NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY
Defining the Vision. Shaping the Future.

SUBREGIONAL FREIGHT PROFILE

Hudson County

ABOUT THIS PROFILE

The North Jersey Transportation Planning Authority (NJTPA) has developed a set of alternative freight forecasts to support transportation, land use, and economic development decisions. This Freight Profile is an update to a previous version published in 2012, and offers a snapshot of key metrics – Economy and Land Uses, Freight Flows, and Freight Transportation Networks in 2020 and in the forecast year, 2050.

ECONOMY AND LAND USES

With a 2018 population of 676,061 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 growth has far exceeded the rest of the State since 2000. Hudson's inflation-adjusted household income has increased between 2010 and 2018 by more than $4,000, while the State's median household income declined by nearly $4,000.

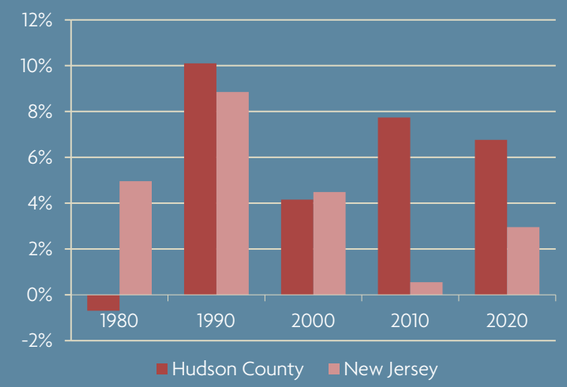
Highlights

Hudson County is home to:

- 676,061 people
- More than 15,000 businesses that employ 269,500 people; about 29 percent of these jobs are in industry sectors that are highly dependent on freight movement
- About 41 million tons of domestic freight shipped or received annually
- Nearly 15 million e-commerce packages delivered annually
- Interstate, State, and County highways used by tens of thousands of trucks every day
- GCT Bayonne marine terminal
- Major rail yards at Croxton, South Kearny, North Bergen, Port Jersey ExpressRail, and Greenville

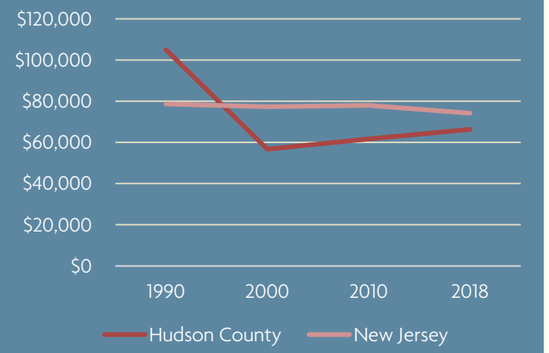
Population Growth by Decade

Source: U.S. Census Bureau



Median Household Income, Constant 2018 Dollars

Source: U.S. Census Bureau



EMPLOYMENT

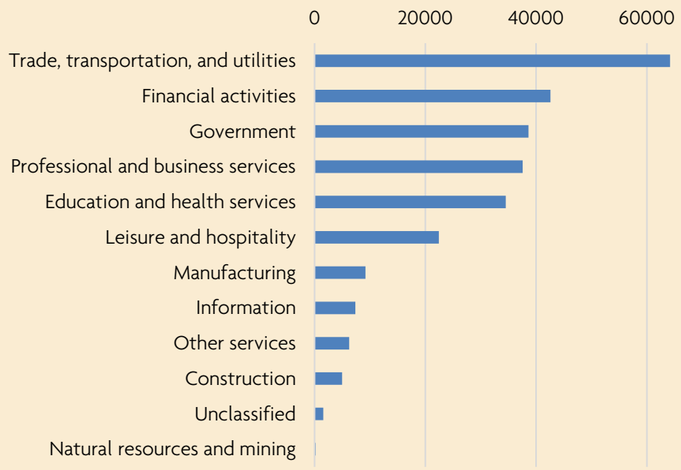
The County's economy employs 270,000 people in more than 15,000 establishments. About 29 percent are employed in "freight-intensive" industries, such as construction, manufacturing, mining and extraction, retail trade, wholesale trade, and logistics. About 71 percent are employed in industries that may generate freight but are less dependent on freight movement.

FREIGHT FLOWS

In 2020, an estimated 35 million tons of domestic freight will move into, out of, or within Hudson County, by all modes of transportation (truck, rail, water, pipeline, 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.)

