed	all ships	As above	see above
Butter Milk Channel	40'- 45'	1000'	Red Hook Terminal, PANY&NJ Brooklyn Marine Terminal, Green St. Lumber Exchange	Dredging completed in 1962 & 1994	all ships	23,24,32,41 to 44,46,47,49,51 to 55,61 to 68,71 to 76,79,89	36,461
Gowanus Creek	30'to 18'	500' to 200'	varies terminals along Gowanus Expy	Planned dredging to 40'	barges	22,23,43,52,68,89	2,419
East River	40'	1000'	Varies terminals along the river	Dredging completed 1970	all ships	21 to 23, 32,43,68,79,89	36,595
Flushing Bay	15'	300'	LGA	Completed 1962	barges	22,23,43,52,89	1,753

Channel Name	Depth (MLW) Max/Minim. (in feet)	Width (feet)	Intermodal Facility Served	Issues	Type of Ship Ope-rating	Main Commodi-ties (LPMS * classifi-cation)	Volume (in thousand tons)
Hell Gate Channel	35'	1000'	Varies	N/A	barges	N/A	N/A
Harlem River Channel	15'	400'	Harlem River Yard, other terminals	Completed 1913	barges	N/A	N/A
Hudson River Channel	40' to 45'	2000'to 3600'	Varies	Completed 1937	all ships	22-26,31-32,41-49, 51-55,61 63-68,71-76,79	18,946

Note: Volume covers bulk only, not containers. The tonnage figures represent short tons (2,000 pounds)

* LPMS commodity description: The first two digits of the Waterborne Commerce of the U.S. Support Center (WCSC) publication codes correspond with the Lock Performance Monitoring System (LPMS) commodity codes. Both LPMS and WCSC codes were standardized to reflect the hierarchical structure of the Standard Industrial trade Classification (SITC). (Ref: Waterborne Commerce of the U.S., Calendar Year 1993, Part 1, Waterways and Harbors, Atlantic Coast, Department of the Army, Corps of Engineers, Water Resources Support Center)

Lower New York Bay

Channel Name	Depth Max/Min	Width	Intermodal Facility Served	Issues	Type of Ship Ope-rating	Main Commodi-ties (*)	Volume (in thousand tons)
Anchorage Channel	45'	2000'	varies	Completed 1937	all ships	N/A	N/A
Ambrose Channel	45'	2000'	varies	Completed 1982	all ships	N/A	N/A
Chapel Hill Channel	30'	1000'	varies	Completed 1982	all ships	N/A	N/A
Jamaica Bay	18'-12'	200'-500'	JFK Airport	Completed 1950	barges	22,23,29,32,43	1,138
Arthur Kill Channel	35'	500'-600'	Howland Hook	Dredging to 40'	all ships	N/A	N/A
Kill Van Kull Channel	45' and 30'	600'-1000'	varies Staten Island and SE New Jersey terminals	Completed 1985	all ships	N/A	N/A
NY & NJ Channel	35'-37'	600'-1000'	varies	Completed 1985	all types	All commodi-ties	96,268
Great Kill Harbor	10'	150'	varies	Completed 1938	all ships	N/A	N/A
Hacken-sack River	34'-32'	300'	varies	Condition as per 1986 data	barges	11,22-24 32,43,89	2,584

Channel Name	Depth Max/Min	Width	Intermodal Facility Served	Issues	Type of Ship Ope-rating	Main Commodi-ties (*)	Volume (in thousand tons)
Passaic River	30'	300'	varies	Condition in 1986	barges	22-24,25 32,43,52,54,6 6,68,79,89	7,116
Newark Bay	37' - 35'	800'	Port Newark and Port Elizabeth terminals	Condition as per 1986 data, projected depth - 45'	all ships	All commodi-ties	27,640

(Ref: M34-a, M34-b)

References for chapter II - Marine

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List of Figures:

Marine Facilities - List of Contact Persons

Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
Red Hook Container Terminal	1. Kevin G. Catucci, American Stevedoring Inc., 2. John Trutneff, PANY&NJ	1.Tel: 908-351-5600x212, Fax: 908-351-5580 2. Tel: 718-330-2968, Fax: 718-855-3618	RHCT, 70 Hamilton Avenue, at Van Brunt, Bldg. 116, Brooklyn, NY 11231
South Brooklyn Marine Terminal	1. Mike Scotto, American Warehousing 2. Seth O.Kaye, NYCEDC 3. Shari Colburn, NYCEDC	1. Tel: 718-797-4278, Fax: 718-797-5447 2. Tel: 212-312-3744, Fax: 212-312-3916 3. Tel: 212-312-3874	SBMT, 30-39th Street at Second Avenue, Brooklyn, NY 11232
Brooklyn Port Authority Marine Terminal	1. Arnie VanTol, PANY&NJ 2. Jon Trutneff, Marine Operation Manager	1. Tel: 718-330-2972, Fax: 718-855-3618 2. Tel: 718-330-2968	1. PAMT, 90 Columbia Street, Brooklyn, NY 11201 2. PANY&NJ, 260 Kellog St., Pt. Newark, NJ 07114
Howland Hook Marine Terminal	1.Chris Ragucci, Facility Manager, HHCT, VP 2. Arie VanTol, PANY&NJ 3. Andrew Genn, NYCEDC	1. Tel: 718-273-7000, Fax: 718-273-7050 2. Tel: 718-330-2968 3. 212-312-3669	1. HHMT, 300 Wastern Ave, Staten Island, NY 10303 3. NYCEDC, 110 William St, New York, NY 10038
Green Street Lumber Exchange	Stephen L. Stulman, Manager	Tel: 718-383-5000	171 West Street, Brooklyn, NY 11222
Pier 1-5	Arie VanTol, PANY&NJ 2. Andrew Genn, NYCEDC	1. Tel: 718-330-2968 2. 212-312-3669	Brooklyn, NY
Brooklyn Navy Yard Terminal	Richard Drucker, BNYDC	Tel: 718-852-0425	Blyn Navy Yard, Bldg. 292/3rd Floor, Brooklyn, NY 11225
Bay Avenue Marine Terminal	1. Kevin Catucci, American Stevedoring 2. Frans Van Riemsdyk, Maher Terminal Inc.	1.Tel: 908-351-5600, Fax: 908-351-5580 2. Tel: 908-527-8200, Fax: 908-526-9894	2170 N. Fleet St., Port Elizabeth, NJ 07201
Maher Fleet Street Terminal	Frans Van Riemsdyk, Maher Terminal Inc.	Tel: 908-527-8200, Fax: 908-526-9894	1020 North Fleet Street, Elizabeth, NJ 07201
Maher Tripoli Street Terminal	Frans Van Riemsdyk, Maher Terminal Inc.	Tel: 908-527-8400, Fax: 908-526-9894	4010 Izmir St., Elizabeth, NJ 07201,
Universal-Maersk Marine Terminal	Ken Karahuta, UMTS Corp., Manager	Tel: 973-589-6200, Fax: 973-465-5806	UMTS, 231 Tyler St., Pt. Newark, NJ 07114
Sea Land Terminal	1. R. Hoban, PANY&NJ 2. Nancy Bartulewicz/Jim Devine, Sea-Land Inc.	1. Tel: 973-578-2131 2. Tel: 908-558-6000	5080 McLester St., P.O.Box 2000, Pt. Elizabeth, NJ 07207
Global Marine Terminal	Kathy Mack, VP	Tel: 201-451-5200	302 Pt. Jersey Blvd., Port Jersey, NJ 07305

Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
Military Ocean Terminal	N/A	N/A	Bayonne, NJ
Auto Marine Terminals	1. J. Malone/R. Hoban, PANY&NJ 2. Dave Husak, NEAT, Manager	Tel: 201-432-7335	403 Pt. Jersy Blvd., Port Jersey, NJ 07305
New Haven Terminal	1.Martin Tristine 2. Jim Schein	1. Tel: 203-469-1391x255 2. Tel: 203-469-1391x284	100 Waterfront Street, New Haven, CT 06512
Gateway Terminal	Orest T. Dubno	Tel: 203-467-1997	400 Waterfront Street, New Haven, CT 06512
CILCO Terminal	1.Martin Tristine	1. Tel: 203-469-1391x255	Contact Address: 100 Waterfront Street, New Haven, CT 06512. Cilco Terminal is situated at 535 Seaview Avenue, Bridgeport,Connecticut

RAILROADS

CHAPTER 3

RAILROADS

3.1 Overview of Rail Freight Transport in the U.S.A.

The nation's freight railroads are an important part of the U.S. economy and a critical component of today's transportation system. The U.S. rail industry is almost totally privately owned and maintained. Two U.S. Class One rail companies (CSX, Norfolk Southern), and two Canadian (CP, CN), are operating in the eastern part of United States. Class II railroads have revenues between $20.3 to $253.7 million, and Class III (which include also all switching and terminal railroads) has operating revenues of less than $20.3 million. (Ref.R2)

Table R-1
Vital Statistics

CATEGORY	STATISTIC
Number of railroads (1997)	550 (including 9 Class 1 operators in U.S. and Canada
Number of employees (1997)	279,222 (200,717 freight only)
Employee wages (1997)	$14.1 billion
Freight traffic (1998)	1.8 billion tons in 28 million carloads
Intermodal units handled (1998) (Ref. R47-I)	8.8 million units
Trailers	3,353,032
Containers	5,419,631
Top commodities handled	coal (736 million tons or 40% of total tonnage), chemicals, farm products, non-metallic minerals, food products, metallic ores and mixed freight
Freight cars in national fleet (1998)	1,315,667(up from 1,270,419 in 1997)
Locomotives in national Class 1fleet (1998)	20,261(up from 19,684 in 1997)
Active track	147,055 miles

●In 1997, railroads handled 39% (measured in ton-miles) of the nation's intercity freight traffic. They are the predominant mode of transportation for coal, grain, and new motor vehicles (Ref.R1), whereas motor carriers have had a 29% share (ton-miles)in these commodities (Ref.R18-a , R18-b).
●Revenue ton-miles for Class I rails in 1996 was 1.36 million, a 31% increase from 1990.
●The Class One carriers account for 73% of the nation's rail mileage operated, 89% of freight railroad employees and 91% of freight railroad revenue.

●The intermodal market share has grown dramatically. By 1997 it captured 25% of total freight shipments moving 500 miles or more (Ref.R8). In the future, rail intermodal operations are expected to experience more modest growth rate, primarily due to trade-related conditions and the unbalance between containerized imports and exports moving through US ports.
● In 1998, in the USA more than 10 million units were transported in the U.S. and Canada.
●Carload freight (not including intermodal data) rose by 2% to 18.1 million cars in 1998. The growth in US carloads was led by motor vehicle activities (a 5.3% increase in 1998), non-metallic minerals (a 6.1% increase) and coal (a 3.5% increase). (Ref.R32).

U.S. railroads today have more equipment in revenue service than they have had in years. Aggregate capacity has increased for the sixth consecutive year, from 122.6 million tons to 127.6 million tons. Aggregate horsepower has increased by 5.2% to 63.3 million. The reason for the increase in capacity is due mostly to an efficient utilization of equipment and facilities. Canadian Pacific (CPR) is increasing the maximum standard length of its trains, from 7,200 feet (120 cars) to 9,000 feet (150 cars), using improved information systems permitting operation of longer trains. CSX is working toward a 25% increase in its hump yard capacity, minimizing the amount of switching required for a car to move across the system. It is also acquiring bigger, more powerful locomotives, mostly 6,000 hp (Ref.R3-d). Rail primary shipment is expected to grow from 1,813 million tons in 1997 to 2,249 million tons in 2007, with revenue of $44.6 billion (Ref.R6).

3.2 Technology Trends

Several significant improvements to rail cars and the rail system were developed in prior decades, and some are still under development. They include:

- Fully enclosed tri-level or bi-level railcars used to transport automobiles and small trucks;
- Doublestack service which is a method to move shipping 2 levels of containers on single cars or multiple articulated platform cars;
- Trailer-on-Flatcar (TOFC), also known as “piggyback”, carries highway trailers or containers on chassis on rail flatcars or articular spinecars and Iron Highway, now called Express Way, is an intermodal transportation system that consists of a series of flat cars upon which truck trailers are rolled on and off;
- Container-on-Flatcar (COFC), is a method of moving containers on flatcars without chassis;
- Carless Technologies, such as RoadRailers *(see Fig. R-7),* have the capability to move on the highway or railroad on a special set of wheels. In 1995, Ecorail system which combines truck and rail technology to ship freight from road to rail, was invented. The bogies consists of four rail wheels and a pneumatic lifting device, and uses control units to move conventional highway trailers.
- Modification of railcar wheels
- Improved coupler mechanisms; and improved suspensions
- Dual powered locomotives, which allow for greater flexibility, since they can both draw power from electrified rights of way and run on diesel fuel in other areas
- Development of high-speed rail (TGV) which can be also used for fast cargo movement
- Logistics in rail systems

Other innovations in equipment include: electronically controlled pneumatic braking system; positive train separation (PTS) system, which schedules train more closely thereby increasing the capacity of lines; automatic equipment identification tags and wayside readers; and a standardized electronic data exchange system.

3.3 Advantages of Intermodalism

The major advantage in intermodalism is the use of combined services of rail and highway modes which maximizes the efficiency of both modes. Intermodalism combines the flexibility and nearly unlimited access to industrial and commercial freight locations of trucks and the railroads' greater economy in long haul transportation. Typically, in delivery to a destination of more than 300-500 miles it would be more cost effective to use rail as a mode of shipment [(Ref.R33)]. Intermodal traffic, has grown to become the second largest rail serving component. Also, the increasing demand for rail transport for farm products, coal, lumber, chemicals, metals, and, in particular, automobiles, contributes to the growth of rail intermodal business. Despite the strong competition between rail and motor carrier industries in specific markets, rail and motor carriers have been working closer together to serve customers with their intermodal service. Public-private investment in intermodal terminals is one way to provide needed capital. Information sharing between partners and cooperative ventures will allow intermodal continued growth and provide opportunities for continued infrastructure investment [(Ref.R3-b, R4-g)]. For view of rail intermodal terminal see *Fig. R-3 and R-3A.*

> In 1998, the top US intermodal railroads were: Burlington Northern Santa Fe, with 2.87M units; Union Pacific, 2.39 million units; Conrail with 1.29 million (acquired by CSX/NS); and CSXT, with 0.74 million units [(Ref.R5)].

3.4 Future Trends in the Rail Industry: Standardization, Deregulation, Consolidation

- *Information*

Timely, reliable shipment information is critical to ensuring the success of intermodal service. New technology and computer systems are needed to ensure that freight flows seamlessly as it travels from origin to destination. In 1979, American National Standards Institute chartered the accredited Standards Committee X-12, which released the official standard for EDI, ANSI X-12, used today with wider application. International carriers tend to use EDI for Administration, Commerce and Transport (EDIFACT), a standard adopted by the United Nations. In 1984, the US Customs Service created its own EDI system for cargo called Automated Broker Interface/Automated Manifest System. To deal with this development, in 1994 ANSI Standards Subcommittee X-12 created a Custom subgroup to promote cooperation in developing transport and commerce EDI requirements [(Ref.R10).] Logistics system and wide use of e-commerce have changed the face of the industry and created new opportunities.

- *Deregulation*

The Staggers Rail Act avoided government freight subsidies and provided only minimal government intervention. Instead, it fostered a rail freight system emphasis on private sector skills and decisions.

The railroads were given new opportunities such as:

- greater leniency to shed marginal assets, however, despite these reductions, railroads still had excess network capacity
- railroads are now able to negotiate contracts with the customer, rather than through Surface Transportation Board regulated rates
- railroads can reduce crew size according to their requirements

● *Consolidation*

Over the past three years the consolidation of the rail freight industry continued. It has seen the merger of Burlington Northern and Santa Fe, Southern Pacific acquisition by Union Pacific, division of Conrail (Ref.R23-c) between CSX and Norfolk Southern, and the merger of Canadian National (CN) and Illinois Central. In December 1999, CN - the largest railroad in Canada and BNSF, the second-biggest in the United States, announced a $6 billion merger plan that would create a North American rail freight system with a stock market valuation in excess of $16 billion (Ref. R5-e). That union would create a 50,000 track mile transcontinental system from Los Angeles to Chicago and Halifax, a potential rival to Port of New York and New Jersey. In result, CSX and NS could be pressed into either forming alliances or making new acquisition. Additional mergers now would distract these railroads from needed improvements and restoring service to the level before the Conrail take-over. Also, as fewer large railroads come to dominate North America, rail customers are becoming increasingly uneasy over the apparent lack of competition (Ref. R60-a). The latest merging proposal was deferred by STB in March 2000, pending new merger rules, which will be proposed in October 2000 and scheduled to be adopted in 2001.

The impact of the Conrail acquisition by CSX & N/S has been extensive.
CSX gained:

- Direct service to all major markets east of Mississippi River, serving points north of Philadelphia for the first time, especially two ports: New York-New Jersey and Boston
- Single-carrier service on major North-South lines that connect Southeast and Northeast markets

Norfolk Southern gained:

- Direct access to major Northeast destinations, direct routes between the Southeast and Northeast
- Access to New England and Eastern Canada through connections with Canadian Pacific and Guilford Transportation System, and serving three new ports: NY-NJ, Philadelphia and Baltimore (Ref.R4-l).

Consolidation of terminals reduced the total number of intermodal terminals in North America from 1,500 in 1977 to 370 in 1998 (Ref.R2). Acquisition of Conrail by CSX and NS reestablishes competition in our region. An increase in intermodal traffic will soon outgrow facility capacity available west of the Hudson. Development of intermodal facilities is therefore critical to the growth of service (Ref. R4-b, R12, R34).

Short Line Railroads

More than 650 shortline and regional railroad in US operate more than 47,000 miles of track. In May 1999, US Secretary of Transportation Slater announced the introduction of a new $3.5B rail

direct loan and guarantee program (Railroad Rehabilitation and Improvement Financing Program - RRIF) , which will benefit shortline and regional railroads, and is administered by the Federal Railroad Administration. This program is expected to help finance highway-grade crossing elimination projects and to assist in financing track rehabilitation to accommodate 286,000-pound cars (Ref. R58, R1-b).

In the New York downstate region and adjacent states, several freight handling short lines provide a valuable addition to the main intercontinental rail network.

TABLE R-2
Pre- and Post-Conrail Acquisition Data for CSX and NS (Ref. R4-b, R-11-e, R13)

	CSX	NS
Revenue (1998)	$4.96 billion	$4.22 billion
Revenue estimated (1999)	$6.5 billion	$6.0 billion
Percent of CR acquired	42%	58%
Value of acquired CR freight	$1.67 billion	$2.04 billion
Total revenue after acquisition	$6.58 billion	$6.14 billion
Eastern rail market share (before sale)	39%	32%
Eastern rail market share (after sale)	52%	48%
Cost to acquire CR properties	$4.2 billion	$5.8 billion
Pre-merger route miles	18,300	14,400
Post-merger route miles	23,000	21,600
Locomotives (before/after split)	2,829/3,646	2,300/3,500
Freight cars (before/after split)	100,500/121,500	89,000/126,000

3.5 Rail Transport in the New York Metropolitan Region

In the New York metropolitan area, rail lines carry a small portion of the region's freight tonnage. The nearest cross-Hudson rail passage is at Selkirk, near Albany. Since rail has only a 3 percent modal share east of Hudson River, this places great strain on the region's infrastructure, particularly its highways (Ref. R60-a). For the past thirty years, the bulk of the half-billion tons a year of freight that flows into the New York (Ref. R11-g), has arrived by truck. The result of the region's reliance on trucks are higher costs, limits to economic growth and mounting traffic congestion. Recently, improvements to rail freight as a potential tool to improve freight transportation have received attention (Ref.R9). The New York City Economic Development Corporation's study (Ref. R74) found that although rail's share of freight movements in the area is expected to decrease, total rail freight

movements in northern New Jersey are expected to increase by 13 percent from approximately 70 to 80 trains per day by 2020. It is expected that 80 percent of new traffic diverted from trucks will be carried by intermodal trains (Ref. R60-a).

The local rail system is composed of various mainlines and branch lines. The railroad network is shown in *Fig. R-1 and R-1A.* Railroad companies which now operate in the metropolitan area network include:

- CSX Transportation
- Norfolk Southern Railway
- Consolidated Rail Corporation (a subsidiary of CSX and NS which services the northern New Jersey shared assets area). Conrail, freight carrier which served the region from 1976, was in 1999 acquired by CSX and NS (Ref.R21, R22, R23, R40).
- Canadian Pacific Railway
- New York short lines:
  - New York & Atlantic Railway (operating over MTA-Long Island Rail Road tracks)
  - New York Cross Harbor Railroad (NYCHRR, operated under New York Regional Rail Corporation)
  - South Brooklyn Railway (SBK)
- New Jersey short lines

Most of the New Jersey short lines are grouped in the New Jersey Shortline Association. The lines play an important role in the regional economy, complementing the Class I intercontinental transportation network by moving the goods over the short distance from one to an other location. The average length of short lines operation is about 30 miles, and they handle between 1,500 and 30,000 carloads per year.

Key Facts:

- In New York City, rail carries 2.8 percent of the total freight volume (tons), whereas 39 percent of the nation's freight volume (tons) is moved by rail (Ref.R14, R17). The New York metropolitan region is principally a freight consumer.
- Between 1973 and 1989 the New York metropolitan area rail freight car loadings declined by about 75%, whereas the nationwide rail freight decline in this period was only 20% (from 27 million to 18.6 million tons) (Ref.R14).
- Terminating traffic far exceeds originating traffic by a ratio of almost 7 to 1.
- Rail intermodal loadings in New York, as well as nationwide, are rising. From 1994 to 2004, annual compound growth rate (CAGR) is expected 5% (Ref.R73). Mercer Management Consulting identified 23 million tons of commodities as ready for potential diversion to downstate rail (Ref. R-21). For potentially divertible traffic and market size *see Fig. R-6.*
- Overall, the principal inbound commodities for New York City are food, farm products, and pulp/paper. Long Island chief imports include food, pulp/paper and lumber/wood products. New York City area originating rail traffic includes primarily waste/scrap shipments. Over 80% of the commodities are carried in boxcars, refrigerated cars or hopper cars (Ref.R4-e).

The State of the Rail System in the NYMTC Region

The current rail system in the metropolitan area is obsolete and has many weaknesses. Some of the problems are:

- Conflicts with passenger service, operating inefficiencies, such as line-haul/short-haul transfer,
- Substandard clearances (Ref.R16), rail cars weight restrictions, and lack of a direct rail river crossing, except by barge.
- In other places the absence of state-of-art rail technology, such as double-stack containers and trailer/containers-on-flat-car (TOFC, COFC) capabilities contributes to the low utilization of rail in the region.
- In some areas there are no rail services. Also, the decline of New York railroads is magnified by the lack of the demand for the rail market and the shift in the industrial base. Several freight branch lines, as well as the yards, have been inactive, abandoned, or underutilized. Some of these properties can be revitalized in the future (Ref.R15).

Clearances and weight restrictions are the most important rail freight problems in the region. While some lines west of the Hudson River have full double-stack clearance, none on the east side do. The current restriction of overhead clearances on rail routes to the metropolitan area prevent the national car fleet from entering the NYC and LI market (Ref.R16). Modern double-stack containers cannot pass the overhead height restrictions. High-cube double-stack transportation requires a clearance of 22 feet. Trailer-on Flat Car (TOFC) and standard Plate "F" boxcars require 17'-6" clearance.

Several years ago, clearances from Selkirk Yard to Tarrytown were raised to 19' to allow transport to a now-defunct General Motors plant. Freight tracks within New York City and Long Island have clearances allowing Plate C cars requiring 15'-6" of vertical clearance. Currently, the only double-stack service to Brooklyn is via the New York Cross-Harbor Railroad. In the future it should be possible to reach New York City by double-stack via a newly-rehabilitated Arthur Kill Lift Bridge, connecting Union County in New Jersey with the North Shore line on Staten Island. In addition, there is a proposal by the NYC Economic Development Corporation to construct a new rail freight tunnel connecting Brooklyn with Greenville, New Jersey (Ref. R4b, R4-h, R11-b, 11-c, 11-d, R38-a and b, R43-a). (See Cross-Harbor Rail Tunnel NYCEDC proposal, *Fig. R-29.)*

In 1999 CSX and NS completed an infrastructure investment in the New York/New Jersey region in the amount of $121 million.

TABLE R-3
Rail Freight Investments by CSX/NS in the NY/NJ, in 1999 (Ref. R39)

Company	Amount (millions of dollars)	Description of infrastructure investment
CSX $49m	($16M)	Expand siding on River Line
	($4M)	Expand Little Ferry intermodal terminal
	($26M)	Expand Kearny intermodal terminal
	($3M)	Construct new transload terminal at Port Elizabeth
NS $48m	($15M)	Expansion of Croxton Intermodal Terminal
	($20M)	Increase clearance in Pattenberg tunnel for doublestack service
	($8M)	Expand siding on Lehigh Line
	($5M)	Additional track and facilities at Allentown, PA.
CSAO	$24M	Various track, signal and yard improvements throughout local service area

Table R-4
New York State Rail Statistics (1998) (Ref.R1)

Category	Statistic
Class I Railroads	CSX Transportation, Norfolk Southern Railway, CP Railway
Mileage operated (all railroads-not incl. trackage rights)	3,675
Carloads transported	1.3 million
Employees	16,680 (including 3,316 freight employees)
Employee wages	$921 million

TABLE R-5
Top Commodities Handled in New York State in 1998 (in Tons) (Ref.R1)

Commodity	Quantity (millions of tons)
Originated-	

Commodity	Quantity (millions of tons)
Chemicals	2.4 (21%)
Waste and scrap	1.65 (14%)
Food products	0.932 (8%)
Nonmetalic minerals	1.2 (10%)
Petroleum	.947 (8%)
All other	4.4 (38%)
Total originated	11.6
Terminated-	
Coal	10.9 (39%)
Chemicals	2.3 (8%)
Food products	3.0 (11%)
Farm products	2.4 (9%)
Primary metal products	1.7 (6%)
All other	7.7 (27%)
Total terminated	28.04

TABLE R-6
Rail Activities in New Jersey and Connecticut 1998 (Ref. R1, R42)

Category	Statistic-NJ	Statistic-CT
Number of Railroads	15	8
Mileage operated (all railroads, no trackage rights)	911	401
Carloads transported	1,069,445	37,730
Employees (living in state)	7,994	2,190
Employee wages (in millions of dollars)	398,965	108645

Table R-7
Top Commodities Handled In New Jersey and Connecticut in 1998 (in tons)(Ref.R1)

Commodity	Quantity (millions of tons)-NJ	Quantity (millions of tons)-CT
Originated-		
Chemicals	0.908 (12%)	0.080(6%)
Waste and scrap	0.701 (9%)	0.228 (17%)
Petroleum	0.917 (12%)	N/A
Mixed Freight	2.0 (27%)	N/A
Containers	0.70 (9%)	N/A
Non-metallic minerals	N/A	0.953 (72%)
Pulp/paper	N/A	0.016 (1%)
All other	2.16 (29%)	0.017 (1%)
Terminated-		
Coal	1.2 (6%)	N/A
Chemicals	3.14 (16%)	0.34 (13%)
Food products	2.9 (15%)	N/A
Transportation equipment	1.6 (8%)	N/A
Non metallic minerals	N/A	1.0 (39%)
Primary metal products	N/A	0.27 (10%)
Mixed freight	5.6 (28%)	N/A
Lumber, wood products	N/A	0.28 (11%)
All other	5.6 (28%)	0.42 (16%)

3.6 Company Profiles

CSX (Ref. R18-b, R41-a)

Contact person and address:
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Corporate Structure

CSX Corporation, headquartered in Richmond Va, is a provider of multimodal freight transportation and contract logistics services around the world. CSX combines rail, container-shipping, barging, intermodal and logistics services. It employees over 34,500 people. Its operating income in 1998 was $1.2 billion, and net earning was $537 million. The corporation includes CSX Transportation, the railroad subsidiary, with headquarter in Jacksonville, Fla. It is a Class 1 eastern railroad providing rail freight transportation over a 23,000-mile network in 23 states and Canada. CSXT operates 144 terminals. It has port access and connections with western and Canadian railroads and shortlines. Other subsidiaries are:

❑CSX Intermodal Inc.- Provides transcontinental intermodal services and operates a network of dedicated intermodal facilities across North America. CSXI runs 300 weekly dedicated trains between its 49 terminals. CSXI has a revenue of $800 million a year, which accounts for 7% of CSX's operating revenue and 3% of operating income in 1998. Facilities number 49 terminals in 1999. The largest one is located in Chicago. In this metropolitan area, CSXI owns the Little Ferry Terminal as well as other terminals in New Jersey and New York.

❑ Sea- Land - For the past few years, global container shipping fundamentals have been problematic, with vessel over-capacity driving down rates despite generally strong growth in world trade. In December1999, CSX sold the Sea-Land international shipping operation to Maersk, keeping Sea-Land's domestic business.

❑CSX's Non-Transportation section- Includes resort-holding, real property inc, and energy business. Customized Transportation Inc. (CTI), faster growing unit of CSX, is one of nation's leading third-party logistics providers, offering inventory management, distribution and warehousing, assembly and J-I-T delivery services in 129 locations. In 1998, the company handled 102.2 million transactions at the 99.99 percent accuracy rate (Ref. R41-a).

Routes

The key service corridors are: from Chicago to NY, Montreal and Boston; a route between East St. Louis and NY/Boston via Cleveland and Buffalo; I-95 corridor from Miami to NY and Boston; Chicago to the Southeast via Nashville and Atlanta; Chicago to Baltimore, Philadelphia and NJ markets; a route between Michigan and the Southeast; and a route between New Orleans and the Northeast.

Table R-8: Commodities and Volumes

Carloads (in thousands)

Main Commodities Transported by CSXT in 1998 and 1997 (Ref.R 41-a)

Commodities	Carloads 1997	Carloads 1998	Revenue 1997($mill.)	Revenue 1998($mill.)
Automobiles	387	412	543	533
Chemicals	435	444	747	731

Commodities	Carloads 1997	Carloads 1998	Revenue 1997($mill.)	Revenue 1998($mill.)
Minerals	445	455	394	398
Food/Consumer Products	149	142	163	156
Agricultural Products	269	277	347	360
Metals	316	318	314	318
Forest Products	471	457	499	493
Phosphates/fertilizer	506	539	292	302
Coal	1714	1651	1560	1498
Total	4,692	4,695	4,859	4,789
Other revenue	-	-	130	167
Total revenue	-	-	$4,989	$4,956

Rail Operations and Issues

In 1998, CSX has invested hundreds of millions of dollars to improve the truck competitiveness of rail network. CSXI has completed a $130 million terminal expansion program including new facilities in Chicago, Philadelphia, Cleveland and Atlanta. These outlays, complemented by the completion of the railroad's $220 million project to rebuild and improve its water level route, created a state-of-the art "superhighway" between Chicago, New York and New England. The CSXT rail lines parallel to I-95 and I-85 corridors are providing a lower cost, more environmentally favorable intermodal alternative to the trucks (Ref.R41).

CSX Intermodal operates over 8,000 modern intermodal trailers. Each week, it operates over 80 doublestack and 200 dedicated intermodal trains nationwide. The Frequent Flyer, daily 48-foot light-weight insulated container service, is available to 30 states, with coast-to-coast service of six days from many locations.

The Conrail acquisition, jointly with Norfolk Southern, which was approved by Surface Transportation Board in June 1998, created clear public and economic benefits from bringing two strong competitors - CSX and NS - into the densely populated and commercially strong Northeast. However, the process of acquisition of Conrail slowed down CSX activity, and delayed several operations over the combined lines. In 2000, the advantage of the acquisition began to compensate for the technical problems.

Norfolk Southern Corporation (Ref. R25, R41-b, R42)

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Corporate Structure
Norfolk Southern Corporation is a Virginia-based holding company that owns and controls a major freight railroad, Norfolk Southern Railway Company (NS). Norfolk Southern was incorporated on July 23,1980, under the laws of Virginia Commonwealth. In 1982, NS acquired control of two major operating railroads, Norfolk & Western Railway Company and Southern Railway Company (NW and Southern). In 1996, NS' railroads operated more than 14,500 miles of roads in 20 states in US (including NYS), and in Ontario (Ref.R26). The company employed 25,830 people, 23,361 directly in the rail service (R41-b). In 1998, the total asset of company was $18. 2 billion and there were 24,300 employees. The company net income was $734 million, 2% up from 1997. The railway operating ration was 75.1 (up from 71. 3 in 1997 (Ref. 25). In 1999, NS together with CSX acquired Conrail freight rail lines and expanded its track and equipment ownership capacity.

❑ Another subsidiary is a natural resources company, Pocahontas Land Corporation.

Routes
Integration of Conrail's routes permitted NS to add or improve three service routes to link Northeast and the Midwest: the Penn Route, connecting New Jersey to Chicago, Southwest Gateway route, providing direct service between Northeast and Kansas City, bypassing the busy Chicago gateway, and Southern Tier, an important double-stack route into the New York metropolitan area market (Ref.R25).

Commodities
The main commodities handled by NS in the eastern region are agricultural products, metals and construction products, paper and forest, chemical, motor vehicles, coal and coke, general carloads, and intermodal (Ref. R41-b). In 1996, the rail revenue Ton-Miles were 129.8 billion and rail carloads including trailers/containers were 4.6 million. Motor carrier shipments were 0.4 million. The principal operating sources (percent of total transportation operating revenue) were:

Coal	- 27%	Automotive	- 10%
Motor Carrier	- 14%	Intermodal	- 10%
Chemicals	- 12%	Agricultural Products	- 8%
Paper/Forest	- 11%	Metals/Construction	- 8%

Rail Operation and Issues
The NS rail facilities include:

Thoroughbred Bulk Transfer Terminals:	10
Triple Crown Services Terminals:	13
Automobile Distribution Facilities:	6
Coal Transloading Facilities:	3
Intermodal Terminals:	33

NS spent $1.07 billion for capital projects in 1999, including $300 million for improvements on former Conrail lines that became part of the NS network. NS also said it would allocate $87 million of capital funds for equipment productivity projects, including rebuilding of coal cars, gondola cars for steel and covered hopper cars that carry grain or other bulk commodities. Roadway projects include rail, crosstie and ballast improvement, bridges upgrading, signals and communications, terminal improvements, double-tracking upgrade and additional sidings. Other plans include new RoadRailer service to the South and Midwest, and coordinated freight service with the Canadian Pacific to reach markets near Albany and into New England and eastern Canada (Ref.R4-j).

NS Railway currently has connections with approximately 235 regional and short line railroads through the Southeast, East and Midwest. The expanded network includes 24 classification yards, 115 bulk distribution terminals, 38 auto distribution terminals and 32 auto assembly plats, 65 coal mines and 64 lumber reload centers, and has access to 13 seaports and seven lake ports. The railroad's system, after acquiring part of Conrail's lines, is extending over approximately 21,600 miles of road in 22 states, District of Columbia, and Province of Ontario in Canada.

The high cost of absorbing its 58% portion of Conrail and the loss of business flowing from service problems caused NS's net income to drop sharply from $734 million in 1998 to $239 million in 1999. The operating ratio was 86.2% for the year 1999. These data reflect risks and rewards of mergers (Ref. R3-e). The main issue for the rail activities is to overcome problems related to implementation of the Conrail-owned line and resolve a labor dispute. In the 2000, company expects to improve its service, decrease long-term debts and increase earning.

Canadian Pacific Railway (CPR) (Ref R46)

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Corporate Structure
CPR, a transcontinental, Calgary-based rail company, is part of Canadian Pacific Limited, a group of companies representing three branches: Transportation (rail/ships), Energy (PanCanadian Petroleum and Fording Coal), and CP Hotels & Resorts, with assets exceeding US $12 billion. It is the oldest continuously operating railroad in North America and fifth largest railroad network. It has 20,000 employees in Canada, the U.S. and overseas. CPR moves about 300,000 railcars per year. CPR and its divisions invested in rail infrastructure ($700 million in 1998) and penetrated the rail market south of Canadian border.

Routes
CPR operates a total of 15,300-mile routes. Through its subsidiary, Delaware & Hudson Railway (D&H), serves the Northeast rail market. D&H operates in six states, the District of Columbia and Ontario, on 1,500 miles of track. With the breakup of Conrail, D&H expanded its access to Buffalo, and connection to New Jersey and New York City shortlines. Access to East Jersey, Port Jersey, and New York Cross Harbor is by the new access via Binghampton or Allentown, and to New York City (Fresh Pond Junction) via Oak Point Link/Harlem River Yard from north. From Scranton, Allentown to Newark/New York, and further south to Harrisburg, Philadelphia and Washington, CPR has running and haulage rights on tracks.

D&H moves approximately 100,000 railcars per year. The primary Class I interchange partners are Canadian National, CSX, and Norfolk Southern. It also interchanges traffic with 24 shortline railroads. D&H Company owns the overhead trackage rights into the metropolitan area, including access to Oak Island Yard, the main northern New Jersey intermodal facility. CPR has running and haulage rights on tracks from Scranton and Allentown PA, to Newark/New York, and further south to Harrisburg, Philadelphia and Washington. The company reaches customers in the Conrail Shared Asset Area through a trackage and haulage agreement with NS *(see page R-20)*.

CP's focus is on expansion into the U.S. Northeast via an upgrade of the Delaware & Hudson line, trackage arrangements with CSX Transportation and Norfolk Southern, and new reload centers and transfer facilities at Philadelphia, Albany and east of Hudson River. CP's St. Lawrence & Hudson Eastern Division is trying to buy an abandoned railway that would give it access from the Port of New York & New Jersey to Staten Island, where CP Ships calls at Howland Hook Container Terminal. This would offer a single-line haul from New York/New Jersey to Central Canada and Midwest. The bid faces opposition from U.S. railroads (Ref. R4-r).

CP Railroad expects to use the Harlem River Yard for intermodal shipments. CPR is planning to introduce its Expressway service in New York.

Commodities/Volumes
Current and potential commodities include newsprint, lumber, flour, canned goods, frozen and fresh produce, wine and beer, rail transit equipment, plastic resins, scrap metal and recycled paper. With the coming closure of the Fresh Kill landfill on Staten Island, CPR is exploring opportunities to handle municipal waste as well as construction and demolition material (Ref. R7-e). CPR handled the amounts of the following products/services: Intermodal (18%), Industrial products (15%), Automobiles (7%), Grain (23%), Coal/Sulphur/Fertilizers (28%), Forest Products (9%).

Rail Operations and Issues
Through a stipulation of the Surface Transportation Board ruling over the Conrail Acquisition, CPR has begun to enter Fresh Pond Yard in Queens to interchange directly with the New York and Atlantic Railway. In July 1999, CPR began running a daily freight train into NY's Oak Point Terminal. CPR also intends to expand truck transfer capability by establishing new transload and warehousing facilities in the area.

In 1999, CPR has sought permission to serve HRY directly, instead of through switching provided by CSX for a per-car fee. They have also sought regulatory approval to serve Hunts Point (Ref. R4-m). STB agreed to let CP serve Hunts Point produce market, two other Bronx yards, but rejected CPR's request to serve intermediate points between Albany and NYC (Ref. R46-e).

CPR expects to use the Harlem River Yard for intermodal shipments, and hopes to introduce its Expressway service to the New York market.

New York and Atlantic Railway (NYA) (Ref. R20-b, R44, R59-a, R59-b, R59-c, R59-d)

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Corporate Structure
In November 1996, MTA-LIRR, which handled both passenger and freight traffic on Long Island and part of Brooklyn and Queens in New York City, decided to privatize its freight operations. This approach was recommended by Mercer Management Consulting, Inc., in its "New York Downstate Rail Freight Study", issued in 1995. The highest bidder was Anacostia & Pacific Corp. (A&P), the New York based private firm that owns and manages several regional and foreign shortlines. It leased the LIRR operation for 20 years (plus a 10-year renewal option) for total cost of $12.7 million. This concession, approved by Surface Transportation Board, lead to the creation of the New York and Atlantic Railway, a shortline owned by Anacostia Rail Holding, an affiliate of Anacostia & Pacific Company Inc. NYA began operating on May 12, 1997.

The Conrail breakup is viewed as positive by NYA, because the interchange with CSX, CP and Providence & Western may enhance timely freight delivery and truck-competitive pricing, as well as create new markets and opportunities for rail freight. As stated by Bruce Lieberman, NYA CEO, in 1999 the railroad has reduced Long Island truck traffic by 45,000 tractor-trailers per year.

NYA currently provides freight service in Queens, Brooklyn, and on Long Island, and manages all freight transportation over LIRR tracks and routes. Rail freight on Long Island represents a small part of the transport market.

Routes
The NYA provides freight service on 269 miles of track, and on several branches of LIRR: the Montauk Branch, the Port Washington Branch, the Atlantic Division, the Bushwick Branch (connected to the LIRR Montauk Branch), and the Bay Ridge branch. Most of NYA's network is shared with MTA-LIRR passenger services. The NYA meets with the CSX, CP Railway and Providence and Worcester railroad systems at Fresh Pond Junction and continues freight movement north, through the Hell Gate Bridge to the Oak Point Yard. From the Oak Point Yard they continue their routing via the Hudson (served by CSX, CP Railway) and via New Haven lines (Providence and Worcester Railroad), or continue to New Jersey by interchanging with the New York Cross Harbor Railroad at 65th Street Yard.

Commodities and Volumes

After two years of operation, the annual NYA's carloads in1999 stood at 11,000, and has 80-plus customers, including Case Paper, Browning Ferris and Georgia Pacific.In 1998, the NYA handled the following carloads: (Ref. R59-e)

Quarter	*Carload*	*Tonnage*
1	3,539	315,000
2	3,620	322,000
3	3,424	304,000
4	3,173	282,000

Major commodities are: food products and consumer goods, paper, lumber, chemicals and plastic pellets, aggregates, iron and steel, waste and scrap. Traffic break down is as follows: Rocks - 40%; Scrap Metal/Paper for Recycling - 19%; Paper for Printing - 14%; Lumber - 10%; Others - 17%.

