

## SUBREGIONAL FREIGHT PROFILE

### *Morris 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 494,228, Morris is the 10th most-populous County in the State of New Jersey, and ninth most populous in the NJTPA region. Morris County grew much faster than the State overall during the 1990s, however, growth has lagged the State's overall growth rate in recent decades. The median household income in Morris is 53 percent higher than the State overall, as the graph below shows.

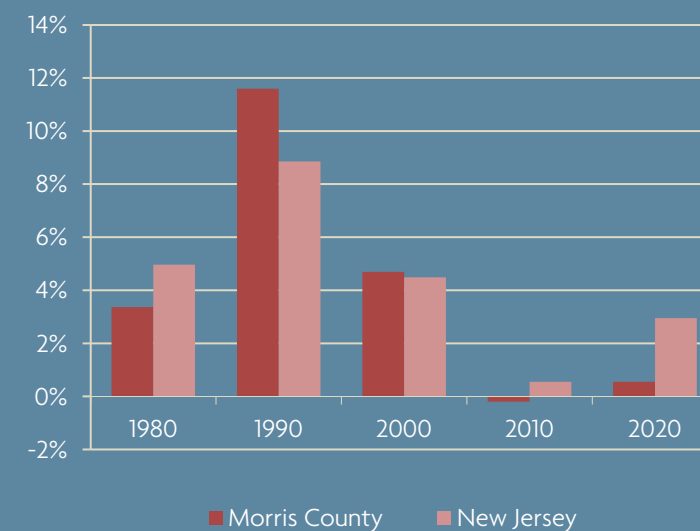
Morris County is home to:

- 494,228 people
- More than 17,000 businesses that employ 294,200 people; about 28 percent of these jobs are in industry sectors that are highly dependent on freight movement
- About 38.5 million tons of domestic freight shipped or received annually
- More than 8.2 million e-commerce packages delivered annually
- Interstate, State, and County highways used by tens of thousands of trucks every day
- Freight rail service from 4 short line railroads
- 3 county-owned freight rail lines

