

2040 Freight Industry Level Forecasts

ABOUT THIS PROFILE

The NJTPA has developed a set of alternative freight forecasts to support transportation, land use and economic development decisions. The first step in the study process was to document current baseline conditions. This Freight Profile offers a snapshot of key metrics – Economy and Land Uses, Freight Flows, and Freight Transportation Networks in 2010, and in the forecast year, 2040.

ECONOMY AND LAND USES

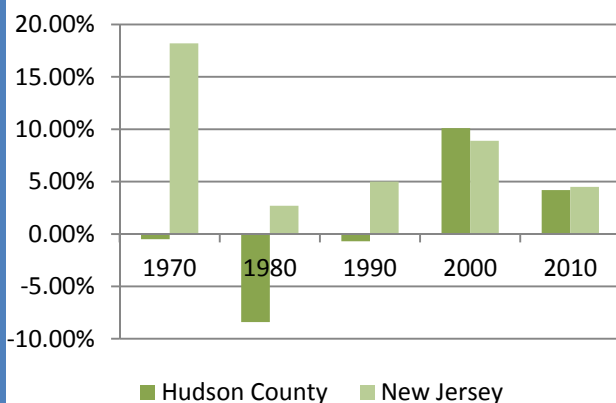
With a 2010 population of 634,266 and a land area of about 47 square miles, Hudson is the most densely populated County in the State of New Jersey. Hudson County's population has historically grown more slowly than the State overall, though growth in the 1990s and 2000s has kept pace with the State. The County's average household income is below that of the State overall. Hudson's household income has increased between 2002 and 2009, by more than \$2,000 when adjusted for inflation, while the State's median household income declined by more than \$1,700.

Hudson County is home to...

- 634,266 people
- 22,384 businesses that employ 232,300 people; 43% of these jobs are in businesses that are highly dependent on freight movement
- 765 warehousing/ distribution buildings and 194 manufacturing buildings
- About 72.7 million tons of domestic freight shipped or received annually
- Interstate, State, and County highways used by tens of thousands of trucks every day
- Port Jersey terminal, major rail intermodal terminals at Croxton, South Kearny, and in North Bergen

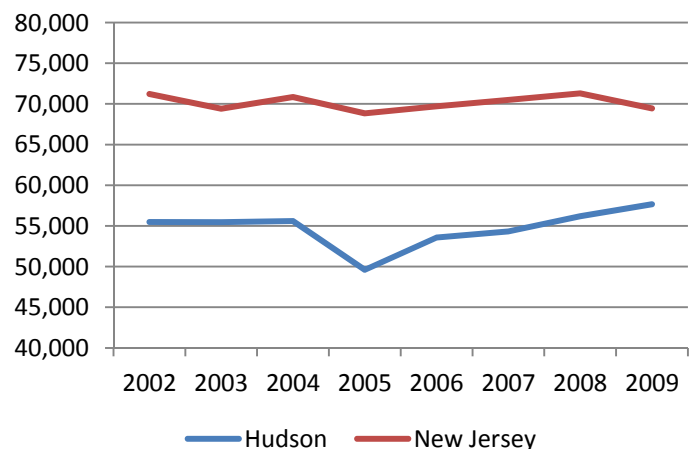
Population Growth by Decade

Source: U.S. Census Bureau



Household Income, Constant 2010 Dollars

Source: U.S. Census Bureau



Employment

The County's economy employs 232,300 people in more than 22,000 establishments. About 32% are employed in "freight-intensive" industries, such as construction, manufacturing, mining and extraction, retail trade, wholesale trade, and logistics. About 68% are employed in industries that may generate freight, but are less dependent on freight movement.

FREIGHT FLOWS

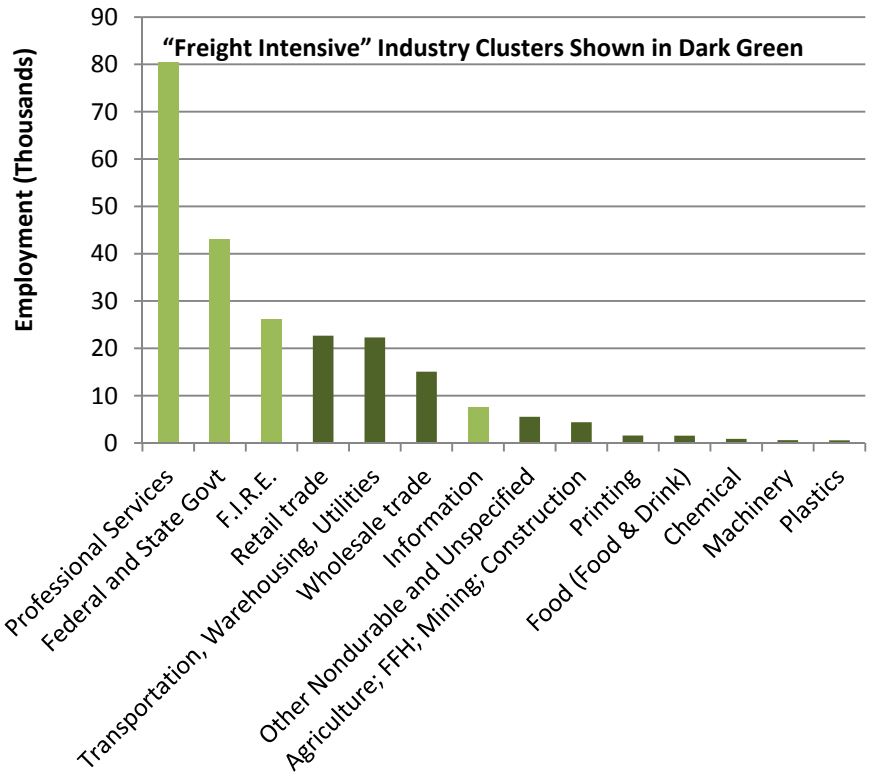
In 2007, approximately 72.7 million tons of domestic freight moved into, out of, or within Hudson County, by all modes of transportation (truck, rail, water, and air). This figure includes commodities moving into or out of Hudson County, but excludes pass-through tonnage. (The movement of international cargo to and from seaports, airports, and border crossings is captured and counted as domestic tonnage.)

