

SUBREGIONAL FREIGHT PROFILE

Bergen 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 936,692, Bergen is the most-populous county in New Jersey. Household income in Bergen County is higher than the State median, indicating a greater level of affluence and higher demand for consumer products. Between 2010 and 2018, Bergen County's median household income increased by about \$7,000 including adjustments for inflation.

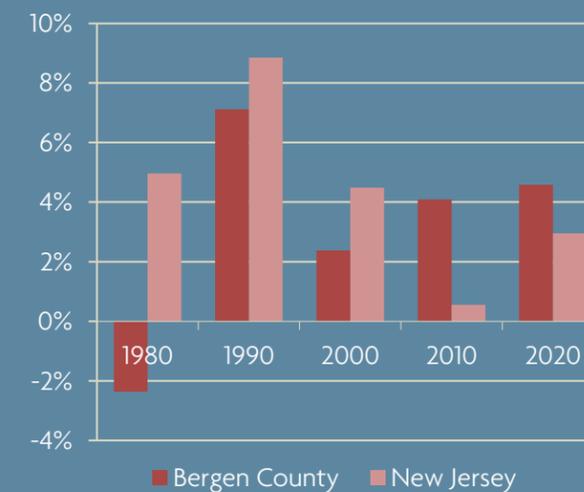
Bergen County is home to:

- 936,692 people
- More than 33,000 businesses that employ 444,500 people; about 35 percent of these jobs are in industry sectors that are highly dependent on freight movement
- About 50 million tons of domestic freight shipped or received annually
- More than 15 million e-commerce packages delivered annually
- Interstate, State, and County highways used by tens of thousands of trucks every day
- The CSX River Line, one of the region's major freight rail facilities

Highlights

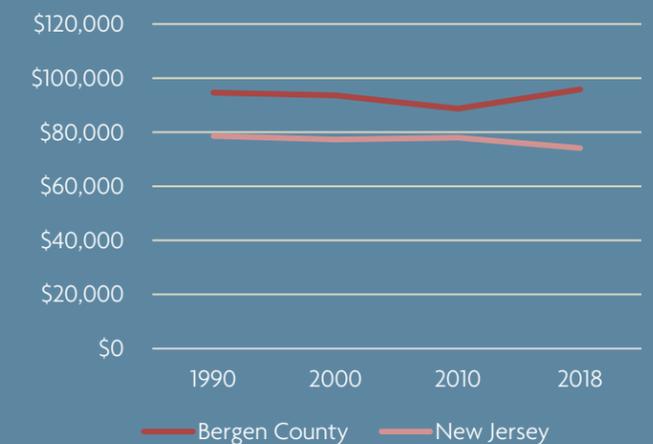
Population Growth by Decade

Source: U.S. Census Bureau



Median Household Income, Constant 2018 Dollars

Source: U.S. Census Bureau



EMPLOYMENT

The County's economy employs 444,500 people in more than 33,000 establishments. About 34 percent are employed in "freight-intensive" industries, such as construction, manufacturing, mining and extraction, retail trade, wholesale trade, and logistics. About 65 percent are employed in industries that may generate freight but are less dependent on freight movement.

FREIGHT FLOWS

In 2020, an estimated 56.0 million tons of domestic freight will move into, out of, or within Bergen County, by all modes of transportation (truck, rail, pipelines, water, and air). This figure includes commodities moving into or out of Bergen 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).