Rail Operations and Facilities

NYA operates regular trains Monday through Friday, coordinated with CSX and CP, to expedite traffic connecting with main-line trains. Additional service may be provided on as-need basis. NYA has 30 employees based at Fresh Pond Junction and Pine Aire. The railroad's main line complies with FRA standards for Class 4 track, which permits freight train to operate at speeds up to 45 mph. There are seven scheduled trains daily, hauling 15,000 carloads annually, mostly inbound loads. Single stack TOFC/COFC service is planned for the New York City/LI market. Ramp locations are being considered in Suffolk County and Brooklyn. However, the 15'-6" Hell Gate Line connection between Fresh Pond Junction and Oak Point Yard prevents TOFC and Plate "F" boxcar service (Ref. R 60).

Bulk transfer facilities are available. Individual programs are tailored specifically for shipping requirements, such as shipment of debris from the 64-mile, 20-foot diameter water tunnel being constructed from Westchester County to Brooklyn, one of the biggest public works projects ever. Debris are transferred in Maspeth rail station, using the world's largest perpendicular conveyor belt, and by RS-100 (*Stone Train*) transported to Prima Asphalt at Holtsville. Other aggregate loads are brought in from Wallingford, Conn, by P&W, arrive at Fresh Pond in 40-car cuts, and are delivered to Prima within a day. Potential customers include New York City and Long Island town municipal solid waste. New York City's Fresh Kills landfill is scheduled to close in 2001, at which point 13,000 tons a day of city trash will be shipped out of town. That can provide a constant predictable source of revenue, and NYA want to play a major part in that long-term solution, hoping to overcome the public resistance to the idea.

Cold storage facilities are available at Garden City and Westbury. Lumber transfer terminals are at Long Island City and Babylon. Dry storage facilities are at Deer Park, Farmingdale, and Bridgehampton. Brick distribution facilities are at Long Island City and Bridgehampton. Intermodal services are available between Garden City, NY. There is plan for a transload facility for TOFC and other intermodal shipment at the former Pilgrim Hospital facility. There is also the possibility of working with Amtrak to run RoadRailers for mail and express between Hicksville and

northern New Jersey. Company uses logistics solutions, and maintains electronic data interchange (EDI) with connecting carriers (Ref. R59-e).

Issues
There are several operational and infrastructure issues facing NYA .

Operational:
There is a lack of sufficient freight yards, which means NYA trains have to unload on sidings either private or LIRR-owned. Also, existing yards (such as in Garden City) are not available for freight use. Another problem is the competing need for track time with LIRR's 730 daily passenger trains.

Infrastructure:
A critical vertical clearance restriction on the MTA-LIRR main line will be eliminated by 2001, when the permanent Mineola Blvd bridge is constructed. The bridge is located over the LIRR Main Line, which would be a rail route to a potential intermodal development in Deer Park, Suffolk County. This bridge will permit operation of a trailer-on-flat-car trains which require 19'-6" of clearance. Vertical clearances represent an obstacle to the movement of larger dimension freight cars. There are locations where low bridges or other obstructions prevent the movement of cars such as trailer on flat car (TOFC), double stack, or high cube box cars. NYA lines have Plate C clearances.

Along with low clearances, weight restrictions on tracks also limit freight transportation. The Long Island Rail Road has a carload weight limit of 263,000 lbs while fully loaded, as compared to 286,000 lbs allowed on tracks in common use elsewhere in the country. Currently, 286,000 lb. freight cars are unloaded in New Jersey. Several local companies have expressed a willingness to convert from truck to rail, if the weight restriction is lifted (Ref. R60, R70).

The other problem is presence of several grade crossing over the line route. New York State DOT is trying to eliminate these dangerous intersections, or to provide them with a warning system.

New York Cross Harbor Railroad (NYCHRR) (Ref. R44) *(see Fig. R-12)*

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Corporate Structure
New York Regional Rail (NYRR), a publicly owned company with $1 million annual revenue in 1998, is currently the operator of NYCHRR. The NYCHRR, which was created from the merger of the New York Dock Railway and Brooklyn Eastern District Terminal, operates under contract/trackage rights. It is the only freight carfloat operation left in the region and the metropolitan region's only provider of cross-harbor carfloat service between Brooklyn, Long Island and New Jersey, linked with the national rail-freight network. The NYCHRR is an alternative to hauling rail traffic up to Albany, crossing the Hudson River rail bridge at Selkirk, and then coming

down to New York City. To cover the 288 mile round trip freight trains need about three days, while the New York Cross Harbor's barges and tugs need only 45 minutes to transport box cars, tanks and gondolas across Upper New York Bay. Cross Harbor's rail system can accommodate double-stack railcars.

Commodities and Volumes

The main commodities handled in 1998 were: bricks and other construction material, lumber, pulpboard, food, paper, cocoa beans, containers, chemical, plastic pellets, transit equipment (subway cars), and municipal waste. The Cross Harbor Railroad is also capable of moving hazardous materials. Currently, sixty percent of the railroad's carloads consist of municipal sludge that is transported to Texas facilities, and solid waste that is transported in containers to Virginia. NYCHRR also has plans to handle NY garbage (about 200,000 ton daily) by rail out of the region.

The NYCHRR, benefitted from the recent Conrail acquisition by CSX and NS, and increased its business to average 72 rail cars per day in a 5-day work week. The annual volume increased sharply from about 4,000 boxcars in 1998 to 6,000 box cars in 1999, and is expected to move 10,000 railcars in 2000. NYCHRR estimates that with all four barges and floatbridges running on a 24-hour 7-day schedule they could move 250,000 railcars per year (Ref. R60-a,R-63). The three-mile cross-harbor trip costs about $300 per rail car, which is comparable to trucks rate.

Currently, NYCH is capable of carrying only 38,000 round-trip revenue carloads per year, due to the limitation set by the capacity of Greenville Yard. The railroad now makes one or two trips per day. Building four new high-capacity float bridges (as suggested in the 1997 *"Intermodal Freight Movement"* study) would increase capacity to a 250,000 cars a year, which is equivalent to 660,000 trucks or 8.8% of the total Hudson River crossing. Other future options include float bridge service to a renovated Howland Hook Terminal (which can add another 76,000 carloads per year, equivalent to 228,000 trucks or 3% of annual Hudson crossing), and expanded service to Oak Point Yard. In future, NYCHRR plans to replace its barges with high-speed loading and unloading vessels or intermodal ferries. A fixed price service is also considered as a way to provide reliable increased service to customers (Ref. R60).

Routes

The essential routes include the cross harbor car float operation connecting the 51st Street Yard (Brooklyn) and Greenville Yard (New Jersey), the main line which traverses First Avenue from Fifty first Street Yard to 65th Street Yard as well as a branch to the yard at Second Avenue and 38th Street.

Rail Operations and Facilities

NYCHRR is connected to the following Class I and shortlines rail companies:

In New Jersey: CSX Transportation; Canadian Pacific Railway; Norfolk Southern Railway; Port Jersey Railroad;
In New York: the New York & Atlantic Railway, and New York City Transit Authority (Ref. R63).

NYCHRR has the following services available: dockside/shipside delivery, including the South Brooklyn Marine Terminal and Red Hook; dimensional expertise, permitting the transport of items over 20 feet high and over 13 feet wide anywhere in the Port of New York and New Jersey; bulk transloading, through Liberty Transmodal, established as a provider of bulk (including both food grade and industrial commodities), transloading services at New York and New Jersey terminals; Warehousing, covering over 1 million sq. ft. of indoor storage and over 10 acres of outdoor storage, with complete security and USDA certification; and intermodal capability, permitting handling both TOFC and COFC equipment. In addition, a circus ramp permits handling vehicles and machinery (Ref. R63). Currently, NYCHRR owns four three-track barges, two of which can carry 10 to 12 cars and two of which can carry 12 to 15 cars (Ref. R60-a).

In preparation for increase their access to the New York and New Jersey marketplace (which gives them immediate access to three long-haul Class 1 railroad), NYRR upgraded its trackage and track components, improved float bridges and pierage facilities, purchased three 2,400 HP general purpose locomotives and upgraded four other switching engines. In 1998, the company acquired a majority interest in J.S. Transportation (which specializes in short-haul freight in NY, NJ, Connecticut, Pennsylvania and Delaware). NYRR uses that purchase to complement and boost its intermodal operations in the New York metropolitan area. In October 1998, NYRR entered into a rail-freight terminal handling agreement with Stockton Transmodal Inc. (STI East Inc), a trans-load bulk terminal operator in Northern California, to develop and handle both inbound and outbound intermodal and bulk rail freight for NY metropolitan area. As a result of the agreement with STI East Inc, a new third-party entity called Liberty Transmodal Inc,was formed. This new joint venture is responsible for establishing trans-load bulk operations at Cross-Harbor's rail facilities, including Bush Terminal Yard and Greenville Yard in New Jersey.

In November 1998, the company signed a "Handling Agreement" with Norfolk Southern (NS), the first formal agreement with the region's Class One railroads. NYCHRR connects with NS through the northern New Jersey Shared Assets Area that is operated by the new Conrail. Under this agreement, NS would interchange bulk intermodal freight with Cross Harbor at Greenville Yard and then transport freight on barges that carry railcars across NY harbor to Bush Terminal Rail Yard in Brooklyn. The deal also calls for Cross Harbor, NS and Liberty Transmodal Inc. to jointly market the bulk intermodal service. In May 1999, agreement gave NS exclusive access to NYCHRR transload facility, when it is completed.

The NYCHRR plans to make the following improvements in the future:

* rebuild the Greenville floatbridge and build additional floatbridges on each side of harbor.
* rehabilitate the Bush Terminal Yard 51st Street)infrastructure, and complete the new bulk terminal facility (currently under construction)
* replace three locomotives and upgrading their four switching engines.
* replace self propelled carfloat and buy the new high-speed vessels for cross-harbor trips

In a Cross-Harbor Freight Movement MIS issued in 2000, NYCEDC suggested a freight mobility improvement program, carried out in phases, to improve railcar float system. That program includes development of a float facility next to Howland Hook Marine Terminal in Staten Island and

additional facilities in New Jersey, along with improvement of Greenville Yard (Ref. R-60-a).

Issues
Liberty Transmodal is in the process of improving facilities to increase the movement of rail-freight, such as rebuilding pierage and float bridges, increasing track capacity, paving and installation of structure supporting comprehensive terminal operation. These improvements will soon be needed to support expected increased rail freight traffic. The NYCEDC *"Cross-Harbor Rail Freight Major Investment Study"* (Ref. R-74) predicts that upgraded railfloat operations would divert 2.2 million tons of cargo annually from trucks crossing the Verrazano and George Washington bridges. The rail-float system is projected to run 24 barge crossings per day, compared to 2-4 daily crossings today.

AMTRAK - Freight Operations

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Corporate Structure
Amtrak (The National Railroad Passenger Corporation, *see Fig. R-8 and R-8A*) is an operating railroad, most of whose stocks are owned by the US government through the US DOT. Its principal business is to provide national rail transportation services in the major intercity travel markets of US to the general public. The corporation is grouped into three strategic business units organized along geographic and market segment lines, and serves intercities on West and on East Coasts. The Northeast Corridor serves region stretching from Virginia to Maine, including New York City.

In 1994, Congress and the Administration directed AMTRAK to develop a strategy to eliminate subsidies and achieve self-sufficiency by 2003. In December 1994, AMTRAK Board of Directors adopted 1995-2000 strategic business plan to achieve elimination or significant reduction of federal operating grants. If AMTRAK will not meet the goal of self-sufficiency by 2003, plans for restructuring or liquidation will begin. As one of way to reach that goal, AMTRAK reinforced its freight business, known as Amtrak Mail & Express Service (Ref. R3-d, R4-p).

Routes
AMTRAK operates in 45 states in the U.S. Its routes are covering many cities and metropolitan areas across the United States including the North East Corridor and the Empire Corridor in New York State. Freight is handled along the passenger cars. Shippers in time-sensitive commodities have a good option with Amtrak Mail and Express. Departure and arrival times for Amtrak Mail & Express are the same as for 22 million passengers. Shippers can reduce inventories since they can count on AMTRAK arrivals.

Commodities and Volumes
Mail and express service is becoming an increasingly important component of Amtrak's revenue

stream. In 1999, total mail (mostly magazines and bulk mail) revenue reached $82 million. In addition to mail, Amtrak carries package shipments, canned goods, food products, beverages, printed material, auto-parts and general freight for less-than-truckload carriers. J-I-T shipment is also part of transported goods. The Mail & Express Service service has been growing, generating $98 million in revenue in 1999, up from $80 million in 1998, and is expected to reach $229 million in 2003. The possible future commodities (with the use of refrigerated boxcars) are meat, poultry, fruits, and vegetables (Ref. R4-p).

In November 1999, Amtrak reached a 15-year agreement with ExpressTrak LLC, a Detroit company specializing in shipping perishable products. Approximately the equivalent of three truckloads of perishable commodities such as fresh fruit and vegetables can be carried in each railcar. Because perishables will move at passenger train speeds, up to 90 mph, on tight schedules, the service will ensure fresh delivery for buyers in distant markets (Ref. R4-n). Express freight delivery service, that competes with truckload carriers, holds the promise of becoming a profit center for AMTRAK helping to supplement the revenue of its passenger rail services. The AMTRAK price for RoadRailer intermodal trailer service is comparable to current truckload carrier rates of $1.20-1.40 for each trailer-mile. Boxcar service is cheaper than RoadRailer, and Amtrak plans to exploit that on cross-continent trips. However, AMTRAK currently handles no more than 1% of the truckload traffic in any freight corridor. Amtrak is negotiating with several railroads to operate trains longer than 30 cars, the current limit placed on the company by track owners. (Ref. R5-b, R5-d, R57-a)

Rail Operations and Facilities

Amtrak currently utilizes the following types of rail cars: 50-foot Express Cars; 60-foot Express Cars; 48-foot RoadRailers; 53-foot RoadRailers; Refrigerated Express Cars; Refrigerated RoadRailers (Ref. R57-b). In 1998, Amtrak purchased 120 RoadRailer units, increasing its fleet of 291 RoadRailers already in service, and plans to have 1,000 intermodal trailers in service by the 2000. In 1999, Amtrak rolling stock includes 250 boxcars, 200-mail-handling cars, about 400 RoadRailers, it leases seven ReeferRailers, and own up to 300 refrigerated boxcars (Ref. R4p).

Issues

To achieve self-sufficiency by 2003, as mandated by Congress. To increase and modernize freight services handled along its passenger business.

Amtrak has no short-term plans to build a Mail & Express facility in New York. Instead, Amtrak is investigating linking with NYA at Sunnyside Yard in Queens, from which the local railroad would handle mail and perishables. The company is also investigating potential sites for a facility in northern New Jersey. Most cargo destined for that area is now handled by Philadelphia's 30th Street Station (R57-c).

South Brooklyn Railway Co. (SBK) (Ref. R44)

Contact person and address:

●Mr. John J. Johnson, SBK, Superintendent or Joseph Vucovits, Manager
13-11 Water Place, Bronx, NY 10461, Tel: 718-319-5517 or 718-243-4935, Fax: 718-319-5516
Address of Facility: 39 St and 2nd Avenue, Brooklyn, NY 11232

Corporate Structure
SBK is a short line operating in Brooklyn. The rail line and its 2nd Avenue terminal is owned by the City of New York and is operated by MTA-New York City Transit. The SBK railway interchanges with the NYCHRR at 39th Street where the line is terminated (Ref.R17). For SBK rail yard rail alignment at 37-39th Streets *see Fig.R-13.* According to the NYMTC survey, the company has one permanent employee and additional workers are hired on "as needed" basis.

Routes
The rail line operates in Brooklyn over a short distance, needed to handle assembled subway cars and railroad material to the MTA yard on 9th Avenue and 38th Street. According to the New York State annual report for railroads, SBK owns 1.5 track miles in the New York metropolitan area, moved 28,650 gross ton miles, and locomotive fuel consumption was 224 gallons, which represents the profile of a small rail freight carrier (Ref.R47-h).

Commodities and Volumes
The primary commodity is new subway cars. Delivery of 1,500 new railcars, ordered by MTA, is currently ongoing. Other commodities handled by this terminal are railroad material. The product (mostly railcars) originate in Canada, Japan, and Plaxville, in New York State. Railcars from manufacturers are assembled in NY upstate plant, and distributed to the 2nd Avenue facility on flatbed (by rail) or by trucks.

Rail Operations
At one time the SBK was a freight carrier involved in hauling many different types of commodities to siding s along McDonald Avenue and other locations including its main customer - the New York City Transit Authority. It no longer has customers other than the NYCTA. It interchanges new railcars and railcars needing rehabilitation with the New York Cross Harbor Railroad at its yard on Second Avenue and 38th Street. Equipments available in the facility are two 50-ton Diesel/electric locomotives.

Issues
There are currently no plans to improve or expand this short rail system.

New York City Economic Development Corporation (NYCEDC)

Contact person and address:
● Andrew Genn, Director of Strategic Port Planning, NYCEDC, 110 William Street/5th Floor, New York, NY 10038, Tel:212-312-3783.

NYCEDC is a non-profit organization, designated by the City of New York to promote economic development in New York City. It is not a railroad company. Currently, NYCEDC is conducting the Cross Harbor Freight Movement Major Investment Study (MIS) to address deficiencies in rail freight movement in the New York City region.

There are several existing rail freight terminals that are owned by the NYCEDC and served/operated by NYCHRR and/or by New York and Atlantic Railway. Rail terminals at Atlantic Terminal, 65th Street, and Howland Hook are described below. Another NYCEDC-owned property, the Brooklyn Army Terminal, is currently inactive as a freight transportation facility.

Canadian National Railway Company (CN) (Ref. R4-o, R5-c, R7-b & d, R44, R56-a, 56-b, 56-c)
See Fig. R-9.
Contact person and address:
● Frederic M. Jones, Marketing Director, 14 Brook Drive, Chester, NJ 07930, Tel: 908-879-4239.

Corporate Structure
CN is Canada's largest railroad system and sixth-largest North America railroad, based on 1996 revenue of $4.1 billion. Almost $2 billion of revenue comes from eastern North America operations. CN owns approximately 17,000 route miles of track across Canada and 950 miles in the United States. The railroad currently does not operate in the New York/New Jersey area.

Routes
The company is only coast-to-coast railroad in America, serving all Canada's major resource regions and cities with strategic connection to all major US railroads, including Chicago gateway. The company has sole access to the Port of Halifax, which can accommodate fully loaded PostPanamax class vessels, and is a day closer to Europe than any other port on the East Coast. The strategic importance of this port is increasing with the size of vessels in intercontinental service. The St. Claire Tunnel has enhanced CN's competitive position in the growing Halifax-Chicago corridor by reducing delivery time by auto carriers from Detroit, as well as movement of doublestack containers.

Commodities and Volumes
Products handled are: industrial products, forest products, grain and grain products, coal, sulphur and fertilizers, intermodal, and automobiles.

Rail Operations and Facilities
CN has invested in the use of sophisticated computer systems and high-tech devices that monitor the safe movement of trains and track equipment and the detection of potential track problems. Electronic track evaluation system (TEST) is a source of information about track conditions. There are currently 416 electronic trackside inspection systems located across CN core network and entrance to high-density centers, which include hot-box, hot wheel and dragging equipment detectors. CN has also wheel impact load detector network, consisting of 11 sites linked to repair points and monitored on a 24-hour basis. CN's developed Beltpack technologies permit safe and remote control of trains in yards.

In 1998, CN increased capacity of its Toronto, Montreal, Calgary and Edmonton terminals and opened a new facility in Chicago. The main rail facilities are located in Canada and Midwest (Chicago, Detroit).

In 1999, CN acquired the Illinois Central Railroad and entered into a marketing agreement with Kansas City Southern (KCS), to create a single line rail service between Canada and the US Gulf Coast region (Ref. R5-c, R7-d). They plan to capitalize on the rapidly growing north-south trade and reach Mexican markets which have doubled in the five years since the passage of North American Free Trade Agreement (NAFTA). The $2.4 billion merger deal will create the first major international rail system. Consolidation and integration is proceeding slowly and is expected to be completed in fall 2000 (Ref. R4-o). Now, CN is bidding to extend its transcontinental network into the U.S. by combining with the much larger Burlington Northern Santa Fe Railway. It wants to offer a "single-line" service through much of the U.S. and to/from Canada and Mexico. The deal is on hold pending the 15-month moratorium on rail mergers, imposed by the Surface Transportation Board (STB) on March 2000 (Ref. R4-r).

3.7 Rail Facility Inventory

This section describes the physical and operational characteristics of the rail network, and existing and potential railroad freight intermodal facilities/yards located within the metropolitan region. Due to the nature of the railroad system, this section concentrates on the description of rail companies and organizations who own yards and terminals in the metropolitan region.

3.7.1 *Main Routes Serving the Region*

Hudson Division (Ref.R18, R19)

Contact person:

● *Mike Brimmer, CSX, Tel: Tel: 609-409-2029, Fax: 609-409-2406*

Alignment

The Hudson Line route starts from Selkirk Yard (south of Albany) and is the only direct railroad route from locations west and north of New York City. This line continues to Poughkeepsie, Spuyten Duyvil, Highbridge, Mott Haven Junction interlocking, Port Morris and terminates at Oak Point Yard (OPY) in the Bronx. Oak Point Yard is CSX's chief classification facility in NYC.

Ownership

Starting south of Poughkeepsie the Hudson Line right of way is owned by MTA Metro-North Railroad.**Physical Clearances**

The existing low bridge clearances limit freight car movement such as double stack and container service. With the completion of Oak Point Link in1998 clearances improved, although it is a problem to accommodate double stack trailers (DST) and hi-cube double stack freight. The line north of Tarrytown has a clearance of 19'-6", which is sufficient for auto carriers, and the clearance between the Oak Point Link and Harlem River Yard is also 19'-6". However, the portion between Tarrytown and Oak Point Link has a height restriction of 17'-6" in three places, and there is also a height restriction between OPY and Hunts Point, which precludes double stack operation. In winter 2000, NYC DOT removed an obstruction under the bridge leading to the Oak Point Yard. As a consequence, Plate "F" boxcars (the new industry standard) can now reach Oak Point. But insufficient clearance on a pedestrian footbridge/utility bridge near Yonkers still prevents trailer-on-flat car intermodal trains from traveling south of Poughkeepsie. According to CSX, Metro-North,

NYSDOT and refinery management are negotiating to solve this problem [Ref: R43-d]. The national standard for intermodal rail clearance is 23 feet. See *Fig. R-30* for intermodal rail clearance standards. New construction and rehabilitation is required to accommodate a 20'-6" clearance.

Usage
CSX operates five to six freight trains per day, and CP Railway runs two trains per day over this line.[Ref. R20-c] Both railroads operate under a trackage rights agreement with MTA Metro North.

Commodities
The commodities include general freight, food and municipal waste.

Issues
The use of this line is restricted by vertical height, permitted weight and time restrictions. Freight delivery schedule is unflexible because of passenger service priority by MTA-Metro North Railroad and yard capacity. According to the "Goods Movement in Westchester County, Final Report" [Ref.R24], truckers such as J.B. Hunt and UPS increased their contracts with the railroads for their long haul transportation, especially between their loading centers. This trend will eventually encourage the revitalization of freight movement by rail in the region. However, any significant increase of traffic connection to Brooklyn, Queens, and Long Island, would require additional yards capacity and restructuring the system [Ref.R19, R24].

New Haven Division
Contact person:
● *Mike Brimmer, CSX, Tel: 609-409-2029, Fax: 609-409-2406*

Alignment
The New Haven Line begins at the Cedar Hill Yard and goes through Connecticut and enters the Bronx in Pelham Bay Park, then passes through Oak Point, crosses the Hell Gate Bridge, and continues into Queens to connect with the NYA at Fresh Pond. This line provides limited access to the northern and eastern markets.

Ownership
The portion of the line from New Haven Union Station to the New York State line is owned by the State of Connecticut. From the New York to New Rochelle, the line is owned by MTA Metro North. A line owned by Amtrak, the Harlem River Division, branches off from New Rochelle to the Hell Gate Bridge. Starting from South Norwalk and Danbury Terminal, the Providence & Worcester (P&W) regional railroad shares trackage and overhead rights with CSX, MTA Metro-North, and Amtrak.

Clearance
Clearances are governed by the overhead catenary system. These clearances allow for some road railer services. No double stack service is allowed.

Usage

CSX is serving customers between New Haven and South Norwalk. The part of the New Haven line is in Connecticut. Starting from South Norwalk and Danbury Terminal, the Providence and Worcester (P&W) shares trackage and overhead rights with CSX, MTA-MetroNorth and Amtrak. The operations hub for P&W is in South Worcester, Massachusetts [Ref.R20-a].

Commodities
P&W moves asphalt from Danbury plant to serve shippers on Metro North's Danbury Branch and on the Devon-Derby Junction segments and also moves a unit train of aggregate that is interchanged with the New York and Atlantic Railway at Fresh Pond Yard in Queens.

Issues
This right-of-way serves as a vital link in the Northeast Corridor high speed intercity rail network [Ref.R15]. There is intense passenger use of the line. The line presents some difficulty in allowing conventional TOFC and doublestack service.

West Shore Line (River Line)
Contact person:
● *Mike Brimmer, Tel: 609-409-2029, Fax: 609-409-2406*

It is a major freight rail line from Midwest market to the New York metropolitan area. 30-40 trains daily are moving over this line.

Alignment
The line begins at the Selkirk Yard, just south of Albany, and terminates in New Jersey at the North Bergen Yard.

Ownership
Former Conrail, the line is owned by CSX Transportation.

Clearance
Clearance restrictions were completed to allow the passage of double stack rail cars composed of two domestic containers, 9'-6" height, double-stacked (which requires a minimum clearance of 22 feet).

Usage/Commodities
Interstate usage and light usage for local freight movement in northern New Jersey and part of southern New York State.
Commodities: Automotive, general freight, consumer goods, agricultural products, paper, plastics.

Issues
Issues include potential use as a commuter rail line.

3.7.2 *Branch Lines*

Putnam Industrial Line

This line runs parallel to the Hudson Line and was abandoned for passenger use in 1958 and for freight service in 1982. Eventually, the rail tracks were removed. Parts of the line have been converted to a multi user recreational trail.

West Side Line

This line branches off the Hudson Division at Spuyten Duyvil and follows Manhattan's West Side south down to 14th Street. The existing northern portion is used for passenger service by Amtrak to Penn Station, but south of the station the line is currently inactive. The portion below 30th Street was partly demolished. Conrail in the past owned that line and had considered the possibility of reactivating 1.6 miles of this line from 34th Street to Greenwich Village for the transportation of recycled material and demolition material. CSX has operating rights, and may want to retain it for possible future rail service as development of the West Side continues (Ref.R4m, R11-f). CSX is currently negotiating the future of the elevated freight platform with several interested parties. The line could potentially be connected to the rail freight network around Penn Station in Manhattan, and offer freight service as well as passenger service to the Lower West Side, once the rail line has been restored (Ref. R74).

Bay Ridge Branch

Contact person:

- Joel Torres, NYA, Tel: 718-497-3023

Alignment

This line starts at Fresh Pond Yard (Queens) and ends at Bay Ridge Yard at 65th Street in Brooklyn. The Bay Ridge Line is a grade separated line from Fresh Pond Junction in Queens to the 65th Street Yard along the Brooklyn waterfront, 11 miles in length, and designed for FRA Class I (10mph) service. Originally designed as a 4-track line, which at its peak in the 1950s could carry 600,000 rail cars a year, the line now has only one track in service.

Ownership

MTA-LIRR owns the Fresh Pond-Bay Ridge section of Fremont Industrial Line, and leases the freight operation over this line to the New York and Atlantic Railway (NYA). There is no passenger service over this line.

Clearance

The right-of-way is sufficiently wide to accommodate two tracks, however an existing active 12" oil pipeline would needed to be relocated. Also, currently most of the vertical clearances of the 32 structures on the Bay Ridge Line are approximately 17 to 18 feet. This clearance is insufficient for accommodating trailer-on-flatcar (TOFC) which requires 17'-7" or double-stack freight which requires 20'-6". In order to increase the clearance, track would be lowered by approximately three feet. In addition, from Fresh Pond Yard to Hunts Point Market in the Bronx, vertical clearance would be increased to 17'-7" to allow TOFC service (Ref. R74).

Usage

In 1998, this line handled 6,000 rail cars. Under the New York City Strategic Port Plan, the Bay Ridge Line would be used to shuttle marine containers that arrive in Brooklyn to inland transfer facilities in Brooklyn and Queens. Vertical clearances are an operating hindrance.

Port Morris Branch
This branch connects the Hudson and Harlem divisions with the Oak Point Yard , and has limited freight handling activity by CSX since the Oak Point Link was placed in service (Ref.R17).

Oak Point Link
The Oak Point Link is a freight bypass to the busy Hudson and Harlem lines of Metro North. It is owned by the State of New York and opened on October 1998. It provides access to the Harlem River and Oak Point yards. Two railroads use this line, CSX and CP Railway. It serves to divert freight traffic from portions of the Hudson and Harlem lines which currently experience high levels of passenger service.

Fremont Industrial Track
The Fremont Industrial Line runs from Oak Point Yard in the Bronx to Fresh Pond Yard in Queens. It is owned by CSX and sees 4 freight trains per day. It is an important gateway to New York City and Long Island. It provides the bulk of the interchange traffic to the New York and Atlantic Railway.

Harlem Division (Ref.R17, R18):
Contact person:
● Tom Egan, Tel: 617-783-6214

Alignment
This line starts from Wassaic in Dutchess County and ends at Mott Haven Junction in the Bronx, where it links to the Hudson Division. This line, shared with MTA-Metro North Railroad, provides local freight service.

Ownership
The lined is owned by MTA Metro North.

Clearance
Restricted due to overhead bridges.

Usage
CSX conducts four to five local operations on weekdays from Oak Point to White Plains via the Harlem Line, to Pelham via the Amtrak/Hell Gate Line, and to Stamford (Connecticut) via the New Haven Line.

Commodities
Commodities include lumber, wood products, food produce, general freight

Issues
Improve clearances. Expand services.

Staten Island Rail Road (SIRR) (Ref. R45)
Contact person and address:
● Andrew Genn, Director of Strategic Port Planning, NYCEDC, 110 William Street/5th Floor, New York, NY 10038, Tel:212-312-3783, Fax: 212-312-3916.

Corporate Structure
Staten Island Railroad was built in early 20th century. It provided both passenger (there are four former passenger stations along the elevated section of the line) and freight service for local businesses, utilizing a now defunct carfloat facility at St. George, and providing a connection to Brooklyn and entire Northeast US. In the 1970s, the line declined for various reasons (economic and social changes, shift from manufacturing to service industry, construction of interstate highways). In September 1991 the line was abandon by its operator.

In 1994, the NYCEDC purchased the portion of abandoned track on the north shore of Staten Island. The remaining five-mile section between Arthur Kill and Cranford Junction located in New Jersey was purchased by NJDOT. The line (previously known as *Staten Island Railway*) starts at the St. George terminal and goes past the Howland Hook Marine Terminal and over the Arthur Kill Drawbridge and runs west through Elizabeth, Linden, Roselle, to Cranford Junction in Union County, New Jersey, where it links with the Lehigh Line, one of the main freight lines in the region.

Routes
This line will provide a freight route to serve Howland Hook Marine Terminal and west shore located industries. For layout *see Fig. R-4.*

The SIRR consists of a 15.3 mile two-track wide railroad right-of-way extending from Cranford Junction in New Jersey across the 558 foot long vertical lift span across the Arthur Kill (which provides clearance of 135 feet over a navigable channel), through Arlington Yard, where it splits east to St. George and south to Travis.

The 3.29 mile long Travis Branch emerges from the North Shore Branch at Arlington Yard and runs south over a bridge at the Goethals Bridge toll plaza, and continues at grade by the oil storage facility and into the Con Edison Arthur Kill generating plant.

The New Jersey portion is 5.2-mile long. It begins at the US bulkhead line just west of the Arthur Kill Bridge, goes over the Northeast rail corridor and the NJ Turnpike, and continues at grade to a physical connection with the Lehigh Line at Cranford Junction, where it could connect with the Norfolk Southern Railway and CSX.

Rail Operations and Facilities
The construction on the Staten Island side has been completed. The Arthur Kill Lift Bridge was rehabilitated in 1997 through a joint PANY&NJ and NYCEDC $30 million effort (Ref. R60). The four

bridges on South Avenue (John Street, Bank Street and Harbor Road), were also rehabilitated and rebuilt for clearance necessary for doublestack operations. Arlington Yard and associated trackage were also rehabilitated in 1998. The New Jersey side is not yet under construction, pending possible connection to the Chemical Coast rail line. The operator of the line is not yet designated.

CSX, CP and NS are still negotiating the trackage rights. There is opposition from Union County which is concerned that trains will pass through the county without serving its local industry. Union County (Policy & Planning) had proposed using a future short line operator of the SIRR to also operate the ex-Rahway Valley Raiload, currently scheduled for revitalization with use of Bond Act (Bridge Trust Fund). This would permit over 100 industries located in the area to have a direct connection to the rest of the country via CSX/NS network (Ref. R47-f). This problem has to be resolved before the line on NJ side will be completed.

Issues

The SIRR revitalization is critical to the 150-acre, 2500-foot berth Howland Hook Marine operations, and for other businesses on Staten Island, such as the 124-acre Port Ivory Industrial Center on Western Avenue, 6.5 acres ECA Warehouse on 60 Davidson Street, 12-acre Cross Sinclare Paper Distribution on Lake Avenue and Richmond Terrace Industrial Park.

Plans to connect the SIRR to the Chemical Coast Line are also being advanced by the Port Authority. West part of Chemical Coast rail line is run by the Union County. The connector to SIRR will provide a near-term solution to grade-crossing issues, while plans to eliminate grade crossings and land use conflicts on the New Jersey side are also negotiated (Ref. R45). In June 2000, PANY&NJ approved a $35 million investment to complete a rail link between Staten Island and the NJ Chemical Coast Line, which will provide useful rail connection between Howland Hook and Arlington Yard to the mainland and ease trucking over the Goethals Bridge (Ref. R4-i, R35, R43-e).

3.7.3 Descriptions of Yards and Intermodal Facilities

Description of Rail Yards Served By CSX

Virtually, all major rail freight terminals and yards located east of the Hudson River are served by CSX and the NYA. As a means of increasing competition, the Canadian Pacific Railway also enters the region and serves Oak Point Yard, Harlem River Yard and interchanges directly with the NY&A at Fresh Pond Yard. The Providence & Worcester Railroad also serves the region. For a description of terminals served by these lines see pages 31-36, 60-64, and 89-90 of this report.

Description of Major Existing or Potential Sites In New York

The following are current/potential freight-handling rail stations on the east side of Hudson River that are currently served by CSX:

- ✓ Harlem River Yard - Bronx (see description below)
- ✓ Hunts Point Market - Bronx (see description below)
- ✓ Oak Point Yard - Bronx (see description below)
- ✓ Bronx Terminal Market - Bronx (see description below)

- ✓ Tarrytown -Westchester County
  The main rail customer, General Motors, closed in 1996. Future use may include mixed use development, not freight related.
- ✓ Yonkers - Westchester County
  This rail siding is occasionally used by Cablec Inc., and by Kawasaki Corp, which assembles rail transit rolling stock in the Port Authority Industrial Park. It can be also used by Refined Sugars, Inc., which currently utilizes the waterborne and truck modes, and by other industries in the South Hudson, Central and North Riverfront in Yonkers.
- ✓ Port Chester - Westchester County
  This siding serves oil refineries, however most of the products are transported by trucks and water. The reestablishment of the rail siding is contingent upon market demands and the operational capacity (Ref.R27).
- ✓ Kings Bridge - Bronx Siding
  Occasional freight movement spotted.
- ✓ Port Morris - Bronx. Siding
  Occasional freight movement spotted

Harlem River Transportation and Distribution Center (Harlem River Yard or HRY)
(Ref. R43-c, R44)
For a layout of the yard *see Fig. R-21*.

The HRY site, which originally served as a piggyback yard for the New Haven Railroad, fell into disuse in 1972. Up to the 1980s the yard had minimal rail activity, generated mostly from Baldwin Newsprint involving about 3,000 railcars per year. In 1982, NYS DOT recognized the strategic importance of the site as a regional intermodal facility and began the process to the purchase property. The purchase was finalized in 1984. In 1988, NYS DOT studies (by Temple, Barker & Sloane, Inc), recommended a multi-use development of HRY, involving distribution, material-handling facilities and other economic activities that would complement rail operations. In 1991, the site was transferred to a private developer, Harlem River Yard Ventures, (HRYV) on a 99-year lease and became a privately run industrial park. It includes garbage reloading facility for commercial waste using rail (about 25 railcars per day) and long-haul trucks to transfer waste to landfills in Virginia, and a paper recycling mill, which uses limited rail transport (up to two railcars per week). The storage area within the HRY is currently being used to support industries like the paper recycling plant.

- ■ *Contact Person:* Mr. Anthony M. Riccio, HRYV Vice President, Tel: 718-402-6952, Fax: 718-402-6862
- ■ *Location/Address:* The facility is located in the Bronx under the Willis Avenue Bridge and is adjacent to the Triborough Bridge. Address is: 98 Lincoln Avenue, Bronx, NY 10454.
- ■ *Owner/Operator:* This terminal is owned by the New York State Department of Transportation (NYS DOT) and is operated by Harlem River Yard Ventures, Inc., (HRYV)
- ■ *Size:* The current intermodal terminal occupies 28 acres along the northern portion of the yard, including two 3,000-foot long loading/unloading rail tracks that

stretch between the Willis Ave & the Triborough bridges. Additional track space is under consideration so both CSX and CP can provide dual services.

- *Serving Rail Line:* The facility is served by CSX and Canadian Pacific.
- *Nearest Highway:* The nearest major highways are I-87 (Major Deegan Expressway), and I-278 (Bruckner Expressway), located less than one mile away. The site has connections to New England Thruway (I-95), Triborough Bridge and Third Avenue Bridge.
- *Access:* Primary access to the facility is via East 132nd St. and Bruckner Blvd, and secondary access is from Alexander Avenue.
- *Employees:* Operation of the terminal currently generates about 70 jobs.
- *Rail Tracks:* A CP bulk transfer facility will be open in 2000. It will use one of the two intermodal track with 50 carspots. CP plans to extend its facility in the Bronx, and a permanent terminal location and facility outline is now under design.
- *Capacity:* An estimated 2,000 rail cars per year could be handled at the proposed bulk transfer and team track area. In 1999, facility handled 15,000 containers/year. The storage of railcars can be handled by the Oak Point Yard, which is less than ½ mile away and has significant unused capacity.
- *Equipment/Services:* Facility handles containers (COFC) and some hoopers.
- *Terminal Condition:* fair
- *Rail Operation:* Average two-three trains a day or10 to 15 per week. Each train carry 50 to 100 freight cars. Facility is still not in full operation waiting for OPL overcoming clearance problem to Hunts Point Market.
- *Truck Movement:* Expected number of truck trips per day is 760 (Ref. R73). In 1999, it were only about 200-300 truck trips, because of facility not yet working fully.
- *Commodities:* The two railroads now transport approximately 72 freight cars per day (60 for CSX, 12 for CP) on two trains carrying flowers, potatoes, onions and carrots to Hunt Point Market, as well as UPS packages, some plastic pellets and other bulk products. While the regular connection to Hunt Points is established after the clearance problem is resolved, HRY expects to increase operations and transport to HPM all types of vegetable and fruits.

  Also, CSX moves waste (25 railcars daily) out of the region (Ref. R43-c) . In November 1999, Waste Management Inc. opened a truck-to rail waste transfer station, which can handle 3,000 tons of commercial trash per day. The transfer station is only the second such facility that can export trash via rail from New York (Ref. R48-b).

- *Future Plans:* Facility is not working up to its capability because of unfinished link to Oak Point. That issue will be resolved in Summer of 2000. An estimated one third of the trailers/containers or 85,000-150,000 trailers/containers annually that would ordinarily be diverted to terminals east-of-Hudson, could be attracted to the Harlem River Yard (Ref. R28, R30).

However, compared to rail intermodal terminals elsewhere in the nation this is a relatively small facility. A bulk transfer and team track can be provided at the western end of the site. The facility could serve as loading/unloading area for rail-transferred commodities such as plastic pellets, aggregates or other bulk products. The area can also be used as a team track for loading various commodities depending of market demand. The HRY may also serve as a truck-to-rail transfer station for municipal and commercial solid waste. All transfer station will be enclosed to control air, noise and visual impact. The capacity of this station will be 3,000 tons per day, which translates into 45TEUs, or about 11,000 rail cars per year (Ref. R29, R45).

Hunts Points Terminal Market (Ref. R44)

This is the primary food distribution center for NYC and Long Island (Ref.R49). It is composed of the following tenants: Hunts Point Food Distribution Center; Hunts Point Food Cooperative and Product Association; CSX Transflo; Krasdale Food; A&P; and several other smaller organizations.

- *Contact person:* Philip Shinn, NYCEDC, Tel: 212-312-3552, Fax: 212-618-8898, in charge of food market activity.
- *Location/Address:* The Hunts Point Market is located in South Bronx on a four square mile peninsula. Address: Hunts Points Terminal Market, #2, Avenue M, Bronx, NY 10474.
- *Owner/Operator:* Owned by the New York City. Managed by Hunts Point Market Terminal Association, Inc. General Manager is George Morelas, tel: 718-542-2944
- *Size:* This facility covers 329 acres
- *Serving Rail Line:* CSX
- *Nearest Highway:* The nearest highway is the Bruckner Expressway (I-278), which is congested.
- *Access:* Access is via East 149th St. and Bruckner Blvd.
- *Employees:* This facility generates 10,000 jobs
- *Rail Tracks:* There are 21 rail spurs servicing the merchant warehouses and 13 spurs used as storage tracks at the eastern end of the terminal.
- *Capacity:* There is storage capacity for 500 railcars. In 1999, the facility handled about 6,000 carloads.
- *Equipment/Services:* The Market has 270 warehouse units (refrigerated storage) covering 475,000 sq. ft. of warehouse space, and 330,000 sq. ft. of office space.
- *Terminal Condition:* Needs maintenance.
- *Rail Operation:* One round trip per day.
- *Truck Movement:* The Hunts Point Food Cooperative generates over 1,000 truck trips per day (Ref.R28, R35) .
- *Commodities:* The facility handles mainly the bulk transfer of flour and other bulk food ingredients between railcars and trucks. Flowers, fruit and vegetables are other products handled. The Hunts Point Food Cooperative is the largest food market in the region, which handles over 20 million tons of produce and other goods per year. CSX TransFlo currently owns the Big Apple Bulk

Transfer Terminal, located at the Market, which handles the transfer of flour from rail to truck. That facility is expected to be in operation by fall of 2000.