Commodities

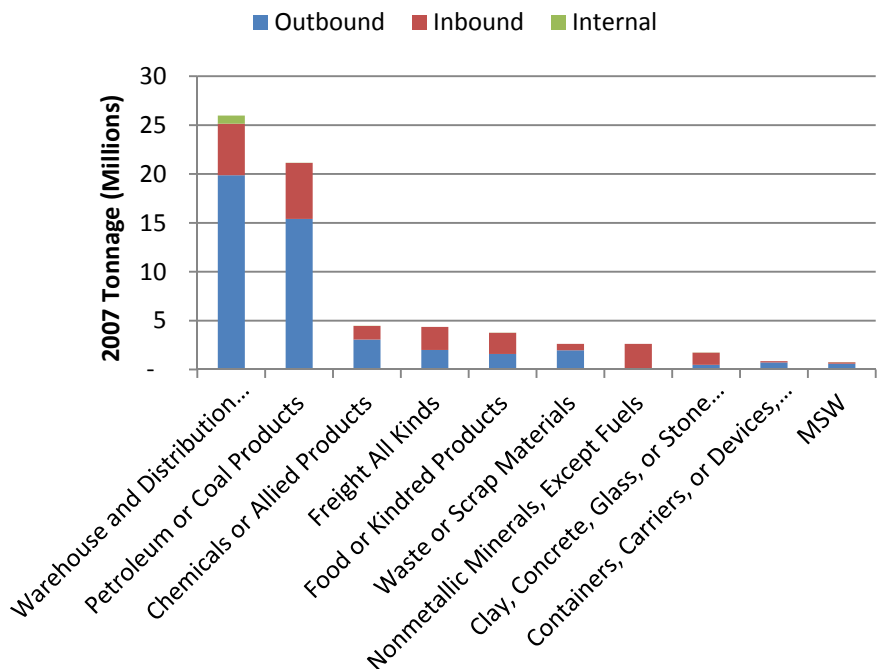
For domestic O-D tonnage, around 36% consisted of moves of consumer goods between warehouses or distribution centers, 76% of which moved in the outbound direction. Other leading commodities include petroleum or coal products, chemicals, freight all kinds, food, and waste or scrap materials. A larger share of tonnage was reported moving outbound (65%) versus inbound (33%), supporting a notion that Hudson is a gateway for international freight that becomes outbound domestic freight.

Employment by Industry, 2010

Source: R/ECON


Domestic O-D Commodities by Tonnage, 2007

Source: IHS Global Insight



Trading Partners

Hudson County’s major trading partners are, not surprisingly, its neighbors. As illustrated to the right, locations in New Jersey are the top destinations of outbound freight and the top origins of inbound freight, followed by New York and Pennsylvania. For all of the top trading partners, except Illinois, Florida, and Delaware, outbound flows (consisting largely of warehouse and distribution center traffic) exceed inbound flows.