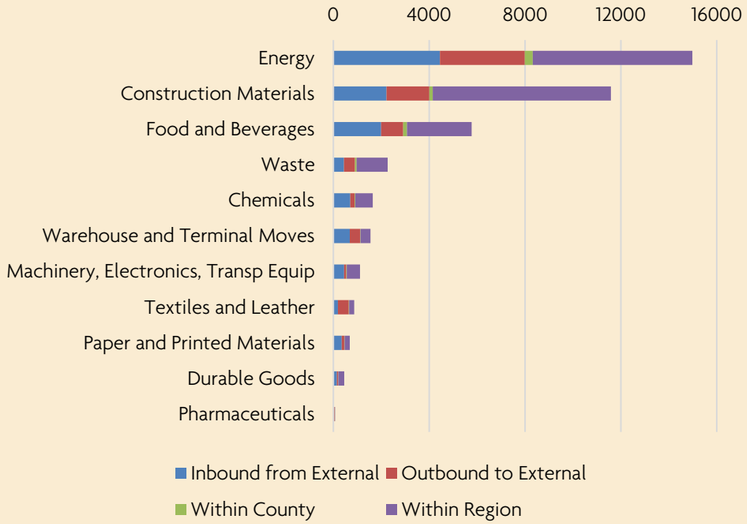
For domestic tonnage with an origin and/or destination in the County, around 28 percent consists of energy products, 44 percent of which move between points within the NJTPA region. Other leading commodities include moves of construction materials and food and beverages. Waste, chemicals, and movements of mixed freight from warehouses and terminals are among the top six commodity groups transported in Hudson County.

Employment by Industry, 2019



Source: U.S. Bureau of Labor Statistics

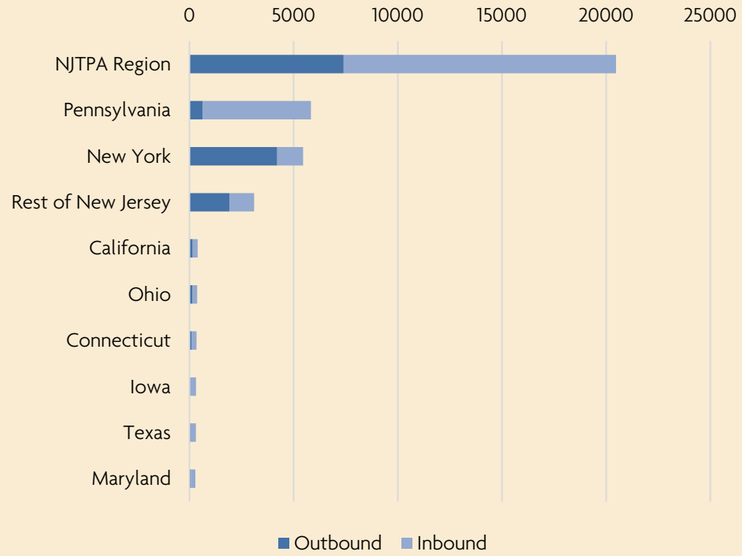
Thousands of Tons by Commodity by Direction, 2020



Source: NJTPA Freight Forecasting Tool, 2020

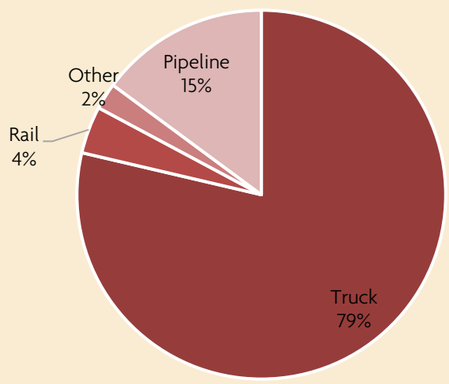
E-commerce has a growing presence in the retail landscape. Some of the freight shipments described in this profile include goods that are ultimately delivered to consumers who shop online. In 2019, about 14.7 million e-commerce shipments containing 22.5 million items were delivered to consumers in Hudson County.