- *Future Plans:* Lease expires in 2001, and lease extension is being negotiated.

Oak Point Link (OPL) (Ref.R18-c, R18-d, R28, R30, .R36, R37, R-50, R-51).

Contact person and address:

● Paul Pastecki, NYSDOT, State Campus, Office Building 7A/305, Albany, NY 12232, Tel; 518-457-5521, or Jack Madden, 518-457-3632.

In the 1970s, NYSDOT, PANY&NJ, and the City of New York identified a series of capital improvements to improve the rail freight network in the downstate region of NY. These improvements comprised the Full Freight Access Program of which the two most important elements were OPL and HRY. In 1992, DOT awarded a new contract for completion of construction of the Oak Point Link in the Bronx.

In October 1998, the line was opened for service. Class I railroads (CSX, CP) operate freight over the link which provides direct service to HRY and OPY in the Bronx. Tracks are owned by the NYS DOT. The Oak Point Link bypasses the busy Mott Haven rail junction which is utilized by MTA Metro-North Railroad (Ref.R37).

The opening of Link has not increased rail-freight traffic because of clearance deficiencies, weight limits and time restrictions in the region. The current clearance from Tarrytown to CP7 is 19'6", but below Tarrytown is 17'. There are currently about six trains using the Link (Ref.R18-d).

Oak Point Yard (OPY) and AMR Barge-To-Rail Transfer Station *(proposal at this time)* (Ref.R18-c, 18-d, R50, R51).

The South Bronx includes one of the largest industrial areas in the City. In addition to a broad range of manufacturing uses, the area also includes many warehouses and distribution centers. It is also one of a few large industrial areas in New York that is readily accessible by rail. For plan see *Fig. R-31*.

- *Contact Person*: Jerome Mullen, tel:718-579-1935. The CSX contact person is Thomas Egan, tel: 617-783-6214.
- *Location/Address:* 1080 Leggett Avenue, Bronx, NY 10474
- *Owner/Operator:* CSX owns and operates the facility.
- *Size:* The facility covers 50 acres.
- *Serving Rail Line:* CSX and CP Railway serves this yard.
- *Nearest Highway* Bruckner Expressway
- *Access:* Access by trucks is from Bruckner Expressway.
- *Employees:* There are 45 employees.
- *Rail Tracks:* The yard is equipped with 39 tracks.
- *Capacity:* The facility can accommodate 450 railcars.
- *Equipment/Services:* While AMR is opened, the equipment will include one 60-foot span gantry

crane, for handling containers from yard hostler to railcar, and a second crane to move empty containers, in a time of 5-6 minutes. Operation will be facilitated by "auto steer" equipment wherein the crane will follow a signal wire embedded in the roadway. *(Note: this is AMR proposal.)*

- *Rail Operation:* This yard is classification yard. Six outbound trains daily is operating.
- *Truck Movements:* Not large, because of the function of this yard. also, Bruckner Expressway is congested.
- *Commodities:* Various general freight, agriculture products
- *Future Plans:* On the east part adjacent to yard, on site of about 5.6 acres, American Marine Rail LLC (AMR) is proposing to construct and operate a marine-to-rail solid waste transfer facility, located on the East River at 500 Oak Point Avenue, in the Hunt's Point section *(see Fig. R-24)*. The facility will have a capacity of about 5,200 tons per day, and with a payload of 80 tons per car. The trackage on the 15 parallel sidings is capable of storing 85- 87-foot long standard flat cars. Each car is capable of holding two stacked containers with exterior dimensions of 40'0"x8'-6"x9'6" high. The facility will be served by CSX. The cargo will be household and commercial putrescible waste, and solid waste generated within the City of New York. The solid waste will be transported via barges to the facility where it will be unloaded within an enclosed unloading/compactor building, transferred to closed containers and shipped via rail (CSX) to a permitted landfill for final disposal. Once the dedicated unit train has been assembled, the rail cars with the closed containers will be removed from the site within 24 hours.

  Construction will involve the demolition of existing piers and dredging in the East River, to provide adequate space and depth for barge mooring/unloading. Existing bulkheads will be reconstructed, and a new unloading platform and replacement trestle will be constructed over water. The new unloading/compactor building will contain operational space and offices. A part of the site will be developed as a rail yard where trains will be stationed to transport solid waste off-site in enclosed containers. The rail yard includes parallel tracks designed to create sufficient space between the five 3-track grouping for operation of rubber-tired Gantry Cranes. A series of 15 rail spurs lead from CSX track in the adjacent Oak Point Railyard. (Ref. R52, R53, R54). There is a local opposition to this project, scheduled for the 2001.

Bronx Terminal Market (BTM) (Ref. R44, R47-j, R47-l, R55)

This terminal functions as a secondary wholesale food market. Because there is no switch, the facility is currently truck market. For plan see *Fig. R-31*.

- *Contact Person:* Philip Shinn of NYCEDC, tel: (212) 312-3552, and David Newman or Chris Olsen, Strategic Development Concepts, Address: 1075 Central Park Avenue, Suite 410, Scarsdale, NY 10583, Tel: 914-723-5100, Fax: 914-723-6207
- *Location/Address:* This terminal is located south-west of Yankee Stadium and along the Harlem

River in the Bronx.

- *Owner/Operator:* The terminal is owned by the City of New York, and it is leased to Strategic Development Concepts, Inc.(formerly ARO Development Corp.), to operate until the year 2052.
- *Size:* The terminal covers 32 acres
- *Serving Rail Line:* CSX, but rail service is not currently active.
- *Nearest Highway:* The nearest major highway is the Major Deegan Expressway, which is congested.
- *Access:* The access road is Exterior St. that connects to 149th Street and the north bound ramp of the Major Deegan Expressway. Exterior Street (one lane in each direction) is in poor condition, and needs paving, lighting and sighing improvement.
- *Employees:* Strategic Development Concepts has 400 employees on the site.
- *Rail Tracks:* The terminal has 2 rail tracks that extend from Highbridge Yard. The Oak Point rail link runs along the Harlem River, adjacent to the BTM boundary line.
- *Capacity*: N/A
- *Equipment/Services:* The BTM has significant a number of forklifts which are used by the merchants. The terminal has nine warehouses with refrigeration service.
- *Terminal Condition:* Needs of improvement. Access is in poor condition.
- *Rail Operation:* Classification yard
- *Truck Movement:* The terminal operator estimates about 400 truck trips daily. There are also many different businesses within the market, which run its own delivery system.
- *Commodities:* Tropical produce and dry goods/grocery are the major types of commodities handled.
- *Future Plans:* There has recently been a significant expansion of merchants. Access to and from the BTM could be improved by the restoration and replacement of the Cromwell Avenue/East 151st Street intersection linking River Avenue/Cromwell Avenue and points west. The site also would need improvement, such as pavement, lighting, and signage improvement.

Brooklyn Terminal Market (Ref. R47-e, R47-K, R62)
(For plan see Fig. R-44C)

- *Contact Person:* BTMMA, tel: 718-444-5700, Dan Kurtz of NYCEDC, tel: 212-312-3800, or Joel Torres of NYA Railway, tel: 718-497-3023
- *Location/address:* This facility is located in Flatbush on Remsen Avenue @ corner of Foster Ave.
- *Owner/operator:* The facility, built in 1930's, The facility has many tenants and is governed by the Brooklyn Terminal Market Merchants Association (BTMMA).
- *Size:* 25 acres
- *Nearest Highway:* BQE and Gowanus Expressway in about one mile
- *Access:* From Foster Avenue or Ditmas & Remsen Avenue

- *Employees:* About 1,000, employed by separate entities
- *Rail tracks:* LIRR track is going through property.
- *Capacity/Volume:* Handles about handles about 10,000 tons of produce in about 500 rail cars annually, far below its potential, given its location in an industrialized area. Three rail customers are serviced by one train five days per week. Current volume is 2-3 railcars in train or 10 -12 railcars per week.
- *Equipment/Services:* The facility is not modernized and has no platform (being built before forklift trucks arrived), and has restricted rail use.
- *Terminal Condition:* Varies, part of it needs remodeling
- *Rail Operation:* It is served by the Bayridge Branch of NYA
- *Truck Movement:* Extensive daily movement of truck trips over short distances.
- *Commodities:* The commodity is a fresh food products. Food products such as potatoes and onions come by train.
- *Future plans:* There is a plan to revitalize the facility by building a platform and relocating the track.
- *Issues:* None

Description of Yards Served By New York & Atlantic Railway
The freight stations currently served by NYA are as follow:

Main Line - LIC and Southhold :	**Montauk Branch:**	**Bay Ridge Branch:**
Long Island City	Long Island City	Bedford
Jamaica	Blissville	Bay Ridge (65th Street)
Queens Village *(Fig. R-20)*	Nichols Siding	Brooklyn Terminal Market
New Hyde Park	Fresh Pond	**Bushwick Branch**
Westbury	Glendale	Fresh Pond
Hicksville	Richmond Hill	Bushwick
Bethpage	Jamaica	
Farmingdale	Valley Stream	**Port Jefferson Branch**
Wyandanch	Freeport	Hicksville
Deer Park	Babylon	Syosset
Brentwood	Bay Shore	Huntington
Central Islip	Islip	Greenlawn
Holtsville	Sayville	Kings Park
Medford	Patchoque	St. James
Yaphank	Eastport	Setauket
Upton	Speonk	Port Jefferson
Calverton	Southhampton	
Riverhead	Bridgehampton	**West Hempstead Branch**
Mattituck	Montauk	West Hempstead
Southhold		Valley Stream

Long Island City Team Yard (Ref. R44, R47-k)
(For plan see Fig. R-17)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* Arch Street, Long Island City, NY 11618, Queens County
- *Owner/operator:* MTA-LIRR own the facility, which is operated by NYA
- *Size:* 12 acres
- *Nearest Highway:* Long Island Expressway at half-mile distance.
- *Access:* The primary access is from Jackson Avenue, and secondary access is from Crane Street.
- *Employees:* There are two to ten employees in facility (depending on workload).
- *Rail tracks:* The yard has six tracks which are able to accommodate 77 freight cars.
- *Capacity/Volume:* There is parking providing available space for about 30 passenger cars, 75 freight cars. Volume of commodity is about 1,000 to 1,500 pounds per month. number of carload handled per month is 40 to 50.
- *Equipment/Services:* There is limited warehouse availability and service for perishable (refrigerated) goods.
- *Terminal Condition:* The facility is in acceptable condition. The tracks are not congested, and need only moderate routine repairs. Railroad communication service is good.
- *Rail Operation:* Service frequency is one train daily on weekdays, five trains per week. Boxcars and flatcars are the railcars type used. The average transfer time from train to trucks is about one hour and 15-minute. Tracks are class 1 (10mph) with manual block signals. There is 24-hour window of track availability for freight trains.
- *Truck Movement:* About 15 truck round trips per day
- *Commodities:* The main commodities handled in that facility are lumber, bricks, ans food products.
- *Future plans:* Cover tracks rehabilitation, clean-up, and increased security to prevent illegal dumping on tracks.
- *Issues:* The major barriers for improvement are height and weight restrictions over the LIRR network.

Long Island City Yard A (Ref. R44, R47-K, R61)
(For plan see Fig. R-17A)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* This yard is located in Queen Street, Long Island City, NY 11618, Queens
- *Owner/operator:* MTA-LIRR owns the facility, which was operated by NYA
- *Size:* 17-acre
- *Nearest Highway:* LIE, ½ mile
- *Access:* Access from Queens Blvd/5th Street and 48th Ave.
- *Employees:* None permanent
- *Rail tracks:* It has six tracks in service.
- *Capacity/Volume:* Has capacity to accommodate 100 freight cars.

- *Equipment/Services:* N/A
- *Terminal Condition:* Need rehabilitation
- *Rail Operation:* NYA currently uses Yard A only as a rail car storage and maintenance facility.
- *Truck Movement:* None
- *Commodities:* Lumber, brick
- *Future plans:* Original plans to rehabilitate that yard for freight movement purpose (road surface, tracks upgrade, see *NYMTC, Freight Facilities Inventory* issued in 1995), was retracted by MTA-LIRR, which decided to use that yard for passenger's purpose, as future connection of Main Line to Grand Central. The MTA/LIRR East Side Access project will require the use of the entire Yard A for midday storage, as well as cleaning and light maintenance of electric train that will serve Grand Central (Ref. R61).
- *Issues:* That entire property is to revert to the MTA-LIRR in 2002, and will be not in future serving for freight transportation purpose.

Blissville Yard (Ref. R44, R47-K, R61)
(For plan see Fig. R-17B)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* Queens County, New York
- *Owner/operator:* MTA-LIRR/NYA
- *Size:* 2.4 acres
- *Nearest Highway:* The major highway in vicinity is BQE on 2.5 miles from entrance.
- *Access:* Access is from Greenpoint Avenue and Review Avenue.
- *Employees:* None
- *Rail tracks:* The eight existing tracks in facility are not used.
- *Capacity/Volume:* There is a capacity to accommodate 100 freight cars. The freight volume handled in 1994 (last year in operation) was 223 cars per year.
- *Equipment/Services:* None
- *Terminal Condition:* Terminal needs major reconstruction, such as switches installation, removal of existing six tracks and rebuilding two new tracks, and paving the roadway alongside the new yard tracks.
- *Rail Operation:* This yard is currently unused.
- *Truck Movement:* None
- *Commodities:* While in operation, the major commodities was plastics.
- *Future plans:* Future expansion/improvement projects will cover building a new high-level loading dock, and new Intermodal Transfer Center, equipped with pneumatic unloading equipment to transfer bulk commodities from railroad cars to trucks for delivery to local industry, at cost of about $1.5M. Other construction to facilitate access to facility (Rehabilitation of the Dutch Kills Drawbridge) was undertaken by MTA-LIRR, and is close to completion.

The MTA Capital Plan works on preliminary design to construct a new rail facility in connection with Yard A for the MTA/LIRR East Side Access project. It anticipates construction of 4 to 6 unelectrified storage tracks, each of 1,400 ft long, to store a total of 80 to 90 freight cars. In addition, two hand-thrown switches, security fencing and lighting will be installed (Ref. R61).

- *Issues:* There is a height restriction of 15'-9 in this terminal. The opening of that yard depends on the installation of switches, which are the responsibility of MTA-LIRR. Considering the cost of installing a new switch in LIRR manual-block territory is at least $150K, a significant freight volume is needed to justify the initial investment.

Garden City Yard (Ref. R44, R47-K)
(For plan see Fig. R-44A)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* Is located on Stewart Avenue, Garden City, in Nassau County.
- *Owner/operator:* MTA-LIRR
- *Size:* 4 acres
- *Nearest Highway:* The major highway in the vicinity is LIE at a distance of five miles.
- *Access:* There is access from Hempstead Turnpike and from Stewart Avenue.
- *Employees:* None
- *Rail tracks:* Yard contains five tracks.
- *Capacity/Volume:* The yard can accommodate 50 freight cars.
- *Equipment/Services:* The yard is equipped with a truck scale.
- *Terminal Condition:* Yard is in good working condition.
- *Rail Operation:* Currently this yard is used once-a-year for Barnum & Bailey circus train unloading.
- *Truck Movement:* None
- *Commodities:* Major commodities handled in that yard up to 1995 (last year in operation) was food product/frozen food.
- *Future plans:* Depend of decision about the future purpose
- *Issues:* The yard is currently unused due to strong local public opposition which blocked any use of that facility for freight movement.

Deer Park Yard (Ref. R44, R47-K)
(For plan see Fig.22 and 22A)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* The yard is located on Pineaire Drive, in Garden City, in Suffolk County
- *Owner/operator:* MTA-LIRR/NYA.
- *Size:* 23 acres
- *Nearest Highway:* LIE, at a distance of four miles.

- *Access:* from Pineaire Drive
- *Employees:* 6 permanent employees
- *Rail tracks:* The yard has one track, with a capacity to store 100 freight cars. If future development is proceeded, there will be built 3 tracks of length 3,11 feet and one track of 1,600 feet for TOFC/COFC traffic and 3 tracks 2,600 feet long for bulk.
- *Capacity/Volume:* In 1998, freight volume handled was 1,027 carloads/year
- *Equipment/Services:* None
- *Terminal Condition:* Fair
- *Rail Operation:* Currently, rail service frequency is twice daily on weekdays (10 per week).
- *Truck Movement:* N/A
- *Commodities:* paper and lumber
- *Future plans:* This yard is a potential major intermodal (TOFC/COFC) facility in the metropolitan area, conveniently located off the Long Island Rail Road Main Line, bordered on the west by Heartland Industrial Park, and on the east by Sagtikos Parkway. If build, that yard can accommodate mail transport (about 150 truckloads daily), bulk freight and vehicle processing for surrounding region. There is also market for COFC/TOFC transportation.

  In 1999, NYMTC issued a White Paper on developing a new intermodal freight terminal on the property adjacent to the Pilgrim State Hospital complex, accessible to the Long Island Expressway and Commack Road, with main access from Long Island Avenue. The study analyzed short and long term markets for intermodal freight on Long Island, and the advantages of the Pilgrim site. A more in depth study is being done by NYSDOT ("Pilgrim State Intermodal Feasibility Study", contact person is Wayne Ugolik, tel: 516-952-6006), and it covers issues such as economic trends affecting central Long Island, possible range of intermodal services (COFC, TOFC, double-stack containers, RoadRailers, and bulk-transfer intermodal services), define maximum potential for a new facility, and discuss LIRR plans to build a third mainline track. The project will specify work to be done, such as building flat paved area for sorting and storage of containers, truck chassis, and trailers, overhead cranes or lifts, and structures to house security, employees facility and data processing. The study is expected to be completed by the end of 2000. Construction could take up to two years.
- *Issues:* Depend of building the new facility.

Fresh Pond Yard (Ref. R45, R47-K)
(For plan see Fig. R-41, R-41A)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* 68-01 Otto Road, Glendale, NY 11385, Queens. The yard is located at the junction of LIRR's Montauk Branch and the northern end of the Bay Ridge

Line and the southern terminus of the former New York Connecting Railroad.

- *Owner/operator:* Owner is MTA-LIRR, and NYA is the terminal operator.
- *Size:* 10 acres
- *Nearest Highway:* The nearest major highway is BQE (six miles) and LIE (five miles).
- *Access:* Via Metropolitan Avenue/Fresh Pond Road.
- *Employees:* 12 employees. Fresh Pond is manned 24 hours per day 5 days a week (Ref. R45, R47-K).
- *Rail tracks:* Facility has 15 classification tracks.
- *Capacity/Volume:* The capacity of the yard is 200 cars. In 1998, freight volume handled in that yard was 117 carloads per year. In 1999, all NYA carloads (total 15,000 railcars) passed through this yard
- *Equipment/Services:* The facility serve as interconnection with the CSX , CP, and P&W railcars, bringing freight from South, West, and New England.
- *Terminal Condition:* Facility is in good condition.
- *Rail Operation:* The yard is important site for freight classification and transfer between rail lines CSX, CP Rail and the P&W and the NY&A serving Brooklyn, Queens, Nassau and Suffolk counties. There is no doublestack capacity. Currently, the freight rail service is five days per week.
- *Truck Movement:* N/A
- *Commodities:* Lumber, building material, and railcars. MTA-LIRR is now interchanging its new passenger cars (4-5 per week) to the NYA at Fresh Pond, and NYA then bring them to Kawasaki new shop in Yard A (Ref. R48-b). New subway cars are also brought here for delivery to the NYCTA.
- *Future plans:* Installing a track connection in the Fremont/Fresh Pond area. Upgrading the main track from Fresh Pond to Varick Avenue in order to handle the additional volume of rail freight from existing industries in the Maspeth (Queens) and Varick Avenue (Brooklyn) areas.
- *Issues:* Currently, Fresh Pond is in process of rebuilding three tracks. NYA plans to increase frequency of the interchange service.

Bushwick Terminal (Ref. R44, R47-K)

(For layout see Fig. R-16 and R-16A)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* Facility is located at Johnson Avenue and Bushwick Place, Brooklyn, NY 11395.
- *Owner/operator:* Owner is MTA-LIRR, and NYA is the terminal operator. However, the facility has been leased to “Kings Materials”, a brick and mason supply company, who use rail shipment to this location (Ref. R47-K)
- *Size:* 2 acres
- *Nearest Highway:* The nearest highway is the BQE at a distance of approximately one mile.
- *Access:* The access to this terminal is via Johnson Avenue and secondary access is from Morgan Avenue.

- *Employees:* Number varies from 2 to 10
- *Rail tracks:* Five tracks in service and three tracks not in service
- *Capacity/Volume:* There is a capacity to store 55 freight cars. The estimated volume is 2,055 carloads/year. The carloads handled per month are 7 to 8.
- *Equipment/Services:* N/A
- *Terminal Condition:* The terminal condition is acceptable, but tracks rehabilitation is planned in future.
- *Rail Operation:* One train daily on weekdays (5 trains per week). The railcars types are YF301, boxcars, and flatcars. Average commodity transfer time from tran to truck (loading/unloading) is 2-3 hours. The interchange carriers are CSX and CP - via Fresh Pond, and NS via NYCHRR, through 65th Street Yard.
- *Truck Movement:* About five truck trips per day
- *Commodities:* Lumber, scrap metal, flour, plastics.
- *Future plans:* Rehabilitation of the existing track at Varick Avenue Yard, located on the Bushwick Branch, that will be used for freight service only. This project will retain the current operational level which is 2,055 carloads. Also, installation of grade crossing protection at six locations at the Bushwick Branch between Fresh Pond Yard and Varick Avenue.
- *Issues:* The major barriers to improve intermodal freight movement is height and weight restriction on LIRR network. The property is leased to "Kings Materials".

Farmingdale Yard

(For plan see Fig. R-19)

That is intermodal facility and team yard. In 2000, CSX TransFlo's Farmingdale facility operations will be opened. That company, the North America's largest network of full-service bulk product transfer facilities, with more than 130 locations in 21 states, will be managing bulk product operations in the Farmingdale. The regional Business Manager is Joe Dugary, Tel: 609-582-4408.

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* Facility is located on New Highway, Farmingdale, NY 11370, in Suffolk County.
- *Owner/operator:* Owner is MTA-LIRR, and NYA is the terminal operator.
- *Size:* 2 acres. Additional land exists to expand the operation, if required.
- *Nearest Highway:* The nearest highway is the LIE at a distance of three miles, and Rt. 110 nearby.
- *Access:* Access to the facility is from Broad Hollow Road..
- *Employees:* N/A
- *Rail tracks:* Two tracks are in service.
- *Capacity/Volume:* It has a capacity to accommodate 16 freight cars. The yard is currently underutilized, and current freight volume is 82 carloads/year. Expansion is expected after the TransFlo facility starts operating. Average commodity transfer time from rail to truck is 2-3 hours.

- *Equipment/Services:* The facility is equipped with one crane lifter, and has paved yard. Customer-specified equipment will be added as requested, while the terminal start full operation, under new management. The facility has 13 transfer spots, self-service tracks, truck parking, truck scale, and offices with truck driver lobby area.

  While open in end of 2000, CSX TransFlo's Farmingdale facility operations will be managing bulk product operations. The facility is equipped with one crane lifter, and has a paved yard. Customer-specified equipment will be added as requested, while the terminal start fulls operation under new management. The facility has 13 transfer spots, self-service tracks, truck parking, truck scale, and offices with truck driver lobby area.
- *Terminal Condition:* Facility is in good condition and does not need improvement.
- *Rail Operation:* Rail service frequency is twice daily on weekdays (10 trains/week). Train/Truck average commodity transfer time from one mode to another is 2-3 hours. The interchange carriers are CSX and CP - via Fresh Pond, and NS via NYCHRR, through 65th Street Yard.
- *Truck Movement:* About 15 truck round trips per day
- *Commodities:* Chemical, food-grade, agricultural and mineral products. The terminal can handle a full range of bulk products.
- *Future plans:* Future improvement plan includes building a new switching leads at Farmingdale, to form an intermodal bulk transfer facility on a plot of railroad owned property adjacent to Pinelawn North Siding, between New Highway and Wellwood Avenue. The former plan to expand this facility by acquiring some of Republic Airport property, and building a new intermodal bulk transfer facility on property adjacent to Pinelawn North Siding, was abandoned, and the discussed properties were acquired by retail businesses.
- *Issues:* The location is to be leased to CSX Transportation as "TransFlo" site. It will be used as bulk rail-to-truck transfer point, administred by CSX, and rail transport provided by NYA (Ref. R47-k).

Maspeth Yard (Ref. R44, R47-k)
(For layout see *Fig.R-16*)

- *Contact Person:* Joel Torres, Director of Marketing, NYA, 68-01 Otto Road, Glendale, NY 11385 Tel: 718-497-3023x228, Fax: 718-497-3364
- *Location/address:* Facility is located on Maspeth Avenue, Maspeth, NY 11381, in Queens, between Rust Street and Maspeth Avenue.
- *Owner/operator:* Owner is MTA-LIRR, and NYA is the terminal operator.
- *Size:* The yard comprises 3.3 acres.
- *Nearest Highway:* LIE at a distance of 1.5 miles.
- *Access:* The primary access to facility is from Maspeth Avenue, and secondary access is from 49th Street.
- *Employees:* Number of employees in facility varies between two and ten.

- *Rail tracks:* The yard has two unloading tracks plus five - 160' storage tracks. The tracks are Class 3 (40 mph), and block signals are automated.
- *Capacity/Volume:* Facility can accommodate 50 freight cars. Volume handled is about seven to ten thousand tons per month. Number of carloads handled per month is between 200 and 300.
- *Equipment/Services:* No warehousing is available, and facility is not equipped to handle perishable goods. There are two grade crossing in facility.
- *Terminal Condition:* Acceptable
- *Rail Operation:* Service frequency is twice daily on weekdays. The level of utilization of tracks is high, window of track availability for freight trains is 24 hours.
- *Truck Movement:* N/A
- *Commodities:* Rock, paper, and food products.
- *Future plans:* Future improvement plans call for paving, removal of unwanted old tracks for storage space, and improvement of clearance on network lines.
- *Issues:* The internal circulation deficiencies are insufficient turning radius for trucks, and network height and weight restrictions.
  The location is to be leased to CSX Transportation as "TransFlo" site. It will be used as bulk rail-to-truck transfer point, administered by CSX, and rail transport provided by NYA (Ref. R-47-k). A new TransFlo facility is scheduled to be opened in 2000 at this location. The contact person is Joe Dugary, regional Manager, Tel: 609-582-4408.

Brooklyn - 65th Street Intermodal Rail Yard (Ref. R44, R45, R47-e, R47-l)

The facility is designed to handle both intermodal and bulk freight from trains, trucks, and barges. The yard is identified by the NYA as an important transload center within the regional freight network. Its utility will expand with the completion of a cross-harbor rail freight tunnel. The facility is capable of handling doublestack trains, however existing LIRR/NYA rail network and lines leading north of City has insufficient clearances for doublestack service and trains have to be fileted. *(For layout see Fig.R-15 and R-15A)*

- *Contact person:* Mr. Andrew Genn, NYCEDC, Tel. (212) 312-3783, Fax: 212-312-3916, or Shari Colburn, Tel: 212-312-3874, Joel Torres, NY&AR, Tel: 718-497-3023
- *Location/address:* This facility is located at 65th street and 1st Avenue, in Brooklyn.
- *Owner/operator:* This yard is owned by the City of New York and managed by the NYCEDC. It is currently is used for storage by NY&A, which has a renewed short-term occupancy permit. Formerly owned by Penn Central Corporation, the abandoned rail yard was purchased by the City at a cost of $2.7 million, and is an important element of the City's rail freight improvement plans. It was opened after reconstruction managed by NYCEDC in Spring of 1999, however still not in full operation.
- *Size:* This facility, adjacent to New York harbor, covers currently 33 acres, with 20 acres of unloading sites.
- *Nearest Highway:* The nearest highway is the BQE at a distance of two miles.
- *Access:* The primary access is from 63rd street, and the secondary access is 1st

Avenue. Truck gate is at 58th Street and First Avenue.

- *Employees:* When fully operational, the yard is expected to generate about 60 transportation-related jobs. Currently, there are 3 to 4 employees handling security and manning trains.
- *Rail tracks:* The yard has 13-tracks (9 for classification, 2 for intermodal, and 2 for transload), classification area, an 8.6-acre intermodal area, and a 2.8-acre team track area. Each of the tracks is 1,500 ft long, and can accommodate 40 freight cars each. There is currently about 150 cars in storage (about 50 per week). While the two rail transfer bridges start their operation, there will be connection (by barges) to the three major lines that carry rail freight into and out of the city: CSX, Norfolk Southern and Canadian Pacific.
- *Capacity/Volume:* The future activity of the yard depends on contracts that NYCEDC will let in the Fall of 2000. When fully operational, the yard could be capable of handling approximately 20,000 cars and to store approximately 2,000 to 3,000 railcars per year. In 1999, NYCHRR sent about 4,000 cars across the harbor. NYCEDC expect that in 2001 about 10,000 rail cars will be moved through the rebuilt 65th Street yard (Ref. R11-g).
- *Equipment/Services:* The terminal have two new floatbridges, but did not yet selected operator. It will serve cargo movement between New Jersey and Brooklyn. Selecting operator and opening the bridge is expected by the end of 2000. Presently, there are no warehouse or any other services available. There is no equipment or buildings on this site. CSX Transflo facility at the 65th Street terminal will be opened by the end of 2000, in cooperation with NYA.
- *Terminal Condition:* The $20 million modernization of an old freight yard is completed (Ref. R11-g). Terminal condition is acceptable now, after reconstruction.
- *Rail Operation:* Yard is open. Presently this terminal receives one train five days per week. Volume: 3-4 railcars per week.
- *Truck Movement:* Little truck traffic, about 12 truck trips per month. The railcars reload to NY&A trains or to trucks and freight is distributed to customers in Brooklyn and Queens.
- *Commodities:* It will serve as a local transload facility for construction materials, building supplies and other bulk products. The major commodities: building material, scrap metal, plastics, and paper. CSX Transflo located on this site is not opened yet (scheduled by end of 2000).
- *Future plans:* CSX Transflo is negotiating with NYA, and will be opened in 2000. Future operations will include bulk and intermodal transfer service directly to Brooklyn, and also serve as an intermodal transfer point from trailer on barges to trailer on flat cars. The facility is capable of handling double stack trains, however New York existing rail network (LIRR tracks and lines leading north of City) has insufficient clearances for double-stack service, and trains have to be fileted.
- *Issues:* Vertical clearances on the Bay Ridge Branch is an obstacle to handling TOFC and double stack railcars.

  NY&A is currently making modest use of the yard, but hopes to increase

volumes by hauling CSX cars down to the area.

Description of Yards Served By New York Cross Harbor Railroad

Greenville Float Rail Yard (Ref. R45, R47-d, R47-l)
(For layout *see Fig.R-33)*

- *Contact Person:* Robert Bentley, President, NYCHRR, Tel: (718) 788-3690
- *Location/address:* This facility is located in Jersey City, Hudson County, New Jersey.
- *Owner/operator:* The yard is owned by Conrail Shared Assets Organization (CSAO), owned by CSX and N/S, and leased to NYCHRR who operates this terminal.
- *Size:* 33 acres
- *Nearest Highway:* New Jersey Turnpike Extension, less than one mile away
- *Access:* Colony Road/Port Jersey Boulevard
- *Employees:* Four (including engineer-conductor and bridge tender)
- *Rail Lines:* The yard is served by CSX and NS via the Conrail Shared Assets Organization (CSAO)
- *Rail tracks:* The yard has 10 tracks, with 2 rail tracks in use, plus 2 tracks for waiting cars.
- *Capacity/Volume:* The NYCHRR estimates the carfloat capacity of this yard is 79,000 railcars per year with volume of 6,000 railcars per year, and that the intermodal area can store up to 5,000 TEU's at a time. There is 500 center parking spaces for rail cars.
- *Equipment/Services:* Diesel locomotive, a forklift, and a 40-ton lift crane. The crane is used to load/unload trailers, tanks, COFC, onto rail flatcars. The yard has 4 floatbridges (only one floatbridge #11 (electric) is currently in operation)
- *Terminal Condition:* Terminal went through decades of neglect and structural abandonment. One of four floatbridges are now open. Needs significant upgrading, and there is interest in finding additional New Jersey sites for an expanded railcar float system..
- *Rail Operation:* Currently there are five outgoing trains per week. The interchange yard is located on 51st Street in Brooklyn (Bush Terminal). Some of the barges go to other Brooklyn terminals equipped with floatbridges (Atlantic, Red Hook), and service to Navy Yard is considered in the future. Some of the cargo are locally transferred to trucks and distributed to various destination in New York. The Greenville Float Yard is the historic terminus of New York Harbor's once extensive railcar float system. It is connected to the Oak Island Yard and the national rail network via a lift bridge over Newark Bay. The interchange carriers are (after Conrail's split) CSX and Norfolk Southern. Future connection to Canadian Pacific is in discussion.
- *Truck Movement:* Little truck traffic, about 2-3 truck trips per week. The railcars on barges are reloaded to NY&A trains or to trucks and freight is distributed to customers in Lon Island, Brooklyn and Queens.
- *Commodities:* Municipal solid waste, steel, waste oil, chemicals, plastic, lumber. In July 1999, NYCHRR handled delivery of 28 new bi-level commuter cars for the

LIRR. Cars were delivered by CSAO and floated across New York harbor, to interchange with NYA Railway on the east side of Hudson River, to be delivered to MTA-LIRR (Ref. R48-a, R55).

- *Future plans:* NYCHRR plans to expand the terminal's capacity and activity. Improvement plans include:
  To expand the NYCHRR operations by creating an "East Sider" freight train that will collect cargo from intermodal terminals in North Bergen, Croxton, South Kearny, and Oak Island, to be interchanged daily at the upgraded Greenville Yard.
  To upgrade the Greenville floatbridges and to expand trackage at Greenville Piers to increase car storage.
- *Issues:* The yard is capable of handling double stack trains. However, they would have to be fileted before traveling further because of the clearance limitations in the metropolitan region.

Atlantic Terminal (Ref. R44, R47-d, R47-l)
(For layout see *Fig.R-25*)

- *Contact Person:* Robert Bentley, President, NYCHRR, Tel. 718- 788-3690x240, Fax: (718)-369-1490, Mike Scotto, American Warehousing, Tel: 718-797-4278, or Mr. Sal Catucci, American Stevedoring, Tel: 718-875-0777
- *Location/address:* 70 Hamilton Avenue, Brooklyn, NY 11231. This facility is adjacent to the Red Hook Container Marine Terminal, in Brooklyn.
- *Owner/operator:* This terminal is owned by NYCEDC and operated by American Warehousing (Mike Scotto) and American Stevedoring (Sal Catucci).
- *Size:* 14 acres
- *Nearest Highway:* The nearest highway is the BQE/Gowanus Expressway, located at a distance of a half mile.
- *Access:* The access to facility is from Columbia Street.
- *Employees:* Eight people, employed by NYCHRR
- *Rail tracks:* Existing rail tracks have been removed and total land movement is currently by trucks. This is no more rail facility, however because of marine activity (Red Hook) the rail movement can be revitalized, after NYCEDC will reopen a carfloat bridge
- *Capacity/Volume:* In 1999, 72,000 tons (mostly coco) was reloaded in the site from carfloats. 18 railcars with capacity of 80 tons each arrive weekly.
- *Equipment/Services:* This facility is no longer used as a rail yard. It originally had a capacity to store 250 rail cars, and was accessible by carfloat. Atlantic Terminal uses a dock-side dedicated float barge service for coco beans, arriving by ships from Africa, and Central and South America.
- *Terminal Condition:* fair, however if rail service is reinstated, it will require extensive adaptation
- *Rail Operation:* Barges with 9-10 carloads are moving freight between Greenville and Brooklyn. Average 18 railcars are moved daily, each carrying about 80 tons. Ships unload the coco beans to Red Hook located warehouses on piers, and

from there the coco is loaded (by forklift or conveyors) to the rail cars positioned alongside (9 railcars loaded simultaneously). Rail cars are moved on barges across the harbor to Greenville Yard in New Jersey, where they are switched to CSX trains and moved to Pennsylvania and California for manufacturing. Atlantic terminal has no connecting rail trains, but can use 65th Street Yard in future.

- *Truck Movement:* Little local truck traffic, about 2-3 truck trips per week.
- *Commodities:* The facility handles 68% of total nation's consumption of cocoa.
- *Future plans:* The NYCEDC and NYCHRR is planning to reactivate the rail carfloat connection from Atlantic Terminal in the future. The interchange carriers will be CSX and NS. The NYCHRR plans to a add second container barge, and build two more floatbridges on this site (Ref. R60) . Future rail operations can be performed from 65th Street Yard, which is connected to Bay Ridge Branch of NY&AR.
- *Issues:* The main highway (BQE) is congested.

Bush Terminal (First Avenue Yard) (Ref. R44, R47-l)

It is industrial park, served by rail and mostly by trucks.*(*For layout see *Fig.R-27.)*

- *Contact Person:* Robert Bentley, President, NYCHRR, Tel. (718) 788-3690x240, Fax: (718)-369-1490, Andrew Genn, NYCEDC, Tel. (212) 312-3783, Fax: (212)-312-3916
- *Location/address:* 4302 First Avenue, Brooklyn, NY 11232 (between 42nd and 50 Streets)
- *Owner/operator:* The owner is the New York City Economic Development Corporation. The NYCHRR, which is currently leasing a portion of it, owns the rail tracks.
- *Size:* 11 acres. Bush Terminal also has a station at 38th St. and 2nd Avenue, which additionally can handled 200 carloads.
- *Nearest Highway:* The nearest major highway are the Gowanus, BQE, and Belt Parkway, at a distance of a quarter to half mile.
- *Access:* The primary access is from Third Avenue (for southbound traffic), the secondary accesses are from Forth Avenue at 38th Street (northbound exit ramp of BQE), and from 39th Street & Second Avenue.
- *Employees:* There are between 15-20 employees working in the facility
- *Rail tracks:* The yard has 5 container tracks. Rail tracks are Class 1 (10mph).
- *Capacity/Volume:* There are parking spaces for trucks handling cargo: 12 spaces for trucks, 25 spaces for passenger parking, and 40 spaces for freight cars. There are 425 TEU container spaces. The yard operating capacity is 12 hours per day, 6 days per week, with current traffic around 400 train carloads handled per month. Car types are boxcars (300 per month), tanks & covered hoopers (100 per month), moved over carfloat. The yard capacity is 60,000 TEUs per year. In 1998, it handled 19,800 tons of domestic cargo (freight all kinds) and 1,400 tons of international cargo (cocoa). The transfer time from truck to barge is typically 30 minutes and the total transit time is typically 3 hours including carfloat movement from Greenville to Brooklyn.

- *Truck Movement:* Yes, limited truck trips moving freight. Number not available
- *Equipment/Services:* The equipment on site consists of a top loader - 45 tons, yard tractors, diesel locomotives, 4 carfloats (2-360'L - 2-295'L2), and tug boats, as well as loading/unloading dock for railcars. Currently, there is one operating float bridge on each side of the harbor, which is insufficient for increased rail traffic. Advanced technology is used for operations, such as EDI (computerized and electronically transmitted information on shipment), electronic billing and security system. There are no abandoned tracks and no grade crossing. There are warehouse available on the site, however, no refrigerating service for perishable freight.
- *Terminal Condition:* Tracks are in need of repairs. The railroad communication network is good.
- *Rail Operation:* Train service is as required. The interchange yards are located on 65th Street Yard (Bay Ridge Branch). Some of the barges go to other Brooklyn terminals equipped with floatbridges (Atlantic, Red Hook), and service to Navy Yard is considered in the future. Some of the cargo are locally transferred to trucks and distributed to various destination in New York.
- *Commodities:* Major commodities handled are: building materials, compressed gases, propane, food products, freon, lumber, paper and recycled paper, waste, plastic pellets, cocoa beans, steel and steel products, and subway cars. Cross Harbor also handles over-dimensional loads, such as transformers, boiler, generators. The cocoa cargo was moved at two points of operation: South Brooklyn Marine Terminal at 39th Street, and at Red Hook Marine Terminal, through a dedicated barge service. In 1999, the freight volume was 6,000 carloads per year, up from 4,000 carloads in 1998.
- *Future plans:* The plan for improvements include: Additional float bridge; reconstruction of street trackage along First Avenue between 43rd and 39th Street (to ensure straight line and direct access to SBMT), and improvement of access from 65th Street Yard and SBMT. In 1999 NYCEDC issued a plan to build a new NYCHRR bulk terminal facility. This facility, located at NYCH's Bush Terminal in Brooklyn(currently under construction) will be operated by Liberty Transmodal, and is expected to handle edible oils, plastic pellets and food products bound for NYC and LI. The facility will feature 124 car spots, full fencing, lighting, truck scale, offices and 24-hour access. While negotiated contract is expected to give Norfolk Southern exclusive rights at Cross Harbor Brooklyn terminal, this would not bar CSX and CP from using it if were expanded and the agreement modified.
- *Issues:* All highways are congested. The facility is capable of handling double stack trains, however New York existing rail network has insufficient clearances for double-stack service, and trains have to be fileted. The level of tracks utilization is congested, with increased demand from new businesses conducted with CSX/NS. Cross Harbor expects NYMTC to facilitate regional planning efforts, and to assists in funding and supporting the improvement plans.

Summary of Carfloat Facilities And Usage

Greenville Yard, New Jersey (active)
Bush Terminal, Brooklyn (active)
Atlantic Avenue at Red Hook, Brooklyn (active, coco handling, presently no rail activity)
65th Street Intermodal Yard (will start operations at end of 2000)
Brooklyn Navy Yard (accessible by carfloat, but not active as rail facility)
Brooklyn Army Terminal (has potential, but currently not active as rail facility)
Howland Hook (future plans in connection to Arlington, potential barge connection to Brooklyn)

Description of Yards Served By CSX/NS

Arlington Yard (Ref. R64-a, R47-l)

This yard *(see Fig. R-26A)*, located in the northwest corner of Staten Island, was abandoned and subsequently purchased in 1994 from CSXT and Delaware Ostego Corp., by the New York City EDC. It is currently inactive. However, with the coming reopening of the Staten Island Rail Road (known also as a North Shore Railroad or NSRR), this yard will be revitalized and may handle containerized and non-containerized freight, using also traditional rail cars as boxcars and hoopers. The rail is expected to be opened and operator will be designated at end of 2002. The rail needs connection to the Chemical Coast Rail line. The yard has a direct connection with active huge Howland Hook Marine Terminal. The yard can be used by several types of rail freight services, such as Howland Hook marine containers, mini-landbridge, transload, automobiles, domestic double-stack and conventional rail (boxcars, flatcars, autorack cars and hooper cars).