FREIGHT TRANSPORTATION NETWORKS

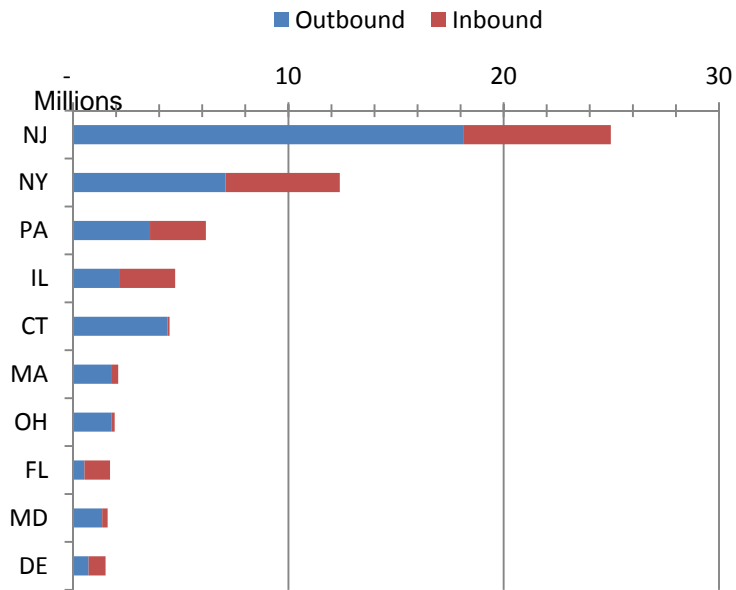
Freight can be handled by truck, rail, air or water. The choice of mode depends on a variety of factors, including: length of trip (rail and air are more competitive at longer distances), commodity type (rail and water are more competitive for heavy materials), time sensitivity (truck and air are most competitive), need for door-to-door service (trucking is needed unless the customer has a dock or a rail connection).

Mode Split

For domestic freight traveling to, from or within Hudson County, 55% travels by truck, 31% by water, and 14% by rail. The presence of rail and marine terminals in Hudson County result in Hudson having one of the most diverse mode split distributions among counties in the NJTPA region.

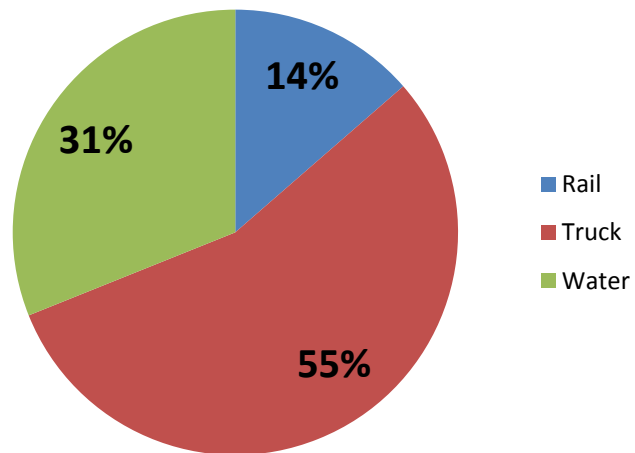
Top Origins and Destinations of Domestic O-D Freight Tonnage, 2007