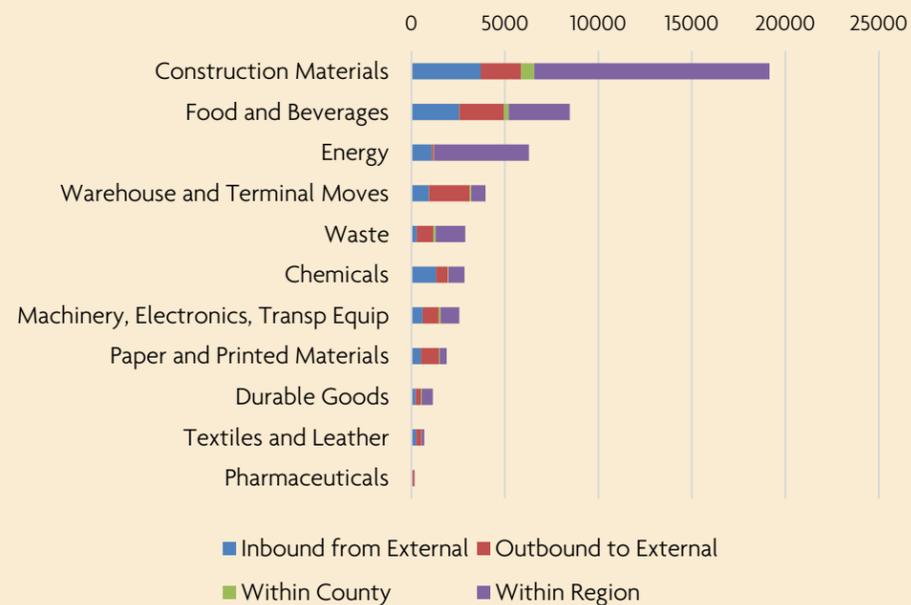
For domestic tonnage with an origin and/or destination in the County, around 38 percent consists of construction materials, which move primarily within the NJTPA region. Other leading commodity moves include inbound and intraregional flows of energy products, inbound and intraregional moves of food and beverages, and outbound moves of unspecified or mixed freight from warehouses and distribution centers.

Employment by Industry, 2019



Source: U.S. Bureau of Labor Statistics

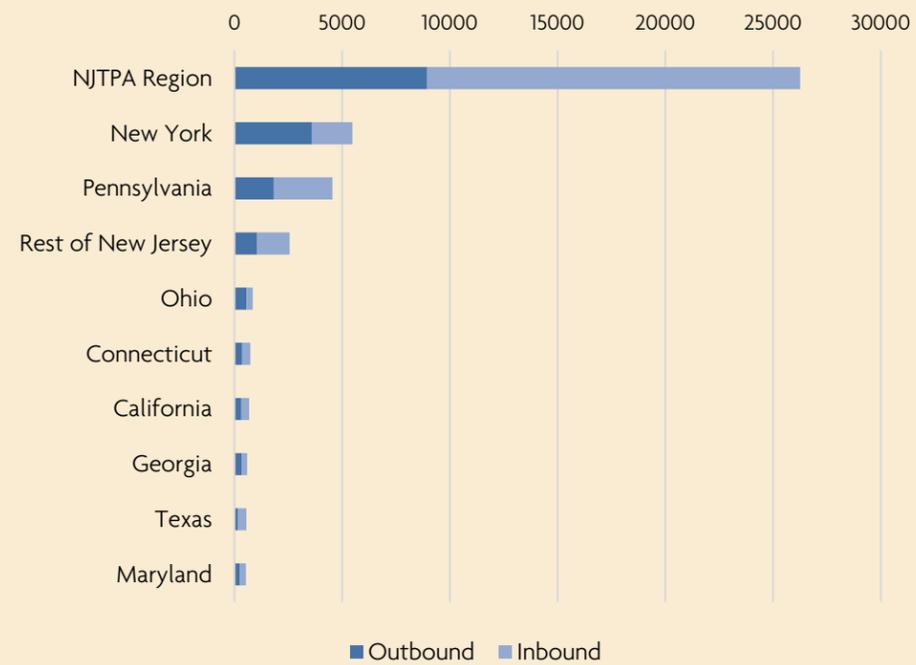
Thousands of Tons by Commodity by Direction, 2020



Source: NJTPA Freight Forecasting Tool, 2020

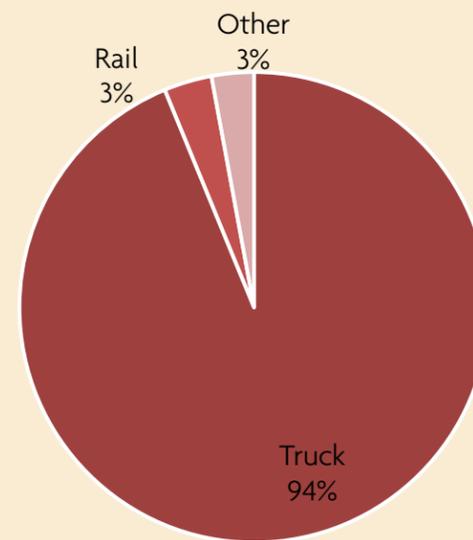
E-commerce has a growing presence in the retail landscape. Some of the freight shipments described in this profile include goods that are ultimately delivered to consumers who shop online. In 2019, more than 15.4 million e-commerce shipments containing 21.9 million items were delivered to consumers in Bergen 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