Thousands of Tons by Domestic Trading Partner, 2020



Source: NJTPA Freight Forecasting Tool, 2020

Tons by Mode, 2020



Source: NJTPA Freight Forecasting Tool, 2020

TRADING PARTNERS

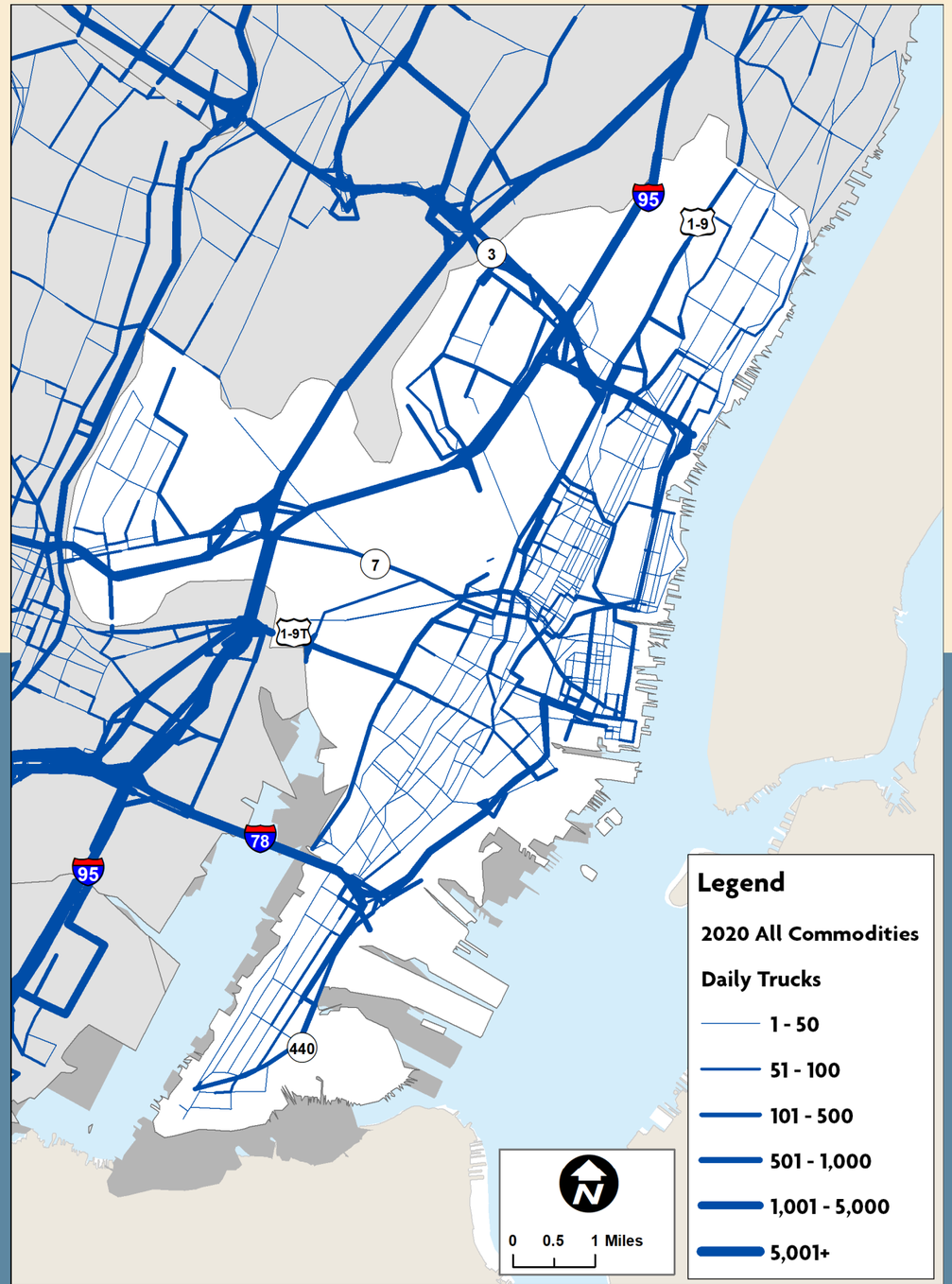
Hudson County's major trading partners are, not surprisingly, its neighbors. As illustrated to the left, locations in the NJTPA region are the greatest origins of inbound freight and destinations for outbound freight. The rest of New Jersey outside the NJTPA region, New York, and Pennsylvania, are also among the top origins and destinations for freight traded with Hudson County.

FREIGHT TRANSPORTATION NETWORKS

Freight can be handled by truck, rail, pipelines, 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, and pipelines are suited for moving energy products), time sensitivity (truck and air are most competitive), need for door-to-door service (trucking is needed unless the customer has a dock or rail connection).

For domestic freight traveling to, from or within Hudson County, 79 percent travels by truck, 15 percent by pipeline, 4 percent by rail, and 2 percent by other modes. These modes also connect with the marine terminals located in Hudson County to move international freight to and from locations outside the United States.