- *Contact Person:* Andrew Genn, Director, NYCEDC, tel.(212) 312-3783, fax:312-3916
- *Location/address:* The yard abuts the North Shore Railroad, and is just a few yards from the Arthur Kill rail bridge that connects Staten Island and New Jersey.
- *Owner/operator:* The City of NY owns the yard. CSX and N/S may operate the yard (operator will be determined in further date). The PANY & NJ has agreed to operate the Arthur Kill Bridge which connects the yard to New Jersey for the next five years, or until a railroad carrier assumes responsibility.
- *Size:* 50 acres
- *Nearest Highway:* The nearest highway is the Staten Island Expressway (I-278) and Route-440, at a distance of 0.5 miles.
- *Access:* The primary access to the facility is via Western Avenue, and the secondary access is from South Avenue overpass.
- *Employees:* None (not yet in operation).
- *Rail tracks:* The mainline track within the yard is 4,200 ft long, with an extension of 1,600 ft on South Avenue. The switching and storage tracks are 2,600 ft long, with room for extension.
- *Capacity/Volume:* Initial estimate lists 4,000 containers per year, with growth up to 20,000 containers in ten years. There is capacity to store 500 railcars. The completed yard could handle 263,000 revenue units, with possible addition of straddle

cranes and more tracks in switching area. At full capacity, yard can handle 4 trains per day (2-in and 2-outbound), carrying each 200 to 250 containers. After establishing carfloat system at HHMT, there is a potential of about 20,000 cars a year shipped through Arlington Yard. HHMT is the main potential user of the facility. Other potential users of the Yard lists 28 names of companies, marine container carriers, automobile distributors, trucking companies, building supplies firms, and others.

- *Equipment/Services:* Equipment includes 6 cranes, 2-2,000HP locomotives, 4 packers and 4 hostlers. The gate complex consists of eight lanes for containers and two lanes for automobile access. Transload facility will consist of two 500-ft loading tracks and a 200-ft loading platform.
- *Terminal Condition:* The terminal is in process of rebuilding, and will be a state-of-art facility designed mainly for double-stacks.
- *Rail Operation:* The rail will interchange with trans-continental Class I railroads is at Cranford Junction in New Jersey. Contracts with CSX, NS and CP are still in negotiating stage about the trackage rights. Future intermodal linkages will be between rail and ship or barge, and also between rail and truck.
- *Commodities:* Containers, bulk commodities (future). Part of the yard can be also used for automobile transportation (shipment of used or new automobiles). A transload facility could immediately handle 1,500 railcars a year of brick, lumber, paper, food, coffee and cocoa beans.
- *Future plans:* The rehabilitation project divides 50-acre railyard into five areas: a 10-acre intermodal track area (which consists of 3 sets of 2 intermodal tracks, ranging in length from 1,500 to 2,000 feet and accommodating 5 to 9 double-stack articulated units, served by six overhead cranes), a 5-acre mainline and switching area, 25-acre container parking (with 1,500 parking spaces), 5-acre transmodal facility, and 5-acre for an access gate complex and roads. Expansion of facility is possible if volume exceeds capacity, by acquiring adjacent properties of ECA Warehouse Corp, CSX Land fill, Wilpon Property, and Port Ivory.
- *Issues:* The access roads need major improvements and pavement. In addition, the South Avenue Bridge has a clearance problem, and on the Goethals Bridge there is a substandard clearance and weight restriction. An interstate inter-jurisdictional issue between New York and New Jersey has hindered plans to connect the NSRR with main land transcontinental railroad lines. Although the facilities on the New York side have been rehabilitated those in New Jersey are still in construction stage. This issue must be resolved before the rail connection is completed and operable.

Port Ivory Industrial Center (former Proctor & Gamble facility) (Ref. R44, R60, R64-a, R64-b, R-65)

- *Contact Person:* Andrew Genn, Director, NYCEDC, tel.(212) 312-3783, fax:312-3916
- *Location/address:* Located on Western Avenue, adjacent to HHMT
- *Owner/operator:* Owned by City of New York. Currently, the sole tenant is transportation firm

RPM and site is for sale.

- *Size:* 125-acres of well-kept industrial facility.
- *Nearest Highway:* Staten Island Expressway (I-295) and West Shore Expressway (Rt. 440)
- *Access:* Western Avenue, Omaha Street, and Richmond Terrace
- *Employees:* None
- *Rail tracks:* Existing Staten Island Railway tracks, on way to HHMT and Arlington Yard.
- *Capacity/Volume:* None
- *Equipment/Services:* On site there are several buildings, storage site, switching facility and storage yard for 50 cars.
- *Terminal Condition:* Acceptable, but needs remodeling to the new use
- *Rail Operation:* Currently - none
- *Commodities:* None
- *Future plans:* Due to close proximity to HHMT and direct rail connection, the site can be developed for freight distribution. NYCEDC plans to build an on-dock rail intermodal yard, warehouses and a rail floatbridge. According to the EDC plan, in the next phase of development (2010) three additional berths will be built on 150-acre city-owned property along the Arthur Kill, east of Port Ivory. In February 1999, in connection with the NYCDOS decision to close Fresh Kills Landfill and its request for proposals, the Port Ivory Recycling & Transfer Alliance (PIRTA) issued redevelopment plan which calls for creation of private transfer stations, in conjunction with out-of-City disposal facilities to handle the City's solid waste. PIRTA expects that its technical proposal of use of sealed containers for waste export will provide the economic anchor for revitalized freight rail service on Staten Island. PIRTA proposal inludes:
  -Use approximately 2 acres of 125-acre site for a fully enclosed barge receiving and solid waste containerization facility, which will transfer waste into sealed containers for daily shipment out of City by rail
  -Dedicate 25 acres to a subsidized green business park for recycling and other environmental product and service industries
  -Reactivate 50 to 75 acres for container port expansion and light manufacturing
  -Invest about $500 million into Procter & Gamble abandoned industrial property, creating about 400 new jobs, in addition to 200 jobs during construction (Ref. R 65).
- *Issues:* After establishing the status of property, improve access to facility. Also, SIE (I-295)is congested.

Description of Yards Served By South Brooklyn Railway

Second Avenue Yard

SBK is a short line operating in Brooklyn. The 2nd Avenue terminal is owned by the City of New York and is operated by MTA-New York City Transit. The SBK railway interchanges with the NYCHRR at 39th Street where the line is terminated.(Ref.R17) For SBK rail yard rail alignment at 37-39th Streets *see Fig.R-13.*

- *Contact Person:* John J. Johnson, Superintendent, Tel:718-718-319-5517, Fax: 718-319-5516, or Joseph Wukovitz, Tel: 718- 243-4935, Contact Address: 13-11 Water Place, Bronx, NY 10461
- *Location/address:* 39 St and 2nd Avenue, Brooklyn, NY 11232
- *Owner/operator:* New York City own property, operated by the NYCTA
- *Size:* ½ acre
- *Nearest Highway:* BQE at 39th Street, about ½ mile from facility
- *Access:* The primary access is from 2nd Avenue and secondary access is from 39th Street.
- *Employees:* According to the NYMTC survey, the company has one permanent employee, (additionals are hired on "as needed" basis)
- *Rail tracks:* The rail lines leading to the yard are track class 1 (10 mph) and the block signals are manual. There are two grade crossings (on 2nd Ave and 38th St., and on intersection of 3rd Ave and 38th Street). According to the New York State annual report for railroads, SBK owns 1.5 track miles in the New York metropolitan area, run 28,650 gross ton miles, and locomotive fuel consumption in 1999 was 224 gallons, which represents the profile of a small rail freight carrier (Ref.R47-h).
- *Capacity/Volume:* The facility can accommodate 20 freight cars. The track is not congested since it has only a 5 % level of track utilization. Time window for track availability is 24 hours.
- *Equipment/Services:* The railroad has two-50 ton diesel/electric locomotives.
- *Terminal Condition:* Track condition is good. and the communication network needs improvement. The tracks on 4th Avenue and 10th Avenue in Brooklyn are currently not used. Abandoned tracks are Roberts Food Siding, and from Fort Hamilton Parkway and McDonald Avenue to Avenue X and Shell Road. Warehouse and special services are not available in this facility.
- *Rail Operation:* The operational activity is an average of 2 train per month, or 10 carloads per month. The interchange carrier is NYCHRR at the Second Avenue Yard. The serving freight car types are flatcars and Gondola railcars. No doublestack operations. The intermodal linkage is between rail/rail and rail/truck.
- *Commodities:* The SBK delivers assembled transit products such as railcars and track to the MTA yard on 9th Avenue & 38th Street. Major commodities handled by this terminal are subway coaches, and railroad material. The product (mostly railcars) are originating in Canada, Japan, and Plaxville, NY (railcars manufacturers), are assembled in NY upstate plant, and distributed to 2nd Avenue facility on flatbed or trucks. From there, The SBK deliver assembled product to MTA yard on 9th Avenue & 38th Street
- *Future plans:* At present, there is no plan for improvement of this facility.
- *Issues:* None

Description of Other Yards and Facilities in New York

Brooklyn Army Terminal (BAT) (Ref. R44)

The complex includes two million of square feet of newly renovated space. The site houses several hundreds tenants, the larger were in 1999: Solomon Brothers Wall Street company, Depository Chest Company and Lucern Technology. The site has 99% occupancy and includes 2.5 million square feet of buildings, housing various enterprises such as printers, electrical component manufacturers, warehouses, distributors company, and even day care center for over 2,500 employees of the facility.

- *Contact Person:* Matthew Holian, NYCEDC, Tel: 212-312-3850 or: C. Jordano, BAT manager, Tel: 718-630-2432
- *Location/address:* Address of facilty:140-58th Street, Brooklyn, NY 11220, in Bayridge
- *Owner/operator:* The current owner and operator is the New York City Economic Development Corporation.
- *Size:* 97 acres
- *Nearest Highway:* BQE, at about one mile
- *Access:* From 1st Avenue and 140 street and from 2nd Avenue and 250 street. The site has also easy access to LIRR Bayridge tracks, and to Pier 1 to 4 on Gowanus Bay, next to Bush Terminal's dock.
- *Employees:* There are about 2,500 employees working for various companies occupying the site.
- *Rail tracks:* Rails (NYA) are connected to adjacent 65th Street intermodal facility.
- *Capacity/Volume:* N/A
- *Equipment/Services:* Car float bridge
- *Terminal Condition:* Fair
- *Rail Operation:* No direct rail operation, only through 65th Street yard. However, because of the excellent location, over the channel and next to 65th Street Yard, that site can be expected to be in future used as a rail user and freight transportation facility.
- *Commodities:* Various, depending of manufacturers and companies on the site.
- *Future plans:* There is currently no water or rail transportation in use. No intermediate plans for development
- *Issues:* This former military terminal has been turned into an industrial park and is currently inactive as a freight facility. Some of existing rail tracks have been paved over or removed. No piers are used for water transportation, and all goods movement is done by trucks.

Brooklyn Navy Yard (Ref. R44)

*(*For layout see *Fig. R-23*)

Brooklyn Navy Yard is no longer used as a rail or marine facility and it has been turned into an industrial park, with over 200 tenants, consisting of variety of businesses and manufacturers. For more information on this facility see *CHAPTER 2* (Marine Facilities), pg. M-40 of this report.

- *Contact Person:* Mr. Richard Drucker, Senior Vice-President, BNYDC, Tel: 718- 852-0425
- *Location/address:* The address is 63 Flushing Avenue,Bldg.292/3rd Floor, Brooklyn, NY 11205.

- *Owner/operator:* This terminal is now owned and operated by the Brooklyn Navy Yard Development Corporation.
- *Size:* 260 acre
- *Nearest Highway:* The nearest highway is the Brooklyn-Queens Expressway which is a half mile away.
- *Rail tracks:* Even though this facilities has had limited rail access the existing rail yard and most of tracks have been paved and rails partially removed.
- *Future plans:* The future plans cover possibility of repair of floatbridge and use it for intermodal movement of containers, filled up by tenant, and transferred between a short rail, trucks and barges.

St. George Yard (Ref. R35, R47-l)

The yard is currently unused for freight transportation purpose (*see Fig.R-26).*

- *Contact Person:* Mr. Andrew Genn, NYCEDC, tel: (212) 312-3916
- *Location/address:* Northwest of the St. George Ferry terminal in Staten Island borough of New York City is a large vacant waterfront property, located on Richmond Terrace, adjacent to the St. George Ferry Terminal and railroad station.
- *Owner/operator:* This yard is owned by City of New York. It was bought in 1998 from CSX. It currently is not active. But, with the reopening of the Staten Island North Shore Railroad, planed for 2000, this yard may be revitalized.
- *Size:* 30 acres
- *Nearest Highway:* The nearest major highway is the Staten Island Expressway (I-278) at a distance of 3 miles from the yard.
- *Access:* The yard is accessible by rail, carfloat, and truck. The land access is from Richmond Terrace. However, it is no longer used as a freight yard.
- *Employees:* N/A
- *Rail tracks:* The ste is equipped with two railroad tracks that are located along the south end of the yard. The NSRR track runs along the entire length of the site, connecting it to the MTA Staten Island Railway (SIR). A SIR switching and storage yard is located on property adjacent to the NSRR, which is expect to be in operation in 2000.
- *Capacity/Volume:* None
- *Equipment/Services:* There is a floatbridge, and two concrete piers. There are no buildings on the site.
- *Terminal Condition:* The yard is deteriorated.
- *Rail Operation:* None
- *Commodities:* None
- *Truck movement:* The truck access problem is caused by the congestion of the SIE and the condition of the north ramp access road which is short and steep making a turn onto Richmond Terrace difficult.
- *Future plans:* Several commercial development proposals are being considered. If the rights are granted to NSRR along the SIR right-of-way to Tottenville, NSRR could serve sites such as Nassau Smelting, that formerly utilized rail for its freight

movement. A portion of the St. George site is currently used as minor league baseball stadium and partly as parking lot. The site can be extended, because there is a vacant 600' long City-owned property at the west side of St. George, and 40,000 square foot privately-owned parcel, which could be incorporated. An existing but deteriorated floatbridge can be rehabilitated for carfloat service is needed. The future intermodal linkage would be between rail and barge or ship and rail and truck. The rehabilitation and development plan for St. George site is in discussion (Ref. R35).

■ *Issues:* N/A

Description of Facilities Located In New Jersey

Since the Conrail acquisition, yard facilities are now either operated by CSX or Norfolk Southern. If the facility is located within the Shared Asset Area - it is operated by Conrail. On the River Line, some sidings provide limited freight handling activity serving local businesses and industry: in Blauvelt, Orangeburg, Harrington Park, Bergenfield, and Teaneck.

Major intermodal facilities in northern New Jersey are located mainly within the Port Newark/Elizabeth area and are as follows:

- ✓ South Kearny Terminal (served by CSX)
- ✓ North Bergen Terminal (served by CSX)
- ✓ Little Ferry (served by CSX)
- ✓ North Jersey Intermodal Terminal - Croxton Yard (served by N/S)
- ✓ APL South Kearny Terminal (served currently by CSX) *
- ✓ ExpressRail Terminal (served by CSAO)
- ✓ E-Rail Terminal (served by N/S)
- ✓ Doremus Avenue Auto Terminal (served by CSAO)
- ✓ Oak Island Terminal (served by CSAO, CP - for intermodal only)
- ✓ Portside Terminal (served by CSAO and Triple Crown Services)
- ✓ Greenville Terminal in Jersey City (served by CSAO, in connection with NYCHRR)
- ✓ E-Port Terminal (served by CSX)

* APL has recently sold its business and as per 2000 that property is in process of being combined with South Kearny Terminal. The combined terminal (named South Kearny Intermodal Terminal) will be reorganized by the end of 2000. Information covered in this report are by 1999 data.

CSX Served Facilities

CSX - Little Ferry Terminal (Ref. R44, R47-l)

For layout see *Fig. R-14.*

■ *Contact Person:* Mike Dougherty, Manager, Tel: 201-941-9530 or 201-313-4417

■ *Location/Address:* This terminal is located near the George Washington Bridge in Borough of Ridgefield, New Jersey (Bergen County). Address is: 2200 83rd Street,

Ridgefield, NJ 07047

- *Owner/Operator:* CSX owns and operates the yard
- *Size:* Terminal was expanded from 28 acres and now covers currently total 73 acres.
- *Serving Rail Line:* The rail operation is conducted by CSX. The traffic comes mostly from Chicago and through Little Ferry cars are sent to St. Louis and Minneapolis.
- *Nearest Highway:* The nearest major highways are the New Jersey Turnpike (I-95) and Routes 1 and 9 at a distance of 1 to 5 miles.
- *Access:* The primary access to the facility is from Westside Avenue.
- *Employees:* There are 15 permanent CSX employees in facility, and others are hired by companies on daily basis as required
- *Rail Tracks:* This terminal has four center tracks with 18,000 feet of track space. There are 850 center parking spaces for trailers - flatcars and 3 piggypackers. The tracks within facility are Class I (10mph), and leading to facility are Class 4 & 5 (60-80 mph). The block signals are automatic, and tracks are in good condition.
- *Capacity/volume:* There are 880 railcar parking spaces. This terminal typically handles 10% cargo in containers, and 90% in trailers. The railcars are mostly piggyback - TOFC. This facility can handle piggyback and double stack operations (since 1985). In 1998 there were about 71,000 lifts. In 1999, there were 11,000 trailers handled each month, 20% more than in 1998, when average was 9,000 trailers per month.
- *Equipment/Services:* The facility is equipped with lift equipment, nine hostlers, and tractors. There is no warehouse available in the facility. There is parking spots for about 700 trucks. The technology presently used in the facility is Electronic Data Interchange (EDI), electronic security equipped with video-camera, talk-back, computer system and billing system.
- *Terminal Condition:* The terminal condition is fair. There is one grade crossing (protected).
- *Rail Operation:* The terminal is operated 24-hours seven days a week and the CSX operates on average 28 dedicated trains (14 inbound and 14 outbound) per week, or two each way per day to Chicago or St. Louis with a total transit time of 34 hours.
- *Truck Movement:* There are about 600 truck trips per day (in/out). Trucks were hired by companies using the yard.
- *Commodities:* Commodities handled include parcels/packages handled by United Parcel Service, Less Than Truckload traffic, consumer goods, paper, plastics, and industrial goods.
- *Intermodal:* The most important intermodal linkage is between rail and truck. The facility has 850 center parking spaces for trailers and 3 piggypackers.
- *Future Plans:* Improvement plans have been completed during the last years (1997-99), per CSX's capital plan. The acreage was increased, new tracks were installed, paving and lighting was completed, and a new modern gate system was installed. The container and trailer parking spaces were expanded. CSX is planning to improve freight access to Newark from the north by providing double-track and double-stack connection through Little Ferry (Ref. R43-b).
- *Issues:* The major barriers to improving intermodal freight movement are deficient

condition of the road access and limited unit storage capacity. The main problem with access to the facility is congestion on Routes 1 and 9 at the Westside Avenue interchange.

North Bergen Terminal (Ref. R44 of 9/2/99, R47-l)

This intermodal terminal is capable of double stack and handles mainly UPS cargo.For a layout of this facility see *Fig. R-35.*

- *Contact person:* Mike Barrera, manager, Tel: 201-902-1003, Fax: 201-902-1002.
- *Location/Address:* This terminal is located at 6201 Tonnelle Avenue, North Bergen, NJ 07047.
- *Owner/Operator:* CSX is the owner/operator of this intermodal terminal, which handles mainly UPS cargo.
- *Size:* 50 acres
- *Serving Rail Line:* CSX
- *Nearest Highway:* The nearest major highways are Routes 1 and 9, which are congested.
- *Access:* The access to facility is from Tonnelle Avenue. Access deficiencies are the traffic volume and congestion on Paterson Plank Road and West Side Avenue.
- *Employees:* Number of employees in facility is 50.
- *Rail Tracks:* There are four rail tracks in the facility and 500 railcar parking spaces. Total length of rail track is 16,100 feet. Tracks within the facility are Class I (10mph), and signals are manual block. The track condition is good and needs no repairs. The communication network condition is good.
- *Capacity/Volume:* The number of carloads handled per year in 1999 was 60,000 and car types were doublestack and piggybacks. In 1999, the total volume of freight handled in terminal was 118,000 containers. The origin of cargo was Chicago and beyond, and the destination of cargo was for local distribution.
- *Equipment/Services:* There are three piggypackers. There is no warehouses/storage area in the facility.
- *Terminal Condition:* There are two grade crossings (at yard and at 69th Street), but there is no need to eliminate it in the near future. The terminal condition is very good. Advanced modern technologies used in the facility are: security system/video camera; electronic billing, tagging, computer systems for tracking cargo.
- *Rail Operation:* There are 16 inbound and 10 outbound trains per week.
- *Truck Movements:* Number of trucks trips was about 300 per day. There is no parking for trucks.
- *Commodities:* The five major commodities handled by the terminal in 1998 were:
  small package freight shipments (70.0%),
  misc. mixed shipments (20.0%),
  containers returned empty (5.0%),
  mail/express traffic (2.0%),
  food/kindred products (3.0%).
- *Future Plans:* More automation technology is needed. The facility was rehabilitated in 1998/99, except for reconfiguration of south end to accommodate Light Rail System.
- *Issues:* Routes 1 and 9 are congested. Possible future interaction at south end of

facility with the New Jersey Light Rail System.

Elizabeth Transflow Yard (Ref. R44, R47-l)
That modern bulk transload terminal was recently developed at $5 million cost and will be opened in 2000.

- *Contact Person:* Douglas Halpin, Tel: 904-359-3559, Fax: 904-366-5367, or Joe Dugery, manager, Tel: 856-582-4408.
- *Location/Address:* Address of facility: CSX Transflow, 454 York Street, Elizabeth, NJ 07201
- *Owner/Operator:* Owned and operated by CSX Transflow bulk company.
- *Size*: 13 acres
- *Serving Rail Line*: CSX
- *Nearest Highway:* New Jersey Turnpike
- *Access:* Access is from Trumbull Street, in Elizabeth.
- *Employees:* Number of employees will be 6 to 12 in operation, including motor carriers operating on the site (future).
- *Rail Tracks:* Length of tracks on site is15,000 feet, and tracks can accommodate 230 railcars. There are five unloading tracks and one storage track which can accommodate 180 railcars, and there are 50 more storage car spots.
- *Capacity:* Expected volume is expected 2,000-2,500 rail cars/year.
- *Type of Rail Cars:* Type of railcars handled are hoppers and tankcars.
- *Equipment/services:* There are warehouses on the property, which belong belong to A&R Bulk Pack company, and are also used by rail facility. Warehouses cover 30,000 sq. ft. There are two gates, fully automated. Security system is using modern technology such as computers, video camera, also electronic billing, and EDI-tracking system will be available from December 1999. There will not be refrigeration service on site.
- *Terminal Condition:* Facility is new. No grade crossings.
- *Rail Operation:* Not opened yet.
- *Truck Movement:* There are parking spaces for 30 truck trailers. Daily traffic - about 20 truck trips per day.
- *Intermodal:* The main intermodal connection is between railcar and truck.
- *Commodities:* Commodities that will be handled include paper and plastics, chemicals, food-grade (non-perishable) products such as corn starch, sugar and syrup, flour, as well as flowers.
- *Future Plans:* This terminal was recently rehabilitated at a cost of $3 million and was completed in 2000. It is expect to be opened in the 2000.
- *Issues:* Union County proposes to develop light rail system on south side of yard.

South Kearny Terminal (Ref. R44, R47-l, and SKT fax dated 9/17/99)
For layout of this yard with double stack clearance *see Fig. R-35.*

- *Contact Person:* David Hensil, tel. 973-274-2454, Fax: 973-274-2418. .

- *Location/Address:* This terminal is located at 700 Old Fish House Road, South Kearny, Hudson County, NJ 07032.
- *Owner/Operator:* CSX
- *Size:* The terminal size is 120 acres
- *Serving Rail Line:* The terminal is served by CSX railroad
- *Nearest Highway:* The nearest major highways are Routes 1 & 9, in one mile distance, which are congested.
- *Access:* The access to facility is from Old Fish House Road, which lead to an automated gate area consisting of 10 lanes.
- *Employees:* There are 100 employees in the facility.
- *Rail Tracks:* South Kearny Terminal has six working tracks or 13,000 feet within the facility. In addition, there are 8 support tracks or 34,000 feet. There are no grade crossings. The tracks within facility are Class I. Type of block signals is automatic.
- *Capacity:* In 1999, there were 3,000 parking spaces available, up from1,273 in 1998. The yard capacity was 300,000 lifts per year. In 1999, the total volume of freight handled in terminal was 340,000 carloads/containers for all types of commodities, up from 207,438 carloads in 1998.
- *Equipment/Service:* The equipment available: six piggypackers, two reach stackers and three side loaders. There are no warehouses or inside storage area.
- *Terminal Condition:* The overall terminal condition is good. Track condition is good. Communication network is in good condition.
- *Rail Operation:* The terminal activities are about 45 outbound/inbound trains per week.
- *Truck Movement:* 900 truck trips per day.
- *Commodities:* The five major commodities handled by this terminal in 1998 were:
  - miscellaneous mixed shipments (60.1%)
  - mail/express traffic (9.9%)
  - food/kindred products (6.3%)
  - containers/trailers returned empty (3.7%)
  - farm products (3.7%)
- *Future Plans:* There are plans for future improvements covering parking lots, rail tracks, lighting, paving, drainage, fencing, and other items.

NS Facilities Located in New Jersey

E-Rail Terminal (Ref. R44, R47-l, R55)

This is a main terminal for a doublestack transcontinental and international marine containers and TOFC. For layout see *Fig. R-36.*

- *Contact person:* Mark Shepp, tel. (908) 558-0343.
- *Location/Address:* This terminal is located in Union County, New Jersey at 322 Third Avenue, Elizabeth, NJ 07206
- *Owner/Operator:* E-Rail Terminal is operated by Rail-Bridge Terminals Inc. which is a subsidiary of K-Line.

- *Size:* 55 acres
- *Serving Rail Line:* NS
- *Nearest Highway:* Nearest highways to this facility are I-95 (New Jersey Turnpike) and US Route 1&9 located at a distance of 1.5 miles.
- *Access:* The primary access to this facility is via Third Ave., Dowd Ave. and Trumbull Street.
- *Employees:* The facility has 30 employees
- *Terminal Condition:* Based on the survey response, the terminal condition needs improvement, especially as there is no warehouse or special services, such as refrigeration. There is one grade crossing on Third Street before the access on the track leading to the terminal. The track condition is fair. Tracks are fully utilized, and the communication network is good.
- *Rail Tracks*: This facility has 4 tracks. The rail lines leading to the terminal are track class 3 (40 mph) with manual block signals.
- *Capacity/Volume:* Number of train carloads handled was 5,500 in 1998. Typical volume was 2,750 trailers monthly for domestic and 2,750 containers monthly for international freight movement. In 1999, the facility handled 80,000 containers per year, about half for domestic service.
- *Equipment/Services:* The E-Rail terminal is currently utilizing EDI (electronic data interchange) technology. The equipment available in the terminal includes ten hostlers, two rubber tire gantry cranes, one CH70 packer, 1-MJ 450H Fantuzzi, 12 Ottawa Yard Switchers, trackmobile, and forklifts. The E-Rail terminal is currently utilizing EDI (electronic data interchange) technology.
- *Rail Activity:* There are 10 plus outbound and inbound trains per week, with doublestack and piggyback cars. Since this facility is a subsidiary for K-line, most of the commodities come from the Far East. Freight domestic service by Triple Crown Service used this facility for five years but no longer does. The facility has 1200 storage spaces for containers, and can accommodate 36 double-stack cars.
- *Truck Movement:* There is average 400-500 truck trips per day. The facility has 150 parking spaces for trucks, and passenger parking has 50 spaces.
- *Commodities:* The type of commodities are freight of all kinds (for example Kraft products, Budweiser, automobile parts)
- *Issues:* The main access problems are the congestion on the local streets in the Elizabeth port area, on 1-9 Routes, and the clearance restriction (to 13' height) under the bridges on Trumbull Street. Other major barrier to improve intermodal movements are capacity and infrastructure problems on various railroad lines through the Northern New Jersey areas. Other reasons for delay are late trains, and commuter trains causing delays to freight cars.

Croxton Yard - North Jersey Intermodal Terminal (Ref. R44 and fax dated 9/27/99)
For a layout of this terminal see *Fig. R-33.*

- *Contact person*: Mr. Charles T. Connors, tel. (201) 216-8404, fax: 201-216-8423

- *Location/Address:* This terminal is located at 125 County Road, Jersey City, Bergen County, NJ 07307.
- *Area:* 135 acres
- *Serving Rail Line:* Norfolk Southern
- *Nearest Highway:* The nearest major highways are Routes 1 & 9 and the New Jersey Turnpike.
- *Employees:* 78 employees
- *Rail Tracks:* This facility has 3,965 parking spaces. The length of tracks on site is 12,900 feet, with three loading tracks, which handle international and domestic container and TOFC shipments. There is 11 grade crossing on access to facility, no current plans for elimination.
- *Capacity/Volume:* Yard capacity is 3,900 trailer containers and 1,200 chassis. Based on the 1998 Port District Data, the total amount of commodities handled was 155,000 carloads/containers and was 137,453 carloads/ containers for the top five commodities.
- *Equipment/Services:* This terminal has doublestack capability. It is equipped with six sideloaders. There is 20,000 square feet of warehousing on site, and 32 reefer parking. The modern technology used on site include computer, EDI tracking system, electronic billing, and security video-camera system. There is no truck scale.
- *Terminal Condition:* The terminal general condition is excellent.
- *Rail Operations:* The typical operation of this terminal is 21 inbound and 19 outbound trains per week. Type of railcars handled are piggyback, TOFC, COFC
- *Truck Movement:* The truck movement is 1,100 trucks per day (average). There are two gates (NS Sims).
- *Commodities:* In 1998, the five major commodities handled were as follows:
  misc. mixed shipments (61.6%),
  containers returned empty (29.1%),
  shipper association traffic (2.4%),
  food/kindred products (1.6%),
  freight forwarder traffic (1.3%).
- *Future Plans:* There are plans for future expansion including an addition of 2,600 ft. of operating track by year 2000.
- *Issues:* None

Yards/Terminals Serving By the Shared Assets Area (SAA)

- *Contact person:* Don Nelson, Conrail, Tel: 973-799-8541 or 215-209-4801, Fax: 973-799-8543

All the below listed Shared Assets terminals are located in metropolitan region in New Jersey.

Oak Island Terminal (Ref. R45, R46, R55)

Oak Island is mainly a "hump" classification yard. It is the primary support yard for all new Conrail freight operations in northern New Jersey. For layout see *Fig. R-34.* It processes inbound and outbound trains for CSXT and NS. Part of the site is used by CP for multi-product bulk/intermodal

operation *(see Fig. R-34 and R-34A).*

- *Contact Person:* Joe Garofolo, superintendent, tel: 973-690-2000, Fax: 973-690-2303 or David Dick, tel: 215-209-4250. For CP service contact Peter Cohen, tel: 212-943-9103.
- *Location/Address:* The yard is located at 91 Bay Avenue, Newark (Essex County), NJ 07105.
- *Owner/Operator:* The facility is managed by "New Conrail" (CSAO) and is served jointly by CSX and NS. Part of the terminal is served by CP Rail System, which opened its own small intermodal facility on November, 1999.
- *Area:* 500 acres
- *Serving Rail Line:* CSX, NS, CP
- *Nearest Highway:* The nearest major highways are I-95, I-78, and Routes 1 and 9, and the New Jersey Turnpike.
- *Access:* Access is directly from highways and from Doremus Avenue.
- *Employees:* There is about 200 employees in facility.
- *Rail Tracks:* There are 30 classification tracks, 9 departure tracks, and 10 receiving tracks. CP facility currently includes 3 tracks with 60 carspots on 26 acres.
- *Capacity/Volume:* Optimum capacity of classification yard was (1999) 1,400 railcars per day. Current average is about 900 railcars per day. Tracks can store 600 railcars. In 1998, volume was about 220,000 tons/year.
- *Equipment/Services:* The facility has doublestack, COFC, and TOFC capability. The facility does not have warehouses.
- *Terminal Condition:* Fair
- *Rail Operation:* Facility dispatches about 10 inbound and 10 outbound trains.
- *Truck Movement:* The truck movement data are not available, for reason of different entities operating the facility.
- *Commodities:* Commodities are primarily non-container traffic, although limited intermodal traffic is also carried at the facility. The CSAO-operated facility handles all type of general freight such as food products, plastics, chemicals, steel, building material. Commodities handled by CP facility include food, plastics and miscellaneous other items.
- *Future Plans:* Future plans: As the yard is often operating at capacity levels, there are significant constraints for its ability to serve increased rail traffic. Enhanced rail facility and yard space would be needed to serve a potential cross harbor rail freight tunnel.
- *Issues:* None

ExpressRail (Ref. R4-a and 4-f, R24-b, R45, R47-a, R47-l, R69)

For layout and view of this on-dock port's rail terminal see *Fig. R-13, R-40, and R-40A.*

This terminal is an on-dock intermodal rail transfer facility. The facility provides double-stack rail service connections to major markets in the Midwest, New England and Eastern Canada In September 1991, the former Portside intermodal rail terminal was closed, and all activity shifted to the new on-dock facility at the Port Elizabeth Marine Terminal, named ExpressRail. This permanent

on-dock terminal covered 16 acres and was operated by Maher Terminals, Inc. The new expanded by cost of $20 million, 33-acre ExpressRail II was opened in January1996 and it is currently the only on-dock rail facility in the region. The most important intermodal linkages are between rail and ship, barge, and truck. The primary users are following ship lines: Zim, Maersk, Evergreen, ACL, P&O, Hapag-Lloyd, NYK, NOL, Med Shipping.

- *Contact Person:* Frans van Riemsdyk, Maher Terminals Inc., tel. 908-527-0147, Fax: 908-527-0350. Manager of facility is Carmine Cipoletti, tel: 908-527-8200, Fax: 908-527-0350.
- *Location/Address*: Maher Terminals, Inc., Port Newark/Elizabeth Marine Complex, Elizabeth, NJ 07201.
- *Owner/Operator:* The facility is owned by PANY&NJ and operated by Maher Terminal Inc.
- *Size:* 33 acres
- *Serving Rail Line:* Facility is served by Conrail on behalf of CSXT and NS.
- *Nearest Highway:* The nearest major highways are Routes 1 & 9 and the New Jersey Turnpike exit 13A, with a distance of 2.5 miles.
- *Access:* The gate entrance the terminal is from Formosa Street. The primary access for the new ExpressRail II is from East Fleet Street, and the secondary access is from Bay Avenue. Two entrance gates from Bay Avenue are bi-directional.
- *Employees:* The terminal has 21 permanent employees (1999 data).
- *Rail Tracks:* Total length of tracks in facility are 15,000 linear feet. There are five tracks (four loading tracks) each 1,800 ft. long, with room for 20 double-stack railcars (5 platform articulated cars per track). At present, the track utilization is 100 percent, with automatic block signaling.
- *Commodities:* Terminal handles various types of commodities, in the amount of approximately 3,400 containers per week.
- *Capacity/Volume:* The current facility's five tracks can accommodate 300 ocean containers on 500 railcars at one time. Loading and unloading can occur simultaneously. The facility currently has the capacity to handle over 200,000 containers annually, and is expandable to accommodate additional container volume. Total container throughput in 1999 was 175,000 containers, up from 155,062 containers in 1998 and from from 127,527 containers in 1997. In 1991, that facility handled 12,667 containers. The average transfer time to and from the train is approximately 25 containers per hour.
- *Equipment/services:* There are no warehouses. Advanced technologies used in the facility are the latest computer-linked EDI (electronic data interchange) and barcoding, Amtech electronic tags, radio frequency technologies, and advanced computer and communication systems. Dedicated ExpressRail equipment consists of 8 straddle carriers and 3 reach stackers. ExpressRail also uses state-of-the-art lifting equipment to expedite container handling and improve customer service.
- *Terminal Condition:* The terminal is in fair condition.
- *Rail Operation:* There are 12 trains per week in and out operating from this terminal.
- *Truck Movements:* Average 600-700 truck trips per day

- *Future Plans:* PANY&NJ is preparing plans to expand ExpressRail to serve more of Port Elizabeth's terminal operators. New ExpressRail will be located between the Maersk/Sealand marine terminals, and is expected to handle 250,000 lifts per year. Expected opening is in 2003. There are also plans to improve access to the service, including the elimination of at-grade crossings.
- *Issues:* Based on the survey's response (Ref. R44), the major barriers to improving intermodal freight movement are terminal access congestion, limited storage space, excessive switching, and substandard clearances in the Waldo and Bergen Hill tunnels (Jersey City). Based on the survey response, the tracks are congested due to the limited rail car storage space. Occasionally the delay of freight delivery is amplified due to the existence of one at grade rail/road crossing. The access roads are congested

Doremus Avenue Auto Terminal (R44, R47-l)

This terminal is the largest rail automobile unloading facility in the metropolitan area, which is operated by Conrail. Automobiles are handled from rail to truck or to ship. For a layout of Doremus One and Two terminals *see Fig. R-10 and R-10A.*

- *Contact Person:* Philip Callandrillo, Tel: 973-578-4884, Fax: 973-578-4101
- *Location/Address:* 861 Doremus Avenue, Newark, Essex County, NJ 07114
- *Size:* 87 acres total. Doremus One covers 26 acres and Doremus Two-61acres.
- *Serving Rail Line:* CSX, NS
- *Nearest Highway:* The nearest major highways are the New Jersey Turnpike Extension, Interstate 78, and Routes 1 & 9.
- *Access:* Access is from Doremus Avenue.
- *Employees:* Total there are 9 employees (unionized) plus temporary employees hired on "as-needed" basis
- *Rail Tracks:* Doremus One-has four holding tracks and four unloading tracks; Doremus Two-has six holding tracks, six unloading tracks There is a total of 12,000 feet of track. There are no grade crossings.
- *Capacity/Volume:* Doremus One-25 car spots/2,765 unit capacity, Doremus Two-72 railcar spots/6,100 unit (vehicles) capacity. In 1998, 420,000 units were unloaded.
- *Equipment/Services:* The facility does not have warehouses on site. Security system includes closed circuit surveillance cameras at three main gates and card control system. Type of railcars handled are multilevel auto racks.
- *Terminal Condition:* The terminal is in good condition.
- *Rail Operations:* Average 10 outbound trains per week.
- *Truck Movements:* Average between 120 and 150 truck trips per day.
- *Commodities:* The commodities are finished automobiles from various locations.
- *Future Plans:* Thirty five acres of Doremus Two site were added in 1996. There are currently no expansion plans beyond those recently completed ($18 m by CSX).
- *Issues:* All highways leading to the facility are congested.

APL South Kearny Terminal (Ref. R47-b)

This rail/truck intermodal facility is capable of handling doublestack cars and was opened in 1989. The yard handles TOFC as well. For layout of this yard *see Fig. R-38*. That terminal is currently in process of being incorporated by the South Kearny Terminal, and is currently served by CSX.

- *Contact Person:* Mr. Jim Merritt, General Manager, telephone number: 973-465-5938x5937, Fax: 973-465-7218 (after merging with South Kearny changes are expected)
- *Location/Address:* 123 Pennsylvania Avenue, South Kearny, Hudson County, NJ 07302
- *Owner/Operator:* American President Lines
- *Size:* 100 acres.
- *Serving Rail Line:* CSX serves this terminal
- *Nearest Highway:* Routes 1 & 9. The highways are congested.
- *Access:* Access is from Pennsylvania Avenue in S. Kearny.
- *Employees:* There are about 120 employees.
- *Rail Tracks:* There are three tracks in the facility, with 2,600 parking spaces available. The length of tracks within facility is 12,300 feet.
- *Capacity/Volume:* The approximate volume in 1998 was 120,000 container movements.
- *Equipment/Services:* The equipment in the facility includes three piggypackers and three high-speed gantry cranes, capable of unloading 280 containers in 5 hours. There are warehouses covering 25,000 sq. ft. but no refrigeration service. There is also electronic billing and computerized gates.
- *Terminal Condition:* Terminal condition is acceptable. Railroad communication network condition is rated good.
- *Rail Operation:* The activity in this terminal is four outbound trains per week.
- *Truck Movement:* N/A
- *Commodities:* Intermodal. Commodities are originated and destined to all states of U.S.
- *Future Plans:* Currently, there are no expansion plans beyond the recently completed by CSX at cost of $18 million.
- *Issues:* After being sold by APL, merging with South Kearny Terminal.

Ridgefield Heights Auto Terminal (Ref. R47-c, 47-l)

That terminal is an automotive support facility with rail/truck operations.

- *Contact Person:* Lynn Thorn, tel: 973-578-4100 or Bill Hall, tel: 201-941-5173.
- *Location/Address:* Foot of Victoria Terrace, Ridgefield, Bergen County, NJ 07657
- *Owner/Operator:* Privately owned /Operated by new Conrail as the Shared Asset Area Company
- *Size:* 25 acres
- *Serving Rail Line:* The terminal is served by CSX and NS.
- *Nearest Highway:* Rt. I-80, New Jersey Turnpike, Rt. 1 & 9
- *Access:* Victoria Terrace
- *Employees:* 23 Conrail employees. There are 40-50 drivers handling trucks each day.
- *Rail Tracks:* 3 Class 1 loading tracks with manual block signals.
- *Capacity/Volume:* In 1999, this terminal handled 160,000 vehicles, up from 153,000 vehicles

in 1998.