Bergen 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 of outbound freight. Beyond the region, New York exchanged 5.5 million tons of freight with Bergen County, and Pennsylvania exchanged 4.5 million tons of freight with Bergen County. The rest of New Jersey, Ohio, and Connecticut are also among the top trading partners with Bergen County.

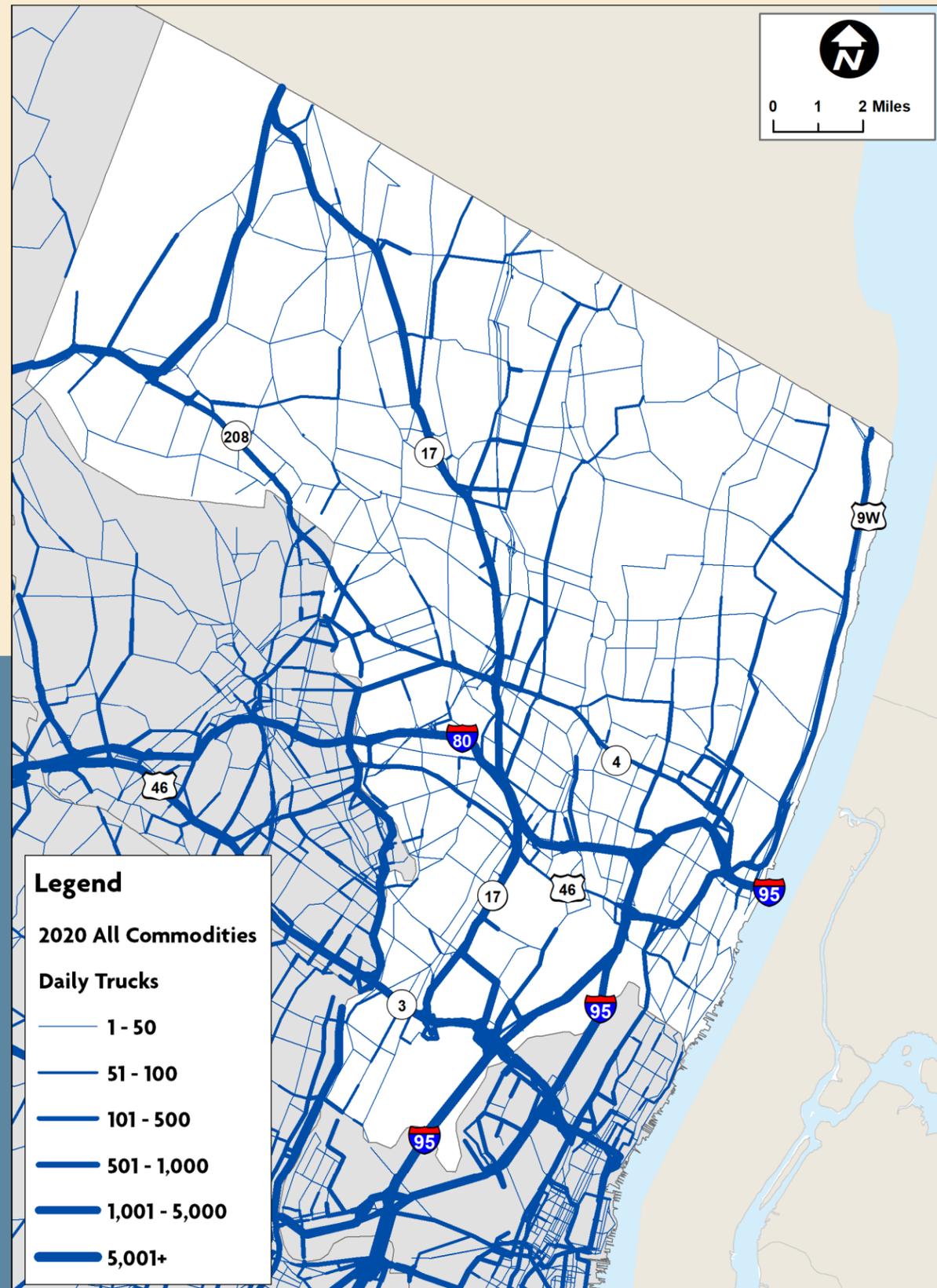
FREIGHT TRANSPORTATION NETWORKS

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 Bergen County, 94 percent travels by truck, primarily to and from warehouses, distribution centers, manufacturing facilities and retail centers. This observation illustrates the burden that is placed on Bergen County's roads and highways by heavy freight movement.

Around 3 percent travels by rail, and 3 percent moves by other modes.

Highway Network Utilization, 2020



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

HIGHWAY NETWORK UTILIZATION