Source: IHS Global Insight



Mode Split, Domestic O-D Tonnage, 2007

Source: IHS Global Insight

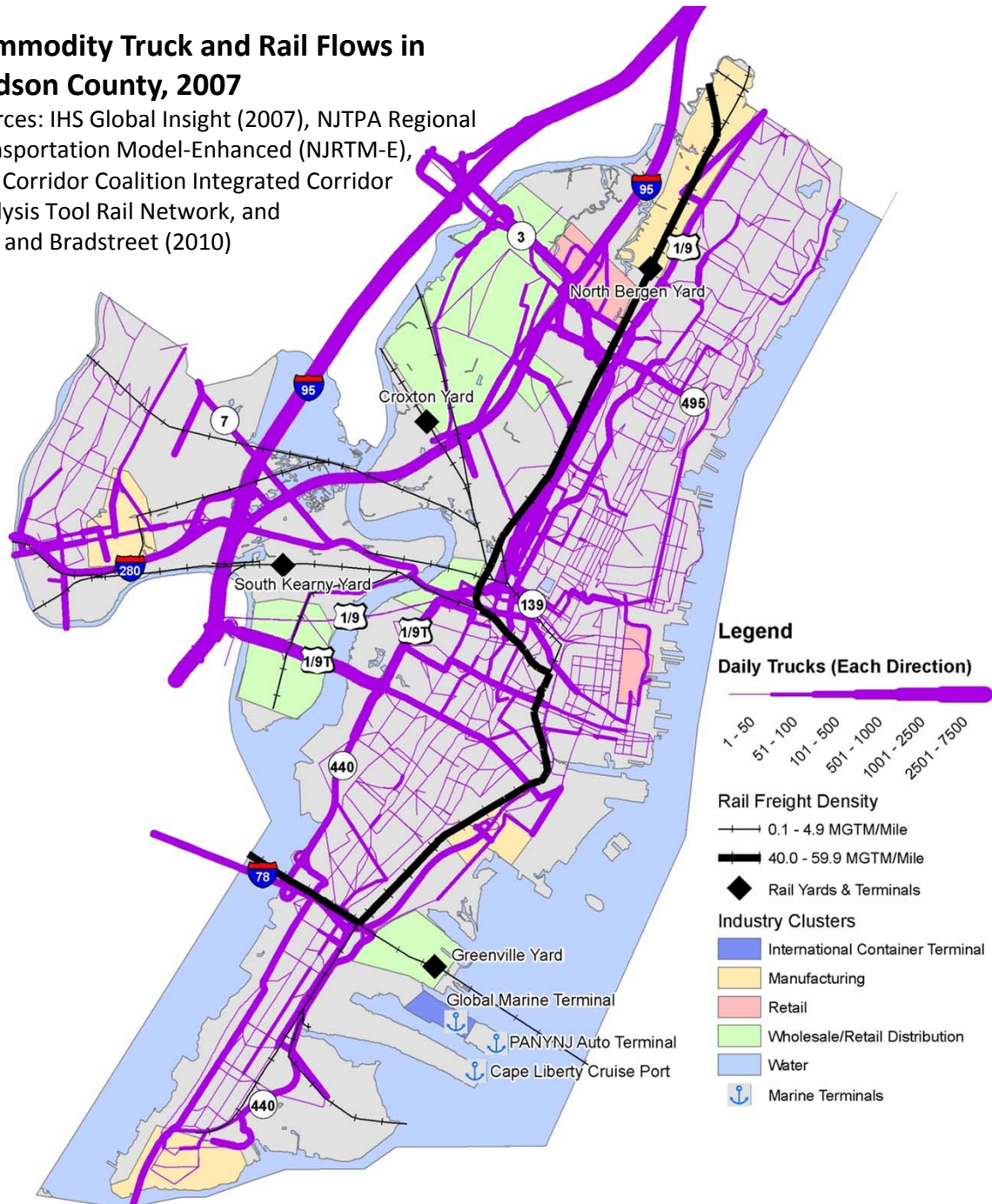


Highway and Rail Network Utilization

Hudson County's highway network serves to connect its major freight activity centers with key trading partners elsewhere in the County, in the State of New Jersey, in other parts of North America, and – via international seaports and airports – the world. Segments of the New Jersey Turnpike, which crosses Kearny, accommodate more than 14,000 trucks per day. Portions of US Routes 1/9 and NJ Route 3 carry as many as 5,000 trucks per day. Interstate 78, Interstate 280, and NJ Route 440 carry between 1,000 and 2,000 trucks daily. Not all trucks on the road are carrying freight. Some are moving empty. Others are providing municipal services (waste transfer, utility services, etc.) or commercial services (contractors, lumber, landscapers, etc.). One of the busiest freight rail complexes in the State is the combined National Docks Secondary/Northern Secondary/River Line/P&H Branch, traversing the County from north to south. Several major rail terminals, such as North Bergen, Croxton, South Kearny and Greenville Yards are all located along these lines.

Commodity Truck and Rail Flows in Hudson County, 2007

Sources: IHS Global Insight (2007), NJTPA Regional Transportation Model-Enhanced (NJRTM-E), I-95 Corridor Coalition Integrated Corridor Analysis Tool Rail Network, and Dun and Bradstreet (2010)

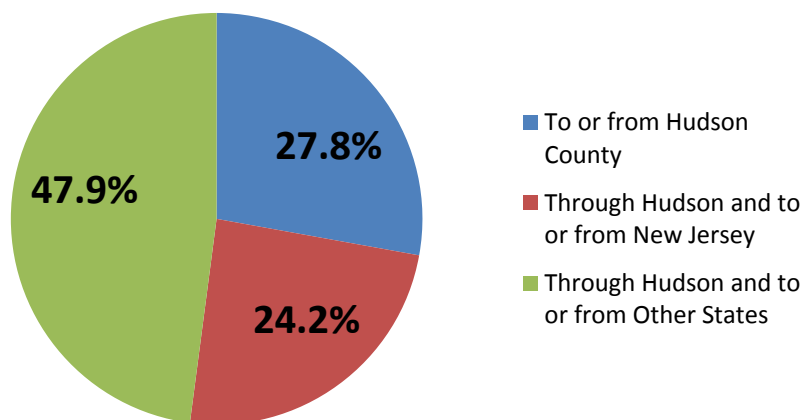


Highway Link Analysis

Different highways can be used by trucks carrying freight in different ways. Some highways have a high % of local traffic; others a high % of pass-through traffic. Many highways show significant differences at different locations. Among major highways in Hudson County, including Interstates 78 and 95 and US Routes 1/9, the average values of internal and through traffic are shown in the graph to the right.

Truck Trips on Hudson County Highway Links, 2007

Source: IHS Global Insight and USDOT Freight Analysis Framework-3



Nearly 48% of trucks traveling on the selected highways in Hudson County were passing through the County on their way between origins or destinations outside the State of New Jersey. About 28% were traveling to or from a point in Hudson County. Just over 24% of trucks on the selected highways were traveling through Hudson on their way to or from locations within the State, but outside Hudson County.

Industrial Buildings Inventory

Freight-generating industries are supported by industrial buildings. The location of these buildings often depends on transportation access, and their uses may be significant generators of freight traffic. As illustrated on Pages 6 and 7, nearly 200 manufacturing buildings are located in the County. Manufacturing buildings are found in nearly every municipality in the County, with little discernable geographic clustering. More than 760 warehousing/distribution buildings are located within the County, two of which are more than 1 million square feet, and 17 of which are between 500,000 and 1 million square feet. These buildings are present in nearly all municipalities, though the largest facilities may be found in parts of North Bergen near West Side Avenue, Secaucus, South Kearny, in the Marion section of Jersey City, along 14th Street in Jersey City, and the Constable Hook area of Bayonne.