Highway Network Utilization, 2020



Source: NJTPA Freight Forecasting Tool, 2020; NJRTM-E, 2019; NJOIT, 2008; Esri, 2014

HIGHWAY 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.

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.).

The map on the previous page illustrates the flows of commodity trucks, or trucks loaded with freight, on the highway network.

The New Jersey Turnpike/Interstate 95 carries about 8,000 commodity trucks per day in each direction. Interstate 78 between Exit 14A and Newark carries nearly 4,000 commodity trucks per day in each direction. Portions of Route 1/9 carry 2,000 commodity trucks per day in each direction. Sections of Route 495, Route 3, and Route 440 carry more than 1,000 commodity trucks per day in each direction.

BUSINESS ESTABLISHMENTS

The map on the next page illustrates the locations of facilities that ship, handle, or receive freight, including:

- Production facilities such as manufacturing businesses or mining and quarrying facilities where goods are produced or raw materials are extracted;
- Logistics facilities, including warehousing and transportation facilities through which goods are distributed; and
- Sales, including retail, services, and institutional establishments where goods are sold.

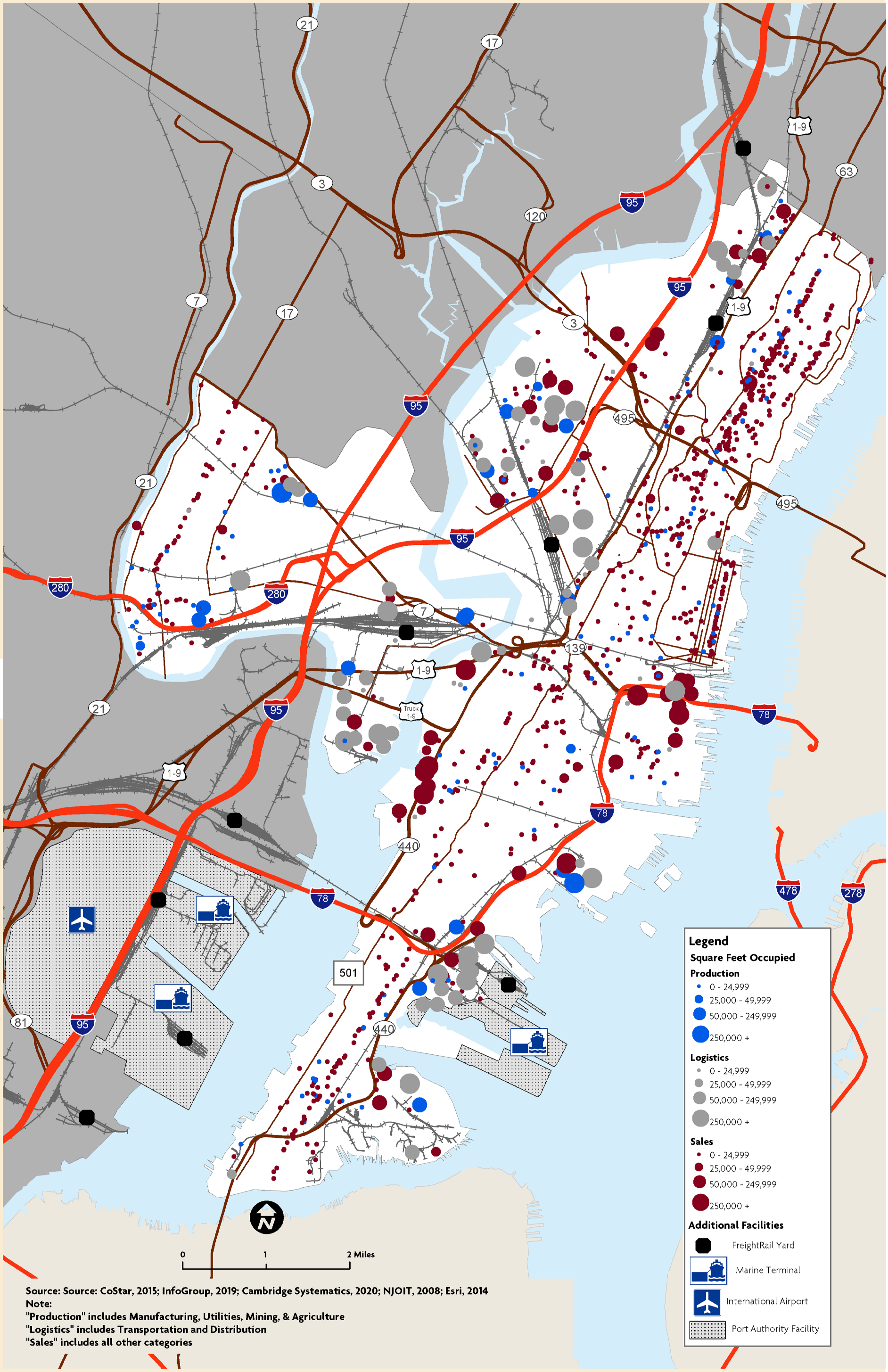
The largest clusters of logistics facilities are in Secaucus, in the Port Jersey area near the border of Bayonne and Jersey City, the West Side Avenue corridor in North Bergen, and County Avenue in Jersey City. Large groups of sales facilities are in the Newport and Route 440 corridor areas of Jersey City and along major retail corridors such as Broadway in Bayonne and Bergenline Avenue in West New York and Union City.