- *Equipment/Services:* Railcars used multilevel vehicle cars. Electronic billing and security systems are used.
- *Truck movement:* 500-700 truck trips daily
- *Terminal Condition:* Railroad communications network is in good condition.
- *Commodities:* The terminal handles inbound finished automobiles.
- *Future Plans:* This terminal was rebuilt in 1989. There are no plans for expansion.
- *Issues:* None

Portside Terminal (Ref. R44)

This is a rail/truck facility which provides service only to Triple Crown Services, a roadrailer service. For layout of this yard see *Fig. R-18.*

- *Contact Person:* Robert J. Rich, VP for Operations, Triple Crown Services, 6920 Pointe Inverness Way, Suite 300, Fort Wayne, IN 46804, tel. (219) 416-3608 or (908) 820-5525.
- *Location/Address:* This terminal is located at Corbin & Lyke Streets, in Elizabeth, Union County, NJ 07207
- *Owner/Operator:* It is owned by PANY&NJ and leased to Conrail, which subleases part of the terminal to Triple Crown Services which is a wholly owned subsidiary of NS, which operates RoadRailer service.
- *Size:* 25 acres
- *Serving Rail Line:* NS serves this terminal, through its Triple Crown subsidiary.
- *Nearest Highway:* The nearest major highway is the New Jersey Turnpike.
- *Access:* There is one gate (in and out). Access is from Corbin Street and secondary access from Lyle King Street in Elizabeth.
- *Employees:* 10 employees
- *Rail Tracks:* This terminal has three tracks and automatic block signals.
- *Capacity/Volume:* The average cargo volume is 286,000 tons per year. There are 1,700 roadrailers (truckloads) movements per month. There is parking space for 650 trailers
- *Equipment/Services:* The intermodal connection is unique, since the highway trailers are configured to operate as railroad equipment. The RoadRailer trains are capable of operating at high speeds, and rapidly convert from highway to railroad mode.
- *Terminal Condition:* Terminal condition is acceptable.
- *Rail Operation:* There are two in/outbound trains per day, average about 10 trains per week
- *Truck Movements:* Average 120-130 per day truck trips
- *Commodities:* The main commodities are automobile parts, food products and speciality merchandise.
- *Future Plans:* None
- *Issues:* None specified

Other Shared Asset Area Operated Rail Facilities In New Jersey

- Greenville Yard - industrial and interchange
- Port Newark - general merchandise and automotive yard
- Bayway - storage for petrochemical industry
- Port Reading - secondary classification yard and support for petrochemical industry
- Brown's Industrial Support Yard for South Amboy and North Jersey areas
- Manville Yard - industrial support for the area, including Raritan Line
- Linden Yard, serves GM assembly plan and autoloading ramp
- Metuchen Yard, serving Ford assembly plant and other industrial customers
- Mullery/Bayonne industrial support yard, principally for petrochemical industry
- Brills Yard - industrial yard, handling used scrap metal, loaded on railcars for recycle to Newark steel mill
- Cranford Junction, New Jersey (currently not operating)

Cranford Junction (Ref. R47-g)
Contact person:
● Mr. William R. Wright, Director, NJ Associate of Railroad Passenger, 34 Beech Street, Cranford, NJ 07017-1747, tel: (908) 272-5968

Cranford is not yet a functioning yard. It requires a formal proceeding by STB. A potential interchange between the Staten Island Railway and transcontinental lines in New Jersey are located in Union County, NJ, at Cranford Junction, where it meets the NS Lehigh Line. The old New Jersey Transit yard, half of mile from intersection, now used as storage depot, can be revitalized in future to serve the new line. The New Jersey portion of SIR line will run over the NJT tracks, and the clearance problem has to be solved. There are currently two parallel tracks, and before the revitalization of NJ portion of the SIR, a third track will be added: one track for running operation, one for inbound and one for outbound trains. The anticipated number of trains running through the intersection will be about 7-10 trains per day (each of about 100 railcars).

There are also proposal to lease tracks from NJT, to avoid congested tracks of CSX or NS. Union County wants to rehabilitate its two former short lines: Leligh Valley RR, and Rahway Valley RR (6 miles of rail line from Cranford to Union), which runs through the existing manufacturers plants, and empty industrial properties which could be developed in connection with railroad operations. Union County also opposing the PANY&NJ plans to chose CSAO (New Conrail) as operator of SIR. Union County fears that CSAO will not support the county's plan to rehabilitate short lines, and that they will not support connection to Canadian Pacific, which transports goods from Eastern Canada. Union County has proposed to use Morristown & Erie Railway Inc. as the operator of the line, which will have to negotiate with CSX and NS.

3.8 Profiles of New Jersey Short Line/Regional Line Operators

New Jersey Shortline Railroad Association (NJSRA) (Ref. R4-g, R44, R66-a, R66-b, R66-c)
According to American Short Line and Regional Railroad Association, Class II and Class III railroads operate 27% of all US trackage (Ref. R3-a).

Operating in New Jersey side of Hudson River, the NJSRA includes 13 Association members, representing regional short line railroads, as well as some represents of 1st Class connecting rail companies, consumers, local government agencies and public organizations. The short lines, economic and safe network component, represent important connection to the global market and link to local customers. Its development depends of local level access and personalized services.

These lines transport within short distances local products, such as raw material (sand, grain, fresh fruits, paper, lumber, steel, petroleum, plastic pellets, heavy equipment), and interface with long distance shippers. Later division of Conrail created new market and opportunity for the short lines. Looking for a bigger portion of rural shipment, short lines want hookups with intermodal services. The short railroads reduce number of trucks (4 truckloads can be fitted in one railcar), reducing congestion, pollution and damage to the roads. In 1998, commodities of $10 billion value were shipped to New Jersey by rail, and products of $27 billion value were shipped to the outside world, bringing $83 million to NJ economy. 20% of 600,000 NJ work force is employed directly or indirectly by rail industry.

Contact person and address:

- Robert Bailey, President, 1764 Union Avenue, Hazlet, NJ 07730
  Tel: 732-264-7264, Fax: 732-264-2557

The 13 Short Lines, members of NJSLA are as follows:

Line Name	Contact Person	Address	Tel/Fax
Port Jersey Railroad	Bailey Robert, VP	201 Port Jersey Blvd, Jersey City, NJ 07305	Tel: 201-434-8373, Fax: 201-434-8242
New York Cross Harbor Railroad	Bentley W. Robert, President	4302 First Ave, Brooklyn, NY 11232	Tel: 718-788-3690, Fax: 718-788-4462
NY Susquehanna & Western Railway	William Bloomfield, VP (or: Joseph Senchyshyn, VP Operation)	One Railroad Ave, Rochelle Park, NJ 07762 (or: 1 Railroad Ave, Cooperstown, NY 13326)	Tel: 201-845-6818, Fax: 201-845-6773
Black River & Western Railroad	Kean Burenga, General Manager	P.O. Box 200, Ringoes, NJ 08551	Tel: 908-782-9600, Fax: 908-782-8251
Belvidere & Delaware River Railway	Kean Burenga, General Manager	P.O. Box 22, Ringoes, NJ 08551	As above, or 908-782-6622
West Jersey RR Company	NA	NA	NA
Durham Transport	Eric Cavatore	One Village Square, Logan Square, New Hope, PA 18938	Tel: 215-862-9267 Fax:215-862-0225
Southern Railroad Company of New Jersey	Thomas Collard, VP	Box. 122, Willingboro, NJ 08046	Tel: 609-871-8699, Fax: 609-871-7432

Line Name	Contact Person	Address	Tel/Fax
Ashland Railway Inc.	David Crane, President	One Village Square, Suite 15, New Hope, PA 18938	Tel: 215-862-9267 Fax:215-862-0225
Morristown & Erie Railway Inc.	Steven Friedlant, Dir. Of Transportation, (or Al Siebold/W.Weiss, President)	P.O.Box 2206, Morristown, NJ 07962	Tel: 973-267-4300, Fax: 973-267-3138
East Jersey Railroad	Joseph Iadanza, Superintendent	P.O.Box 67, Bayonne, NJ 07002	Tel: 201-437-2200, Fax: 201-339-4637
SMS Railway	Leonard J. Smolsky (or Jeffrey J. Sutch)	P.O.Box 711, Bridgeport, NJ 08014	Tel: 609-467-4800, Fax: 609-467-2121
Winchester & Western Railroad	Fred Winkler, General Agent	P.O.Box 1024, Bridgeton, NJ 08302	Tel: 609-451-6400, Fax: 609-451-7016

The other Short Lines represented by Association are as follows:

Line Name	Contact Person	Address	Tel/Fax
South Jersey Port Corporation	Alfred J. Castagnola	P.O. Box 129, Camden, NJ 08104	NA
Cape May Seashore Lines	Tony Macrie, President	P.O. Box 152, Tuckahoe, NJ 08250	Tel: 609-884-5300, Fax: 609-567-5847
Everett Railroad Company	Alan W. Maples, President	424 Second Ave, Duncansville, PA	Tel: 814-695-9628
St Lawrence & Hudson Railway	David R. Marsh, (or John McCreavy, Manager	200 Clifton Corporate Park, P.O.Box 8002, Clifton Park, NY 12065, (or P.O.Box 65, Lafayette Hills, PA 19444)	Tel: 518-383-7214, Fax: 518-383-7222, (or: 610-832-9181, Fax: 610-832-9190)
JP Rail	Joseph Petaccio, President	2930 Richmond Street, Philadelphia, PA 19134	Tel: 215-634-2582, Fax: 215-634-0750
Delaware & Ostego	Walter Rich	One Railroad Ave, Cooperstown, NY 13326	Fax: 607-547-8676
New York & Greenwood Lake Railway	James R. Wilson, CEO	P.O.Box 106, Glen Ridge, NJ 07028	Tel: 973-743-6667, Fax: 973-743-4580
New York Regional Railroad	William R. Wright	34 Beach Street, Cranford, NJ 07016	Tel: 908-272-5968
Philadelphia Line RR Company	Paul C. Hermann	226 Walnut Street, Philadelphia, PA 19206-3999	NA
NJ TRANSIT Rail Operations	Arthur J. Erdman (or G.W. Herkner/ W.R. Knapp, Deputy Gen. Manager)	1 Hudson Place, Hoboken, NJ 07030, (or 1 Penn Plaza East/ 12th Fl, Newark, NJ 07105-2246)	Tel: 201-714-2788, Fax: 201-714-2829, (or Tel: 973-491-7874/Fax 491-7837)

Other Railroad and Railroad-Related Contacts:

Organization	Person	Address/Telephone
CSX Transportation	Mark S.Bennet, Director of Market Development	500 Water Street J848, Jacksonville, FL 32202 Tel: 904-359-1508
Surface Transportation Board	Linda Morgan, Chair	1925 K Street N.W. Washington, DC 20423, Tel: 202-565-1500
Consolidated Rail Corporation	Thomas J. Egan, Manager, Community Relations & State and Local Affairs	180 Washington Street, Suite C-15, Norwell, MA 02061 Tel: (617)783-6214, Fax:(617)783-6215
Norfolk Southern Corp.	Rick Crawford, Special Assistant, Office of the Chairman	Two Commerce Square, Suite 24 2001 Market Street, Philadelphia, PA 19103, Tel: 215-209-4289, Fax: 215-209-4286
CP Rail System	Peter Cohen, Government and Public Affairs	17 Battery Place, Suite 712, New York, NY 10004 Tel: 212-943-9103, fax: 212-943-9106, e-mail: peter_cohen@cpr.ca, Tel: 518-383-7212, Fax: 518-383-7222
Delaware Valley Reg. Planning Commission	Ted Dahlburg	111 S. Independence Mall East, The Bourse Bldg, 8th Fl, Philadelphia, PA 19106
NJ General Assembly	Alex DeCroce	101 Gibraltar Drive,Suite 2D, Morris Plains, NJ 07950
NJ TRANSIT Rail Operations	Arthur J. Erdman (or G.W. Herkner/ W.R. Knapp, Deputy Gen. Manager)	1 Hudson Place, Hoboken, NJ 07030, Tel: 201-714-2788, Fax: 201-714-2829, (or 1 Penn Plaza East/12th Fl, Newark, NJ 07105-2246, Tel: 973-491-7874)
PANY&NJ	Paul Gessner (or Don Lotz)	1 WTC, 54W, New York, NY 10048 (or 34E, Tel: 212-435-6650)
NJTPA	John Hummer	One Newark Center, 17 Fl, Newark, NJ 07102, Tel: 973-639-8424
NJ DOT	Robert James (or Ted Matthews, Director)	CN 600, Trenton, NJ 08625, Tel: 609-530-2898 (or 609-530-8026)
Federal Railroad Administration	David R. Myers (or Thomas Noon)	Scott Plaza 2, Suite 550, Philadelphia, PA 19113 (or Federal Bldg, 970 Broad St, Rm. 1435F, Newark, NJ 07102, Tel: 973-645-3069, Fax: 973-645-6554)
American Short Line RR Association	Matt Reilly, VP	1120 G St, NW, Suite 520, Washington, DC 2005-3889, Tel: 202-628-4500

Profiles of New Jersey Shortline Railroads.

Port Jersey Railroad Company (PJRR)
Contact person and address:
● Robert Bailey, President, 1764 Union Avenue, Hazlet, NJ 07730
Tel: 201-434-8373 or 732-264-7264, Fax: 732-264-2557
Facility Address: 203 Port Jersey Blvd, Jersey City, NJ 07305

The PJRR established in 1970, is a 2.4-mile terminal railroad within the Port Jersey distribution center complex in Jersey City. The railroad exists solely to serve customers within the complex. That facility covers 11 acres, and is located in Hudson County, with access to New Jersey Turnpike located at one mile distance. The primary access to facility is from Port Jersey Blvd, and from Rt. 169. There are no problems with access and the facility is in acceptable condition.

Facility uses boxcars, RoadRailers, and covered hoppers. Volume of commodities handled per month is approximately 19,000 tons of domestic product, and 6,000 tons of international cargo. There are three permanent employees in facility. PJRR connects with CSX and NS at Greenville Yard in Jersey City. Tracks are Class 1 (10 mph) and Class 3 (40 mph), the block signals are automated, and there are three grade crossing within facility. Railroad communication network condition is good. The railroad is rehabilitating a portion of its trackage.

Commodity transfer time (rail-truck) is about 48 hours, with 10 minutes of administrative time. Future improvement projects include expansion of the facility, pavement improvement, fencing and lighting of the site (Ref. R36, R66).

Black River & Western Railroad (BR&W)
The BR&W began operation in 1970 over a portion of Penn Central's former Flemington Branch in Hunterdon County. The railroad's headquarters is in Ringoes, NJ. The tracks extend for over 17 miles. The main commodities are plastics, lumber, soda ash, and other bulk commodities. Volume of commodities is about 800 carloads per year. That line serves as a freight common carrier and commuter/tourist passenger line (60,000 passengers per year). It derives 80% of its income from freight operations running 17.3 miles between Lambertville, NJ, and Three Bridges, where it interconnects with CSX. BR&W is owned and operated by private entrepreneurs and specializes in transloading services.

In October 1999, BR&W completed the operation of moving dirt from the Baer Quarry in Carpentersville, NJ, to the GM Hyatt plant in Clark, NJ, where the former hazmat site is being converted into a golf course (Ref. R66, R48-a).

Durham Transport Inc.
Durham provides switching and terminal railroad service at Raritan Station, serving Federal Business Centers located in the township of Edison in Middlesex County, New Jersey. The railroad operation started in August, 1994, and services 9 customers over 15 miles of tracks. The annual traffic is estimated at 1,700 carloads per year. The commodities include food products, plastic pellets, ink bases, beverages, recycled aluminum and manufactured products (Ref. R36, R66).

West Jersey RR Co. (WJRR)
West Jersey began operations in September 1988 on the Salem Branch between Swedesboro in Gloucester County and the City of Salem. The right of way is owned by the County of Salem and the operator of the line is chosen through a bid process (currently, Southern Railroad of New Jersey). The WJRR interchanges with CSX at Swedesboro, NJ. The rail handles 35,000 carloads per year of chemicals [Ref. R36, R66].

Morristown & Erie Railway Inc. (M&E)
This company, originally established in 1903 as result of a merger, operates 42 miles of tracks, and is owned by Morris County. It handles approximately1,500 carloads per year, on its mainline (a 10.5-mile track between Morristown and Roseland) and three non-contiguous branches, operated through trackage agreements with NJ Transit and CSX. The main products are lumber, petroleum products, plastic pellets, and paper. The rail line headquarters is in Morristown, New Jersey. The establishment of a major manufacturing facility adjacent to the High Bridge Branch has prompted the Morris County to apply for a new project to rehabilitate the existing track and to construct additional trackage [Ref. R66].

East Jersey Railroad and Terminal Company (EJRR)
EJRR established in 1901, operates switching trackage within the International-Maytex Tank Terminal complex (formely Tidewater Oil) in Bayonne. It runs over three miles of tracks and handles 1,200 railcars per year. The main products are vegetable oils, petroleum products, chemicals, aircraft wing de-icer, lumber and steel [Ref. R36, R66].

Cape May Seashore Lines
The railroad, with headquarter in Tuckahoe, NJ, covers 27 miles of track, and serves as a passenger shuttle and charter service [Ref. R66].

Southern Railroad of New Jersey
Southern has purchased operating rights of NJ DOT's Winslow Jct. to Vineland right-of-way from the Shore Fast Line in 1991. The line services customers in Atlantic, Camden, Cape May and Gloucester counties. It also maintains the freight operation on the New Jersey Transit-owned Cape May Branch. The railroad, located in Willingboro, has three branches and owns 75 miles of tracks. It handles over 3,000 cars per year. Commodities include raw material for glass and tile manufacturers, agricultural products, construction material, and export cargo. Trackage east of Conrail's Vineland Secondary Track on the ex-CNJ to Winslow Junction is now operated by SRNJ. W&W is using trackage rights and in some cases supplied a pilot [Ref. R36, R66, R48-a].

Winchester & Western Railroad (W&W)
The railroad which began operations in 1916 in Winchester,Virginia, has a headquarters in Bridgeton. It covers 48 miles of track and handles over 8,000 railcars per year. The main products include silica, sand, food product, refrigerant gases, glass manufacturing commodities, minerals, grain, and fabricated steel. W&W is heavily involved in operations in Southern New Jersey, Virginia, West Virginia and Maryland. The company is owned by Unimin Corporation, which operates major sand facilities on the Virginia and New Jersey trackage. In 1987 W&W took over

operations on the Deerfield Branch from the Jersey Southern Railroad, a shortline operator that went out of business. Since W&Ws South Jersey holdings are separated by a Conrail-owned segment of the Winslow Industrial Track and the Millville Secondary Track, the two major lines are connected to one another through a trackage rights agreement. Interchange with CSX is at South Milville Yard (Ref. R36, R66).

SMS Railroad
This line has 4.5 miles of track, and handles over 2,000 cars per year. It started operations in June, 1994, and services 8 of 73 buildings of Pureland Association, owners of one of the largest industrial parks in the nation, that were formerly served by Conrail. The main commodities include paper, plastics, building material, manufactured goods, and tires (Ref. R36, R66).

Ashland Railway Inc.
That company handles farm products, prim metal, pulp/paper, in volume of 20,000 railcars received and 15,000 railcars forwarded per year.

Belvidere & Delaware River
The company handles local industrial and farm products. It provides service on former Pennsylvania Railroad trackage. In August 1999, the shortline operated its first train across Norfolk Southern former L&HR bridge from Phillipsburg, NJ, into Easton, Pennsylvania. The train consisted of two flatcars and a BDRV caboose (Ref. R48-a, R66).

New Jersey Transit
It is not a short line. This statewide transit agency owns 1163 miles of tracks and is primarily a passengers carrier (volume: 80,000 riders per day, on 598 trains). It is the third largest rail commuter service in the United States, which is expected to carry 128,500 daily riders by 2005.

The agency has prepared a $1.3 billion two-phase equipment acquisition program that will add 400 cars and 57 locomotives over a 5-year period. In February 2000, NJT awarded a $123.4 million contract to Adtranz for 20 electric locomotives. These 7,350-hp, four-axle, 100-ton locomotives feature a.c. traction, microprocessor-controlled blended regenerative braking system, are are able to pull 10 bilevel cars or 12 single-level cars at speed up to 110mph (Ref. R3-e). Work continues on a major capital program that will improve and expand the NJT rail system. Chief among them are integration of rail lines that were originally operated by several predecessor railroads (Ref. R3-c).

In May 2000, Conrail has released information on freight trains operating along NJT's South Jersey Light Rail System, south of Delair, NJ. A question has been raised concerning the impact of freight traffic along the right-of-way between Delair and Camden, NJ. In result, freight traffic along the Bordentown secondary track will be shifted to nightime hours, and in future, freight lines will be physically separated to allow road trains to access Pavonia Yard in Camden concurrently with Light Rail operations. Details on the separation and new track configuration in Delair are not yet available from NJT (Ref. R72).

New York Regional Rail Corp.

Contact person and address:
● Robert Bentley, President, NYCHRR, Tel: (718) 788-3690

That line operates a carfloat service between NJ and Brooklyn. In 1998 its revenue increased by 23% on the strength of a 300% increase in cocoa shipments. Waste shipments remained stable at $350,000 for the 6 months. The company intensified its efforts to market its services in connection with Conrail split, and also pressing for government funding to rehabilitate facilities (Ref. R3-c).

For a description of this company and its operating subsidiary see page 18-20 of this report.

ITI Incorporated
Established as an operating rail line in 1991, the northern 4 miles of the Harrison-Kingsland industrial track has moved over 6,000 carloads of municipal solid waste from the Bergen County Utilities Authority transfer stations located on this rail line. Originally constructed as a rail- served transfer station in 1987, this facility was truck-served until 1991, when the Kingsland "Y" track was repaired and the rail connection was established (Ref. R36).

Delaware Ostego Corporation/NYS&W (Ref. R4-c, R4-d, R44, R67-a, R67-b, R67-c)
Contact person:
● *Walter G. Rich, President and CEO, Tel: 607-547-2555*

The corporation operated the New York Susquehanna &Western rail network in New York and New Jersey. In 1997, Delaware Ostego had operating revenues of $32M which come mostly (69%) from handling intermodal traffic between Buffalo and the New York/New Jersey port area. However, in 1999 the company lost over $1M in income and decided to sell its rail operations to CSX and N/S. Susquehanna continues to be a viable rail line for freight shippers, and also could be available for possible passenger service in the future.

New York Susquehanna and Western Corp. (Ref. R44)
Contact Person and address:
● Ann Relic, Assistant VP, Tel: 800-366-6979x295, Fax: 607-547-9834
NYS&W Address: 1 Railroad Avenue, Cooperstown, NY 13326, Phone: 607-547-2555
For network plan *see Fig. R-5 and R-5A.*

The New York, Susquehanna and Western Railway Corporation (NYS&W) headquartered at Cooperstown, NY, serves Central New York State, Northeastern New Jersey and the New York metropolitan market. Its Southern Division offices are located in 3 Railroad Avenue, Rochelle Park, NJ 07662. In 1999, the company was acquired by NS, and is now in the process of working on new contracts and new agreements with customers and shippers. Rail tracks in New Jersey are now operated by NS.

Prior to the Conrail acquisition in 1999, this Class III railroad operated 435 miles of track. Its operating revenue was $ 31,301,000 in 1998, compared to $ 32,127,000 in 1997. In 1998, the company handled a total of 31,988 carloads, a decrease of 1,994 carloads from 1997, with the

following breakdown:

Containers	22,346
Plastics	1,642 carloads
Paper	1,046 carloads
Food Products	1,016 carloads
Lumber/Building Mat.	1,684 carloads
Motor Vehicles	253 carloads
Chemicals	476 carloads
Aggregates	1,432 carloads
Miscellaneous	1,810 carloads
Waste	283 carloads

The NYS&W has connections with N/S, CSX, and CP, through the D&H at Buffalo, NY. NYS&W owns the tracks into the CSX intermodal terminal at Little Ferry, NJ, and tracks from Binghamton to Syracuse, New York, served by CSX (Ref. R4-c). With its western connection, the NYS&W offers 34-hour transit time between Chicago and New York, and 96-hour transit time between Southern California and New York, via Kansas City gateway. With connection to CP/D&H system, NYS&W has ability to split a unit train at Buffalo or Binghamton, NY, allowing its customers to access the Toronto, New York, New England, and Montreal markets.

During 1989, NYS&W and N/S deployed a new doublestack route to NYC using the Kansas City gateway, providing connection to west coast. During 1993 the NYS&W completed a major portion of its corporate marketing plan and diversified traffic base through the construction of the following facilities: automobile distribution terminal, lumber reload facility, food-grade bulk transfer terminal, and a new plastic transfer terminal. The NYS&W has full EDI capability with its connecting carriers. Its state-of-the-art AS/400 based transportation system provides all customers with timely CLM messages.

NYS&W serves several freight facilities in New Jersey and New York State. In the metropolitan region, the NYS&W main facilities are:

Resources Intermodal,Warehousing and Consolidated Services, Inc. (Ref. R44, R55, R71)
(see Fig. R-32 and R-32A to R32C)

- *Contact Person:* Mr. Frank Folise, President, 2200 Secaucus Road, North Bergen, NJ 07047, Tel:(201) 348-6300.
- *Location/address:* 2200 Secaucus Road, North Bergen, NJ 07047
- *Owner/operator:* The Resources facility is a privately owned and operated terminal
- *Size:* The terminal occupy 74 acres (100 additional acquired acres are in development), and it is the largest privately-owned intermodal truck/rail terminal in the US, with a capacity to handle both conventional and doublestack trains. The terminal is capable of holding 1,200 TEUs. The complex has exclusive use of more than eight miles of track with 4,000 feet of working track (14 DST cars) plus 8,100 feet (27 DST cars) of storage track, located within the property lines.

- *Nearest Highway:* NJT, Rt.1 & 9, at 1 mile.
- *Serving Rail Lines:* NYS&W/CSX.
- *Access:* Resources has access from the New Jersey Turnpike and U.S. Routes 1 and 9
- *Employees:* 70 permanent employees
- *Rail tracks:* There are 700 center parking spaces, one center track and three "Piggypackers".The track leading to facility is Class 3 (40mph) with a manual block signal.
- *Capacity/Volume:* In 1998 there were 20,417 containers and 2,905 cars inbound; and 19,497 containers and 2,875 cars outbound in operation, which represent 39% increase from 1997 inbound and 38% increase from 97-outbound traffic.
- *Equipment/Services:* Terminal can handle double stack rail cars. The site is equipped with three top lifters and 10 yard tractors. Resources operates 220,000 square feet of warehouse space. The new 170,000 sq.ft. warehouse has 64 doors and was designed to handle multiple types of commodities in addition to general cargo, such as automobiles, heavy lift machinery, garments on hangers, and offers many services such as export packing, ticketing, repacking, and is a US Custom Bonded facility. Refrigerated containers are monitored electrically on a 24-hour basis.

  The facility has a state-of-art computerized system with on-line capability of a cost-efficient computerized Trailer Interchange Receipt system, which covers transaction report, equipment control and daily individualized gate logs and intermodal manifest information. Rail Car Information, Export Booking and Inventories are EDI accessible. Voice Response System provides the caller with availability, as well with free time, demurrage, custom and freight release information.
- *Intermodal:* Intermodal exchanges are between rail and truck. Transfer from rail to truck takes about 30 minutes.
- *Terminal Condition:* The terminal is in good condition.
- *Rail Operation:* Facility can store 2,000 containers, and can handle 27 double-stack cars. There are about 30 outbound trains/month.
- *Truck Movement:* Extensive. Data not available
- *Commodities:* The facility handles all types of cargo. Warehouses and perishable handling services are available. Based on 1998 data from NYS&W Railway Southern Division information, the cargo handled was about 20.5 thousand carloads with the following breakdown:

  Containers - 14,158 (up from 7,961 carloads in 1993, 77.8% increase)
  Plastics - 2,042 carloads
  Paper - 1,565 carloads
  Food Products - 630 carloads
  Lumber/Building Materials - 562 carloads
  Motor Vehicles - 395 carloads
  Chemicals - 351 carloads

Stone - 178 carloads
Metals - 35 carloads
Waste - 28 carloads

- *Future plans:* Future improvement plans covers 100-acre adjacent site development for new rail facility. The additional working tracks (under development) will have 1,500 ft. in first stage, and 8,400 ft. (28DST cars) in next stage. Additional container storage ability will be 1,500 FEU and 3,300 FEU, respectively.
- *Issues:* Future expansion

Resources has an additional 50,000 square foot warehousing annex with 9 doors in Secaucus, New Jersey, which exclusively handles export consolidation for NVOs - consolidators and forwarders. Two Resource's sister companies, Land Bridge and Meadow Land Terminal, are located nearby.

Land Bridge Terminal
(See Fig. R-32C)
That modern Resource Trucking's rail yard is located in North Bergen and covers 54 acres. It is operated by Resources and serviced by NYS&W Railroad. The nearest major highways are the NJ Turnpike and Rt. 1 & 9, with a distance of about one mile. The primary access to facility is from U.S. Rt. 1 & 9, and secondary access is from Rt. 3 and Rt.17.

Meadow Land Terminal
This 20-acre truck/rail terminal is located in the Meadowlands, and has access to Rt. 1 and 9. The operator has an exclusive right to use the 8-mile track, capable of holding double-stack cars. Resources expanded this facility with the purchase of additional 9 acres of adjacent property, and expanded its capacity to holding 27 rail doublestack cars which can be worked on at one time. Average inbound/outbound trains is seven per week or 30 per month. CSX and NS kept their yard there.

North Bergen Terminals, New Jersey (Ref. R44)
The NYS&W rail customers and their facilities in North Bergen are:

*** BulkMatic Transport Co.** (former Bulk Transfer and Transportation Terminal)
(For view see Fig. R-43)

- *Contact Person:* Angel Torres, Manager (or Paul Garber, VP) Tel:(973) 636-0818 or 201-295-1600, fax: 973-636-0819.
- *Location/address:* BulkMatic Transport Co., 5600 West Side Avenue, North Bergen, NJ 07047, in Bergen county.
- *Owner/operator:* Privately owned
- *Size:* 15-acre terminal
- *Nearest Highway:* The nearest highway is Rt. 3 at about two miles from the terminal.
- *Access:* The access is from Westside Avenue.
- *Employees:* There are 30 employees in facility

- *Rail lines:* Served by NY&W railroad, with connections to CSX, NS, and CP.
- *Rail tracks:* There is one rail track. Tracks are Class 1 (10 mph), and block signal is manual. Track condition is good.
- *Capacity/Volume:* Bulk, in volume about 10,000 tons per month.
- *Equipment/Services:* The facility has 6,500 sq. ft. of building space for offices and maintenance, and warehousing, and is equipped with a 100-ton truck scale.
- *Terminal Condition:* The terminal condition is acceptable.
- *Rail Operation:* There are an average of 2 trains per month. Rail cars are unloaded in 200 unloading spots, and there are 200 parking spaces for trailer-trucks.
- *Truck Movement:* Not available
- *Commodities:* This terminal handles bulk transfer for plastic industries, soda ash and dry flammable
- *Future plans:* No expansion/improvements are planned for the time being.
- *Issues:* None

*** NYS&W Lumber Reload** (Ref. R44)

This reload facility for lumber is located in North Bergen
(For view see Fig. R-43A)

- *Contact Person:* John Mecka, Manager, Tel: 201-864-6691
- *Location/address:* National Distribution Services, 2600 Secaucus Road, North Bergen, NJ 07047
- *Owner/operator:* Facility is owned by NYS&W and operated by National Distribution with headquarters in Niagara Falls, Ontario.
- *Size:* Facility size is 10 acres
- *Nearest Highway:* The nearest highway is Rt. 1 & 9, and New Jersey Turnpike, in distance of about 2 miles.
- *Access:* Access to facility is from Secaucus Road
- *Employees:* 2-10. Number of employees vary, depending of freight traffic.
- *Rail lines:* Served by NY&W railroad, with connections to CSX, NS, and CP.
- *Rail tracks:* The tracks within facility are industrial track, and the speed within facility is 5mph. The movement of train is based on verbal permission, allowed on industrial track, average two trains per month. There are 3 rail tracks. Tracks are in excellent condition. There are no grade crossing, and level of utilization is daily.
- *Capacity/Volume:* There are about 1,500 carloads or 120,000 tons per year handled in facility. There are parking spaces for 14 plus railcars, but space is shared with others.
- *Equipment/Services:* There is one gate to facility, operated manually. There is security system and computer system is used for electronic billing and EDI.
  No warehouse in facility, and no specialized equipments are in use.
- *Terminal Condition:* Fair
- *Rail Operation:* Type of railcars are flatcars or boxcars. There are average 2 trains per month. No doublestack.
- *Truck Movement:* Not available.

- *Commodities:* Commodities are lumber, originating in Northwest U.S. and Western
- *Future plans:* The facility was recently expanded to its present size and is in excellent condition. No further plan for extension or improvements are planed.
- *Issues:* None

*** NYS&W Automobile Terminal** (Ref. R44)

(For view see Fig. R-43B)

- *Contact Person:* Frank McQuillan, Manager, CT Services, Tel: 201-864-3300
- *Location/address:* 2600 Secaucus Rd, North Bergen, NJ 07047
- *Owner/operator:* Privately owned. Managed by the CT Services and served by NYS&W.
- *Size:* 13 acres
- *Nearest Highway:* The nearest highway is Rt. 1 & 9, and New Jersey Turnpike in distance of 2 miles from facility.
- *Access:* Access to facility is from Secaucus Road.
- *Employees:* The number of employees vary depending of freight traffic.
- *Rail tracks:* Parking spaces is for three - four railcars. The tracks within facility is industrial track Class I, and the speed within facility is 5mph. There are 3 rail tracks. The movement of train is based on verbal permission, allowed on industrial track in volume of about 2 trains per month. Tracks are in excellent condition. There are no grade crossing, and level of utilization is daily.
- *Capacity/Volume:* There is a capacity to accommodate 100 freight cars. The freight volume handled in 1994 (last year in operation) was 223 cars per year.
- *Equipment/Services:* There are no warehouses in facility. Equipment consists of buckloaders. There is one gate operated manually, and security system is sufficient. Computer system is used for electronic billing and EDI.
- *Terminal Condition:* Fair. This automobile terminal is paved, fenced, and equipped with a perimeter security system.
- *Rail Operation:* Average there is 500 carloads per year, which are transported in multi-level autorack cars.
- *Truck Movement:* Not available
- *Commodities:* Commodities are used vehicles from various origin and destination, mostly from eastern U.S.A.
- *Future plans:* Terminal general condition is good, no improvements are planed.
- *Issues:* None

Sparta Junction Terminals, New Jersey (Ref. R44)

The NYS&W rail customers over this area are:

*** The Eastern Propane Inc.** (Ref. R-44)

(For view see Fig. R-43C)

- *Contact Person:* Mr. William Curcio, VP, Tel. 973-697-3111, fax: 973-697-7876

- *Location/address:* 255 Oak Ridge Road, Oak Ridge, NJ 07438. Facility is located in Sussex county in New Jersey.
- *Owner/operator:* Privately owned
- *Size:* Facility covers five acres
- *Nearest Highway:* The nearest major highway is Rt. 15 and Rt. 23 in distance of about two miles.
- *Access:* By local roads
- *Employees:* Facility is served by four permanent employees.
- *Rail tracks:* Tracks are class 1 (10 mph), and block signal is manual. There are 3 rail tracks. The level of track utilization is low.
- *Capacity/Volume:* The total volume handled by year is about five million gallons
- *Equipment/Services:* Rail Cars are Tankers. The only intermodal connection is between railcar and trailer-truck.
- *Terminal Condition:* Fair. There are no grade crossing at access and within facility.
- *Rail Operation:* Served by NYS&W. The number of trains is about 20 per year. There is a siding for railcars within facility. Tracks can store 10 railcars.
- *Truck Movement:* Only about one or two trailer-trucks per day (about 500 per year), holding approximately 3,000 gallons per truck, are operating, moving the tanks with help of truck-cranes.
- *Commodities:* This terminal distributes liquified petroleum gas products (propane) from the Sparta Junction Terminal and the NYS&W provides transportation services for its products. Product arrive from Texas and Canada, and are distributed by tank-trailers for New Jersey and partly to New York.
- *Future plans:* Facility is in good condition, and no improvements are expected in near future.
- *Issues:* None

*** Nutritive Sweeteners Inc.** (Ref. R44)

This facility is a liquid food-grade and bulk transfer facility for dry commodities, which are sugar and corn starch. *For view see Fig. R-43D.*

- *Contact Person:* John Vaughan, Manager, Tel. 973-579-0034, fax or 800-444-4805, or Bill Elrod, Tel.(1-800) 444-4805
- *Location/address:* 190 Houses Corner Road, Lafayette, NJ 07848. The facility located in Sussex county, New Jersey.
- *Owner/operator:* This facility is privately owned/operated by Stewart Johnson.
- *Size:* This two-acre terminal comprises a 5,000 square foot facility (offices, warehouse), equipped with a 100 ton scale.
- *Nearest Highway:* The nearest major highway is Route 15, with a distance of one mile.
- *Access:* Rt. 15, and local roads
- *Employees:* There are 4 employees in the facility.
- *Rail tracks:* The facility has one track and can accommodate 15 freight cars. The tracks are Class 1 (10 MPH) with manual block signals. Two grade crossings exist on the tracks. The track is in good condition and is not congested.

- *Capacity/Volume:* In 1998, the typical operational characteristic was 12 carloads per month (144cars/year), which amounts to 1,200 tons of dry commodity per month. Liquid product: about 4 million gallon per year
- *Equipment/Services:* There is a switch master available in facility.
- *Terminal Condition:* Fair
- *Rail Operation:* Serving line is NYS&W. The car types are tankers, hopper or airslide. Three trains per month are average traffic.
- *Truck Movement:* Facility owns/operates 3 trucks
- *Commodities:* Liquid food grade and dry bulk commodities (corn, sugar)
- *Future plans:* Not specified
- *Issues:* None

***Oakland Facility*:** (Ref. R44)

*** Bergen Transfer Terminal** *(For view see Fig. R-43E)*

- *Contact Person*: Mr. Peter Van Lenten, President, Tel: 201-405-0320, fax: 201-405-0299
- *Location/Address:* Bergen Transfer Inc., P.O. Box 115, West Oakland Avenue, Oakland, NJ 07436. Located in Bergen county, in New Jersey
- *Owner/Operator:* Privately owned. Part of facility is on long-term lease from NYS&W.
- *Area:* It is a two-acre terminal
- *Serving Rail Line:* NYS&W
- *Nearest Highway:* I-287
- *Access:* Primary access from Rt. I-287, ex. 57, and other accesses from Oakland Avenue and Edison Avenue. There are two grade crossing at entrance to facility.
- *Employees:* As required
- *Rail Tracks:* Two rail tracks are class 1 (10 mph), and block signal is manual. The level of track utilization is low. There is average 2 trains per month.
- *Commodities:* This is the NYS&W food-grade bulk transfer facility, dedicated to liquid food-grade commodities, mostly liquid sweetener, coming from Indiana and Alabama states and distributed to NJ and NY.
- *Capacity/Volume:* Number of carloads handled per year is between 450 to 500, with each tank car holding about 20,000 gallons. The terminal handles about nine million gallons per year.
- *Equipment/Services:* It has twenty unloading stations, a truck scale, and is equipped with an innovative hot water heating system to heat edible liquid, to be transferred into highway truck-trailers. There are two automatically operated gates.
- *Terminal Condition:* The condition of the terminal is acceptable.
- *Future Plans:* Not specified.
- Issues: None

Saddle Brook Facility (Ref. R44)

* **TransPlastics, Division of Quality Carriers Company** (former Mirrer's Trucking)
(For view see Fig. R-43F)

- *Contact Person*: William Mirrer, Terminal Manager, Tel. 201-368-2633, fax: 201-368-1438
- *Location/Address*: 106 Kenny Place, Saddle Brook, NJ 07663. This terminal, formerly The Mirrer's Trucking Company, is located in Bergen county, at the NYS&W Passaic Junction at Saddle Brook in New Jersey. Headquarter is located in Florida.
- *Owner/Operator:* Privately owned
- *Area:* Terminal covers about 18 acres
- *Serving Rail Line:* NYS&W
- *Nearest Highway:* It is located about ½ of mile from the New Jersey Turnpike and Interstate Route 80, exit 62.
- *Employees:* There are 17 permanent employees.
- *Rail Tracks:* The three tracks are Class 1 (15 mph), the block signal is manual, and there are three grade crossing on access from major road.
- *Commodities:* Facility handles bulk commodities, such as plastic pellets.
- *Capacity/Volume:* This facility can hold over 200 rail cars and has a one 100- ton truck scale and railcar scale. Product come from Texas and Louisiana, is distributed within NJ, and volume of commodity handled by year in 1998 was 300,000 tons.
- *Rail Operations:* There are about 900 trains per year coming/leaving the facility, about 75 carload per month. Parking space can hold 40 trailers.
- *Truck Movement:* There are five manually operated gates. Trucks are equipped with vacuum device to transfer pellets from railcars. Typically, there are 15 truckloads movements per day.
- *Equipment/Services:* Facility has 127,000 square-foot storage facility. Technology used in facility includes electronic billing, ADT security system, and computers. Intermodal connection is between railcar and truck-trailers, 65-foot long, of capacity about 20,000 pounds per truck.
- *Future Plans:* There are plans to expand this facility by building new tracks and acquisition of additional acreage.
- *Issues:* None

3.9 Profiles of Connecticut Railroads (Ref. R68)

The southwestern part of Connecticut, covering five planning regions, is situated along the Northeast Corridor Rail Line known as the MetroNorth's New Haven Line. For a corridor plan *see Fig. R-28*. The line is characterized by low overhead clearance, horizontal clearance, heavy passenger train use, inadequate terminal facilities. However, the line is physically capable of accommodating regular dimensioned freight cars, RoadRailers *(Fig. R-7)* and single-stack container trains.

The usage of the NERC for rail freight is discouraged by high trackage fees imposed by Amtrak which own the tracks, and by operating limitations concerning speed and time of day (both Amtrak, and Metro North rail portions of the line). Freight trains are limited to night time hours and can not

exceed 30 mph. Metro North service in Connecticut is under the overall direction of Connecticut DOT which owns the North East Corridor rail line through the South Western Region between the NYS and New Haven. Currently, all through rail freight which enters/leaves New England, uses two rail routes in western Massachusetts (Boston-Albany-Chicago), and trains from New Jersey and southeast are directed 150 miles north to cross the Hudson at Selkirk, NY yard. This circuitous route increases the cost of rail shipments and delay, so that about 90% New England freight is currently moved by truck, mostly along heavily used I-95 (Ref. R68).
Additionally, there are short lines operating in this region.