Bergen 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 corridor carries up to 7,200 commodity trucks per day in each direction. Interstate 80 carries about 5,200 commodity trucks per day in each direction between Interstate 95 and Route 17. Non-interstate highways, such as Routes 3 and 17, play key roles in freight movement as well, each carrying between 3,000 and 4,000 commodity trucks per day per direction on some segments.

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.

Large clusters of production and logistics establishments are in Carlstadt and Moonachie, South Hackensack, Fairview and Ridgefield, Mahwah, Fort Lee, Montvale, Fair Lawn, and Saddle Brook/Elmwood Park. Sales establishments are in large numbers along Route 17, Route 4, Route 46, and in commercial districts throughout the County.

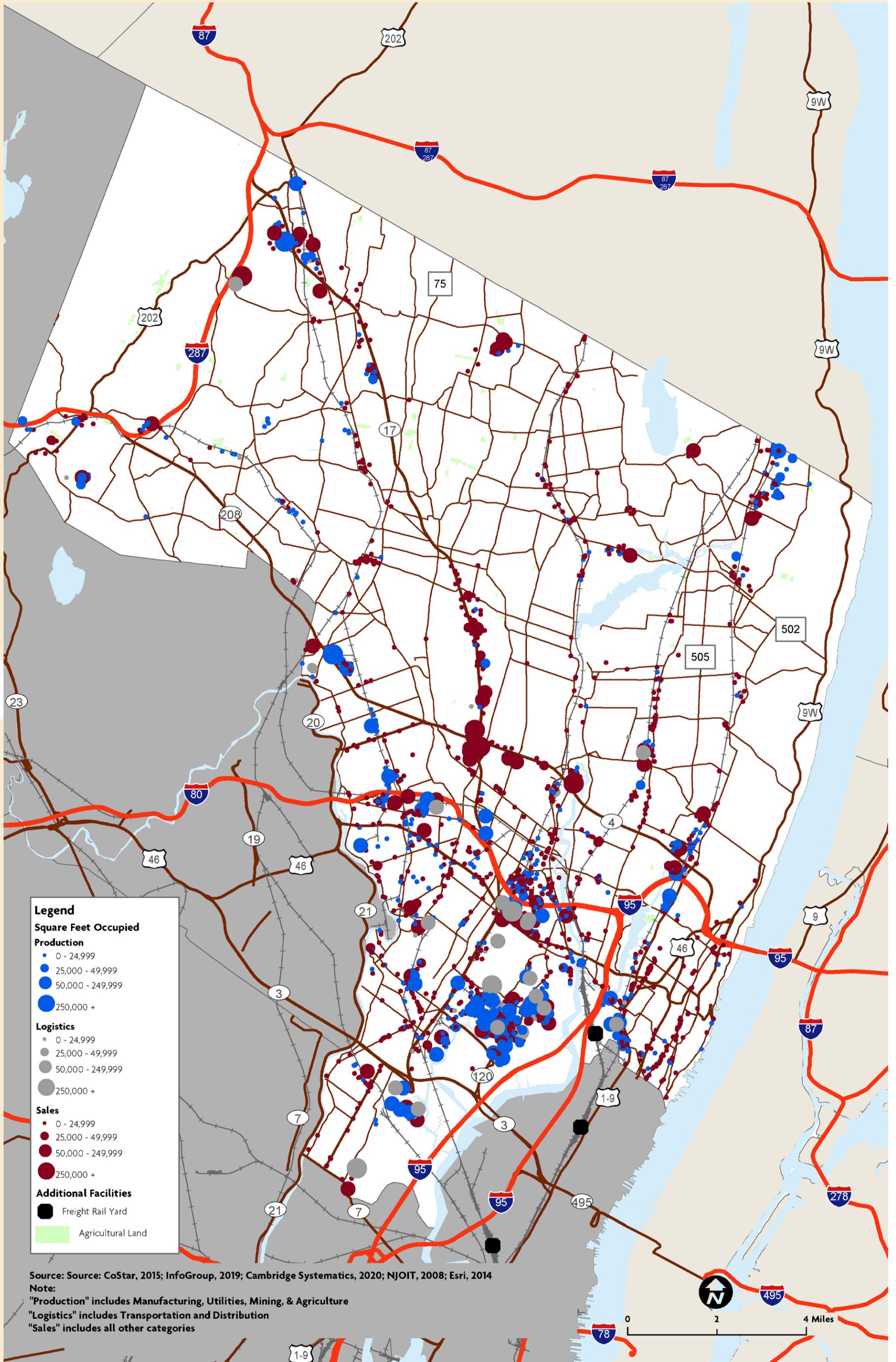
Top 5 Business Establishments in Freight-Generating Industry Sectors, by Size