Top 5 Business Establishments in Freight-Generating Industry Sectors, by Size

Company	Square Footage	Municipality	Business Type
USPS International Bulk Mail Center	1,150,000	Jersey City	Logistics
Western Carriers Inc.	1,030,000	North Bergen	Logistics
GRM Information Management Services	900,000	Jersey City	Sales
Goya	660,000	Jersey City	Logistics
USPS Processing & Distribution Center	550,000	Kearny	Logistics

Source: Infogroup, 2019; CoStar, 2015
Note: Some companies may have multiple locations in the county and/or region.

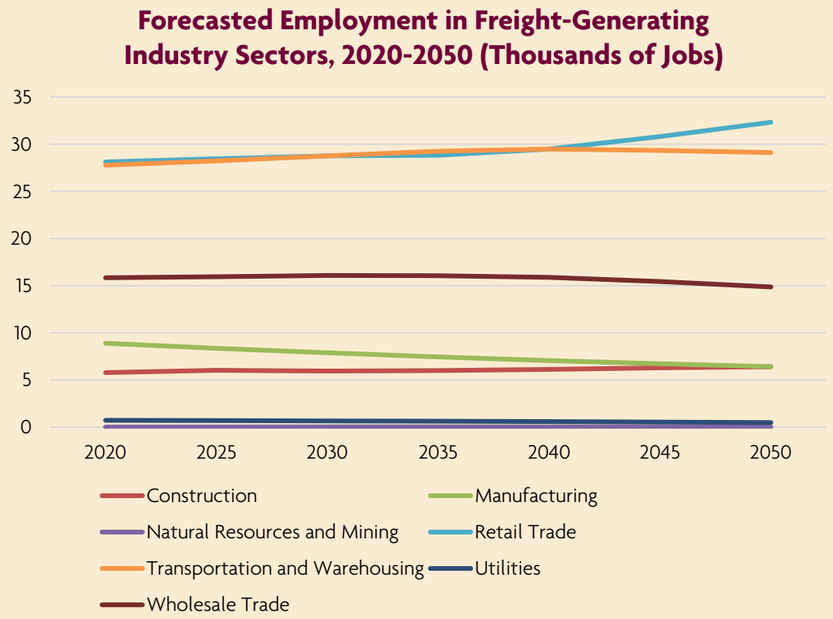
Business Square Footage by Industry Type



Source: Source: CoStar, 2015; InfoGroup, 2019; Cambridge Systematics, 2020; NJOIT, 2008; Esri, 2014
Note:
"Production" includes Manufacturing, Utilities, Mining, & Agriculture
"Logistics" includes Transportation and Distribution
"Sales" includes all other categories

EMPLOYMENT FORECAST

Employment in freight-intensive industries is expected to increase by about 3 percent during the forecast period. Manufacturing, natural resources, utilities, and wholesale trade sector employment is expected to decline while retail trade, construction, and transportation and warehousing, employment are expected to increase by 15 percent, 11 percent, and 5 percent, respectively, between 2020 and 2050.