Housatonic Railroad Company
Contact Person and Address:
●James F. Sullivan, Connecticut DOT, Transportation Commissioner**,** Tel: 860-594-3060, Fax: 860-594-3066
Address: 2800 Berlin Turnpike, P.O. Box 317546, Newington, CT 06131-7546

As a part of effort to mitigate traffic congestion along the I-95 corridor, the Housatonic Railroad Company in July 2000 has been awarded a $385,000 grant to construct a bulk transfer facility in the Havleyville section of Newtown. This amount represents 70% of the estimate cost.

The Havleyville Transload Terminal will provide 30 to 40 rail car spots with adjacent storage for an additional 100 rail cars. It will provide intermodal (rail to truck) bulk transfer service for food grade commodities such as flour, corn syrup, fructose, plastic pellets, and grains. Locating such a facility in the Fairfield County will provide many local businesses, without a direct rail connection, competitive access to a national market. The railroad is working closely with CSX, a national carrier, to combine a market reach of CSX with the unique market access of the Housatonic (Ref. R75).

The Providence and Worcester Railroad (P&W) (Ref. R3-a, R7-c, R20-d, R48-b)
Contact Person and Address:
●Frank K. Rogers, Director - Marketing and Sale**,** Tel: 508-755-4000
Headquarter Address: 75 Hammond Street, P.O.Box 16551, Worcester, MA 01601

For a network plan *see Fig. R-28A.*

Corporate Structure
P&W is a privately owned Class 2 regional railroad, which began independent operation in 1973 with 45 miles of tracks, and has now 545 miles of track in a system that provides intermodal service to customers along the Northeast Corridor.

Routes
P&W operates in the New England, mainly in Connecticut and southeast Massachusetts. Per latest agreement, P&W provides also rail service to the New York downstate region by interchanging with the NY&AR in Fresh Ponds, Queens.

Commodities/Volumes

The major traffic is in chemicals, plastics, paper products, food materials, traprock, and intermodal. Currently, this company plays a major role in New England's waste disposal industry.

In 1998, P&W purchased the Connecticut Central Railroad Co. shortline, and started improvements on an 11-mile rail segment between Hartford and Middletown in Connecticut. P&W currently owns the Warwick Railroad - 0.9 mile branch at Cranston, Moshassuck Valley/Pawtucket line, and Manufacturers RR - New Haven industrial tracks. In addition to P&W owned and operated tracks, P&W has a trackage rights agreement with Amtrak and MNCR (Metro-North Commuter Railroad) on the New Haven line, and on CSX tracks to NYC. P&W in 1998 moved 53,800 containers, a 24% increase over 1997, and has exclusive and perpetual rights to conduct freight operations between New Haven and Massachusetts/Rhode Island border.

P&W has added a number of new customers recently, such as Ocean State Oil and Sonesco. Gateway Marine Terminal in New Haven (see Marine chapter) is handling sand for Tilcon in 10-car cuts for several months (Ref. R48-b). In February 1999, P&W expanded its waste transport capabilities with the opening of the enclosed bulk material transloading facility, where bulk hazardous waste materials can be picked up at non-rail served origins and transferred from truck to rail for shipment. P&W is also working on a project involving a containerized municipal solid waste (MSW) haul from Rhode Island to a rail-served landfill in South Carolina, and on additional waste movement strategies. For example, in 1998, more than 100 carloads of low-level radioactive soil packaged in both cubic-yard boxes and supersacks were loaded by crane into gondolas and moved from Worcester yard to a western landfill (Ref. R3-a).

Rail Operations and Facilities

Daily average train frequency is two road trains per day on two Worcester routes, plus daily locals elsewhere. In the Spring of 2000, P&W has opened a new $1.8 million addition to its Worcester, MA, repair and maintenance facility, covering now 18,200 square feet of state-of-the-art facility (R48-b).

P&W currently has 150 customers including Dow Chemical, Exxon Corp, Frito-Lay Inc, General Dynamics and International Paper Co. Along with Intransit Container Inc., P&W operates New England's largest doublestack intermodal facility in Worcester, Mass, and in 1998 handled 846 containers per month. The containers travel by doublestack rail from the West Coast ports to Worcester for markets in New England and New York. The development of a Rhode Island port at Quonset-Davisville will accommodate existing and future service at and near existing autoport at Davisville which its 23 miles of internal rails. Study predicted 27,262 annual container car loads out of QPD by 2010. P&W is also a partner with CSX in a Corridor Shuttle between New England and NY metropolitan area (Ref. R7-c).

Issues

To expand the line coverage and enforce its economic future by entering the New York area market.

4.0 Major Rail Regulations

- **The Staggers Rail Act of 1980** is still one of the most important economic and safety rail regulations in force. This Act limits ICC (STB predecessor) authority over maximum rail rates, and partly deregulates rail industry. It allows carriers and shippers to enter into confidential rate and service contracts, extends 1976 regulation allowing railroads to abandon lines where traffic does not support the cost of providing service, and requests ICC to make annual determination of rail revenue adequacy.

- **Interstate Commerce Commission (ICC) Termination Act of December 1995**. That act eliminated many of ICC functions, with remaining responsibilities transferred to a new Surface Transportation Board (STB) which renders decisions on undercharge claims, rates and service adequacy.

- **1998 Rail Safety Bill** set deadline for power brake and track safety rulemaking, sets certification requirements for safety of rail personnel and mandating computerized collision warning system on certain corridors and two-way radio for work crews, and revised hours of service rules and auditing accidents system.

- **Acquisition of Conrail** I Class railroad dedicated to freight movement by CSX and Norfolk Southern (NS) rail corporations, at cost of $10.2 billion. That merger, finalized in August 1998, and completed in July 1999, has involved 44,000 miles of rail line in 24 states and District of Columbia, and created competitive rail service in New York metropolitan region.

- **1999 STB decision** on New York rail network expansion including bringing Canadian Pacific Railway (CP) directly to New York, to address the goal of adding a second (after CSX) rail carrier east of Hudson. This should encourage US-Canada rail traffic on a short fast route, and permits CP to use yards in Bronx and Queens (Fresh Pond) and connect to Long Island, via NY&A.

- In October, 1999, Secretary of Transportation transmitted to Congress for approval the **STB reauthorization** proposal which builds on the Staggers Act, by addressing recent developments in the rapidly evolving railroad industry. That proposal would allow for more competitive service, restore important protections for rail workers, and provide meaningful relief for small shippers. Also, in 2000 STB has announced a new rule-making procedure of merger of Class I railroads, that could affect future rail merger and investment in the New York region.

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LIST OF FIGURES

Rail Lines and Facilities - List of Contacts

Rail Line or Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
Conrail	Don Nelson	Tel: 215-209-7652	2001 Market Street/25th Floor, Philadelphia, PA 19103
CSX	Mike Brimmer	Tel: 609-409-2039 or 904-607-5858, Fax: 609-409-2400	101 Enterchange Plaza, Suite 103, Cranberry, NJ 08512
Norfolk Southern	1. Rick Crawford, Corporate Affairs 2. Steve Eisenach, Director, Strategic Planning, NS,,	1. Tel: 215-209-4289, Fax: 215-209-4286 2. Tel: 757-629-2678, Fax: 757-533-4884.	1. 2001 Market St, 29th Floor, Philadelphia, PA 19103 2. 3 Commercial Place, Norfolk, VA 23510-9207
CSX - served Facilities: East and West of Hudson River			
Harlem River Yard	Mr. Anthony M. Riccio, HRYV Vice President,	Tel: 718-402-6952, Fax: 718-402-6862	98 Lincoln Avenue, Bronx, NY 10454.

Rail Line or Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
Hunts Point	1. Joe Dugary, Regional Business Manager 2. Philip Shinn, NYCEDC	1. Tel: 609-582-4408 2. Tel: 212-312-3552, Fax: 212-618-8898	Hunts Points Terminal Market, #2, Avenue M, Bronx, NY 10474.
Oak Point Link	1. Paul Pastecki, NYSDOT 2. Jack Madden	1. Tel; 518-457-5521 2. Tel: 518-457-3632	1. State Campus, Office Building 7A/305, Albany, NY 12232
Oak Pt. Yard/AMR	1. Jerome Mullen 2. Dorcie Brown 3. Thomas Egan, CSX	1. Tel:718-579-1935 2. Tel: 718-579-1930 3. Tel: 617-783-6214.	1080 Leggett Avenue, Bronx, NY 10474
Bronx Terminal	1. Philip Shinn of NYCEDC 2. David Newman or Chris Olsen, Strategic Development Concepts	1. Tel: (212) 312-3552 2. Tel: 914-723-5100, Fax: 914-723-6207	Contact Address: 1075 Central Park Avenue, Suite 410, Scarsdale, NY 10583
Little Ferry, New Jersey	Mike Dougherty, Manager	Tel: 201-941-9530 or 201-313-4417	2200-83rd Street, North Bergen, NJ 07047
North Bergen, New Jersey	Mike Barrera, Manager	Tel: 201-902-1003, Fax: 201-902-1002.	6201 Tonnelle Avenue, North Bergen, NJ 07047.
Elizabeth Transflow Yard	1. Douglas Halpin 2. Joe Dugery, Manager,	1. Tel: 904-359-3559, Fax: 904-366-5367 2. Tel: 856-582-4408	Transflow, 454 York Street, Elizabeth, NJ 07201
South Kearny	Terry McKee .	Tel. 973-274-2454, Fax: 973-274-2418 .	700 Old Fish House Road, South Kearny, Hudson County, NJ 07032
Norfolk Southern Yards			
E-Rail	Mark Shepp	Tel. 908-558-0343.	322 Third Avenue, Elizabeth, NJ 07206
Croxton Yard	Charles T. Connor	Tel. 201- 216-8404, fax: 201-216-8423	125 County Road, Jersey City, Bergen County, NJ 07307
Conrail - Shared Assets Facilities: Don Nelson, tel: 215-209-4801			
Oak Island Intermodal Terminal	1. Joe Garofolo 2. David Dick	1. Tel: 973-690-2000, Fax: 973-690-2303 2. Tel: 215-209-4250	91 Bay Avenue, Newark (Essex County), NJ 07105.
ExpressRail	1. Frans van Riemsdyk, Maher Terminals Inc., 2. Carmine Cipoletti, Manager	1. tel. 908-527-0147, Fax: 908-527-0350. 2. tel: 908-527-8200, Fax: 908-527-0350	Maher Terminal, Pt. Elizabeth Marine Complex, Elizabeth, NJ 07201
Doremus	Philip Callandrillo, Manager	Tel: 973-578-4884, Fax: 973-578-4101	861 Doremus Avenue, Newark, Essex County, NJ 07114.

Rail Line or Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
APL South Kearny Terminal	Jim Merritt, General Manager	Tel: 973-465-5938x5937, Fax: 973-465-7218	123 Pennsylvania Avenue, South Kearny, Hudson County, NJ 07302
Ridgefield Heights Auto Terminal	Lynn Thorn, Manager	Tel: 973-578-4100	Foot of Victoria Terrace, Ridgefield, NJ 07657
Portside	Robert J. Rich, VP for Operations, Triple Crown Services,	Tel. (219) 434-3608 or (908) 820-5525.	6920 Pointe Inverness Way, Suite 300, Fort Wayne, IN 46804
Canadian Pacific	1. Peter Cohen 2. Edward Fitzgerald	1. Tel: 212-943-9103 2. Tel: 518-383-7218, Fax: 518-383-7222, E-mail: edward-_ fitzgerald@cpr.ca	
Canadian National	Frederic M. Jones, Marketing Director	Tel: 908-879-4239	14 Brook Drive, Chester, NJ 07930
Amtrak	Dave Arganbright, Director	Tel: 215-349-1665 or 800-368-8725, Fax: 215-349-1655	30th and Market Streets, Philadelphia, PA 19104
NYCEDC	Andrew Genn, Director of Strategic Port Planning	Tel:212-312-3783	110 William St, New York, NY 10038
Brooklyn Army Terminal	1. Matthew Holian, NYCEDC 2. C. Jordano, BAT manager	1. Tel: 212-312-3850 2. Tel: 718-630-2432	facilty:140-58th Street, Brooklyn, NY 11220
Brooklyn Navy Yard	Mr. Richard Drucker, Senior Vice-President, BNYDC	Tel: (718) 852-0425	63 Flushing Avenue,Bldg.292/3rd Fl, Brooklyn, NY 11205
New York & Atlantic Railway (NYA)	1. Joel Torres, Director of Marketing, NYA	1. Tel: 718-497-3023x228, Fax: 718-497-3364	68-01 Otto Road, Glendale, NY 11385
Bay Ridge	Joe Dugary, Regional Business Manager	Tel: 609-582-4408	
New York Cross Harbor Railroad (NYCHRR)	W. Robert Bentley, President	Tel. (718) 788-3690, Fax: 718-369-1490	4302 First Avenue, Brooklyn, NY 11232
NSRR	Andrew Genn, NYCEDC William R. Wright, NJARP	Tel.(212) 312-3916 Tel: 908-272-5968	34 Beech Street, Cranford, NJ 07017
SBK	Mr. John J. Johnson, Superintendent,	1. Tel:(718) 243-4936, Fax: 718-319-5521 2. Tel: 718-319-5517	1. 370 Jay Street/3rd Floor, NYC Transit, Brooklyn, NY 11201, 2. 13-11 Water Place, Bronx, NY 10461
New Jersey Shore Line Assoc.	Robert Bailey, President	Tel: 732-264-7264, Fax: 732-264-2557	1764 Union Avenue, Hazlet, NJ 07730

Rail Line or Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
New York Susquehanna and Western Corp.	Ann Relic, Assistant VP	Tel: 800-366-6979x295, or 607-547-2555, Fax: 607-547-9834	1 Railroad Avenue, Cooperstown, NY 13326
Resources Int.	Frank Folise, President	Tel: 201-348-6300	2200 Secaucus Rd, North Bergen, Nj 07047
BulkMatic Transport Co.	Angel Torres, Manager (or Paul Garber, VP)	Tel:(973) 636-0818 or 201-295-1600, fax: 973-636-0819	5600 West Side Avenue, North Bergen, NJ 07047
NYS&W Lumber Reload	John Mecka, Manager, National Distribution Services	Tel: 201-864-6691	2600 Secaucus Road, North Bergen, NJ 07047
NYS&W Automobile Terminal	Frank McQuillan, Manager, CT Services	Tel: 201-864-3300	2600 Secaucus Rd, North Bergen, NJ 07047
The Eastern Propane Inc.	William Curcio, VP	Tel. 973-697-3111, fax: 973-697-7876	255 Oak Ridge Road, Oak Ridge, NJ 07438
Nutritive Sweeteners Inc.	1. John Vaughan, Manager 2. Bill Elrod,	1. Tel. 973-579-0034 2. 800-444-4805	190 Houses Corner Road, Lafayette, NJ 07848
Bergen Transfer Terminal	Peter Van Lenten, President	Tel: 201-405-0320, fax: 201-405-0299	Bergen Transfer Inc., P.O. Box 115, West Oakland Avenue, Oakland, NJ 07436
TransPlastics, Division of Quality Carriers Company	William Mirier, Terminal Manager	Tel. 201-368-2633, fax: 201-368-1438	106 Kenny Place, Saddle Brook, NJ 07663
The Providence and Worcester Railroad (P&W)	Frank K. Rogers, Director - Marketing and Sale	Tel: 508-755-4000	Headquarter Address: 75 Hammond Street, P.O.Box 16551, Worcester, MA 01601

TRUCKS

CHAPTER 4

TRUCK FACILITIES

4.1 Introduction

Trucks play an important role in freight transportation service in the United States. Of the over 11.2 billion tons of freight and commodities moved between major U.S. cities in 1997 (primary shipment only), an estimated 60 % moved by truck (up 78% since 1970), compared with 17 % moved by rail and intermodal, and 10 % moved by water. In 1997, trucks in the U.S. (primary shipments only) moved 6.7 billion tons with 61% of the volume as bulk and 39% as general freight. The total revenue of the truck industry accounted for $371.9 billion, or 81.3% of the total $457.3 billion acquired by transportation industry in the domestic market (Ref. T-25-a). In the same period (1997) revenue of freight moved by rail intermodal and water was about 8.9% and about 2%, respectively, of total domestic transportation revenue. Rates of service and price offered by road carriers were enhanced by deregulation in 1980's. More than half of all volume of trucking operations (52% in 1997) and 47% of revenue are handled by private carriers (companies that own both cargo and trucks). TL (truckload) represents about 45% of the freight truck shipment volume and 37% of the revenue, and LTL (less-than-truckload) represents about 3% of volume and 16% of revenue. Between the years1997 and 2007, the U.S. economy will generate added volume of 2.4 billion tons in primary freight movement, and trucking operations will capture the largest share (58% of volume)(Ref. T25).

Almost three-quarters of motor carrier revenue comes from long-distance trucking, the rest from local trucking (Ref. T-14). Most truck load freight travels less than 500 miles. Truckloads over 500 miles are more economical if they travel, in part, via rail intermodal service (Ref. T13). In 1997, the average length of haul in the U.S. of truckload was 280 miles, for LTL was 575 miles, and for all Class 1 motor carriers it was about 410 miles. The local and regional nature of trucking was highlighted in1993 and 1997 commodity flow surveys (Ref:T19, T29) which found that 30% of the value and 55% of tonnage moves between locations less than 50 miles apart. The main products were food and food related commodities (13.3% of revenue and 9.5% of volume), lumber and wood products (11.5% and 10.8%, respectively), petroleum, clay/concrete/glass/stone, mail, non-metallic minerals, chemical/allied products, and farm products (Ref. T29, T30).

* *Truck Transportation Forecast* (Ref. T25)

The American Trucking Association (ATA) forecasts that the rapid shifts in economic expansion and the service advantages provided by the trucking companies compared to other freight transportation modes remains strong. The ATA found that trucks will continue to dominate the freight transportation market in U.S., although their share of primary shipment volume will decrease slightly from 59.5% in 1997 to 58.8% in 2007. Trucking will maintain the largest share of primary shipment revenues (80.3% or $468.5 billion) in 2007 as compared to $583.6 billion in revenue for total domestic transportation market. Revenue derived from primary shipments for trucking will grow from $371.9 billion in 1997 to $413 billion in 2002 and $468.5 billion in 2007. The share of

primary freight shipments carried by for-hire operations in U.S. will increase from 48.4% of the trucking market in 1997 to 52.6% of the market in 2007, with the cumulative growth of volume for-hire trucking expected to be 30.4% compared to only 9.9% for private carriers (Ref. T25).

Truck vehicle demand especially for medium and heavy trucks will grow by nearly 19% between 1997 and 2007. Class 8 truck demand will grow from 1.7 million trucks in 1997 to 2.1 million trucks by 2007. Classes 6/7 truck sales will grow in the same time from 1.4 million to 1.6 million units, and Classes 3-5 will grow from 1.1 to 1.3 million units. Overall, truck ton-miles is predicted to expand by 33% from 1997 to 2007. Most of increase occurs in Class 6-8 (medium to heavy vehicles), where growth in ton-miles will reach 34% (Ref. T30). The new technology and rapid logistics development are improving both the truck structure and equipment as well as the organization of the transportation systems *(see Fig. T-6A to Fig. T-6D).*

4.2 Important Issues Affecting Trucking Industry

* *Labor Issue*

One of the main issues that is currently facing the trucking industry is the shortage of qualified drivers. Based on recent publications (Ref:T5, T10), American truck carriers need 30,000 new drivers a year for the next ten years in order to meet the current demand. Currently, trucking firms have to turn down business because of the lack of drivers. Also, discussion regarding compensation and work conditions leads to disruption of trucking services, such as took place in the West Coast ports in the summer 1999. One of the reasons of rising costs of truck transportation is the increase in diesel fuel prices (see *Fig. T-14* for driver turnover and fuel prices). The other labor-related issue is legislation regarding hours-of-service, which is expected to be completed by 2001. The proposal issued by DOT's Federal Motor Carrier Safety Administration calls for a reduction from the current level of daily driving hours, to a 14-hour, followed by a mandatory 10 hours off duty. However, the modernization of the 65-year old hours-of-service regulation, covering 3 million long-haul truck drivers, is opposed by several groups because of expected losses in income (Ref. T11).

* *Truck Size and Weight (TS&W) Issue* (Ref. T33)

Spurred largely by deregulation and transportation efficiencies supported by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and its successor the Transportation Equity Act for the 21st Century (TEA-21), carriers have started to use 53-foot trailers on highways permitting their use. Recently, RoadRailer introduced the 57-foot trailer, used primarily for the shipment of automobiles. Freight transportation become more complex since deregulation and evolve toward the global marketplace. Multi-modal transportation, increased international container movements, the enactment of NAFTA, as well as evolving logistics requirements are changing the way that goods are transported. Speed and reliability are becoming increasingly important to the business community, replacing the traditional emphasis on moving the largest volumes at the lowest rate. All of these issues should be considered in the determination of new TS&W policies. TS&W limit directly impacts motor carrier productivity, because vehicle capacity determines the number and cost of trip required to transport a given amount of freight. The weight limits are intended to prevent

premature deterioration of the infrastructure, while minimum length (truck-trailer) limits are intended to enhance uniformity and productivity. In 1991, ISTEA legislation restricted the Longer Vehicle Combination (LVC) operations over the Interstate System. This legislation restricted any combination of a truck-tractor and two or more trailers operations to the types of vehicles and routes in use before 1991. Current Federal law includes the following limits:

- 20,000 pounds for single axles on the Interstate System
- 34,000 pounds for tandem axles on the Interstate
- Application of the federal bridge formula for other axle groups up to a maximum weight of 80,000 pounds gross vehicle weight
- 102- inch width for large trucks on National Network (NN)
- 28-foot length for trailers in a twin-trailer combination
- 48-foot length for semitrailers in a semitrailer combination on the NN

The U.S. government as well as the general public are interested in the safety and possible environmental impacts of changes to the Nation's TS&W limits. Also, the TS&W issue includes an international dimension: the flow of North American trade is constrained by differences in allowable limits imposed by U.S., Mexico and Canada. Canada's limit is 95,900 pounds, and Mexico allows trucks up to 106,920 pounds. The trucking lobby is working hard to push legislation on acceptance of heavier trucks of 97,000-pound gross weight. The legislation will be discussed by the 2001 Congress gathering (Ref: T11, T31). Truck safety features, such as improved braking systems and stricter driving regulation will be key factors in the public acceptance of the use of heavier trucks on our highways (Ref. T13).

Based on the NYMTC weigh-in-motion study done in 1995, the average load for trucks in our region is15 tons, and on average 85% of trucks travel fully loaded *(see Fig.T-4 and T-5)* (Ref.T6).

* *Truck Terminals/Distribution Centers*

The location of truck terminals is dependent on the road system, particularly the freeway system. Truck terminals seek to maximize access to major routes, both to the central business district (CBD) and to the region as a whole. According to the NYMTC's Hub-Bound Trucks study, in 1997 1.2 million vehicles are made in and out of the CBD every day, trucks covering about 8% of that number (Ref.T7, T8).

Ideally, a location on the fringe of the CBD with easy access to major freeways, is desired (Ref.T4). However, trucking companies that provide local service are typically located near the downtown area. Terminal location and its design evolve with the changes in technology of cargo movement such as advances in vehicle design, expansion of freeway systems, improvement of loading/unloading facilities, and the concept of containerization of freight. In New York City truck bays require 33 foot by 12 foot berths. For location of optimum urban distribution points and for loading space requirement/truck berth criteria see *Fig. T-3B.*

The truck terminals *(see Fig. T-6, T-16),* together with other freight terminals, form an important

link in the movement of cargo in the urban area. However, there has been little change in the total number of truck terminals in recent years within the New York metropolitan area due to the trend toward larger terminal size and movement of terminals to west of the Hudson River. Most of modern truck terminals/distribution centers are now located in New Jersey or Pennsylvania (Ref. T22). While the warehouse's average size country-wide is increasing, most of the terminals in New York region are still of moderate size, with 75% having fewer than 20 truck bays. According to Wilbur Smith & Association's report "Transportation and Parking for Tomorrow's Cities", in 1966 there were 300 Class I and II terminals in the metropolitan area, where a Class I carrier is classified as having an annual gross income of over $1 million and a Class II carrier as having a $200,000 to $1 million annual gross income. The recent PANY&NJ studies describes the existing public warehouse space* in 1997 as below:

TABLE T-1 (Ref. T-32)
Public Warehouse Space (in square feet)

Location	Type of Facility			
	Dry	Heated	Refrigerated	Frozen
New Jersey	18,704,850	16,927,850	1,724,275	210,000
New York City	3,970,700	40,000	125,000	70,000
Total **	22,675,550	16,967,850	1,849,275	280,000

* The public warehousing is a major industry group for Trucking and Warehousing sector. It includes establishments primarily engaged in the warehousing and storage of farm products, perishable goods and general line of goods and household goods, including the emerging self-storage establishments.

** The 17-county region consists of 8 counties in Northern New Jersey: Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Sommerset and Union; 5 counties of New York City, and 4 counties in New York suburbs: Nassau, Rockland, Suffolk and Westchester.

At present, there are no recent studies that give an estimated number of truck terminals in the New York metropolitan area. The current trend is to reduce the number of warehouses in the supply chain system and the growing demand for value-added customizing services. The truck terminal/distribution centers are often perform more functions than stocking merchandise for limited time, the most typical added functions being (Ref. T-32):

- Container Freight Stations (CFS) for stuffing and stripping
- Heavy Container (HC) cross dockage to adjust shipments for differences in domestic and international weight limits
- Just In Time (JIT) distribution for same day order picking and shipping
- Drayage cost and access time (DCAT) for price and time-sensitive commodities
- Special Services (SS) such as product labeling
- Foreign Trade Zone - especially connected to the port functions

4.3 Trucking Industry In the New York Metropolitan Region

Freight movement in the New York metropolitan area is dominated by truck transport which represents 95% of all freight movements in the area. This number is two times higher than the national percentage which was 42 percent according to Regional Plan Association (RPA) 1996 data (Ref.T8). In New York City over 700 million tons of freight arrive, leave or pass through the Council's region annually, most of it on the trucks. On Long Island, 52 million tons of freight moves in-bound and 41 millions tons move outbound per year, and most of this tonnage is carried by trucks (Ref.T-3, T-20). See *Fig. T-7* for the predominant mode of distribution in the NYMTC region and *Fig. 7-A and 7-B* for the region's highway network.

Most of the trucks that come from the west side of the Hudson River will cross the river via the George Washington Bridge, Verrazano Narrows Bridge, or via the Lincoln and Holland tunnels. In 1997, daily traffic crossing the Hudson River *(see Fig. T-9 and Fig. T-11)* was 2.7 million vehicles per day, including 322,000 commercial vehicles (Ref.T15). Approximately 30,000 eastbound truck trips are made across the Hudson River each day (Ref. T16).

Most of the larger size trucks (five and six-axle vehicles) cross the river by using the George Washington (49% of the total truck traffic in 1997) and Verrazano Narrows bridges, whereas the smaller size trucks (two and three-axle) mostly use the tunnels, which have limited vertical clearance (Ref. T8). The access to New York City creates several problems. There are 20 access points to Manhattan (bridges/tunnels), but their height and weight restrictions limit the ability of trucks to enter the city. For regional truck weight restrictions, clearances and facility limitations *see Fig.T-3 and Fig. T-3A* (Ref. T17). Transportation infrastructure needs constant repairs and improvement. See *Fig. T-13B and T-13C.*

Some of the bottlenecks may be eliminated by using ITS, improved signage, new designated truck routes, and improvement of chronic congested truck route segments. Several studies on this subject are on the way. The *Portway* project in Northern New Jersey is a roadway/intermodal connector facility that would improve highway and inter-facility access and connectivity between the Newark/Elizabeth seaport and Newark Airport complex and major intermodal rail and trucking distribution facilities in the region. *New Jersey Turnpike/Hudson County* extension interchange project offers a freight-only interchange affecting the accessability to MOTBY terminal. *The Bergen Arches* project examines the opportunities afforded by an abandoned railroad corridor connecting Kennedy Boulevard with Palisades Avenue. If combined with a new Secaucus interchange at the New Jersey Turnpike, a new alignment could link the area west of the Palisades with the Hudson River waterfront. Also, NYSDOT is currently conducting *NYC Arterial Truck Freight Study* to find a way to beat congestion. Expected completion is in 2001.

Per 1985 data, trucks crossing in the eastbound direction carried 65 million tons of commodities, which greatly exceeds the combined total tonnage of general cargo (import/export) shipped through marine facilities of PANY&NJ (17 million tons in1998) and cargo tonnage handled by the region's three major airports (about three million tons in 1998) (Ref. T-2). Truck volume using the bridges and tunnels across the Hudson River rose from 7.5 million vehicles in 1997 to 7.8 million in 1998. Truck

volume in the region totaled 71.1 million vehicles in 1998, up 6.6% from 1997 (Ref. T-17).

According to the New York State Department of Transportation statistics, 1 in 13 jobs in New York is supported by the trucking industry with annual wages that are approximately $ 2,600 higher than the average industry worker. The total number of trucks entering the New York City has increased steadily over the years, but has decreased as a percent of total vehicles due to the large increase in automobile usage. Trucks in NYC must share the highway network with automobiles and are prohibited from using certain roads, such as parkways. For a regional highway system map and a map of roads restricted to trucks see *Fig.T-7A & 7B.*

In 1997, there were approximately 10 million vehicles registered in the metropolitan tri-state region (1.9 million vehicles was registered in New York City alone), including 1.34 million commercial vehicles (74,441 of them registered in New York City) (Ref. T-15). That represents a 4.9% increase in the number of commercial vehicles registered in the New York and New Jersey metropolitan region from 1996 (Ref. T-17). Vans and small trucks are the fastest growing segment of truck traffic in the region. This trend reflects the shift in business toward financial and service-related industries rather than the manufacturing industry (Ref.T-8). To access the CBD (Central Business District) area, vans continue to be the choice of many companies due to their smaller size. As a result, they can more easily penetrate congested routes in Manhattan, restricted curb areas, and parking space limitations. In New York City, for the most part, larger heavy trucks are used to deliver goods to the vicinity of the Central Business District (CBD) or further, while smaller delivery truck and vans are used to move cargoes to and from the CBD. Trucks create a congestion, safety and air pollution problems within the city and over the access roads. Several attempts are made to replace part of the truck traffic by other modes such as rail or water transportation. See Fig. T-14B for the replacement possibilities. Typical commercial vehicle silhouettes are shown in *Fig. T-1 and Fig. T-1B.* For longer combination vehicle see *Fig. T-1A and Fig. T-1C.* For location of some of the dedicated terminals in the region described in the Section 4.4 (pg. T-8 of this report) see *Fig.T-8.*

* *Commodities*

Based on the PANY&NJ 1994 regional truck cordon survey (Ref.T-1), the predominant transported commodities in our region were food, building materials, paper and consumer goods *(see Fig. T-2).* For main destinations and origins of freight see *Fig. T-2*A. For detailed description of commodities transported within the New York State see *"New York 1997 Commodity Flow Survey"* (Ref. T-19).

* *Intermodal Traffic*

Trucks play an important role in intermodal traffic in the New York metropolitan area. Intermodal connections are provided between transportation modes such as airplane and truck, ship and truck, and rail and truck. Trucks can provide a continuous segment of door-to-door service. In the New York metropolitan region, revitalization of the rail freight could remove in the future some of trucks from the roads, however it will be unable to eliminate them. Intermodalism, signage improvements and the inclusion of new technology, such as ITS (including EZ-Pass system and improvement in mass transit) will help the region to reduce traffic congestion.

The following actions in New York City are recommended by the various studies in order to improve the truck delivery system [(Ref. T-26)]:

- Increase Non-Peak Hour delivery and service, through toll incentives and cooperation between private businesses and government agencies.
- Allow commercial vans on parkways where it is possible.
- E-Z Pass enhancements, and wider E-Z Pass toll lanes for commercial vehicles
- Introduce In-Vehicle-Parking-Devices (IVPD)
- Coordinate Transportation Systems Management (TSM), which can maximize capacity of present transportation system. Some examples of TSM improvements are:

    * Regulation changes regarding curb space and authorization of new truck loading zones
    * Traffic Calming (to reduce traffic speeds and improve safety) and improved signage

Parking Issue

Parking for commercial vehicles (trucks or vans) in the Manhattan Central Business District is a major challenge for the *just-in-time* delivery process which is the latest trend for business. There are limited curb spaces and there is limited time for parking in the city. Major delivery companies have concerns about the significant amount of penalties they have to pay each year for parking violations in the city [(Ref. T-12)].

A study conducted by UTRC (University Transportation Research Center) [(Ref. T-8)] found that one third of the drivers spend an average of 10 to15 minutes in search of a parking space. Most of these commercial vehicles typically park for less than an hour. As a result, more congestion is created by these commercial vehicles which circle the block to locate a parking space. The study also estimated that fifteen percent of the VMT (vehicle mile of travel) is made up by these vehicles.

New York City Department of City Planning is studying Manhattan CBD parking, focusing on describing the current status and location of all New York City parking sites. The study is expected to be completed by the end of 2000. *(For further information call Stratos Prassos, 212-442-4715.)* Another study on goods movement in the New York City CBD was conducted in1998 by CUNY's Baruch College *(Prof. Anne Morris, tel: 212-802-6277).* It focused on the bottlenecks within the system, including the parking problem. This study is continuing.

** Mandates of the Clean Air Act Amendments of 1990 (CAAA)*

The Clean Air Act Amendments of 1990 (CAAA) has required that the region has to come into compliance with air quality standards. Vehicles are a primary source of air pollution resulting from the tailpipe emissions of hydrocarbons, carbon monoxide and nitrous oxides. To avoid penalties stemming from violations of the act, the New York metropolitan region has addressed the issue of reducing both congestion and vehicle mile traveled (VMT). According to the U.S. Environment Protection Agency, motor vehicles today emit fewer pollutants (60 to 80% less, depending on the pollutant), than vehicles built in the 1960-1970's. Despite this, cars and trucks still account for

almost half the emissions of volatile organic compounds (VOCs) and nitrous oxides (Nox), and up to 90% of the carbon monoxide (CO) emissions in urban areas. Rapid increases in the number of vehicles and miles driven since the 1960s largely cancelled the gains in air quality achieved by vehicle emission controls. Hence, the CAAA's emphasis on reducing vehicle miles traveled, and promoting more efficient movement of both people and freight. NYMTC is working on several studies and programs promoting reduction in travel, such as Air Quality Transportation Initiative *(CDOT-72-00),* Compressed Natural Gas Planning *(CDOT-51-00),* Clean Cities Programs and Initiatives *(CS-22-00),* Regional Congestion Management System *(DCP-03-00),* and an ITS Planning Database For New York CITY *(DCP-17-00).* The purpose of these studies is to decrease pollution and to help environment.

4.4 Description of Selected Regional Truck Terminals

This part of the report describes some of the major dedicated truck terminals, operated by United Parcel Service (UPS), U.S. Postal Service (USPS) and Federal Express, which are located within the New York metropolitan area, and act as part of the intermodal freight transportation network. In the second phase of study, NYMTC Central Staff, with the help of the NYMTC subregions, expanded the truck inventory to cover more truck terminals in the metropolitan region and also to include major warehouses in the metropolitan area. This report based on the truck terminal and warehouse survey is expected to be available by the winter of 2000.

4.4.1 United States Postal Service (USPS) (Ref. T9, T18, T27)

1. *Contact Person:* Mr. Michael J. Farrell, U.S. Postal Service Manager of the Distributions, Tel. (212) 330-3114, Fax: 212-330-2672.
2. *Address:* USPS Network Office, JAF Building Room 459, New York, NY 10199-9792

In 1998, USPS shipped nearly 45% of all US domestic air cargo shipments., the largest entity in the $31 billion domestic air market. In 1998, USPS moved 1.3 billion Express and Priority Mail shipments which represented 44.7% of the $2.8 billion air shipments moved in the US domestic commerce (Ref. T-10). The USPS has increased its shipment base and increased its shipment share to 9.1% in 1998, up from 7.9% in 1997 (Ref. T11).

The company is using advanced technology to enhance its services and products. Lately, USPS has embarked on the task of completely revamping its information technology structure, from enterprise-wide software to the robots used for mail processing. Among the innovations are: "PosteCS" (post-electronic courier service) which combines electronic postmark with tracking and tracing, proof of delivery, sender and receiver authentication, and account management; "Shipping Online" - internet service for Express Mail and Priority Mail customers, which enables customers to print a label, check address for accuracy, calculate postage, pay online by credit card, and tracking shipping; "Signature Confirmation", by using high-speed image scanners; Electronic Addressing, Electronic Bill Payment and Presentment, and several others technology-based services (Ref. T-11).

The USPS owns their own cargo processing and distribution centers, which include truck facilities

and distribution centers. The main USPS facilities in metropolitan region are described below.

Queens Processing and Distribution Center (P&DC) (Ref. T-9)

- *Contact person:* Mr. Ambra Turner Jr., Tel: (718) 321-5068
- *Location/address:* The facility is located in the Queens County. The address is:142-02 20th Avenue, Flushing, NY 11351-9706.

2. *Nearest Highway:* The nearest major highways are the Whitestone Expressway (I-678), Grand Central Parkway, and the Long Island Expressway (I-495) at a distance of less than 1 mile.

1.3 *Access:* The primary access is via 20th Avenue.

- *Size/Acreage:* The size covers 24.1 acres.

1.4 *Facility Class:* The terminal type is Class I (annual revenue over $1 million)

- *Facility Activities:* Mail processing and distribution
- *Truck Trips per Day:* This terminal generates 850 truck trips per day that varying from vans to large trucks/trailers.
- *Parking/Bay Spaces:* There are 136 truck parking spaces and 52 truck bays in the facility (Ref. T-27).
- *Employees:* This center has 2,000 employees, who perform a variety of supervisory and mail handling/clerical duties.
- *Commodities:* The commodity is mail with a volume of 45,000 tons per day. Estimated volume in inventory is 4,800 tons (Ref. T-27).
- *Origin/Destination:* Worldwide
- *Other Services:* Center has no warehouses available but it can handle short term perishable cargo.
- *Intermodal:* This facility has intermodal connection between truck/rail, truck/ship, and truck/airplane. Queens P&DC uses both JFKIA and LGA for intercity connection. This facility uses United and Northwest airlines, with approximately 10,000 and 6,000 pounds of mail, handled in body of the plane, respectively.
- *Equipment:* Forklifts, elevator, and sidewinder (a forklift-like device designed to pick-up loaded pallets and sacks to be reloaded into a trailer), as well as a tray management/take away system, used to move mail through facility and dispatch chutes, are the typical equipment used in the facility.
- *Facility Condition:* This terminal is in excellent condition.
- *Issues:* Based on the NYMTC survey, typical reasons for delay are weather conditions, traffic congestion, incidents, and road construction.
- *Improvement Plans*: The agency recently modified the terminal platform and installed a new elevators. No other improvements are currently planned.

Morgan General Mail Facility (GMF) Terminal (Ref. T-9)

- *Contact person:* Mr. Carlos A. Knight, Tel. (212) 330-3161
- *Location:* This terminal is located in Manhattan. The address is: 341 9th Avenue, Room 1042, New York, NY 10199-9704.

- *Nearest Highway:* The nearest major highways are the West Side Highway (Manhattan) and New Jersey Turnpike (I-95).
- *Access:* The primary accesses are via 9th Avenue and 10th Avenue and the secondary accesses are via 29th Street and 30th Street.
- *Size/Acreage:* Facility covers two city blocks between 28th and 30th Street and between 9th and 10th Avenues. The buildings cover 2.1 million square feet.
- *Facility Class:* This terminal is Class I.
- *Facility Activities:* Mail, parcels sorting, distribution
- *Truck Trips per Day:* This terminal generates 700 truck trips per day.
- *Parking/Bay spaces:* This site has limited parking spaces (12) and has 130 truck bays.
- *Employees:* The number of employees is 4,872.
- *Commodities:* The type of commodity is mail with a volume of 3,350 tons per day (Ref. T-27)(estimated volume in inventory). The estimated transfer time is 4 hours.
- *Origin/Destination:* Worldwide
- *Other Services:* N/A
- *Intermodal:* From this terminal the mail is forwarded by truck to different modes of transport such as rail, ship, and airplane.
- *Equipment:* Advanced technologies utilized in the facility are facer cancellers (piece of equipment that cancel postmarks and separate mail), robotics processing equipment, and barcode readers.
- *Facility Condition:* Condition is good.
- *Issues:* The operator states that the major issue for truck movements is substandard vertical clearance for Holland, Lincoln, Battery, and Midtown tunnels. The major reason for truck delays is congestion in intra city traffic.
- *Improvement Plans:* N/A

USPS Mid Island Processing and Distribution Center (P&DC) (Ref. T9)

- *Contact person:* Mr. Mike Burd, Tel: (516)-755-2509, Fax: 516-755-2599
- *Location:* This center is located in Melville in Suffolk County. The address is: at 160 Duryea Road, Melville, NY 11747
- *Nearest Highway:* The nearest major highway is the Long Island Expressway (I-495), at a distance of one mile.
- *Access:* The primary access to the facility is via Route 110 and the secondary access is via Duryea Road.
- *Size/Acreage:* The center covers 39.6 acres and the building space is 327,000 square feet.
- *Facility Class:* Class I
- *Facility Activities:* This facility is a distribution center that forwards all classes of mail - 1st class mail up to standard class, priority, express mail and parcels (up to 70 lbs).
- *Truck Trips per Day:* This facility generates approximately 650 truck trips per day that vary from vans to large truck/trailers.
- *Parking/Bay spaces:* Currently, it has 46 truck bays and there are 320 truck parking spaces.
- *Employees:* There are 2,000 employees on the site.

- *Commodities:* Mail, parcels. Estimated volume in inventory is 275 tons [Ref. T-27]. On average, this facility handles 6 million pieces of mail per day.
- *Origin/Destination:* Nationwide
- *Other Services:* N/A
- *Intermodal:* Truck/truck only
- *Equipment:* The equipment includes sorting, tagging, tracking, and moving equipment.
- *Facility Condition:* The facility is in fair condition but crowded. The terminal has been recently expanded by 70,000 square feet.
- *Issues:* Access route 110 is congested.
- *Improvement Plans:* There are plans to improve the facility by expanding the production buildings and by adding eight truck bays. Additional renovation of facility, including internal road infrastructure, is planned.