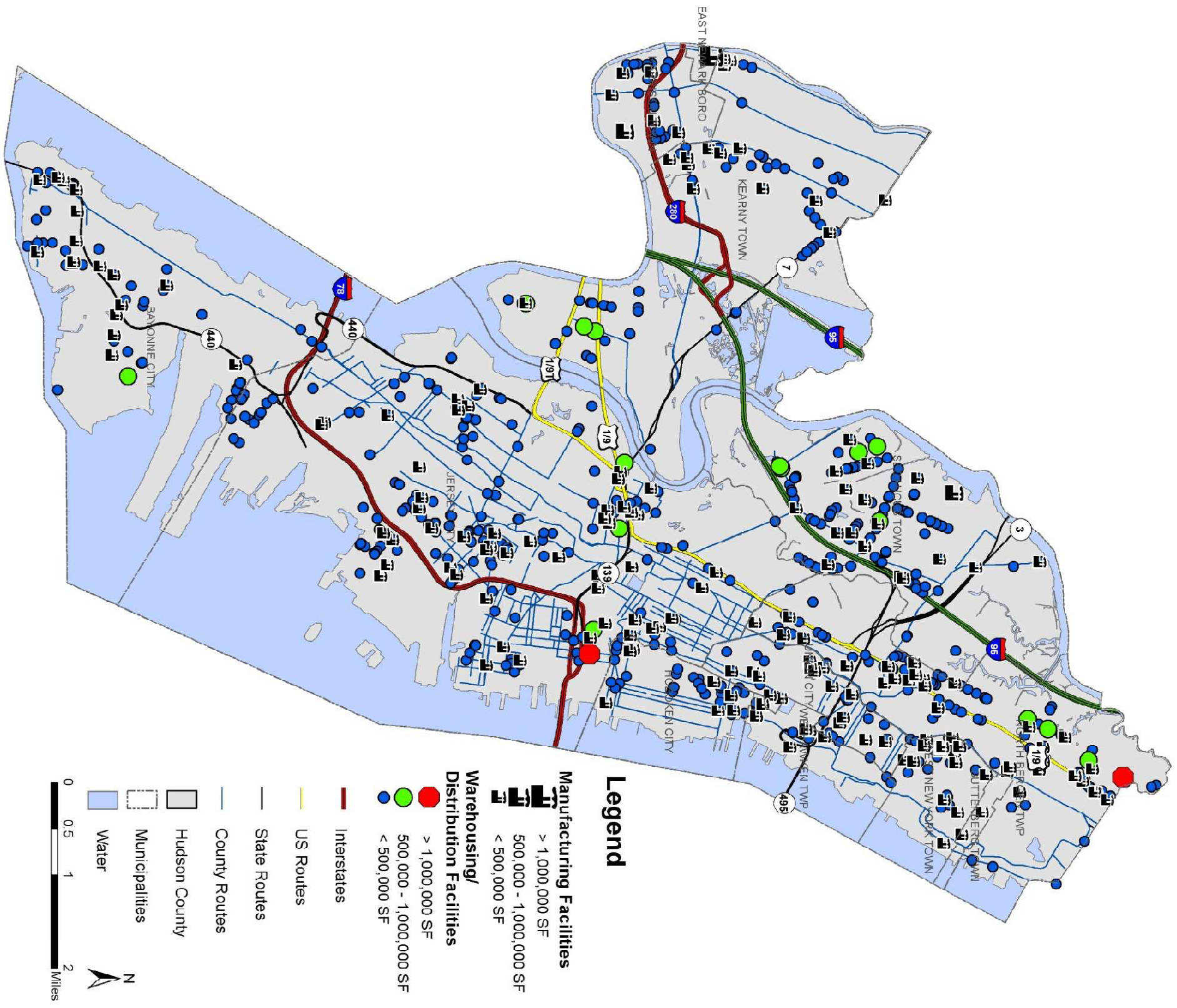
As summarized in the two tables to the right, many of the industrial buildings generate large volumes of freight. According to the Freight Locator database, 396 facilities in Hudson County receive more than 5.9 million tons and ship nearly 6.2 million tons of freight annually. It is important to note that some facilities' inbound and outbound tonnage values do not match. This is because some types of local delivery and pickup moves are not classified as "commodity moves" in the source data.