## Highlights

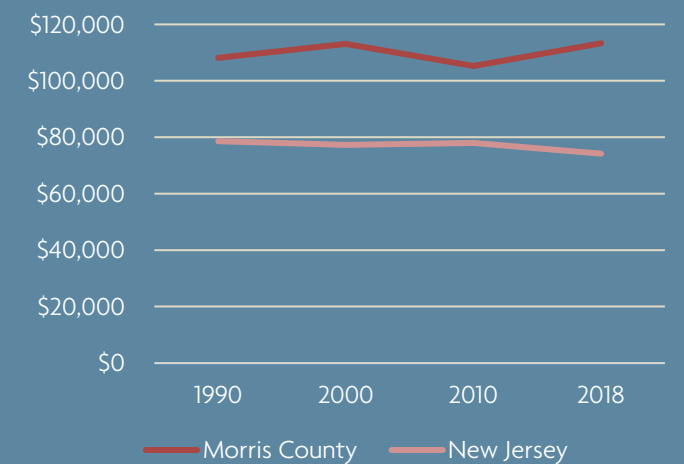
#### Population Growth by Decade

Source: U.S. Census Bureau



#### Median Household Income, Constant 2018 Dollars

Source: U.S. Census Bureau



## EMPLOYMENT

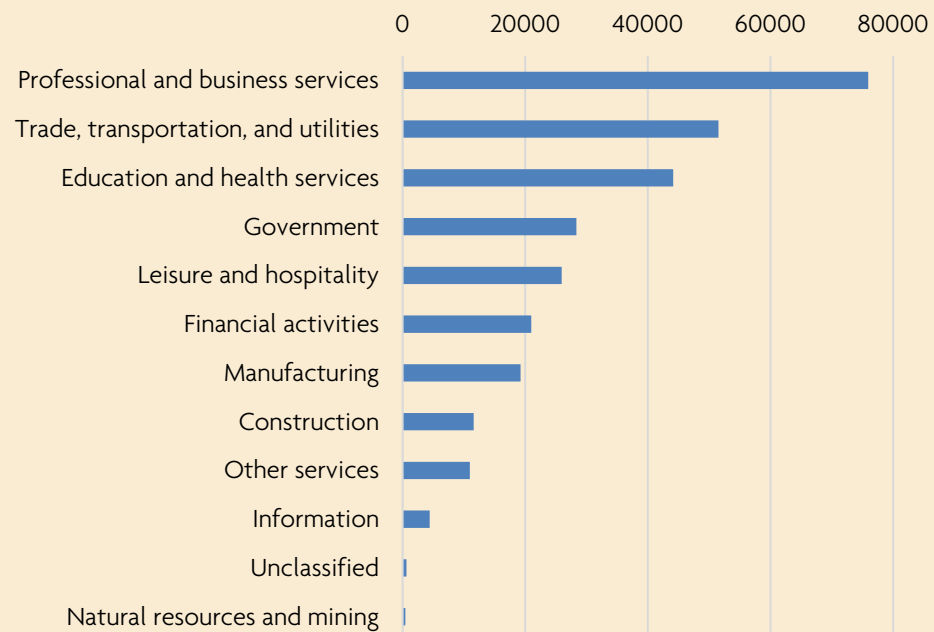
The County's economy employs 294,200 people in more than 17,200 establishments. About 28 percent are employed in "freight-intensive" industries, such as construction, manufacturing, mining and extraction, retail trade, wholesale trade, and logistics. About 72 percent are employed in industries that may generate freight but are less dependent on freight movement.

## FREIGHT FLOWS

In 2020, an estimated 38.5 million tons of domestic freight will move into, out of, or within Morris County, by all modes of transportation (truck, rail, pipelines, water, and air). This figure includes commodities moving into or out of Morris 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).

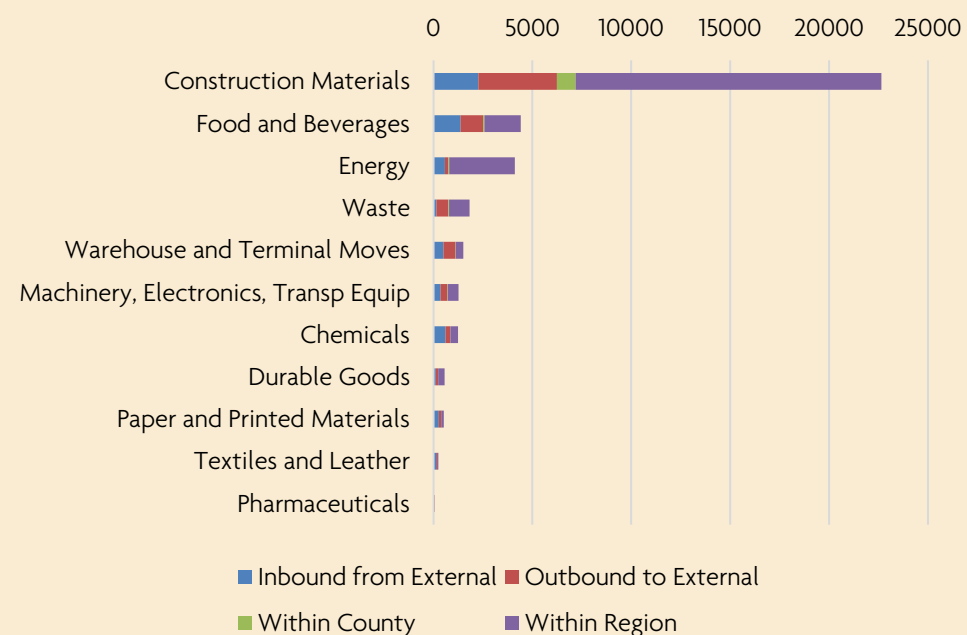
For domestic tonnage with an origin and/or destination in the County, around 59 percent consists of construction materials, most of which traveled between Morris County and locations in the NJTPA region. Other leading commodities in Morris County include moves of food and beverages, energy products, waste, and movement of mixed or unspecified freight from warehouses and/or terminals.