Additionally, USPS in Nassau County uses large warehouse facilities on Stewart Avenue in East Garden City and on West John Street in Hicksville, which are generators of truck movements in the region [Ref. T-18].

USPS Airport Mail Center (AMC) at JFK International Airport Terminal [Ref. T-9]

- *Contact person:* Ms. Margaret Woodson, Tel. (718)-553-7267
- *Location:* This terminal is located in John F. Kennedy International Airport. Address is: AMC, JFKIA, Building #250, Jamaica, NY 11430-9804
- *Nearest Highway:* The nearest major highways are the Van Wyck Expressway (I-678), Belt Parkway, and South Conduit Avenue, at a distance of one mile.
- *Access:* The primary access to the facility is via North Boundary Road and other accesses are from the Farmer Blvd, and Guy R. Brewer Avenue.
- *Size/Acreage:* This terminal covers 27 acres.
- *Facility Class:* Class I (annual revenue over $1M) terminal
- *Facility Activities:* Mail/parcels sorting/distribution. AMC JFK also serves as one of three ISC's (International Service Center)on the east coast for the processing of foreign mail.
- *Truck Trips per Day:* This site generates approximately 96 to 191truck trips per day (depending of season) that vary from van to larger trucks/trailer.
- *Parking/Bay spaces:* The number of truck parking spaces is 150, and the number of truck bays is 103.
- *Employees:* The facility has 2,200 employees.
- *Commodities:* The main commodity type is mail with a volume of from 24,000 up to 250,000 tons per day, and domestic and international parcels (18,000 to 25,000 tons per day). Estimated volume in inventory is 7,600 tons [Ref. T-27].
- *Origin/Destination:* Worldwide
- *Other Services:* N/A
- *Intermodal:* The intermodal connection is between truck and airplane. The transfer time of commodities between the modes is between one to one and half hour, with 30 minutes of administration handling time.

- *Equipment:* The advanced technologies used in the facility are electronic billing, bar coding, remote imaging, and video camera systems for security. Bulk sorting and scanning equipment, tugs, jitneys, forklifts, and portable conveyers are the equipment utilized in the center.
- *Facility Condition:* Acceptable
- *Issues:* N/A
- *Improvement Plans:* In the future, the agency plans to update all conveyors within the building.

USPS Dominick V. Daniels Processing and Distribution Center (Ref. T-9)

- *Contact person:* Mr. John Fallon, Tel. (201)-955-2720
- *Location:* This terminal is located in Kearny, Hudson County, New Jersey. The address is: 850 Newark Turnpike, Kearny, NJ 07099-9998
- *Nearest Highway:* The nearest major highways are Route 280 and the New Jersey Turnpike (Exit 15W).
- *Access:* The primary access is from Newark Turnpike.
- *Size/Acreage:* This terminal covers 20 acres.
- *Facility Class:* Class I terminal
- *Facility Activities:* Mail, parcels
- *Truck Trips per Day:* The facility generates 950 truck trips per day, ranging from vans to trailers of average 9 ton capacity.
- *Parking/Bay spaces:* There are 475 truck parking spaces available. This terminal has 186 truck bays
- *Employees:* There are 2,700 employees in the center.
- *Commodities:* The major commodities handled in this terminal are mail (first to standard), priority mail with an average weight of 11 oz. or more, and parcels (weight up to one lb). There are, on average, 6 million pieces of mail per day plus an additional 80,000 sacks of mail.
- *Origin/Destination:* No international traffic is handled from this center, but the facility has a shipping connection with Newark Airport.
- *Other Services:* This facility can handle perishable cargo and also animals transport.
- *Intermodal:* The intermodal connection is between truck and plane (for mail/parcels distributed to all U.S. destinations) and truck to trailer (for domestic destinations).
- *Equipment:* The facility is equipped with comprehensive tracking and tracing (CTT), scanning, and barcoding.
- *Facility Condition:* Condition is acceptable.
- *Issues:* Major issues for freight movement are trailer height restriction in the Holland Tunnel which is 12'6", and Lincoln Tunnel, which is 13", and the flooding of the Newark Turnpike, the access route.
- *Improvement Plans:* The operator recently installed a tracking information system, roadway maneuvering, yard pavement, and improved roadway lighting. Due to limited space for expansion, no other improvement plans are expected.

4.4.2 United Parcel Service (UPS)

- *Contact Person:* Mr. Arthur Lucien, UPS Regional Manager, Tel. (212) 631-6565, Fax: 212-631-6256.
- *Address:* 645 West 43rd Street/8th Floor, New York, NY 10036

United Parcel Service, the nation's largest transport company and one of the pioneers in improving intermodalism, is expanding its activity. UPS service covers domestic and international territory with over 2,400 operating facilities, hubs, and centers nationwide. In 1998, it had revenues of $24.8 billion, 10.4% more than in 1997, and its net income was $1.7 billion, 9% more than in 1997 (Ref. T5). In 1997, the company employed total 339,000 people (302,000 in United States). In 1997, UPS handled a total of 3.1 billion parcels and documents delivered to more than 200 countries, and it had over 1.5 million customers. In 1998, UPS distributed 43.4 million air cargo shipments, 15.6% of the total US market (Ref. T5). In 1998, the UPS operated a total of 147,000 vehicles for ground delivery (package cars, vans, tractors, trailers), that travel over 2 billion miles per year, the largest private surface delivery fleet in the U.S. (Ref. T13).

UPS owns 197 planes and operates 302 chartered aircrafts serving 390 airports in the U.S. and 219 international airports. UPS Air Express traffic grew in 1994 by 23.7% compared to the same period in 1993. UPS is also the largest intermodal railroad customer, moving more than 100,000 trailers on flatcars. In 1992, UPS created a European ground delivery network by acquiring several European
parcel delivery services (Ref. T13). The decision by UPS in the summer of 1999 to sell 10% of its shares to the public - in what analyst said could be the largest public stock offering in history - is likely to have a major impact on the global transportation industry (Ref. T11).

To coordinate and track its activities, UPS uses some of the most sophisticated information technology available and developed Telecommunication network called UPSnet. UPSnet has more than 500,000 miles of lines and links 1,300 UPS distribution sites in 46 countries. It also sells or leases some of its capacity through UPS Telecommunications Inc., a UPS-owned company. Its International Shipment Processing System speeds electronic shipment information directly to U.S. and Canadian customs bureaus prior to arrival of shipments. Recently, UPS invented UPS Worldwide Logistics operation, specializing in international distribution. It also launched e-Ventures, a wholly owned subsidiary, that will identify and nurture new businesses with a special interest in supply-chain management services for web-based companies (Ref. T11).

UPS developed telephone centers for help lines and marketing, as well as an unique repair service for electronic manufacturer customers (Ref.T11), and offers shippers Internet tracking which is quickly replacing older proprietary systems. Additionally, cellular service enable UPS to transmit package delivery information from vehicle to the mainframe computers (Ref. T13). Also, UPS expanded the use of Maxicode, its two-dimensional (2-D) package label code, designed for high-speed sorting (Ref. T10).

The following descriptions of some of major terminals UPS manages in the metropolitan area (Ref. T9) are available:

Maspeth Hub (Ref. T9)

- *Contact person:* Mr. Arthur Lucien, Tel: 212-631-6565
- *Location:* This terminal is located at 46-05 56th Road, Maspeth, Queens, in New York City.
- *Nearest Highway:* The nearest major highways are the Long Island (I-495) and the Brooklyn Queens Expressways (I-278), at a distance of three miles.
- *Access:* The primary access to the facility is via Laurel Hill Boulevard and Meeker Avenue.
- *Size/Acreage:* This terminal covers 20 acres.
- *Facility Class:* Class I terminal
- *Facility Activities:* The main purpose of the facility is the sorting, un-sorting, loading, unloading, and distribution of mail/packages including small packages (1-150 lb).
- *Truck Trips per Day:* The site generates 780 truck trips per day by various types of truck, from van to multi trailer.
- *Parking/Bay spaces:* There are 150 parking spaces for trucks and 290 spaces for vans and the facility has 125 truck bays.
- *Employees:* The facility has a total of 1,590 employees, including 289 drivers.
- *Commodities:* The main commodity is small packages with a volume of 300,000 packages per day and transfer time of 15 hours.
- *Origin/Destination:* The origin and destination of these packages are all points in the United States.
- *Other Services:* N/A
- *Intermodal:* The intermodal connection is between truck and airplane (from JFK International Airport).
- *Equipment:* The advanced technologies used in this hub are electronic scanning of barcoded packages, and special equipment to sort, load, and unload small packages.
- *Facility Condition:* Condition of facility is good.
- *Issues:* Based on the NYMTC survey, the major barrier to the improvement of freight movements is the unavailability of rail TOFC service from Selkirk and New Jersey to Brooklyn, Queens, and Long Island.
- *Improvement Plans:* At the moment no improvements are planned.

Melville Hub (Ref:T-9)

- *Contact person:* Mr. Arthur Lucien, Tel: 212-631-6565
- *Location:* This terminal is located at 75 Smith Street, Farmingdale, Suffolk County, New York.
- *Nearest Highway:* The nearest major highways are the Long Island Expressway (I-495) at a distance of 3 miles, and Northern State Parkway.
- *Access:* The primary access to the facility is from Broad Hollow Road/Smith Street.

- *Size/Acreage:* This terminal covers 15 acres.
- *Facility Class:* Class I terminal
- *Facility Activities:* The purpose of this terminal is to sort, load, unload, and distribute small packages (1-150 lb).
- *Truck Trips per Day:* Typically, this facility generates about 75 trucks trips and 440 vans trips per day (a total of 515 trips per day).
- *Parking/Bay spaces:* The facility can accommodate 150 trailers and 220 vans, and it has 100 truck bays.
- *Employees:* The number of employees is 722 persons, including 220 drivers.
- *Commodities:* This facility handles 125,000 packages per day with an average transfer time of 7 hours.
- *Origin/Destination:* Nationwide
- *Other Services:* N/A
- *Intermodal:* The intermodal connection is between truck and airplane. From this center the packages are forwarded for air transport.
- *Equipment:* The advanced technologies utilized are electronic scanning for barcoded packages, and automatic equipment for loading, unloading, and sorting small packages.
- *Facility Condition:* Terminal condition is acceptable and no major deficiencies were cited.
- *Issues:* From the survey response, it is cited that the congestion on the Long Island Expressway is one of the major barriers for efficient freight transportation (Ref.T9).
- *Improvement Plans:* N/A

Nassau Hub (Ref:T-9)

- *Contact person:* Mr. Arthur Lucien, Tel: 212-631-6565
- *Location:* This terminal is located at 300 Oak Street, Uniondale, Long Island, Nassau County, New York
- *Nearest Highway:* The nearest major highway is the Long Island Expressway (I-495), at a distance of 3 miles.
- *Access:* The primary access to this hub is from Hempstead Turnpike.
- *Size/Acreage:* This terminal covers 20 acres
- *Facility Class:* Class I terminal
- *Facility Activities:* The purpose of this terminal is to sort, load, unload, and distribute small packages (1-150 lb).
- *Truck Trips per Day:* This hub generates 790 truck trips per day (150 trailer and 640 van trips per day).
- *Parking/Bay spaces:* This hub can accommodate 150 trailers and 320 vans. It has 120 truck bays.
- *Employees:* There are 980 employees, including 320 drivers.
- *Commodities:* The facility processes 250,000 small packages per day, with an average transfer time of 15 hours.
- *Origin/Destination:* Nationwide
- *Other Services:* N/A

- *Intermodal:* The intermodal connection is between truck and airplane through JFK International Airport.
- *Equipment:* Technologies used in the hub are electronic scanning for barcoded packages, and automatic equipment for loading, unloading, and sorting small packages.
- *Facility Condition:* The condition is acceptable.
- *Issues:* No major deficiencies at this terminals are cited. However, external problems that were mentioned include congestion on the Long Island (I-495) and the Cross Bronx (I-95) Expressways, restriction for large trucks on the Hempstead Turnpike, the non-existence of a direct rail connection from New Jersey and the lack of intermodal TOFC from Selkirk (north of state) to Long Island (Ref.T9).
- *Improvement Plans:* N/A

Foster Avenue Terminal (Ref:T-9)

- *Contact person:* Mr. Arthur Lucien, Tel: 212-631-6565
- *Location:* This terminal is located at 10400 Foster Avenue, Brooklyn, New York.
- *Nearest Highway:* The nearest major highways are the Long Island (I-495) and Van Wyck (I-678) expressways at a distance of 5 miles.
- *Access:* The primary accesses to this hub are from Foster Avenue, Linden Boulevard and Atlantic Avenue.
- *Size/Acreage:* This terminal covers 250,000 square feet.
- *Facility Class:* Class I terminal
- *Facility Activities:* The purpose of this terminal is to sort, load, unload, and distribute small packages (1-150 lb).
- *Truck Trips per Day:* This terminal generates 265 truck trips per day (65 trailer truck and 200 van trips per day). The truck types are van, single trailer, and multi trailer trucks.
- *Parking/Bay spaces:* This hub can accommodate 25 trailers and 200 vans. It has 60 truck bays.
- *Employees:* There are 600 employees at this facility.
- *Commodities:* This terminal handles 100,000 small packages per day , with an average transfer time of 7 hours.
- *Origin/Destination:* Nationwide
- *Other Services:* N/A
- *Intermodal:* The intermodal connection is between truck and airplane via JFK International Airport.
- *Equipment:* The facility utilizes electronic scanning for barcoded packages, and automatic sorting, loading, and unloading equipment (Ref.T9).
- *Facility Condition:* Condition of facility is acceptable.
- *Issues:* The major reasons for delay are congestion on the Van Wyck Expressway and Linden Boulevard and the lack of "trailer on flat car" (TOFC) service onto Long Island. Another barrier is the restriction of commercial vehicles on the Belt Parkway.
- *Improvement Plans:* N/A

Suffolk Hub (Ref:T-9)

- *Contact person:* Mr. Arthur Lucien, Tel: 212-631-6565
- *Location:* This terminal is located at Horse Block Road, Farmingville, Suffolk County, New York.
- *Nearest Highway:* The nearest major highway is the Long Island Expressway (I-495) at a distance of one mile.
- *Access:* The primary access is via Horse Block Road.
- *Size/Acreage:* This terminal covers 15 acres.
- *Facility Class:* Class I
- *Facility Activities:* The purpose of this terminal is to sort, load, unload, and distribute small packages (1-150 lb).
- *Truck Trips per Day:* This hub generates 100 trailer trips and 408 van trips per day, totaling 508 truck trips per day.
- *Parking/Bay spaces:* This hub can accommodate 75 trailers and 200 vans, and it has loading/unloading doors for 50 trailers and 200 vans.
- *Employees:* There are 490 employees including 204 drivers.
- *Commodities:* Commodities are small packages and freight of all kinds destined for all points in the USA. The typical volume is 75,000 packages per day.
- *Origin/Destination:* Nationwide
- *Other Services:* N/A
- *Intermodal:* The intermodal connection is between truck and airplane via JFK International Airport.
- *Equipment:* The facility utilizes electronic scanning for barcoded packages, and automatic equipment for loading, unloading , and sorting the packages (Ref.T9).
- *Facility Condition:* Acceptable
- *Issues:* Major issues for intermodal freight are the unavailability of TOFC service onto Long Island, and congestion on the LIE.
- *Improvement Plans:* N/A

Laurelton Hub (Ref:T-9)

- *Contact person:* Mr. Arthur Lucien, Tel: 212-631-6565
- *Location:* This terminal is located at 132-20 Merrick Boulevard, Springfield, Queens County, New York.
- *Nearest Highway:* The nearest major highways are the Long Island (I-495) and Van Wyck (I-678) Expressways, at a distance of three miles.
- *Access:* The major access is via Farmer Blvd. in Springfield Garden.
- *Size/Acreage:* This Class I terminal covers 183,000 square feet.
- *Facility Class:* Class I terminal
- *Facility Activities:* The purpose of this terminal is to sort, load, unload, and distribute small packages (1-150 lb).
- *Truck Trips per Day:* This hub generates 420 truck trips per day (60 trailer and 360 van trips per day).

- *Parking/Bay spaces:* This hub can accommodate 20 trailers and 180 vans and It has 40 truck bays.
- *Employees:* There are 452 employees in the facility, including 182 drivers
- *Commodities:* The typical operation is 50,000 small packages per day with five hours transfer time.
- *Origin/Destination:* Packages are shipped to all points in the USA
- *Other Services:* N/A
- *Intermodal:* Truck/airplane
- *Equipment:* The facility utilizes electronic scanning for barcoded packages, and automatic equipment for loading, unloading, and sorting packages (Ref.T9).
- *Facility Condition:* Condition is acceptable.
- *Issues:* The major issues for intermodal freight transportation are congestion of the Van Wyck Expressway and the non-existence of TOFC service onto Long Island.
- *Improvement Plans:* N/A

UPS 43rd Street Hub (Ref:T-9)

- *Contact person:* Mr. Arthur Lucien, Tel: 212-631-6565
- *Location:* This terminal is located at 643 West 43rd Street, New York City.
- *Nearest Highway:* The nearest major highway is the West Side Highway, which is three blocks away from the Lincoln Tunnel.
- *Access:* The primary access is from 43rd Street/12th Avenue, and from New Jersey Turnpike via Lincoln Tunnel and the George Washington Bridge.
- *Size/Acreage:* N/A
- *Facility Class:* This is a Class I terminal
- *Facility Activities:* The purpose of this terminal is to sort, load, unload, and distribute small packages (1-150 lb).
- *Truck Trips per Day:* This hub generates 890 truck trips per day (150 trailer and 740 van trips per day).
- *Parking/Bay spaces:* This hub can accommodate 50 trailers (staging) and 400 vans, and has 75 truck bays.
- *Employees:* There are 2,230 employees in this facility, including 400 drivers.
- *Commodities:* The typical operation in this hub is 225,000 small packages per day with fifteen hours transfer time.
- *Origin/Destination:* These packages are shipped to all points in the USA.
- *Other Services:* N/A
- *Intermodal:* Truck/Airplane
- *Equipment:* The facility utilizes electronic scanning for barcoded packages and automatic equipment for loading, unloading, and sorting packages.
- *Facility Condition:* This terminal is in acceptable condition.
- *Issues:* Based on UPS feeder(trailer) operation analysis for New York City the following are the general issues to be resolved:

  * Congestion and parking shortages should be eliminated

* Construction must include self contained adequate parking
* The 43rd Street facility should have additional staging areas
* Trailer routes via Williamsburg Bridge, Brooklyn Battery Tunnel, Triboro Bridge, Brooklyn Queens Expressway, Foster Avenue, and West Side Highway (around 44th Street) need to be improved
* The parking regulation for trailers on 30th, 36th, 37th, and 39th Streets between 6th and 9th Avenues should be improved
* The larger size trailers need to be allowed to enter the Queens Midtown Tunnel.

■ *Improvement Plans:* N/A

4.4.3 Federal Express (FedEx) (Ref.T13, T24, T28)

■ *Contact Person:* Jim Clippard, FedEx, Public Relations Department, tel: 901-818-7468, fax: 901-818-7336.

■ *Address:* Headquarter is located at 942 South Shady Grove Road, Memphis, TN 38120.

Federal Express Corporation (FedEx) began operations in 1973. On January 1998, FedEx became a wholly-owned subsidiary of FDX Corporation (renamed for FedEx Corp in January, 2000)(Ref: T-10), a recently formed holding company. FedEx is the world's largest express-distribution company with over 3 million shipments each business day.

In last years, FedEx showed strong improvement in its operation and revenue. After more than 20 years of air operation, FedEx is expanding its ground operations. In 1999, FedEx Express Freight Services entered the time-definite freight market, which is growing twice the rate on non-time-definite market. The company's operating revenues for fiscal year 1999 (ending in May, 1999) was $13.979 billion, up from $13.255 billion in 1998 and $11.520 billion in 1997. The net income in 1999 was $458.6 million, up from $420.5 million in 1998. Operating expenses in 1999 (salaries/employee benefits, rental fees, depreciation and amortization), maintenance, fuel, merger expenses) were $13.1 billion (up from 10.8 billion in 1997), and operating income was $871.5 million.

The company employs more than 141,000 employees and has more than 44,000 drop-off locations, 637 aircraft and 46,000 vehicles in its integrated global network. To expand its activities, the company invests in new technology and develops logistics programs. Recently, FedEx introduced Netcenter for e-commerce transactions, such as Netcenter General Store and Software Depot; FedEx Custom Netcenter and Delivery Center, a programs permitting tracking packages, shiping FedEx packages on-line, locate drop-off points and access the latest services information. Netscape Delivery Channel enable customers status tracking, and NetShip and Address Book Integration, allows easily print shipping labels from address book contact list. The company is ISO 9001 certified for its global operations.

There are two main FedEx hubs in the New York metropolitan area: Federal Express Hub at JFK

International Airport and Federal Express Hub at Newark International Airport, as well as Federal Express Facility on the North Avenue in Elizabeth, New Jersey. Descriptions of these facilities are below. See *Fig. T-10 and T-10A* for FedEx cargo moving activity.

Federal Express Hub at JFK International Airport (Ref.T-9, T-28)

- *Contact person:* Mr. Ira Fox, Operation Manager, Tel: (718)-917-4000, Fax: (718)-995-3382, or Jim Fash, Air Ground and Freight Services, Tel 908-436-3173, Fax; 908-351-6825.
- *Location:* This facility is located off Boundary Road, in JFK International Airport, Jamaica, New York. The mailing address is: FedEx at JFKIA, Bldg. 262, Jamaica, NY 11430
- *Nearest Highway:* The nearest major highways are the Nassau and Van Wyck (I-678) expressways, at a distance of less than a half mile, and LIE (I-495) at a distance of 5 miles.
- *Access:* The primary access to the facility is from the Nassau Expressway.
- *Size/Acreage:* The size of facilities in Hangar 6 are 184,000 sq. ft. (on 27.3 acres of land), and in Hangar 3 91,600 sq. ft. (on 11 acres of land).
- *Facility Class:* Class 1
- *Facility Activities:* The main purpose of the facility is for sorting, loading, unloading, and distribution of time-sensitive packages, including small packages. Cargo is coming by airplane to the airport and is moved to FedEx facility. At JFK, there are five flight in-bound and out-bound using FedEx aircrafts. FedEx contracts three charter flights daily.
- *Truck Trips per Day:* The site generates over 100 truck trips per day.
- *Parking/Bay spaces:* There are approximately 50 outside parking spaces for trucks and vans (Ref.T9). Various truck categories operate within this facility, such as vans, trucks, and single trailer trucks.
- *Employees:* The facility has a total of 320 employees.
- *Commodities:* The main commodity is small packages, with a volume of 100,000 packages per day, and 50,000 packages per day for large size packages.
- *Origin/Destination:* The origin and destination of these packages are all points in the United States and internationally as well.
- *Other Services:* The FedEx facility has its own warehouse, with refrigeration service, and other specialized services such as animal/perishable handling services.
- *Intermodal:* Truck/airplane At present, rail and water conveyances are not required.
- *Equipment:* FedEx has three major leases, covering Hangar 6, Building 262, and Hangar 3, which includes Buildings 127 and 192. These cargo terminal/cargo handling facilities include office space, auto parking for 400 vehicles, bonded warehouse, vertical storage area (with elevated transfer vehicle), and CTV parking/staging area. The facilities have loading/unloading ramps (five gates in hangar 6, and five in Building 262). The advanced technologies used are electronic scanning of barcoded packages, and special equipment to sort, load, and unload small packages. FedEx invented software designed to

prepare complete export documents, called Document Preparation Software (Ref.T-10).

- *Facility Condition:* This terminal is in acceptable condition.
- *Issues:* The main reasons for freight delay are congestion on the Van Wyck Expressway and, occasionally, delays due to late plane arrival. Based on the NYMTC survey, the major barrier to improvement of freight movements is highway congestion, often due to day-time construction work (Ref.T-9).
- *Improvement Plans:* At the moment, no terminal extension or improvement is planned.

Federal Express Hub at Newark International Airport (Ref.T-9, T-24, T-28b)

- *Contact person:* Mr. Bill Doherty, Tel (973) 456-3400, Fax: (973)624-5970; or Mike Scerbo, tel: 973-565-2383 or Jim Fash, Tel 908-436-3173)
- *Location:* This regional hub is located at the Newark International Airport, Bldg.10, Tower Road, Newark, NJ 07114. The lessor is Port Authority of New York and New Jersey. Lease expires in 2010.
- *Nearest Highway:* The nearest major highways are the New Jersey Turnpike (exit 13A) and Routes 1 and 9.
- *Access:* From Rt. 1 &9, and NJT
- *Size/Acreage:* The facility covers 56 acres and its buildings have 503,800 sq. ft.
- *Facility Class:* Class I terminal
- *Facility Activities:* The purpose of this terminal is to sort, load, unload, and distribute freight and small packages (1-150 lbs). Sorting capacity per hour is 142,000 packages.
- *Truck Trips per Day:* Typically, this sorting and handling facility generates about 300 truck trips per day.
- *Parking/Bay spaces:* The facility can accommodate 100 trailers and has 100 truck bays.
- *Employees:* The number of employees is 500 persons.
- *Commodities:* This facility handles 125,000 packages per day. These packages are destined for all points in the USA and overseas as well.
- *Origin/Destination:* Mostly within the region. Also, nationwide.
- *Other Services:* FedEx has three facilities, serving the Newark International airport. The main warehouse is located in Elizabeth, New Jersey.
- *Intermodal:* Truck/airplane. At present, rail and water conveyances are not required.
- *Equipment:* FedEx has in Newark three facilities, and the main warehouse is located in Elizabeth, New Jersey. The advanced technology utilized is electronic scanning for barcoded packages and automatic equipment for loading, unloading, and sorting small packages (Ref.T9). The main warehouse of this facility is located on 228 North Ave East in Elizabeth, NJ 07201. FedEx utilizes 100,000 sq. ft. of this building. Basically, it is a freight sorting and handling facility. There are in this building average 288 employees, 250 of which are drivers. The facility operates seven day a week with 24 hours a day.
- *Facility Condition:* The facility is in acceptable condition.
- *Issues:* According to the NYMTC survey terminal condition has no major

deficiencies and the main problem is New Jersey Turnpike congestion and clearance restrictions at the tunnels under the Hudson River. Also, important issue is the non-existence of direct rail connection across the Hudson River.

- *Improvement Plans:* N/A

Federal Express Facility at North Ave, East Elizabeth, New Jersey (Ref.T-28a)

- *Contact person:* Mr. Jim Fash, Freight Advisor, Tel (908) 436-3100, Fax: (908)351-6825
- *Location:* This regional facility is located at 228 North Avenue, East Elizabeth, NJ 07201.
- *Nearest Highway:* NJT, Rt 1 & 9
- *Access:* From Rt. 1 &9, and NJT
- *Size/Acreage:* FedEx utilizes 100,000 sq. ft. of the building
- *Facility Class:* Class I facility
- *Facility Activities:* Basically a freight sorting and handling facility. Also providing warehousing for Federal Express Hub at NIA.
- *Truck Trips per Day:* N/A
- *Parking/Bay spaces:* N/A
- *Employees:* The number of employees is 288 persons, 250 of which are drivers.
- *Commodities:* This facility handles 120,000 packages per day. The facility operates seven day a week with 24 hours a day.
- *Origin/Destination:* Mostly within the region.
- *Other Services:* N/A
- *Intermodal:* Truck/airplane - At present, rail and water conveyances are not required.
- *Equipment:* The advanced technology utilized is electronic scanning for barcoded packages and automatic equipment for loading, unloading, and sorting small packages (Ref.T9).
- *Facility Condition:* The facility is in acceptable condition.
- *Issues:* According to the NYMTC survey terminal condition has no major deficiencies and the main problem is New Jersey Turnpike congestion and clearance restrictions at the tunnels under the Hudson River.
- *Improvement Plans:* N/A

4.4.4 Other Major Regional Truck Facilities

Resources

For views of equipment and warehouse interior, see *Fig. T-13, T-13A and T-15*.

- *Contact person:* Mr. Frank Folise, President, Tel: (201) 348-6300
- *Location:* This facility is located at 2200 Secaucus Road, North Bergen, NJ 07047.
- *Nearest Highway:* NJT, Rt 1 & 9
- *Access:* From Rt. 1 &9, and NJT
- *Size/Acreage:* This modern facility occupies 20 acres in the Meadowlands and is served by NYS&W rail (for a description see Chapter III of this report) and by truck.

It is the largest privately owned freight transportation terminal in the metropolitan region.

- *Facility Class:* Class I facility.
- *Facility Activities:* Basically a warehousing, freight sorting and handling facility.
- *Truck Trips per Day:* Large generator of trucks. Data not available.
- *Parking/Bay spaces:* 64 doors
- *Employees:* N/A
- *Commodities:* All type of general cargo. Resources' fleet of trucks provides local and interstate delivery service for full containers and less than container quantities, and is able to handle specialized and oversized cargo. The warehouse has 64 doors and was designed to handle multiple types of commodities in addition to general cargo, such as automobiles, heavy lift machinery, garments on hangers, and offers many services such as export packing, ticketing, repacking, and customs service.
- *Origin/Destination:* Mostly within the region.
- *Other Services:* The facility has large maintenance and repair shops (16,000 sq. ft.) which provides roadability and structural repair to chassis and containers. The terminal has a 170,000 sq. ft. warehouse which is used as a Container Freight Station and a Public Distribution Center for international as well as domestic goods.
- *Intermodal:* Truck/rail - At present, air and water conveyances are not required.
- *Equipment:* *Resources* uses computer technology to monitor on-line gate activity and records all gate movement by issuing a Computerized Trailer Interchange Receipt. The computer systems include Gate Logs and Inventory, covering full or empty containers and chassis, and provide billing, car information, export booking, which are EDI accessible. To handle refrigerated cargo, electrical connections to refrigerated containers are available. The advanced technology utilized is electronic scanning for barcoded packages and automatic equipment for loading, unloading, and sorting small packages (Ref.T9).
- *Facility Condition:* The facility is in acceptable condition.
- *Issues:* N/A
- *Improvement Plans:* N/A

4.5 Major Trucking Related Regulations

Limitations on truck operations were first imposed by states (Massachusetts and Maine) as early as 1913, to prevent damage to the roadbeds. By 1933, all states had imposed limits on total truck weight to 18,000 pounds and truck width to 90 inches, which was in effect up to 1974. Then, based on a U.S. Department of Commerce study, an amendment to the highway act permitted the states to raise the weight limits to 80,000 lbs, GVW (gross vehicle weight) to 20,000 lbs for a single axle and 34,000 lbs for tandem axles. The 1982 Surface Transportation Assistance Act (STAA) further relaxed size and weight restrictions, and increased the allowable truck width to 102 inches. In 1984, Tandem Truck Safety Act further eased restrictions, allowing broader access to single 28-foot by

102-inch trailers [Ref.T21]. In recent years, several other rules and regulations that affect the trucking industry, have been passed and became the law.

The following are some of those legislations:

- National Highway System (NHS) legislation, which was approved by House on 9/20/95. Its key provisions are as follows: It designates a 160,745-mile network of interstate highways, strategic defense routes, principal arterials & priority corridors linking major population centers, border crossing, ports and airports, intermodal facilities and defense installations. The network covers 4% of the nation's highways and carry 75% of the nation's truck traffic. The U.S. Department of Transportation imposed restrictions on NHS regulations, which state that vehicles less than 26,000 lbs are exempt from commercial transport regulation if DOT determines their safety, and that DOT will have authority to submit proposed NHS modification and expansion to the Congress.

- Trucking Deregulation Act, effective January 1, 1995. This regulation follows the Motor Carrier Act of 1980. This deregulation allows any motor carrier to operate anywhere within the state borders; eliminate the state authority to dictate what routes the truckers can use to carry freight; allows any motor carrier to set rates and eliminate a state's ability to dictate rates; allows states to continue regulation of safety and insurance programs; and relax entry restrictions for new carriers, making it easier to obtain certificates of operating authority.

- Interstate Commerce Commission (ICC) Termination Act of 1995. New agency, Surface Transportation Board (STB) takes over the remaining responsibilities, diminished after the deregulation of industry.

- Reauthorization of Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, and the Transportation Equity Act for the 21st Century (TEA-21), approved in June1998, provided increased financial resources to improve the quality of the transportation infrastructure, to promote economic growth. Legislation imposed Longer Combination Vehicle (LCV) freeze, but allowed LCV which were in actual lawful operation under state's law ("Grandfather Rights") to continue its operations if state allows it. The conflict over allowing longer and heavier vehicles on the nation's roads continues. US DOT is currently conducting a study on comprehensive truck size and weight limits (CTS&W study) which will lead to new legislation which will eventually replace Surface Transportation Assistance Act (STAA) of 1982 [Ref. T33].

- The Intermodal Safe Container Transportation Act, which was approved by Congress in 1996. This legislation promotes the use of lighter loads on roads in assumption that overweight trucks could damage roads and create safety hazard.

- The Highway and Surface Transportation Safety Act of 1997 is legislation designed to reauthorize federal highway safety and surface transportation programs that are under jurisdiction of the Senate Commerce, Science and Transportation Committees. The main issues are: grants to States for drunk-driving program and seat-belt program; transportation safety rules

including penalty for terrorist attack; hazardous material transportation rules and rules for sanitary food transportation. Federal Motor Carrier Safety Administration was created in January 2000, to oversee and improve the safety of motor vehicle movements.

- Overweight Container Rules, effective April, 1997. This rule basically requires shippers to inform the trucker of the container's content and to provide a written certification of gross cargo weight. This rule also prohibits coercion of the trucker into accepting a container without the required certificate.

- Uniform Bill of Lading, developed by National Motor Freight Traffic Association (NMFTA), sets out terms for the shipment and receipt of freight, to make easier for shippers to use and understand forms in computer-friendly manner. This bill went into effect in December 1997.

- Trucking Industry Regulatory Reform Act of 1994 (TIRRA) effective August 26, 1994, abolished the Interstate Commerce Commission supervision of most trucking activities and eliminated the requirement for filing any rates, classifications, and rules set by individual motor carriers rather than rate bureaus to set rates collectively. Established minimum entry requirements for motor carrier applications to safety, fitness and financial responsibility. TIRRA prompted many LTL (Less-than-Truckload) carriers to expand their territorial coverage to include interstate services.

- Clean Air Act Amendments of 1990 (CAAA) and US EPA new National Ambient Air Quality Standard, issued by EPA in July 1997, as well as the New York State Regulation for Testing Heavy-Duty Truck Emission, signed by NYS Governor Pataki in November 1998. These regulations provide a new standard for allowable quantity of ozone particulate matter, and provide regulations for truck emission inspection and testing system.

- Modification of Hazardous Material Transportation Uniform Safety Act of 1990, effective October 1998, provides recommendation on uniform forms and procedures, requires display of identification number for large quantity shipments, and clarifies alternative methods of marking highway trailers.

- Custom Modernization and Informed Compliance Act (ModAct), in force from 1993, shifted responsibility for classifying and assigning value to goods from U.S. Customs to importers, and supported informed compliance and automation of commercial system. Automated Commercial Environment (ACE) has replaced used obsolete Automated Commercial System -ACS). The proposed budget for fiscal year 2001, which begins October 1, includes $338.4 million for Customs automation.

- 1997 North American Industry Classification System (NAICS), issued by Office of Management & Budget in April 1997, replaced 1987 Standard Industrial Classification. NAICS classifies establishments by type of economic activity and updates the previous SIC definition of industries. Surface Transportation Board (STB) extension issued in December 1998, provided new commodity classes for freight moved on trucks.

- Motor Carrier Safety Improvement Act of 1999 is legislation combining penalties and stricter regulations, advanced technology and strengthened state enforcement requirements with additional funding incentives to states. The administration' goal is to reduce truck-related deaths by 50% over the next ten years (2000-2010).

- National Motor Carrier Administration bill is a legislation approved by the House of Representatives on October 14, 1999, that created a separate Federal Motor Carrier Safety Administration for trucking oversight. DOT has had separate agencies for railroad, aviation and maritime affairs, but trucking has been up to now a part of the highway agency.

4.6 Future outlook

The intermodal industry will be more seamless in the future. To achieve these seamless connections, more advanced technology will be adopted by motor carriers, such as electronic communications, modern supply chain management, and real time tracking. Information technology is one of the key components of the transportation decision-making process for shipper and carriers. Through information technology, users can gain better controls of operational costs, track goods on the way, identify new and emerging markets, and manage personnel, time and equipment more efficiently (Ref.T-13).

Trucking companies are increasingly using electronic data interchange (EDI) to submit invoices and bills of lading, eliminating manual work and improving equipment utilization. Tracking and routing technologies such as satellite and cellular devices are used in support of delivery requirements that need to be faster and more reliable to minimize inventories. Another way to communicate data is through radio frequency technology AEI (Automatic Equipment Identification). The trucking industry are using AEI technology, such as Automatic Vehicle Identification (AVI), weigh-in-motion (WIM), and automatic vehicle classification (AVC). Other intelligent transportation system (ITS) technologies are emerging, and will be governing forces in the trucking industry development in the future.

The for-hire motor carrier segment continues to gain a greater share in the continuing shift from private to for-hire trucking. By 2006, for-hire companies in U.S. will move 55% of total truck volume as its productivity, technology and communications have moved rapidly forward, however, private carriers will continue to dominate secondary shipments (Ref. T25). For LTL top carriers revenue see *Fig. T-12*.

TABLE T-2 (Ref.T-25b)

Private Motor Carriers and the Truck Freight Market for Primary Shipments in U.S. - 1996-2006

Motor Carrier Volume	Milions of Tons			Share of Truck Freight			CAGR			96-06
	1996	2001	2006	1996	2001	2006	96-01	01-06	96-06	% change
For-Hire TL,LTL)	3,246	3,959	4,512	49.6%	52.7%	54.7%	4.1%	2.6%	3.3%	39.0%
Private	3,303	3,552	3,730	50.4%	47.3%	45.3%	1.5%	1.0%	1.2%	12.9%
Total	6,549	7,510	8,242				2.8%	1.9%	2.3%	25.9%
Motor Carrier Revenue										
	Billions of Dollars			Share of Truck Revenue			CAGR			96-06
	1996	2001	2006	1996	2001	2006	96-01	01-06	96-06	% change
For-Hire TL,LTL)	$181.9	$222.9	$257.0	52.6%	55.7%	57.6%	4.2%	2.9%	3.5%	41.3%
Private	$164.1	$177.1	$189.2	47.4%	44.3%	42.4%	1.5%	1.3%	1.4%	15.3%
Total	$346.0	$400.0	$446.2				2.9%	2.2%	2.6%	29.0%

Creation of new rules and regulations removed the barriers for the trucking industry to grow. In addition, recent efforts to increase the wages of truck drivers, employer support, and improved government regulations to better understand the driver's working conditions, may be factors to entice more people into entering the trucking profession. As a result, this will help to reduce driver shortages and, indirectly will improve freight transportation. Trucking will continue to dominate the freight industry in the U.S. for the next decade, even as other modes of transportation grow proportionally faster, according to the 1996 DRI/McGraw Hill study, commissioned by the American Trucking Associations Foundation. According to the study, domestic transportation revenue growth was as follows:

TABLE T-3 (Ref.T-25b)
U.S. Domestic Transportation Revenue Growth Forecast

	in Billions of Dollars				*Modal Market Share*				*CAGR**		*CUM*	*
	1994	1999	2004		1994	1999	2004		94-04		94-04	
Truck		$362.2	394.9	436.9		78.2%	76.7%	76.2%		1.9%		20.6%
Rail		$33.9	38.3	41.9		7.3%	7.3%	7.3%		2.2%		23.8%
Intermodal		$8.5	10.3	12.9		1.8%	1.8%	2.3%		4.3%		52.6%
Air	$20.3	31.1	39.1		4.4%	4.4%	6.8%		6.7%		92.1%	
Water		$7.8	8.1	8.5		1.7%	1.7%	1.5%		0.8%		8.5%
Pipeline	$30.4	32.4	34.2		6.6%	6.6%	6.0%		1.2%		12.4%	
Total	$463.1	515.1	573.5		100%	100%	100%		2.2%		23.8%	

* *CAGR: Compound Annual Growth Rate; CUM: Cumulative Change, 1994-2004* (Ref.T10)

A movement in the direction of mergers and alliances, such as is prominent in the rail and marine industry, is also affecting the trucking industry. Still, the main constraints to truck operations development are infrastructure constraints, such as weight limits and bridge and underpass clearances, turning radii and lane widths less than 10 feet, insufficient signage, grade crossings, and poor accident/incident management. Other operational constraints are congestion on the region's major highways and access to facilities, gate congestion and limited parking and ramp spaces.

One of the major project intended to the road and rail improvement in the metropolitan region is a $750 million Portway Program, focusing on improvement of the flow of the 150,000 trucks a day that serve the Newark and Elizabeth seaports, nearby rail yards and area warehouses. The highlights of the program are (Ref. T34):

- ✓ reconstruction of Doremus Avenue Bridge;
- ✓ construction of a new interchange on the New Jersey Turnpike in the port area for trucks only
- ✓ construction of a new truck extension for Route 1 & 9 to the Croxton rail yard in Jersey City;
- ✓ new overpass for Expressrail line;
- ✓ reconstruction and widening of Doremus and Charlotte avenues and Tonnelle Avenue traffic circle in Jersey City;
- ✓ construction of new viaduct connecting Tonnelle Avenue with Route 7 and a new bridge for trucks over the Passaic River, connecting Doremus and Central avenues;
- ✓ replacement of the Wittpenn Bridge over the Hackensack River between Kearny and Jersey City;
- ✓ improvements to Central and Pennsylvania avenues in Kearny.

The NYMTC region depends almost entirely on trucks to move freight. The consequences are serious: significant traffic congestion, infrastructure wear and tear, deterioration in regional air quality levels, and reduced market competitiveness. Various consensus strategies have been developed by the NYMTC, federal and local agencies (Ref.T23) to improve truck movement in New York region. These strategies call for maintaining highways and bridges in a state of good repair, reduce jurisdictional barriers, ensure transportation - land use compatibility, improve site and access design, further development of Intelligent Transportation Systems and management of traffic incidents effectively, expanding public-private partnership, and supporting intermodal transportation (Ref.T23). All these methods will help to improve the seamless movement of both people and freight in the NYMTC region.