Source: Moody's, 2020

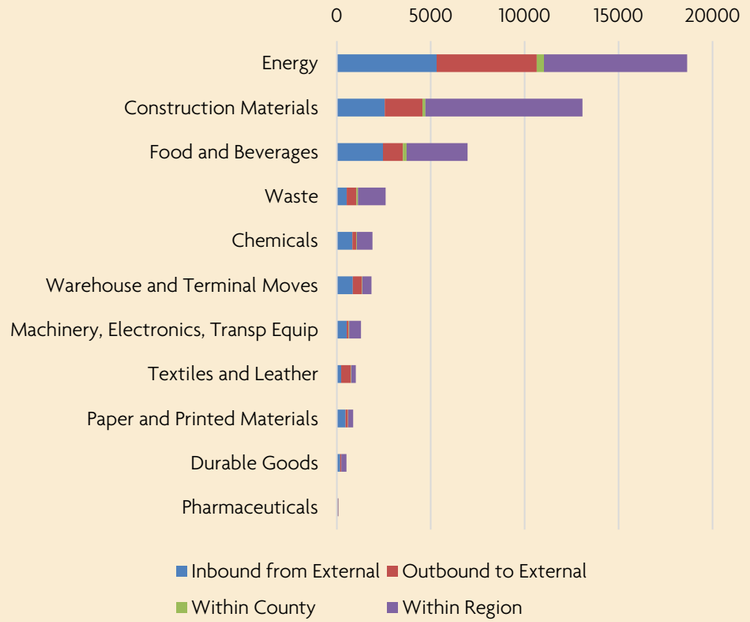
Commodity Flow Forecast, 2020-2050

By 2050, commodity flows into, out of, and within Hudson County are expected to have increased by about 19 percent, from 41 million tons to 48.8 million tons (a difference of 7.8 million tons). Energy products is expected to remain the number one commodity transported by tonnage, followed construction materials, food and beverages, and waste. Machinery, electronics, and transportation equipment and food and beverages are the top commodity bundles by value of goods and are expected to remain the top two bundles by value through 2050.

Commodity Bundle	2020 Tons (thousands)	2050 Tons (thousands)	2020 Value (millions $)	2050 Value (millions $)	Change in Tons	Change in Value
Chemicals	1,645	1,900	6,392	7,383	16%	16%
Construction Materials	11,583	13,080	4,036	4,563	13%	13%
Durable Goods	453	517	3,402	3,934	14%	16%
Energy	14,985	18,651	9,756	11,740	24%	20%
Food and Beverages	5,771	6,960	10,724	12,760	21%	19%
Machinery, Electronics, Transp Equip	1,116	1,288	13,683	15,914	15%	16%
Paper and Printed Materials	686	871	1,698	2,342	27%	38%
Pharmaceuticals	78	88	3,406	3,851	13%	13%
Warehouse and Terminal Moves	1,553	1,846	9,331	11,498	19%	23%
Waste	2,271	2,601	745	860	15%	15%
Textiles and Leather	870	1,014	6,909	8,100	17%	17%
Grand Total	**41,010**	**48,816**	**70,082**	**82,944**	**19%**	**18%**

Source: NJTPA Freight Forecasting Tool, 2020
Note: Commodities assigned a value of $0 indicate the absence of sales or commercial value

Thousands of Tons by Commodity by Direction, 2050



Source: NJTPA Freight Forecasting Tool, 2020

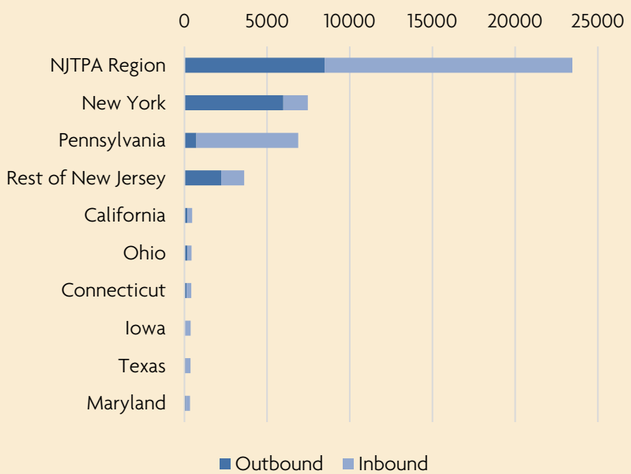
COMMODITY VOLUMES AND DIRECTION

The directional movement of shipments containing the top 10 commodities are expected to remain nearly constant as well. About 40 percent of the energy product moves will be intraregional moves. Inbound flows of food and beverages are expected to grow slightly more than intraregional moves between 2020 and 2050.