## Employment by Industry, 2019



Source: U.S. Bureau of Labor Statistics

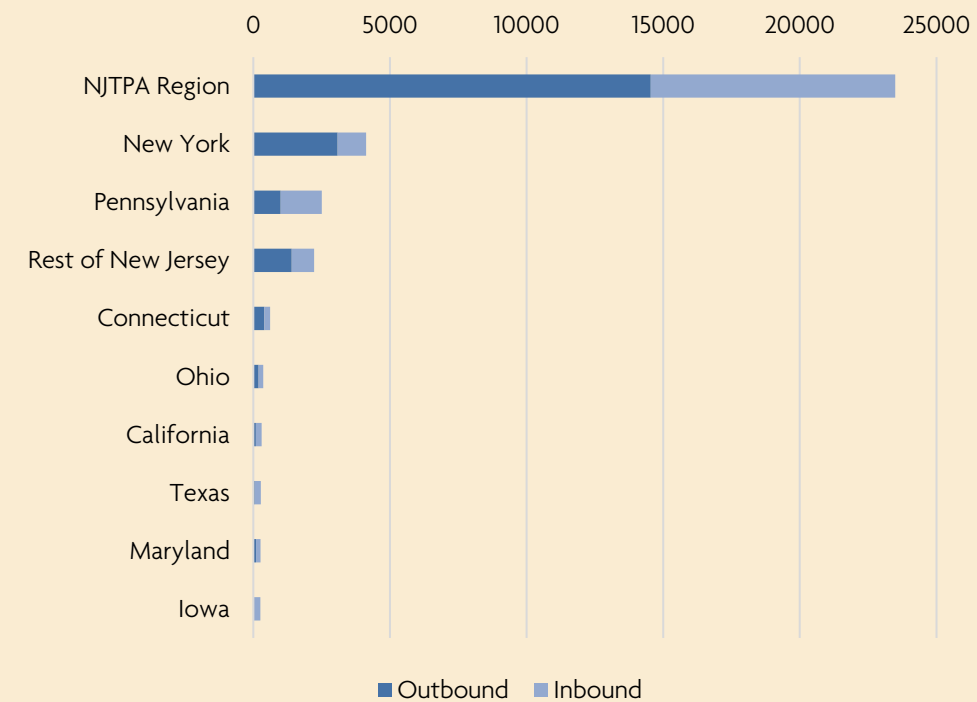
## Thousands of Tons by Commodity by Direction, 2020



Source: NJTPA Freight Forecasting Tool, 2020

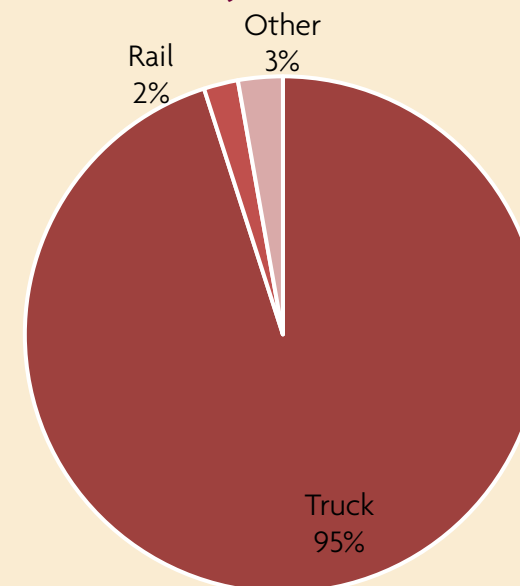
**E-commerce has a growing presence in the retail landscape. Some of the freight shipments described in this profile include goods that are ultimately delivered to consumers who shop online. In 2019, about 8.2 million e-commerce shipments containing 11.7 million items were delivered to consumers in Morris 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

Morris 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. New York, Pennsylvania, and the portions of New Jersey outside the NJTPA region are also among the top origins and destinations for freight traded with Morris 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 Morris County, 95 percent travels by truck, 2 percent by rail, and 3 percent by other modes.