Company	Square Footage	Municipality	Business Type
Mondelez International	750,000	Fair Lawn	Production
Amazon	617,000	Teterboro	Logistics
IKEA	550,000	Paramus	Sales
Stryker Orthopaedics	531,000	Mahwah	Production
Jet Aviation	385,000	Moonachie	Logistics

Source: Infogroup, 2019; CoStar, 2015

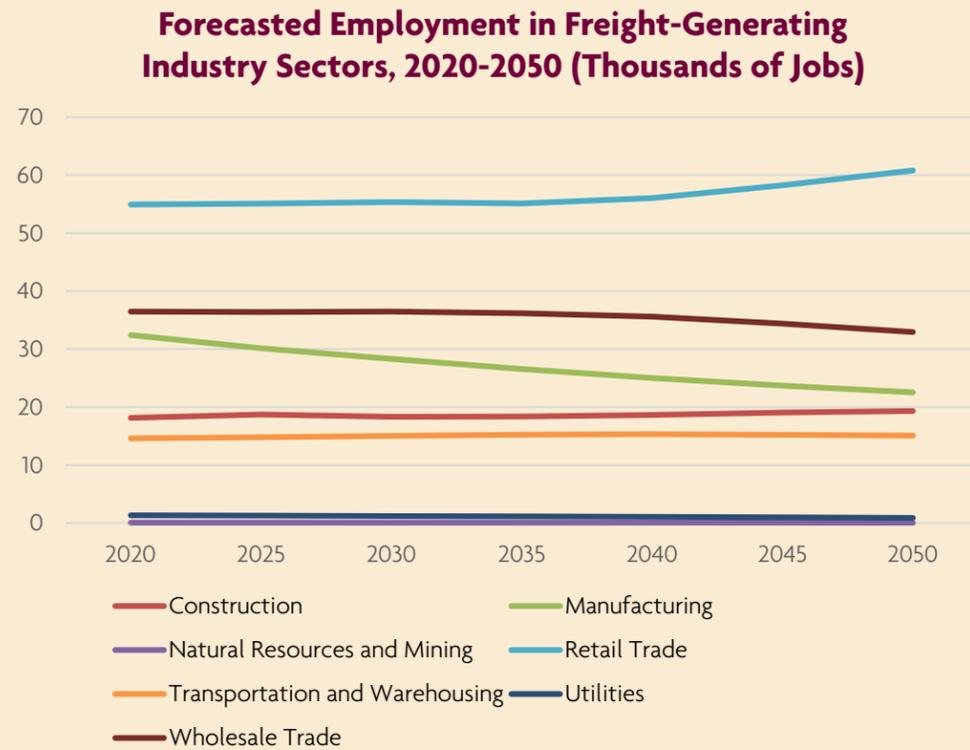
Note: Some companies may have multiple locations in the county and/or region.