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List of Figures for Chapter 4 - Truck Facilities

Truck Facilities - List of Contact Persons

Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
United States Postal Service (USPS)	Michael J. Farrell, U.S. Postal Service Manager of the Distributions, Networks Office	Tel. (212) 330-3114, Fax: 212-330-2672.	JAF Building Room 459, New York, NY 10199-9792
Queens Processing & Distribution Center	Mr. Ambra Turner Jr.	Tel: (718) 321-5068	142-02 20th Avenue, Flushing, Queens 11351-9706
Morgan General Mail Facility	Carlos A. Knight	Tel: 212-330-3161	341 9th Ave, Rm. 1042, New York, NY 10199
Mid-Island Processing and Distribution Center	Mike Burd	Tel: (516)-755-2509, Fax: 516-755-2599	160 Duryea Road, Melville, NY 11747
USPS Airport Mail Center	Margaret Woodson	Tel. (718)-553-7267	AMC, JFKIA, Building #250, Jamaica, NY 11430-9804
USPS Dominick V. Daniel P&D Center	John Fallon	Tel. (201)-955-2720	850 Newark Turnpike, Kearny, NJ 07099-9998
UPS	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	645 West 43rd Street (8th floor),New York, NY 10036
UPS-Maspeth Hub	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	46-05 56th Road, Maspeth, Queens, New York City
Melville Hub	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	75 Smith Street, Farmingdale, Long Island, New York
Nassau Hub	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	300 Oak Street, Uniondale, Long Island, Nassau County, New York.
Foster Avenue Terminal	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	10400 Foster Avenue, Brooklyn, New York
Suffolk Hub	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	Horse Block Rd, Farmingsville, New York
Laurelton Hub	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	132-20 Merrick Blvd, Springfield, Queens, New York
UPS 43rd Street Hub	Arthur Lucien	Tel: 212-631-6565, Fax: 212-631-6256.	643 W 43rd Street, New York, New York

Facility Name	Contact Person(s)	Tel/Fax/E-Mail	Address
Federal Express	Jim Clippard, FedEx, Public Relations Department	Tel: 901-818-7468, fax: 901-818-7336.	Headquarter: 942 South Shady Grove Road, Memphis, TN 38120
FedEx Hub at JFK	1. Ira Fox, Operation Manager 2. Jim Fash, Freight Manager	1. Tel: (718)-917-4000, Fax: (718)-995-3382 2. Tel 908-436-3173, Fax; 908-351-6825	JFKIA, Bldg. 262, Jamaica, NY 11430
FedEx Hub at Newark International Airport	1. Bill Doherty,, Fax: (973)624-5970 2. Mike Scerbo 3. Jim Fash	1. Tel (973) 456-3400 Fax: (973)624-5970 2. Tel: 973-565-2383 3. Tel 908-436-3173	Newark International Airport, Bldg.10, Tower Road, Newark, NJ 07114

GLOSSARY

Air carrier	-	Commercial system of air transportation, consisting of certificated air carriers, air taxis, supplemental air carriers, commercial operators of large aircraft, and air travel clubs
Air express	-	Freight shipments which are shipped on a guaranteed flight basis at a premium rate; not confuse with a small package service which is restricted to shipment of 50 pounds or less.
ACS	-	Automated Commercial System, U.S. Custom's master computer system
ATA	-	American Trucking Association
Barge	-	A cargo-carrying non-self propelled vessel used primarily by inland water carriers. Specially designed barges carry single or stacked containers and roll-on/roll-off vehicles
Beam	-	The width of a ship
Belly	-	Compartments located beneath the main deck of an aircraft which are used for the carriage of cargo
Benefit-cost ratio	-	An analytical tool used in planning: a ratio of total measurable benefits divided by the initial capital cost
Berth	-	A segment of wharfage where a ship ties up alongside at a pier, quay, wharf or other structure, intended to facilitate the transfer of cargo or passengers
Bill of lading (B/L)	-	Principal transportation document by which a carrier acknowledges receipt of freight, and sets forth a contract of carriage terms and conditions, responsibilities and liabilities vary with manner and place of use. B/L may be negotiable or non-negotiable
Bogie	-	A set of rail and truck wheels built specifically to be used as rear wheels under the container
Bonded warehouse	-	Warehouse approved by the Treasury Department and under bond/guarantee for observance of revenue laws; used for storing goods until duty is paid or goods are released in proper manner
Bow	-	The front of a vessel
Boxcar	-	An enclosed railcar, typically 40 or more feet long, used for packaged freight and some bulk commodities
Breakbulk	-	To unload, sort, and reload some/all contents of a vehicle in transit; to reduce a large shipment of a single commodity to many small shipments to be dispersed to various buyers
Bulk cargo	-	Cargo that is unbound as loaded and carried aboard ship. It is in a loose unpackaged form and has homogeneous characteristics
Bulkhead	-	Wood or other material to secure cargo from movement within a container; upright wall in a trailer or railcar that

		separates and stabilizes a load.
Cabotage	-	A national law that requires coastal and intercoastal traffic to be carried in its own nationally registered , built and crewed ships
Cargo manifest	-	A manifest that lists only cargo, no charges
CBD	-	Central Business District
Chassis	-	A trailer-type device with wheels constructed to accommodate containers enabling the load to be moved over the road
Class I to III carrier	-	Classification of regulated carriers based on annual operating revenues: For Class I - motor carriers of property $10 million; railroads: $253.7 million, for Class II - motor carriers of property $3 to10 million; railroads: $20.4 to $253.7 million, for Class III - motor carriers of property $3 million; railroads: $20.4 million.
Classification yard	-	A railroad terminal area where railcars are grouped together to form train unit
COF	-	Containers resting on railway flatcars, without a chassis underneath
Container	-	A large standard size metal box into which cargo is packed for shipment specifically configured for ocean-going containerships and designed to be moved with common handling equipment enabling speedy intermodal transfers in economically large units between ships, railcars, truck chassis, and barges, using a minimum of labor. Freight container has a volume of 64 cubic feet or more.
Conveyor	-	A material-handling device that moves freight from one area to another in a warehouse. Roller conveyors make use of gravity, whereas belt conveyors use motor
Crane	-	A material-handling device used for lifting heavy items. There are two types: bridge and stacker
Deadweight tons (DWT)	-	The lifting capacity of a ship expressed in long tons (2,240 pounds), including cargo, commodities and crew
Dock	-	For ships, a cargo-handling area parallel to the shoreline. For land transportation, a loading or unloading platform at an industrial location or carrier terminal
Doublestack	-	Railcar movement of containers stacked two high
Draft	-	The number of feet or meters that the hull of a ship is beneath the surface of the water
Drayage	-	Transporting freight by truck, typically local cartage
EDI	-	Electronic Data Interchange, electronic paperless computer-to-computer communications that do not require interpretation or retyping
FAA	-	Federal Aviation Administration

FedEx	-	Federal Express
Flatbed	-	Truck or trailer without sides and top
Flatcar	-	A railcar without sides used for hauling machinery, containers or trailers
Floatbridge	-	A structure with tracks on an adjustable apron for transferring railroad cars to or from car floats at varying water level
For-hire carriers	-	Carriers that provides transportation service to the public on a fee basis
Freighter	-	Ship that carry freight
Gallons	-	One US gallon equal 0.1337 cubic feet. One barrel equal 42 gallons
Gantry crane	-	A crane hoisting machine mounted on a frame or structure spanning an intervening space, used primarily in container-handling ports
General cargo	-	Products/commodities that are non conductive to packaging or unionization, such as timber, structural steel, rolled newsprint, concrete forms, agricultural equipment
GIS	-	Geographic Information System
Gondola	-	Railcar with a flat platform and sides 3 to 5 feet high, used for top-loading of long and heavy items
GPS	-	Global Positioning System, a space-based radio positioning, navigation and time-transfer system, developed by Department of Defense
Gross Vehicle Weight	-	GVW, the combined total weight of a vehicle and its contains
HAZMAT	-	Hazardous materials, a substance/material determined by the Secretary of Transportation to be capable of posing an risk to health, safety and property when transported in commerce, and which has been designated in 49 CFR
High cube	-	Any container that exceeds 8 feet 6 inches in height
Integrated carriers	-	Carriers that have both air and ground fleets or other combinations, such as sea, rail and truck. Usually handle thousands of small parcels an hour, are less expensive and offer more diverse services that regular carriers
IMS	-	Intermodal Management System. Intermodal denotes movement of cargo between transportation modes
IVPDs	-	In Vehicle Parking Devices: electronic devices which allow driver to be charged only for the time that they were parked at metered spaces in the city (pre-paid electronic card) instead of the original 30-minute increment
ITS	-	Inteligent Transportation System
JFK	-	J.F. Kennedy International Airport
JIT	-	Just-In-Time delivery of cargo or components. The container or vehicle is the movable warehouse.
Knot	-	Unit of speed equivalent to 1 nautical mile or 6,080.20 feet

		per hour
Lading	-	Freight shipped
LCL/LTL	-	Less-than-containerload/Less-than-truckload: a container or trailer loaded with consignments of cargo for more than one consignee or for more than one shipper. Usually less than 10,000 pounds and involving the use of terminal facilities to break or consolidate shipment.
LGA	-	LaGuardia Airport
Lift-on/Lift-off (lo/lo)	-	Carriage of containers on decks or on flatracks. Containers are lifted on and off vessels and other vehicles
Long Ton	-	2,240 lbs (or 1,017 kg.), also called "gross ton"
LRP	-	Long Range Plan
MARAD	-	Maritime Administration
Metric ton	-	A unit of weight equal to 2,204.6 pounds or 1,000 kilos
MLW	-	Mean Low Water
MPO	-	Metropolitan Planning Organization
NIA	-	Newark International Airport, also called EWR
Net short ton	-	2,000 pounds
NYCEDC	-	New York City Economic Development Corporation
NYCHRR	-	New York Cross Harbor Railroad
NYMTC	-	New York Metropolitan Transportation Council
NYSDOT	-	New York State Department of Transportation
Pallet	-	Platform usually constructed of wood, on which cargo is loaded, can be stacked and handled by forklift or sling
PANY&NJ	-	Port Authority of New York & New Jersey
Piggyback	-	A transportation arranged in which truck trailer with its loads is moved by train to a destination on a designed rail equipment
Private warehousing	-	Storage of goods in a warehouse owned by the company that has title to the goods
Reefer	-	Refrigerated container/trailer that hauls perishables
Revenue ton-mile	-	The movement of a ton of freight one mile for revenue
Rig	-	Truck, tractor-semitrailer, truck and full trailer, or other combination
Roll-o/Roll-off (ro/ro)	-	Specially constructed vessel that allows cargo to be loaded and unloaded through doors in vessel's hull. Cargo can be moved (rolled) in and out of vessel with wheeled loading devices or under the cargo's own propulsion
Roadrailers	-	Truck trailers that can be fitted with rail wheels that allow the trailers to ride the rails, similar to box cars or other rail equipment
RHCT	-	Red Hook Container Terminal
SBMT	-	South Brooklyn Marine Terminal
Short Ton	-	2,000 lbs (or 907 kg.)

Stevedore	-	A person/firm that contracts with a vessel's owner, agent or charter operator, or owner of the cargo, to load or unload a ship or barge in port
TEU's	-	Twenty equivalent units, reference for a container due to their common 20 foot lengths
TIP	-	Transportation Improvement Program
TIRRA	-	Transportation Industry Regulatory Reform Act
TL	-	Truckload, quantity of freight required to fill a truck, usually in excess of 10,000 pounds
TOFC	-	Trailer on flatcar, also called piggyback
Toploader	-	A forklift-type vehicle that lifts and carries containers from one location to another
Transtainer	-	A rubber tire gantry crane, stacks containers on/off chassis and railcars
TSM	-	Transportation System Management identifies short-range, low-cost improvements that will ensure the most efficient use of the present transportation system
USDA	-	United States Department of Agriculture
UPS	-	United Parcel Service
USPS	-	United States Postal Service
UTRC	-	University Transportation Research Center
Well car	-	A drop-frame rail flatcar, also known as a stack car
Wharf	-	Loading/discharging terminal built parallel to a shoreline

Summary of the Characteristics of the Main Freight Facilities in the New York Region:

- **AIRPORTS**

The following are summaries of the main freight handling airports in the New York metropolitan region:

No	Airport Name & Location	Class	Opera-tor/ Owner	Airport Area (acres)	Run-ways number	Run-ways length.	Nearest Highway in vicinity	Access Road	Emp-loyees Number	Air Cargo Tonnage per year	Plane Moving per year	Cargo Handling Space (ft2)
1	JFK International Airport; Queens County, New York	TR	PANY& NJ	4,938	4	8,400 10,000 11,351 14,572	Van Wyck Expresswy (I-678)	Primary: I-678 (VWE), Secondary_ Belt Pkwy (No trucks allowed)	42,000	1,837,713	353,282	2.5 million ft2
2	LaGuardia Airport, Queens County, NY	TR	PANY& NJ	680	2	7,000 each	I-678 (VWE), GCP	GCP, Astoria Blvd	9,000	92,735	354,921	100,000
3	Newark International Airport(EWR)Essex/Union County, New Jersey	TR	PANY& NJ	2,027	3	9,980, 8,200, 6,800	Rt.1 & 9, NJT (I-95)	Rt.1 & 9, NJT (I-95)	18,000	1,150,601	462,348	500,000
4	Lomg Island MacArthur Airport, Suffolk County, NY	GT	Town of Islip	1,311	4	7,002, 5,136, 5,033, 3,225	LIE (I-495)	Veteran Memorial Hwy (Rt.454), Lakeland Ave	400	1,307	195,000	3,000
5	Steward International Airport, Orange County, NY	GU	NYS DOT*	2,000	2	11,818, 6,006	NY Thruway (I-87), I-84	NY Thruway (I-87), I-84	400	76,442	144,516	50,000

TR - Transport Airport (Airport designed for jets with approach speed over 12 knots)
GT - General Transport Airport (Airport designed for general aviation transportation needs)
GU - General Utility Airport (Airport designed for general aviation)

1.2. Airport is owned by NYSDOT and managed by National Express Group PLC of Winchester, England.

2 MARINE FACILITIES

The following are summaries of the main marine facilities in the New York metropolitan region:

No	Marine Terminal Name & Location	Terminal Area (acres)	Channel Depth (ft)	Number of berths	Berth Length & Depth	Container Cranes	Warehouses /Other facilities	Nearest Highway	Access Road	Employees Number	Main Commodity Type	Freight Volume (per year)	Ship Sailing per month	Intermodal Connection
1	Red Hook, Kings County, NY	110	42	7	Total 3,030x 42 ft MLW	3-Paceco 40T, 1-Star 40/70T	Stuffing & Stripping fac: 345,000 ftsq., fumigation facilities, warehouses, Maintenance & repairs	BQE (I-278)	Hamilton Avenue, Columbia Street, and Congress Street	100 to 400 (varies)	Ro-Ro, Containers, Break bulk, General Cargo	83,000 TEUs & 1 million tons of general cargo/ year	30	S/R, S/T (Near dock connection with NYCHRR, Wheeled & stacked, Chassis pool)
2	South Brooklyn Marine Terminal, Kings County, NY	111	42	7	Total 6,200x 32 ft to 35 ft of MLW	1-Star 50T, 1-Kone 50T	Stuffing & Stripping fac: 600,000 ft sq. warehouses	Gowanus Expy (I-278)	2nd Ave and 39th Street	25	Ro-Ro, Bulk Containers, Break bulk, General Cargo	1 million tons of general cargo/ year	25	S/R, S/T, S/B (Near dock connection with NYA, NYCHRR, Wheeled & stacked)
3	Brooklyn Port Authority Marine Terminal, Pier 6-8, Kings County, NY	10	40	3	5,880x 32 to 35 ft MLW	NA	4 - cargo sheds: warehousing	BQE (I-278)	Foot of Atlantic Avenue	NA	Break bulk	NA	NA	S/T

No	Marine Terminal Name & Location	Termi-nal Area (acres)	Cha-nnel Depth (ft)	Num-ber of berths	Berth Length & Depth	Container Cranes	Warehouses /Other facilities	Nearest High-way	Access Road	Emp-loyees Num-ber	Main Commodity Type	Freight Volume (per year)	Ship Sailing per month	Intermodal Connection
4	Howland Hook Marine Terminal, Richmond County, NY	187	40	2	2,000x 42, and 500x37 feet of MLW	4-IHI 40T, 2-Paceco 40T, 1-Peiner 50T	Stuffing & Stripping fac: 208,000 ft2, deep freeze, Maintenance & repairs	SIE (I-278), I-440	North Washington Ave & Western Avenue	1,700	Containers, Break bulk, General Cargo	425,000 cont/yr, 201,000 tons of break bulk	25	S/R, S/T, S/B (Near dock rail connection with SIR, Wheeled & stacked)
5	Green Street Lumber Exchange, Kings County, New York	25	35	2	700x35 ft and 700x28 MLW	14-15T forklifts	Warehouses	LIE, BQE	West Street, Green Street	20 to 30	Lumber	120,000 tons/year	1-2	S/T
6	Bay Avenue Terminal, Union County, NJ	94	40	4	2,825x 35 ft MLW	* 3-Paceco 30T, 1-Star 30/40T	Stuffing & Stripping fac: 62,680 ftsq., Maintenance & repairs, Roadability inspection	NJT (I-95)	Primary: East Fleet Street, Secondary: Bay Avenue	NA	Containers, Ro-Ro (not yet fully in operation)	NA	NA	S/T, S/R, S/B; Adjacent to ExpressRail with daily DST, trucking service
7	Maher Fleet Street Marine Terminal, Union Cty, NJ	195	40	8	4,200x 35 ft MLW	5-Paceco 50T, 2-Star 30T	Stuffing & Stripping fac: 208,000 ftsq., deep freeze, Maintenance & repairs	NJT (I-95)	Primary: Lyle King St, Secondary: Bay Street	450	Containers, Ro-Ro	400,000 TEUs/yr	65	S/T, S/R; On-dock rail connection, daily DST, Chassis pool, Trucking service

No	Marine Terminal Name & Location	Term i-nal Area (acres)	Cha-nnel Depth (ft)	Num-ber of berths	Berth Length & Depth	Container Cranes	Warehouses /Other facilities	Nearest High-way	Access Road	Emp-loyees Num-ber	Main Commodit y Type	Freight Volume (per year)	Ship Sailing per month	Intermodal Connection
8	Maher Tripoli Street Marine Terminal, Union Cty, NJ	243	40	5	3,150x 38 feet MLW	3-Morris 30T, 5-Paceco 40T, 1-Canron 40T	On-site cont & chassis repairs, reefer maintenance & repair, Roadability inspection	NJT (I-95)	Primary: Tripoli Street, Secondary: Bay Avenue	400	Containers, Ro-Ro	380,000 TEUs/yr	48	S/T, S/R; Adjacent to ExpressRail with daily DST, trucking service
9	Universal/Maersk Terminal, Essex Cty, NJ	153	40	6	3,822x 35 to 40 ft MLW	3-Paceco 50T, 5-Paceco 40T	Stuffing & Stripping fac: 175,000 ftsq., Maintenance & repairs, Roadibility inspection	NJT (I-95)	Calcutta Street, Tyler Street	500	Containers, Ro-Ro	250,000 TEUs/yr	28	S/T, S/R; Adjacent to ExpressRail wheeled and stacked, chassis pool
10	Sea-Land Marine Terminal, Union County, NJ	266	40	6	4,519x 40 feet MLW	6-Paceco 30T, 1-Mitsubi-shi 40T	Stuffing & Stripping fac: 306,000 ft2, Maintenance & repairs, Roadibility inspection	NJT (I-95)	Primary: McLester St, Secondary: Tripoli Street	600	Containers, Ro-Ro	390,000 TEUs/yr	35	S/T, S/R; Adjacent to Express Rail, wheeled & stacked, 540 refeer plug slots
11	Global Marine Terminal, Hudson County, NJ	100	40	2	1,800x 40 feet	3-Star 40T, 1-Krupp 40T	Stuffing & Stripping fac: 125,000 ft2, Maintenance & repairs,	NJT (I-95)	Port Jersey Blvd.	50	Containers, Ro-Ro, heavy lift	180,000 TEUs/yr	21	On-dock rail connection Wheeled & stacked, 86 reefer plug slots

No	Marine Terminal Name & Location	Term i-nal Area (acres)	Cha-nnel Depth (ft)	Num-ber of berths	Berth Length & Depth	Container Cranes	Warehouses /Other facilities	Nearest High-way	Access Road	Emp-loyees Num-ber	Main Commodit y Type	Freight Volume (per year)	Ship Sailing per month	Intermodal Connection
12	Auto-Marine Terminal, Hudson County, NJ	130	40	2	1,800x 32 feet	NA	Processing for tenants: NEAT & BMW	NJT (I-95)	Port Jersey Blvd., Berth Access Rd.	91	Automo-biles	450,000 vehicles/ year	20	S/R, S/T Direct rail access
13	Port Newark/Pt. Elizabeth Vehicle Facilities, Essex County, NJ	715	NA	NA	NA	NA	Vehicle Storage area, 100,000 ft2 warehouse, auto services and distribution	I-95 (NJT)	DAS-Polaris St, FAPS-Graneway St/Port St, Toyota - Port Street	NA	Automobi-les	NA	NA	S/R, S/T, Direct rail access
14	New Haven Terminal, NH county, Connecticut	100 acres	35	3	1,950x 35 feet MLW	6 cranes	Warehouses	I-95, I-91, Rt.1	Siles Street, Waterfront Street	200	Bulk	800,000 tons/yr	15	S/T, S/B, S/R
15	CILCO Terminal, Connecticut	27 acres	35	1	1,000x 33 feet	2 dockside cranes	80,000 ft2 of controlled warehouse space	I-95, I-91, Rt.1	Seaview Av, Newfield Ave, Central Ave	60	Fruits, containers, automobi-les; bulk cargo	700,000 tons/yr	6-8 ships	S/T, S/B
16	Gateway Terminal, Connecticut	37 acres	35	3	2.100x 35 feet	NA	open storage	I-95, I-91, Rt.1	Waterfront Street	150	Oil product, dry cargo	500,000 barrels/yr	about 4 ships/ month	S/T, S/B, S/R

S/T - intermodal transfer from ship to truck; S/B - transfer from ship to barge; S/T - transfer from ship to rail or rail to ship.

1.3 Three cranes moved temporarily to Universal, One Paceco crane left.

3 RAIL YARDS

The following are summaries of the main rail yards in the New York metropolitan region:

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
1	Harlem River Yard; Bronx County, NY	CSX & CP (Class I)	28	2 (3,000 ft long)	70	capacity for 500 railcars capacity for 500 railcars	2	NA	I-87 (Major Deegan), I-278 (Bruckner Expy)	Primary: E-132 St; Bruckner Blvd; Secondary: Alexander Avenue	TOFC, COFC, Commodity-Break bulk	2,000 cars/year, or 700 truck trips per day	R/T
2	Hunts Point Market, Bronx, NY	CSX (Class I)	329	21rail spurs	6,000	capacity for 500 railcars	NA	475	I-278 (Bruckner Expy)	E 149th St, Bruckner Blvd	TOFC, COFC, Boxcars, Commodity - Break bulk, Food products	6,000 carload and 20,000 TOFC /year, or 10,000 truck trips per day	R/T
3	Oak Point Yard, Bronx, NY	CSX (Class I)	50	39 tracks	45	capacity for 450 railcars	NA	NA	I-278 (Bruckner Expy)	Bruckner Blvd	TOFC, Boxcars, Commodity - Break bulk, dry goods, Food prod.	NA	R/T
4	Bronx Terminal, Bronx, NY	CSX (Class I)	32	2-rail tracks	400	NA	NA	NA	I-87 (Major Deegan)	Exterior Street, E 149th Street	TOFC, Boxcars, Commodity - Break bulk, dry goods, Food prod.	400 truck trips/day	R/T

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
5	Little Ferry Terminal, Bergen County, NJ	CSX & CP (Class I)	73	4-central rail tracks	15	capacity for 880 railcars	14	NA	I-95 (NJT) & Rt. 1 & 9	Western Av/North Bergen	COFC, RoadRailers Commod: containers	71,000 lift per year or 600 truck trips/day	R/T
6	North Bergen Terminal, Bergen County, NJ	CSX (Class I)	50	4-tracks	50	capacity for 500 railcars	10	NA	Rt.1 & 9	Tonnelle Av (North Bergen)	DST/ piggyback, commodity: UPS cargo, food products	65,000 carloada and 130,000 containers/ year, or 300 truck trips per day	R/T
7	Elizabeth Transflow Yard, Union County, NJ	CSX (Class I)	20	2 tracks	NA	Tracks can accommo-date 230 railcars	NA	30,000	I-95 (NJT)	Trumbull Street, Elizabeth	Hoopers/ tankers, Commodity: chemical, food grade paper, plastics	2,500 railcars/year	R/T
8	South Kearny Terminal, Hudson County, NJ	CSX (Class I)	120	6-working tracks, 8-support tracks	100	capacity for 1,270 railcars	45	NA	Rt. 1 & 9	Old Fish House Rd (S. Kearny)	DST, piggyback, Commodity: mail, farm product	300,000 lifts per year and 207,500 carloads/year	R/T
9	E-Rail Terminal, Union County, NJ	Norfolk Southern (Class I)	55	4	30	capacity for 1,800 railcars	3 per week	NA	I-95 (NJT) & Rt. 1 & 9	Trumbull Street, Kapkowski Rd, Elizabeth	DST, piggyback, Commodity: break bulk	5,500 carloads/year	R/T, R/S

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
10	Croxton Yard, Bergen County, NJ	Norfolk Southern (Class I)	135	3 loading tracks	78	capacity for 3,900 railcars	19	NA	I-95 (NJT) & Rt. 1 & 9	NA	TOFC, COFC piggyback, Commodity: break bulk	155,000 carloads/year	R/T
11	Oak Island Intermodal Terminal, Essex County, NJ	SAA, Class I	500	30 classif. tracks, 9 depart. tracks, and 10 receiv tracks	200	capacity for 600 railcars	10	NA	I-95 (NJT) & Rt. 1 & 9	Doremus Ave/ Wilson Ave, Newark	TOFC, COFC, Commodity: break bulk	220,000 ton/year	R/T
12	ExpressRail, Essex County, NJ	SAA, Class I	33	5	12	capacity for 500 railcars	12	NA	I-95 (NJT) & Rt. 1 & 9	Formosa St, East Fleet Street, Elizabeth	DST, piggyback, Commodity: break bulk	155,000 containers/ year	R/T, R/S, R/B
13	Doremus Avenue Auto Terminal, Essex County, NJ	SAA, Class I	87	Doremus I- 4 tracks; Doremus II- 6 tracks	NA	Doremus I- 90 railcars; DoremusII-220 railcars	NA	NA	I-95 (NJT) & Rt. 1 & 9	Doremus Av, Newark	Multilevel autorailcars, Commodity: vehicles	Handled 450,000 units/year	R/T, R/S
14	APL South Kearny Terminal, Hudson County, NJ	SAA, Class I	100	3	120	capacity for 2,600 railcars	4	25,000	Rt. 1 & 9	Pennsylva-nia Av, S. Kearny	DST, RoadRailers, Commodity: break bulk	120,000 containers per year	R/T

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
15	Richfield Heights Auto Terminal, Bergen County, NJ	SAA, Class I	25	3	23	NA	NA	NA	I-80, I-95 (NJT) & Rt. 1 & 9	NA	Multilevel autorack cars, Commodity: Automobiles	160,000 vehicles/year	R/T
16	Portside Terminal, Union County, NJ	SAA/ Triple Crown Services	25	3	10	capacity for 650 trailers	NA	NA	I-95 (NJT) & Rt. 1 & 9	Pennsyl-vania ve/S. Kearny	DST, RoadRailers Comm: Break bulk	1,700 RoadRailers/ month	R/T
17	Long Island City (Team Yard, Yard A, Blisville Yard), Queens County, NY	NYA (Class III)	1 - 12 acres, 2- 17 acres, 3-24 acres	1-6; 2-6; 3-8 railtracks	NA	Can accommod ate: 1- 77; 2-100, 3-100 railcars	5 trains per week	NA	I-495 (LIE)	1-Jackson Av & Crane St; 2-Greenpoint Av & Review Av; 3-Queens Blvd, 5th St, 48th Av	TOFC, Boxcars, Commodity: Bulk: brick, lumber, chemicals	50 carload per month	R/T
18	Garden City Yard, Nassau County, NY	NYA (Class III)	4	5	NA	Can accommod ate 50 freight rail cars	1 train per year	NA	I-495 (LIE)	Hempsteak Turnpike	TOFC, Boxcars, Commodity: Bulk, circus: (not used)	Inactive	R/T
19	Deer Park Intermodal Yard, Suffolk County, NY	NYA (Class III)	23	1	NA	Can accommo-date 100 freight rail cars	10 trains per week	NA	I-495 (LIE)	Deer Park Ave	TOFC, COFC (future), Commodity: bulk (paper, lumber)	1,027 carload per year	R/T

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
20	Fresh Pond Yard, Queens County, NY	NYA (Class III)[5]	10	15 classification tracks	NA	Can accommo-date 200 freight rail cars	5 trains/ week	NA	I-278 (BQE) and I-495	Metropoli-tan Avenue/ Fresh Pond Rd.	TOFC, COFC , Commodity: bulk (cars, lumber, construction material)	117 carloads per year	R/T
21	Bushwick Terminal, Kings County, NY	NYA (Class III)	2	8 (5 tracks in service)	vary: 2 to 10	Can accommod ate 55 freight rail cars	5 trains/ week	NA	I-278 (BQE)	Johnson Av, Morgan Av.enue	Boxcars, Flatcars; Commodity: Lumber, scrap metal, flour, plastics	2,055 carload/year	R/T
22	Farmingdale Yard, Suffolk County, NY	NYA (Class III)	2	2 tracks	NA	Can accommod ate 16 freight rail cars	10 trains/ week	NA	I-495 (LIE) and Rt. 110	Broad Hollow Rd.	Boxcars, Flatcars; Commodity: bulk, chemicals, food-grade, menral, agricultural	32 carload/year (expected increase)	R/T
23	Maspeth Yard, Queens County, NY	NYA (Class III)	3.3	2 unload & 5 storage tracks	vary: 2 to 10	Can accommod ate 50 freight rail cars	5 trains/ week	NA	I-495 (LIE)	Maspeth St, 49th Street	Boxcars, Hoopers Commodity: bulk, rock, paper, food product	10,000 tons/month or 200-300 carloads/ month	R/T

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
24	BayRidge, Kings County, NY	NYA (Class III)	3	4 tracks	NA	Can accommod ate 50 freight rail cars	future 5 trains/ week	NA	I-278 (BQE)	NA	Boxcars, Flatcars; Commodity: bulk, chemic, food-grade, mineral, agric, prod.	future	R/T
25	Greenville Float Yard, Hudson County, NY	NYCHRR (Class III), CSX, NS, CP	33	10 tracks and 4 floatbridge	NA	79,000 railcars per year	5	NA	NJT (Extension)	Colony Rd, Pt. Jersey Blvd.	Piggyback, carfloat; Commodity: break bulk, containers, waste	6,000 railcars/yr	R/TR/B R/S
26	65th Street Intermodal Yard, Kings County, New York	NYCHRR (Class III), NYA (Class III)	33	13 tracks (9 classificati on tracks, 2 - transload)	NA	storage capacity for 500 railcars	1 per week	NA	I-278 (BQE)	3rd Street and 1st Av.	DST, piggyback, carfloat, Commodity: break bulk, cntainers	Capable to handle 1,200 TEU, and up to 30,000 railcars/year. Not yet in full operation	R/TR/B R/S
27	Atlantic Terminal, Kings County, NY	NYCHRR (Class III)	14	NA	NA	capacity for 250 railcars	NA	NA	I-278 (BQE)	Columbia Street	DST, piggyback, carfloat, Comm: break bulk, cocoa	Not yet in full operation	R/TR/B

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
28	Bush Terminal, Kings County, NY	NYCHRR (Class III)	11	5 (container) tracks	15-20	capacity for 425 container space	as needed	NA	I-278 (Gowanus)	Primary: 3rd Av, Sec: 38th Street	Boxcars, hoopers, tanker, Commodity: break bulk, food, oversized load, waste, containers	4,000 carload/year, handled 21,200 tons in 98', capacity: 60,000 TEUs/yr	R/T
29	Arlington Yard, Richmond County, NY	NSRR (Class III)	60	2-switching tracks; 6 intermodal, 1-repair track	not yet open	capacity for 500 railcars	future 2 trains per day	NA	I-278 (SIE) and I-440	Primary: Western Avenue, Secondary: South Av.	DST, TOFC, COFC (future)	Can handle 4,000 to 20,000 containers/yr	R/T
30	Cranford Junction, Union County, NJ	NSRR (Class III), CSX, NS	5	2	Not yet open	NA	7-10 trains/ day (future)	NA	I-278 (SIE) and I-440	NA	DST, TOFC, COFC (future)	Not yet in Operation	R/T
31	Second Avenue Exchange & Storage Yard, Kings County, NY	SBK, Class III (1)	0.5	1	1	20 railcars/ month	2 trains per month	NA	I-278 (Gowanus Expresswy)	Primary: 2nd Ave, Sec: 39th Street	TOFC, Gondolas; Commodit: Subway coaches, RR material	10 carload/ month	R/T

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
32	Resources Wareh & Consolidated Service Int. (Land Bridge & Meadow Land Terminals), Bergen County, NJ	NYS&WR, Class III (2)	54 acres and 20 acres, 100-acres in devel opme nt	3	70	Center parking space: 700 railcars	30 trains per month	220,000	I-95 (NJT), Rt. 1 & 9	Rt. 1 & 9, also Rt. 3 & Rt. 17	DST, TOFC, COFC, Commodity: break bulk, perishabl e, plastics, paper	About 21,000 carload/year,	R/T
33	BulkMatic Transport Co., Bergen County, NJ	NYS&WR, Class III (4)	15	1	30	200 parking spaces for trailers	2 trains/month	6,500	Rt. 3	Westside Ave, N. Bergen	Boxcars, Hoopers, Commodity: bulk for plastic industry, dry flamable, soda, ash	10,000 tons of dry bulk per month	R/T
34	NYS&W Lumber Reload, Bergen County, NJ	NYS&WR, Class III (2)	10	3	vary	Parking space for 14 railcars	2 trains/month	NA	I-95 (NJT), Rt. 1 & 9	Secaucus Rd, North Bergen	Flatcars, Commodity: Lumber	1,500 carloads/year or 120,000 tons per year	R/T
35	NYS&W Automoobile Terminal, Bergen County, NJ	NYS&WR, Class III (2)	13	3	vary	Parking space for 4 railcars	2 trains/month	NA	I-95 (NJT), Rt. 1 & 9	Secaucus Rd, North Bergen	Multilevel autorack cars, Comm: Automobile	500 carload/year	R/T

No	Rail Yard - Name & Location	Serving RR, & RR Class	Yard Area in acres	Number of Rail Tracks	Emp-loyees Num-ber	Rail Yard capacity	Outbo-und Trains per week u.n.	Wareh. space (ft2)	Nearest Highway in vicinity	Primary/Second Access Road	Services & Main Comodity type	Freight Volume (per year) -Unit varies	Interm o-dal Connec tion
36	Eastern Propane Inc., Sussex County, NJ	NYS&WR R, Class III (2)	5	2	4	Parking space for 10 railcars	20 trains/ year	NA	Rt. 23, Rt. 15	NA	Railcar: tankers, Commodityp ropane	Abouth 500 trailer/trucks per year, and 5 million gallons/year	R/T
37	Nutritive Sweeteners Inc., Sussex County, NJ	NYS&WR R, Class III (2)	2	1	4	Can accommod ate 15 freight railcars	3 train/ month	5,000 ft2	Rt. 15	NA	Railcars: tankers, hoopers, airslide, Comm: liquid food grade, bulk, corn, sugar	144 carloads/ year or 1,200 tons/month of dry cargo, 4 million gallons/year of liquid	R/T
38	Bergen Transfer Terminal, Bergen County, NJ	NYS&WR R, Class III (2)	2	2	vary	12 carloads per month	2 trains/ month	NA	I-287	Oakland Ave & Edison Ave	Railcars: tankers, Commodity: liquid food	9 million gallons/year	R/T
39	TransPlastics, Bergfen County, NJ	NYS&WR R, Class III (2)	18	3	17	Accomm o-date 200 freight railcars	900 trains/ year	NA	I-95 (NJT), Rt.80	NA	Railcars: Hooper or airslide, Comm: Dry goods, Bulk-plastic pellets	300,000 tons/year	R/T

R/T - intermodal transfer from rail to truck; R/B - transfer from rail to barge; R/S - transfer from ship to rail or rail to ship.
SAA - Shared Asset Area, served by CSX and Norfolk Southern Rail Lines.

1.4 Three cranes were moved temporarily to Universal, One Paceco crane left.
1.5 DST: Double-stack rail cars (two containers placed on top of another in single cars, on a railway flatcar), TOFC/COFC - trailer or container on flat car, piggyback - containers mounted on chassis moving on flatcars, RoadRailer - highway trailer mounted on detachable railcar wheels.
1. Interchange with NYA/LIRR

2. Interchange with CSX
3. Interchange with Class I rail lines in New Jersey and with NYA in Brooklyn
4. Connection to CSX, NS, CP, CN

- **TRUCK TERMINALS - WAREHOUSES**

The following are summaries of the selected truck terminals/warehouses in the New York metropolitan region. Note: For more facilities see NYMTC special report on truck terminals/warehouses:

No	Terminal Name & Location (county, state)	Opera-tor/ Owner	Size/ acres	Numbe r of truck bays	Truck parking spaces	Truck trips per day	Number of Emplo-yees	Nearest Highway in vicinity	Access Road	Type of Cargo	Cargo Volume - Tonnage per year	Cargo Handlin g Space (ft2)	Intermo dal Connec-tion
1	Queens Processing & Distribution Center, Queens County, NY	USPS	24.1	52	136	850	2,000	Whitest o-ne Expy (I-678), LIE (I-495), GCP	20th Avenue	mail processing, small packages	45,000 tons per day	No wareho-use, but handles perisha-ble	T/T, T/A
2	Morgan General Mail Facility, New York county, NY	USPS	10	130	12	700	4,872	I-678 (VWE), GCP	9th and 10th Ave, and via 29-30th Street	mail processing, small packages	3,350 tons per day	2.1 million ft2	T/T, T/A
3	Mid-Island Processing & Distribution Center, Suffolk county, NY	USPS	40	46	320	650	2,000	I-495 (LIE)	Rt.110 and Duryea Rd.	mail processing, small packages	5,000 tons per day, 275 tons in inventory	327,000 ft2	T/T
4	Airport Mail Center at JFK, Queens county, NY	USPS	27	103	150	100-200	2,200	I-678 (VWE), Belt Pkwy, and South Conduit Avenue	North Boundary Rd., Farmer Blvd, Guy Brewer Avenue	mail processing, small packages	24-200,000 tons per day, 7,600 tons in inventory	NA	T/T, T/A

No	Terminal Name & Location (county, state)	Opera-tor/ Owner	Size/ acres	Numbe r of truck bays	Truck parking spaces	Truck trips per day	Number of Emplo-yees	Nearest Highway in vicinity	Access Road	Type of Cargo	Cargo Volume - Tonnage per year	Cargo Handlin g Space (ft2)	Intermo dal Connec-tion
5	Dominic V. Daniels Processing & Distribution Center, Hudson county, NJ	USPS	20	180	475	950	2,700	I-95 NJT, and Rt. 280	Newark Turnpike	mail processing, small packages	6 million pieces of mail/day and 80,000 sacks of mail	NA	T/T
6	Maspeth Hub, Queens county, NY	UPS	20	125	450	780	1,590	I-495 (LIE) and I-278 (BQE)	Laurel Hill Blvd/ Meeker Ave	sorting/ distribution of mail/ packages	300,000 packages per day	NA	T/T
7	Melville Hub, Suffolk county, NY	UPS	20	100	370	515	722	I-495 (LIE) and Northern state Pkwy	Broad Hollow Rd/Smith Street	sorting/distr ibution of mail/ packages	125,000 packages per day	NA	T/T
8	Nassau Hub, Nassau county, NY	UPS	20	120	470	790	980	I-495 (LIE)	Hempstead Tpke	sorting/ distribution of mail/ packages	250,000 small packages per day	NA	T/T
9	Foster Avenue Terminal, Kings county, NY	UPS	NA	60	225	265	600	I-495 (LIE), I-678 (VWE)	Foster Av, Linden Blvd, Atlantic Avenue	sorting/distr ibution of mail/ packages	100,000 packages per day	250,000	T/T
10	Suffolk Hub, Suffolk county, NY	UPS	15	50	275	508	490	I-495 (LIE)	Horse Block Rd	sorting/ distribution of mail/ packages	75,000 packages per day	NA	T/T

No	Terminal Name & Location (county, state)	Opera-tor/ Owner	Size/ acres	Numbe r of truck bays	Truck parking spaces	Truck trips per day	Number of Emplo-yees	Nearest Highway in vicinity	Access Road	Type of Cargo	Cargo Volume - Tonnage per year	Cargo Handlin g Space (ft2)	Intermo dal Connec-tion
11	Laurelton Hub, Queens county, NY	UPS	NA	40	200	420	452	I-495 (LIE) and I-678 VWE)	Farmer Blvd, Springfield Garden	sorting/distr ibution of mail/ packages	50,000 packages per day	183,000	T/A, T/T
12	43rd Street Hub, NY county, NY	UPS	NA	75	450	890	2,230	West Side Highway	43rd St/12th Ave and NJ tunnels	sorting/distr ibution of mail/ packages	225,000 packages per day	NA	T/T
13	FedEx Hub at JFK, Queens county, NY	FedEx	NA	50	NA	100	320	Nassau & VWE (I-678), & LIE (I-495)	Nassau Express-way	sorting/ distribution of mail/ packages	150,000 packages per day	NA	T/A, T/T
14	FedEx Hub at Newark Airport, Essex county, NJ	FedEx	56	100	100	300	500	I-95 (NJT) and Rt. 1 & 9	Rt. 1 & 9	sorting/distr ibution of packages	125,000 packages per day	503,800	T/A, T/T