HIGHWAY NETWORK UTILIZATION

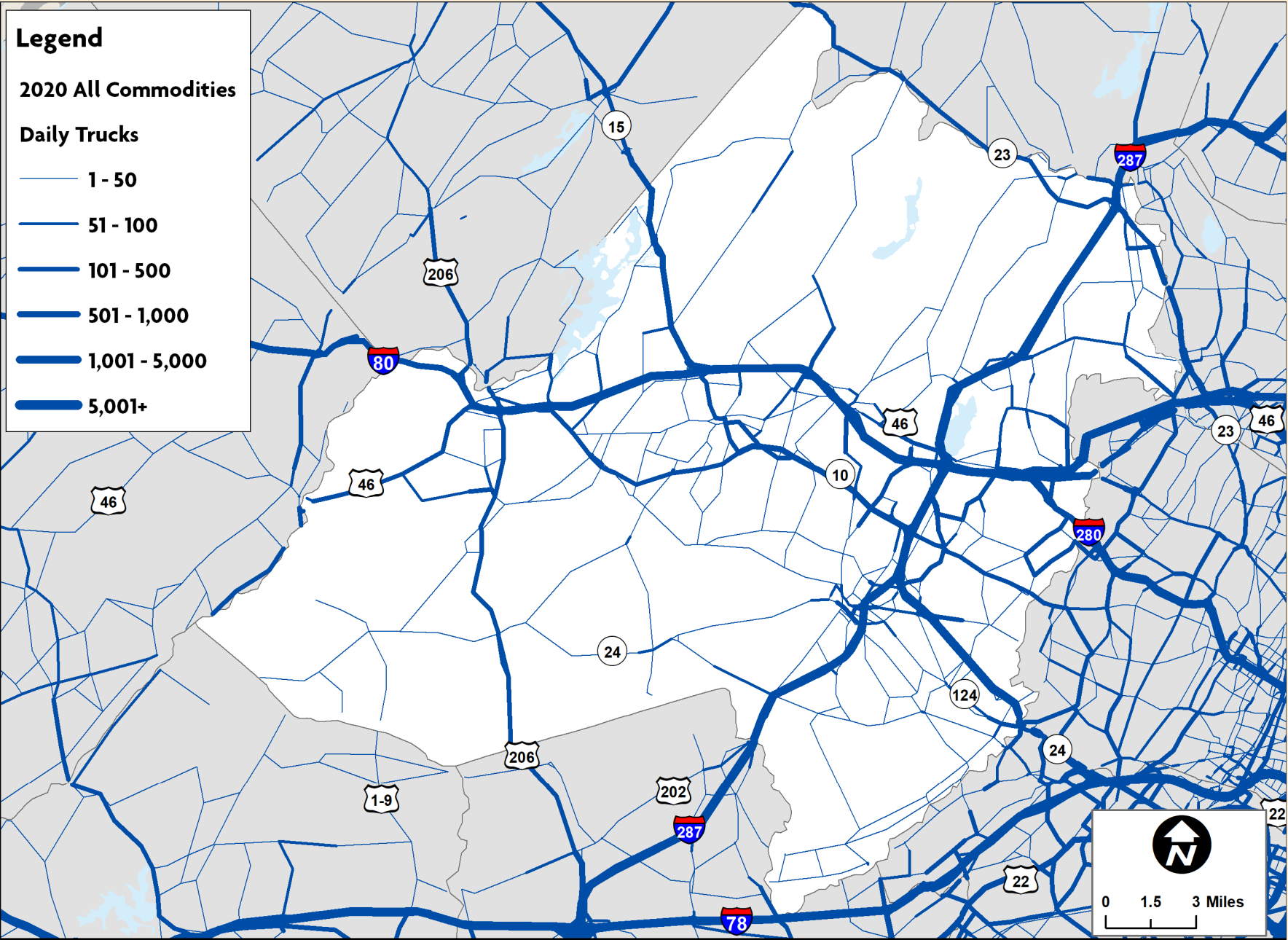
Morris County’s highway network serves to connect its major freight activity centers with key trading partners elsewhere in the County, in the State of New Jersey, in other parts of North America, and – via international seaports and airports – the world.

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 below illustrates the flows of commodity trucks, or trucks loaded with freight, on the highway network.

About 6,000 commodity trucks per day travel on Interstates 80 and 287 in each direction. Nearly 5,000 travel on parts of Route 24 in each direction each day. Portions of Route 10 and Route 15 carry more than 2,000 commodity trucks per day in each direction.

Highway Network Utilization, 2020



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

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 business establishments in the production and logistics categories are clustered along the Interstate 287 corridor between Morristown and Parsippany, in Dover, in Florham Park, and in Mount Olive Township near Netcong. Sales facilities are located in major retail hubs, such as Rockaway, and along major retail corridors such as portions of Route 10 and Route 46. Agricultural lands in the southern and western parts of the County also generate freight.