Top 5 Facilities by Inbound/Outbound Tonnage, 2007

Source: IHS Global Insight Freight Locator Database

COMPANY NAME	CITY	INBOUND TONS
SILOGRAM LUBRICANTS CORP	BAYONNE	1,727,457
EXXON MOBIL CORP	BAYONNE	571,744
CERTIFIED PRODUCTS CO	JERSEY CITY	376,924
KEN'S MARINE SVC INC	BAYONNE	268,521
OWENS CORNING	KEARNY	254,418

COMPANY NAME	CITY	OUTBOUND TONS
GOYA FOODS INC	SECAUCUS	966,514
KEN'S MARINE SVC INC	BAYONNE	524,743
TREE OF LIFE NORTHEAST	NORTH BERGEN	524,192
SILOGRAM LUBRICANTS CORP	BAYONNE	450,045
INTERNATIONAL PETROLEUM CORP	BAYONNE	449,779



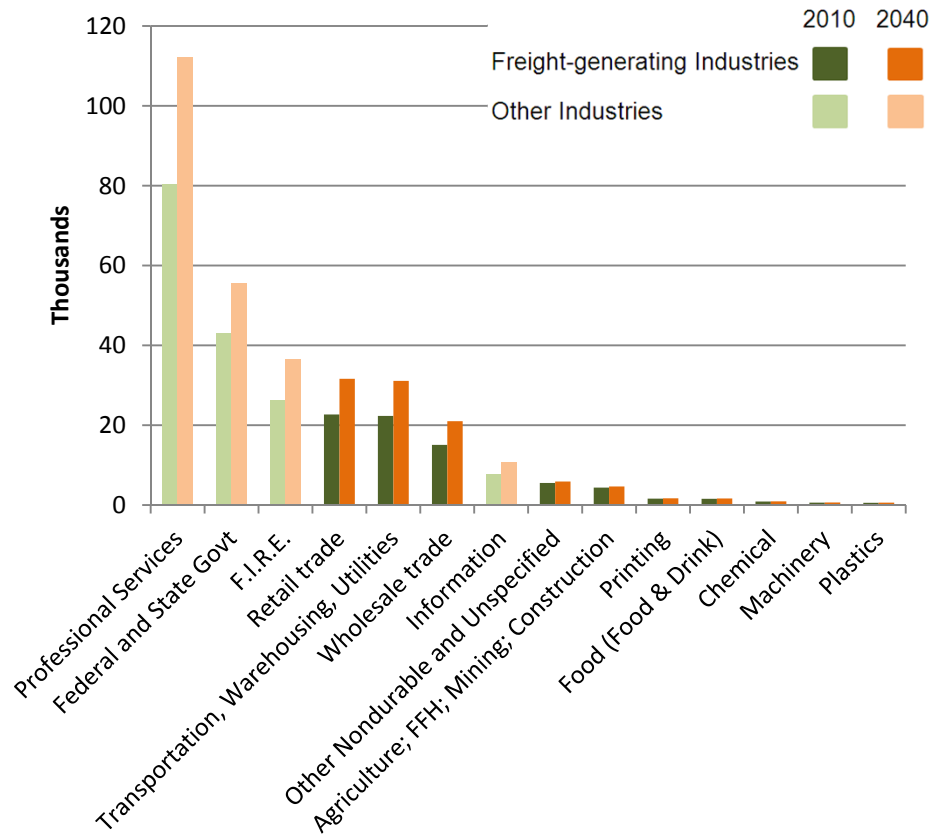
Industrial Buildings by Type and Square Footage, 2010
 Source: CB Richard Ellis

EMPLOYMENT FORECAST

Between 2010 and 2040, non-farm employment in Hudson County is expected to grow by 35%, from 232,300 to 314,100. Employment in freight-intensive industries is expected to grow by 33% during the forecast period, compared to 36% for other industries. The faster-growing services, finance, insurance, real estate, and other less freight-intensive industries, will make up 68% of the County's employment in 2040, the same share as in 2010. Among individual industry groups, professional services is expected to experience the greatest numeric growth in employment (31,600 jobs) during the forecast period.

Industry Employment Forecast, 2010 - 2040

Source: R/ECON



2040 COMMODITY FLOWS

By 2040, overall commodity flows into, out of, and within Hudson County are expected to have increased by about 42%, from 72.7 million tons to 103.4 million tons (a difference of 30.7 million tons). Warehouse and distribution center traffic is expected to remain the number one commodity in Hudson County by tonnage. Growth rates among the top ten commodities are expected to range from 36% (chemicals) to 66% (transportation containers, carriers or devices).