Business Square Footage by Industry Type



EMPLOYMENT FORECAST

Employment in freight-intensive industries is expected to decline by about 4 percent during the forecast period. The projected declines affect the manufacturing, natural resources, utilities, and wholesale trade sectors. Retail trade, construction, and transportation and warehousing employment are expected to increase by 11 percent, 7 percent, and 3 percent, respectively, between 2020 and 2050.



Source: Moody's, 2020

Commodity Flow Forecast, 2020-2050

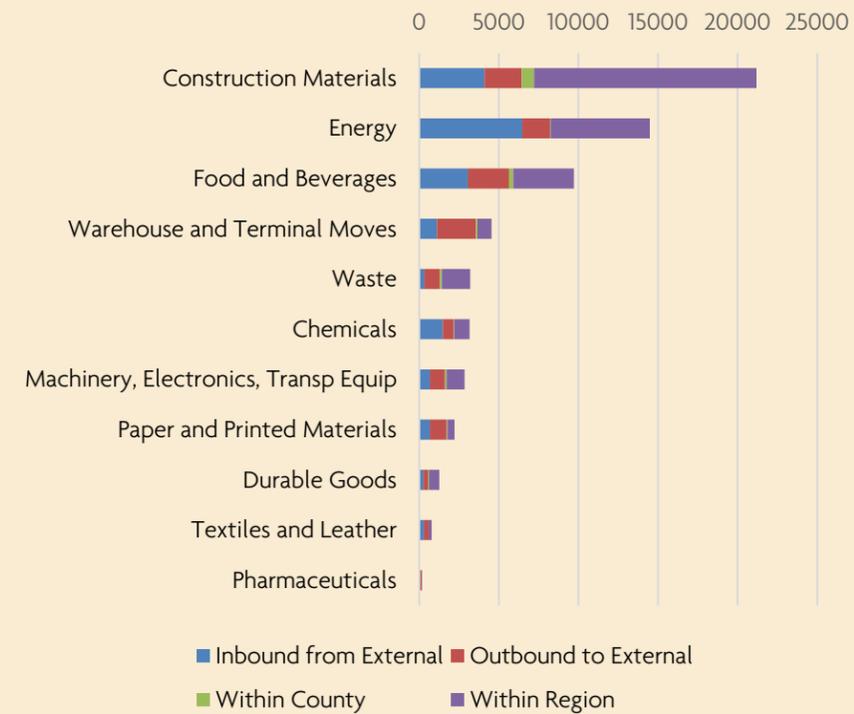
By 2050, commodity flows into, out of, and within Bergen County are expected to have increased by about 13 percent, from 56 million tons to 63.6 million tons (a difference of 7.6 million tons). Construction materials is expected to remain the number one commodity transported by tonnage, followed by energy products, food and beverages, and warehouse and terminal moves. Machinery, electronics, and transportation equipment and warehouse and terminal moves 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	2,837	3,162	10,829	12,063	11%	11%
Construction Materials	19,151	21,181	7,195	7,899	11%	10%
Durable Goods	1,145	1,259	9,169	10,153	10%	11%
Energy	6,286	7,170	5,783	6,614	14%	14%
Food and Beverages	8,470	9,722	15,647	17,604	15%	13%
Machinery, Electronics, Transp Equip	2,562	2,847	30,856	34,384	11%	11%
Paper and Printed Materials	1,885	2,224	4,006	5,069	18%	27%
Pharmaceuticals	164	180	5,739	6,271	9%	9%
Textiles and Leather	684	784	5,584	6,439	15%	15%
Warehouse and Terminal Moves	3,967	4,548	22,761	26,636	15%	17%
Waste	2,881	3,209	801	891	11%	11%
Grand Total	50,032	56,286	118,370	134,024	13%	13%

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. In 2050, like 2020, most of the construction material moves are expected to 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