FUTURE TRADING PARTNERS

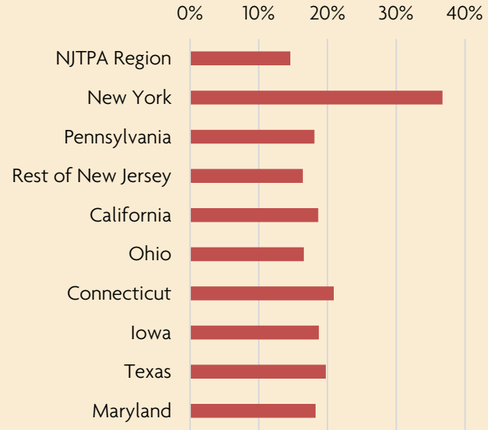
Hudson County's largest trading partners will continue to be other counties in the NJTPA region, followed by New York and Pennsylvania. The volume of trade with New York is expected to grow at a greater rate (37 percent) than trade with other top trading partners between 2020 and 2050.

Thousands of Tons by Domestic Trading Partner, 2050



Source: NJTPA Freight Forecasting Tool, 2020

Growth, 2020-2050



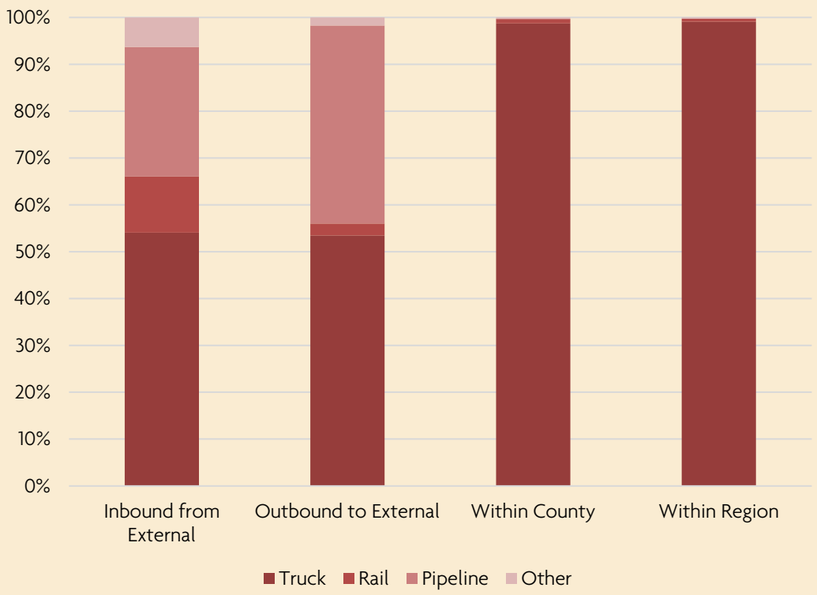
Source: NJTPA Freight Forecasting Tool, 2020

FUTURE MODE UTILIZATION

The forecast anticipates that freight mode splits in 2050 will be similar to 2020 mode splits. Trucks are expected to carry 76 percent of all freight tons, and pipelines are expected to carry 17 percent of freight tons. Rail is expected to move 4 percent and other modes are expected to carry about 2 percent.

Pipelines are expected to move 42 percent of outbound tonnage, and truck will carry about 99 percent of intracounty and intraregional freight moves.