Top 10 Commodities by Tonnage, 2040

Sources: Cambridge Systematics, with data from IHS Global Insight

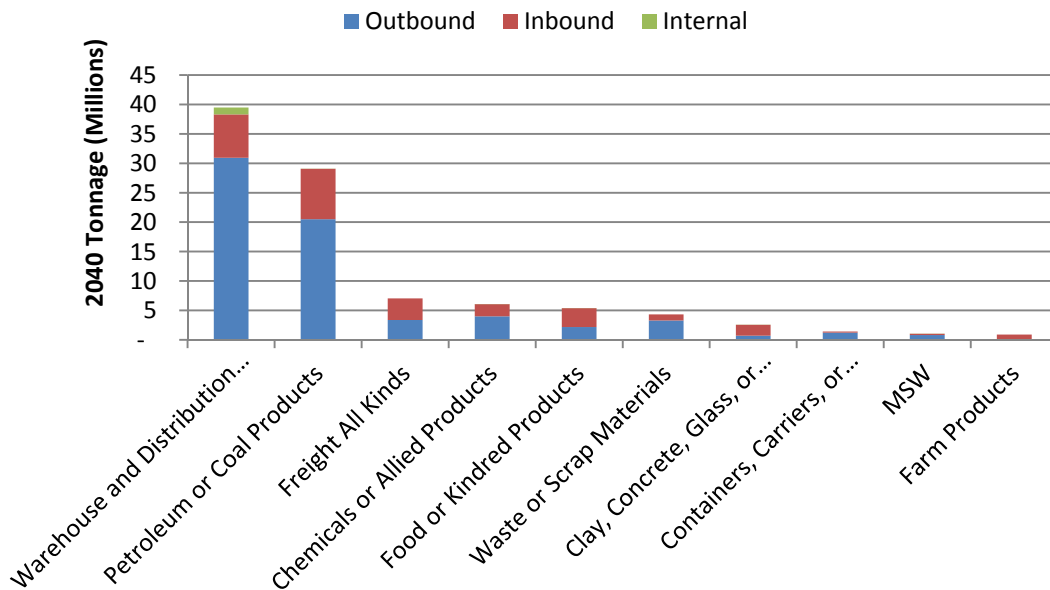
Commodity	2007 Tons	2040 Tons	Difference	Growth Rate
Warehouse and Distribution Center	25,978,990	39,476,943	13,497,952	52%
Petroleum or Coal Products	21,149,042	29,096,210	7,947,168	38%
Freight All Kinds	4,359,676	7,041,060	2,681,383	62%
Chemicals or Allied Products	4,467,401	6,059,061	1,591,660	36%
Food or Kindred Products	3,776,142	5,401,966	1,625,824	43%
Waste or Scrap Materials	2,621,730	4,312,920	1,691,190	65%
Clay, Concrete, Glass, or Stone Products	1,742,772	2,578,610	835,838	48%
Containers, Carriers, or Devices, Empty	848,920	1,405,393	556,473	66%
MSW	759,539	1,044,148	284,609	37%
Farm Products	557,701	893,547	335,846	60%

Commodity Volumes and Direction

Outbound freight moves are expected to grow faster than inbound moves during the forecast period. In 2007, outbound moves accounted for 65% of all freight tonnage. By 2040, outbound moves are expected to account for 67% of all tonnage. Growth in warehouse and distribution center traffic, freight all kinds, and municipal solid waste (MSW) is expected to fuel the faster increase in outbound traffic.

Top 10 Commodities by Tonnage by Direction, 2040

Sources: Cambridge Systematics, with data from IHS Global Insight

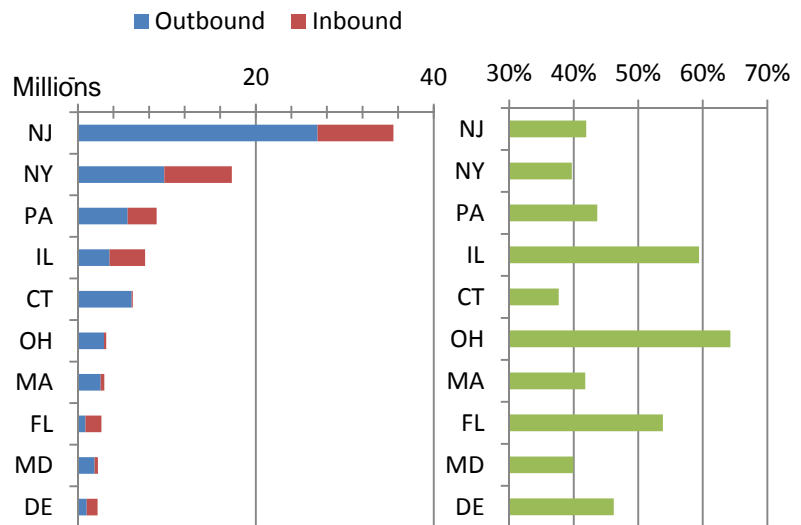


Trading Partners by 2040 Tonnage (Left) and 2007-2040 Growth (Right)

Source: Cambridge Systematics, with data from IHS Global Insight

Future Trading Partners

Hudson County's largest trading partners will continue to be other New Jersey counties, followed by New York and Pennsylvania. The predominant direction of trade with the top partners (except Illinois, Florida, and Delaware) will continue to be outbound. Growth in trade with States in the Midwest, South, and West will outpace growth in trade with Northeastern States.