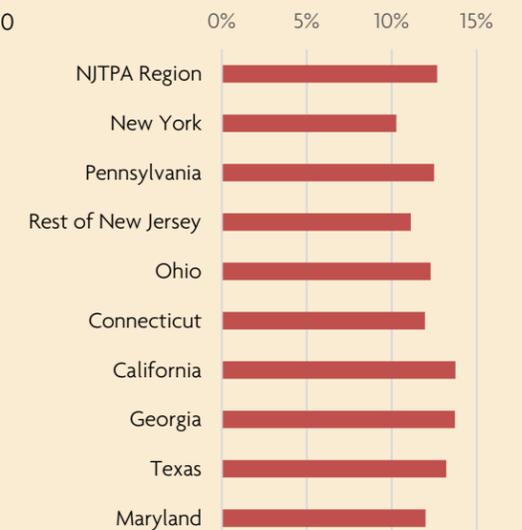
Bergen County's largest trading partners will continue to be other counties in the NJTPA region, followed by New York and Pennsylvania. The volume of trade with California and Georgia is expected to grow at a greater rate (14 percent) than trade with other top trading partners between 2020 and 2050.

Thousands of Tons by Domestic Trading Partner, 2050



Source: NJTPA Freight Forecasting Tool, 2020

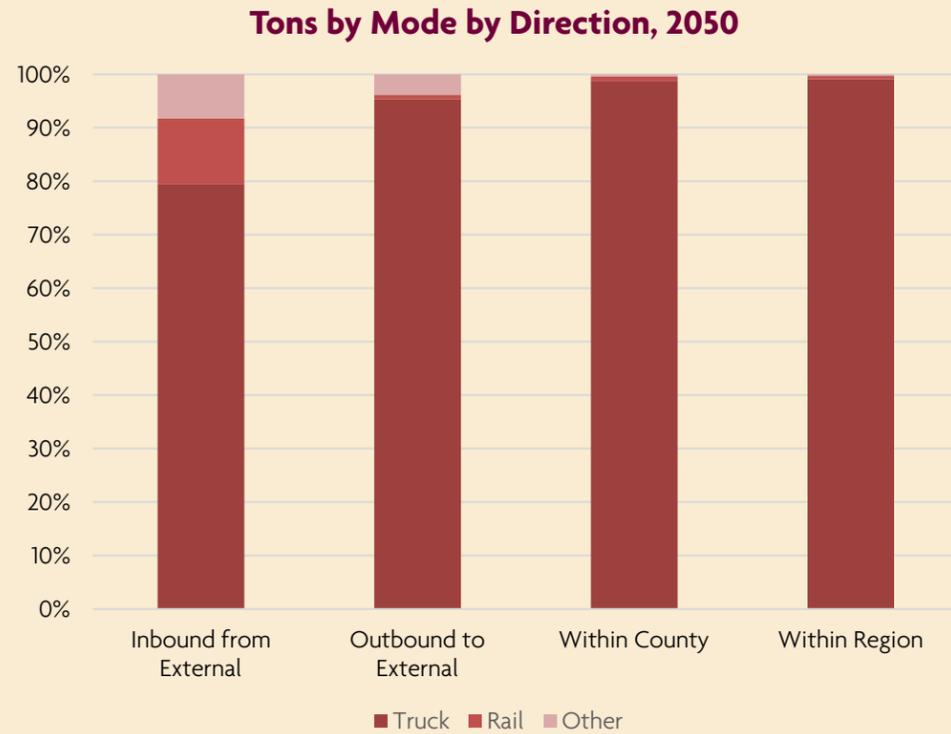
Growth, 2020-2050



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 94 percent of all freight tons, while rail and other modes are expected to carry about 3 percent, each. Rail is expected to move 12 percent of inbound tonnage, and truck will carry about 99 percent of intracounty and intraregional freight moves.