Tons by Mode by Direction, 2050



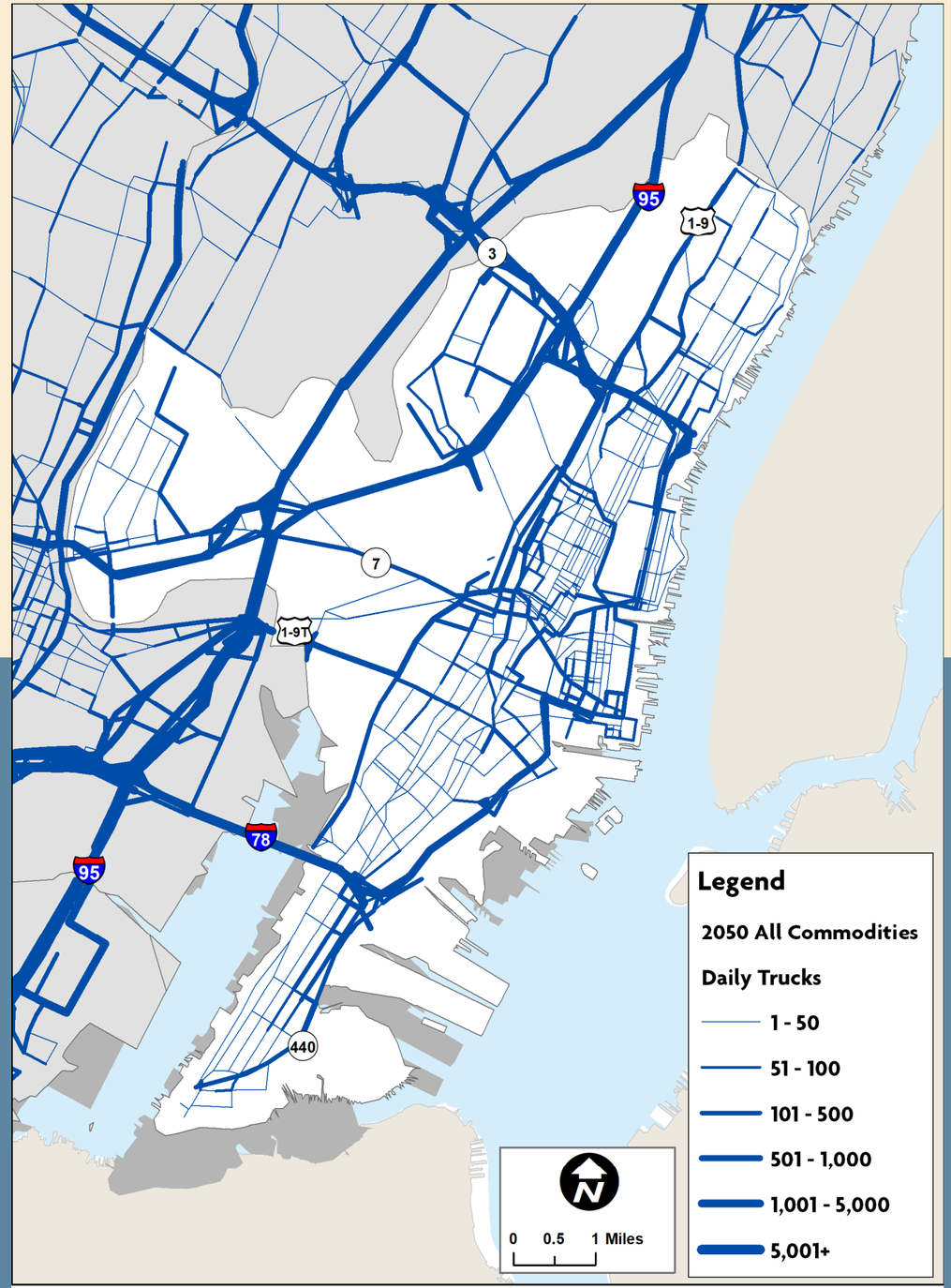
Source: NJTPA Freight Forecasting Tool, 2020

Future Highway Network Utilization

In 2050, 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 commodity trucks traveling on the New Jersey Turnpike/Interstate 95 is expected to increase by more than 500 commodity truck trips per day in each direction between 2020 and 2050. Commodity truck volumes on portions of Route 1/9 are expected to increase by more than 400 per day in each direction. On Interstate 78 and Route 7, 200 more commodity truck trips in each direction are expected by 2050.

The map on Page 11 illustrates the projected commodity truck volumes in 2050 on highways in Hudson County.

Highway Network Utilization, 2050



Source: NJTPA Freight Forecasting Tool, 2020; NJRTM-E, 2019; NJOIT, 2008; Esri, 2014.

ABOUT THE NJTPA

The North Jersey Transportation Planning Authority (NJTPA) is the federally authorized Metropolitan Planning Organization for 6.7 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, 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 Director of NJ TRANSIT, the Chairman of the Port Authority of New York and 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.

ABOUT THE STUDY

Conditions in the goods movement industry have changed over the last several years. The 2050 Freight Industry Level Forecasts Study developed updated information on current and projected freight demand through 2050 for the NJTPA to use in its freight planning activities. This effort built on two previous NJTPA freight planning studies: the 2040 Freight Industry Level Forecasts Study (completed in 2012) and the Regional Freight Commodity Profiles Study (completed in 2015).

This study helps identify locations with concentrations of goods movement activity and where they will occur in the future; the types of commodities that are and will be moving through the region; and where strategic investments should be considered to support economic growth and enhance regional resiliency. The results of this work will serve as background for the NJTPA's next Long Range Transportation Plan as well as freight planning and subregional planning studies.

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 NJTPA with funding from the Federal Transit Administration and the Federal Highway Administration. The NJTPA is solely responsible for its contents.