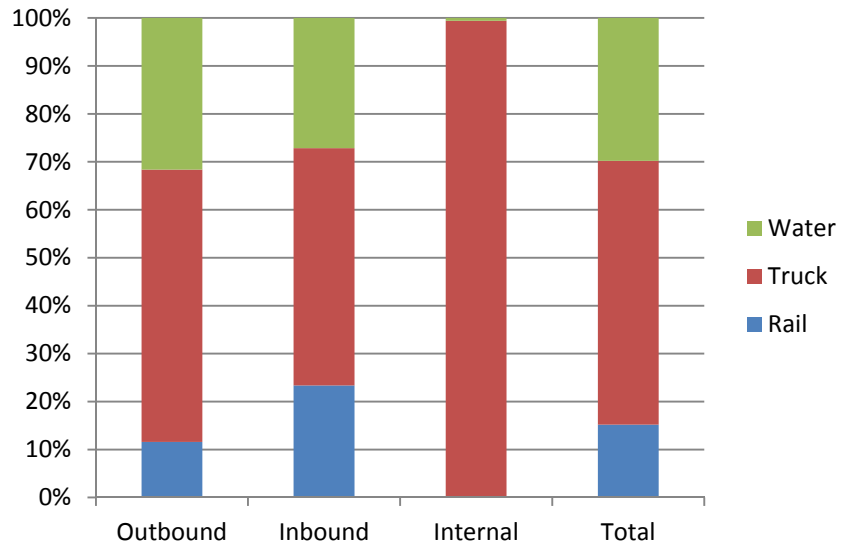


Future Mode Utilization

The forecast anticipates that rail will gain a slightly larger share of the market (15% in 2040, compared to 14% in 2007) and water will carry a slightly lower share (30% in 2040, compared to 31% in 2007) by 2040. Trucks are expected to carry 55% of all freight tons in 2040, which is the same share trucks carried in 2007. Rail is expected to have its highest share among inbound tonnage (23%), water will likely have its highest share for outbound freight (32%), and trucks will carry more than 99% of intra-county freight.

Freight Tonnage by Mode and Direction, 2040

Source: Cambridge Systematics, with data from IHS Global Insight


Future Highway Network Utilization

In 2040, Hudson County’s highway network is expected to remain the primary conveyor of freight into, out of, within and through the County. The number of trucks traveling daily on the New Jersey Turnpike in Kearny is expected to increase by nearly 2,000, or 15%. Truck volumes are expected to grow at twice that rate on US Routes 1/9, NJ Route 3, and NJ Route 7.

The map on Page 11 illustrates the projected truck volumes in 2040 on highways in Hudson County.

Commodity Truck Flows in Hudson County, 2040

Sources: IHS Global Insight, NJTPA Regional Transportation Model-Enhanced (NJRTM-E), Dun & Bradstreet (2010)



ABOUT THE NJTPA

The North Jersey Transportation Planning Authority (NJTPA) is the federally authorized Metropolitan Planning Organization for 6.6 million people in the 13-county northern New Jersey region. Each year, the NJTPA oversees the investment of more than \$1 billion in federal funding for transportation projects and provides a forum for interagency cooperation and public input into funding decisions. It also sponsors and conducts studies, assists County planning agencies and monitors compliance with national air quality goals.

The NJTPA Board of Trustees includes 15 local elected officials, including one representative from each of the 13 northern New Jersey counties—Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren—as well as from the cities of Newark and Jersey City. The Board also includes the Commissioner of the New Jersey Department of Transportation (NJDOT), the Executive Directors of NJ Transit and the Port Authority of New York & New Jersey, a Governor’s Representative, and a Citizens’ Representative appointed by the Governor.

Hudson County’s representative on the NJTPA Board of Trustees is County Executive Thomas DeGise, who also serves as First Vice-Chairman of the Board and Chairman of the Project Prioritization Committee.

ABOUT THIS STUDY

The North Jersey Transportation Planning Authority (NJTPA) is pleased to announce the completion of a major new freight planning initiative – the development of Year 2040 Freight Industry Level Forecasts.

Freight issues are extremely important in the NJTPA planning region, which includes thirteen counties in Northern New Jersey. The region hosts: the Port of New York and New Jersey, one of the nation’s top three ports on the basis of tonnage and containers; heavily-used local, regional, and interstate truck corridors and crossings; heavy concentrations of intermodal and non-intermodal rail activity; significant national and international air cargo facilities; and hundreds of millions of square feet of warehouse/distribution space. These networks and facilities are essential to the economic and transportation well-being of 6.6 million residents in the NJTPA region and 20 million in the NY/NJ metropolitan statistical area, along with more than 312,000 regional businesses. Understanding the effects and importance of freight is therefore critical – not only to ensure the accuracy of the regional transportation planning process, but also to effectively communicate the importance of freight to the region’s freight stakeholders, businesses, communities, residents, and funding decision-makers.

The primary goal of the 2040 Freight Industry Level Forecasts project was to develop a clear, accurate and comprehensive picture of regional freight activity, both current and future. The end product is an accurate picture of where concentrations of goods movement activity can be expected to occur in the region in the future, the types of commodities that will be moving, and where strategic investments should be made.

FOR FURTHER INFORMATION

For further information, please contact Jakub Rowinski, NJTPA Project Manager, at jrowinski@njtpa.org.

This Freight Profile is one of a series of profiles, covering the 13 counties of the NJTPA region, the City of Newark, Jersey City, and the region as a whole. This document was prepared by the North Jersey Transportation Planning Authority, Inc. with funding from the Federal Transit Administration and the Federal Highway Administration. The NJTPA is solely responsible for its contents.