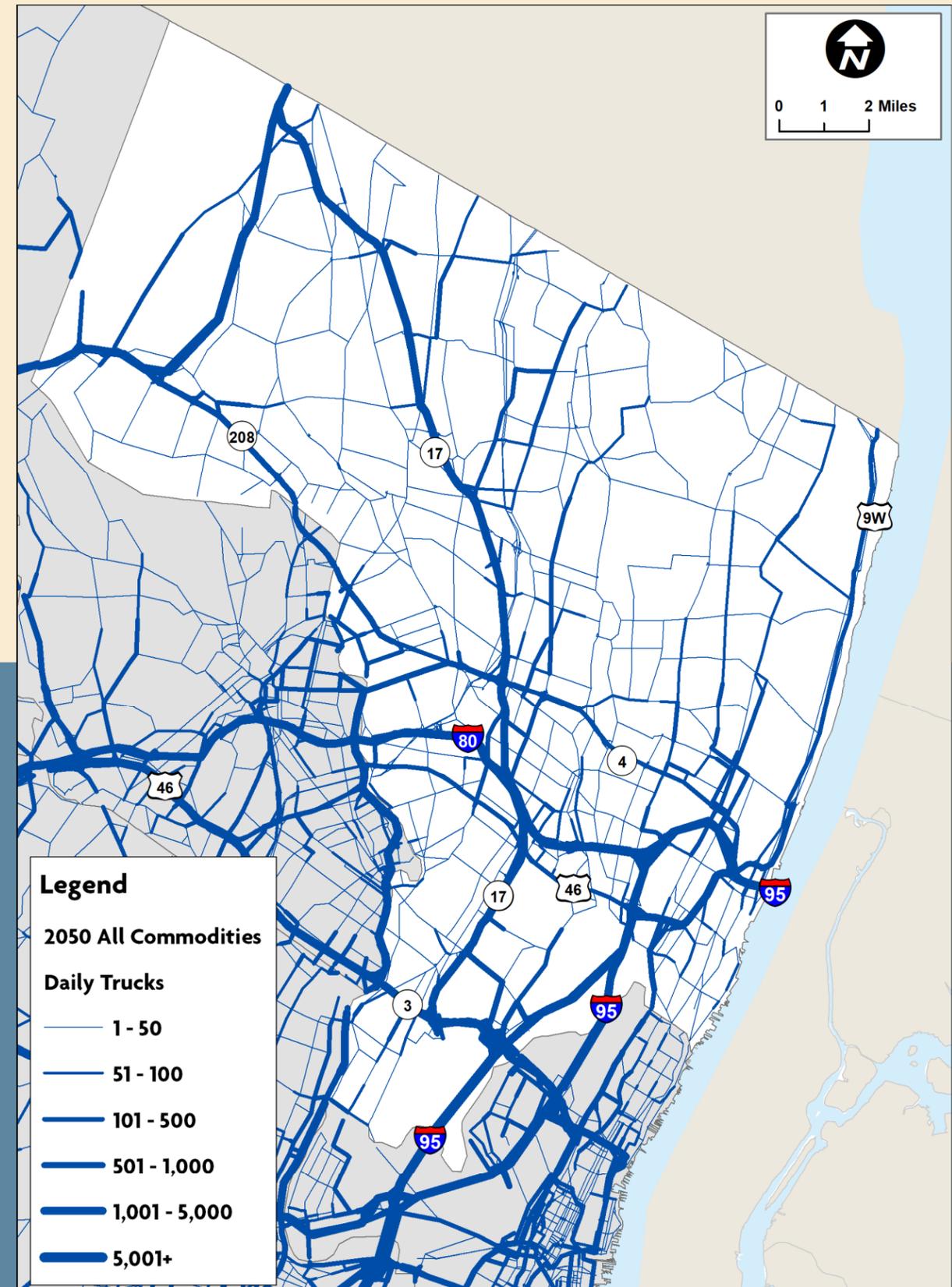
Source: NJTPA Freight Forecasting Tool, 2020

Future Highway Network Utilization

In 2050, Bergen 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 more than 1,000 trucks per day in each direction between 2020 and 2050. Segments of Interstate 80, Routes 1/9, Non-interstate highways, such as Route 3 and Route 17 will continue to play key roles in transporting freight. Routes 3 and 17 could have 500 to 1,000 more commodity trucks traveling in each direction daily in 2050.

The map on Page 11 illustrates the projected truck volumes in 2050 on highways in Bergen 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.

Bergen County's representative on the NJTPA Board of Trustees is County Executive James J. Tedesco, III.

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.