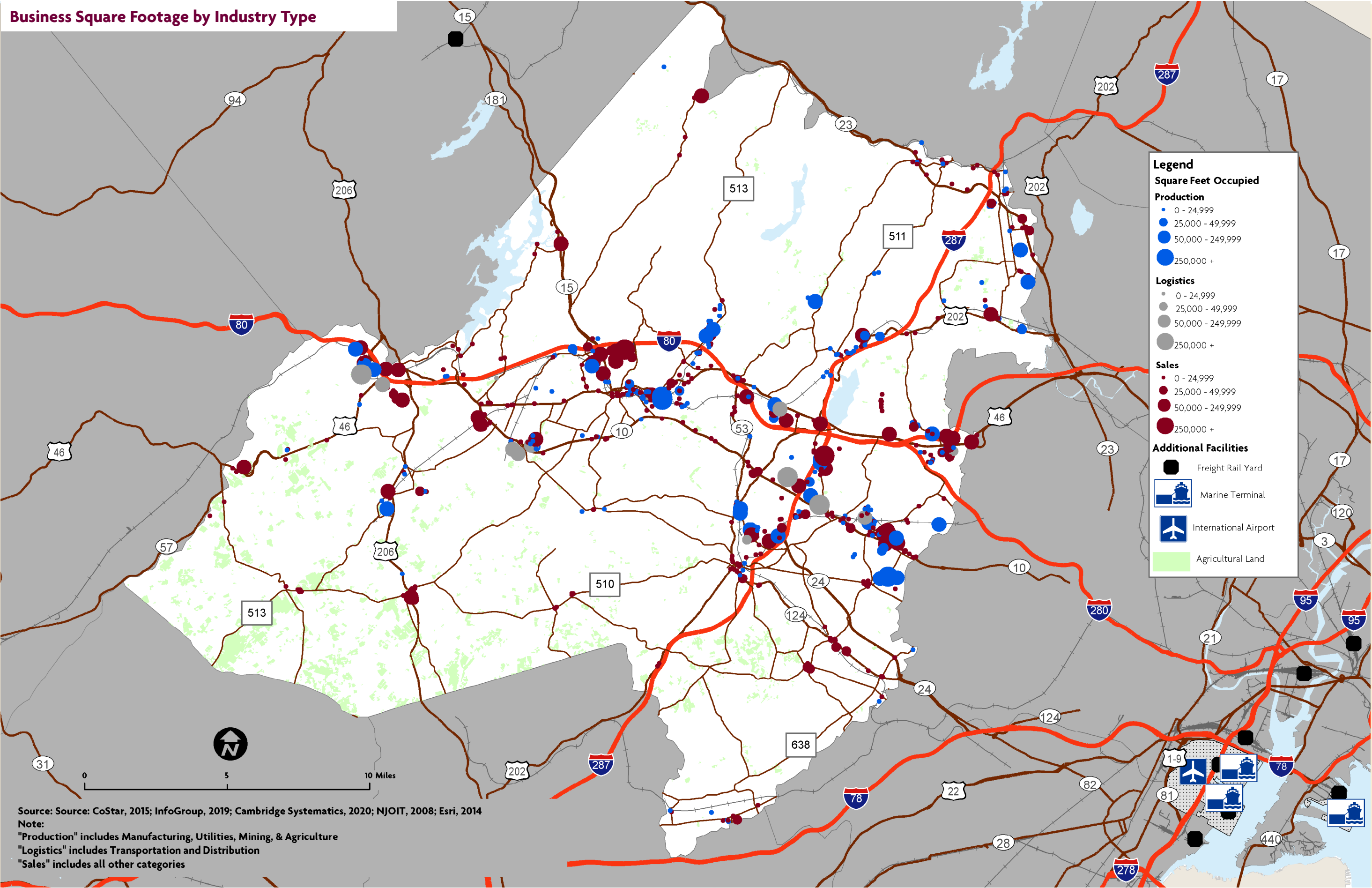
The table below lists the top five business establishments in freight-generating industry sectors, in order of size by square feet of occupied space.

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

Company	Square Footage	Municipality	Business Type
PNY Technologies Inc.	548,000	Parsippany-Troy Hills	Sales
ASCO Valve, Inc.	455,000	Florham Park	Production
Tiffany & Co.	367,000	Hanover Township	Logistics
Alcoa	336,000	Dover	Production
ViStar	300,000	Mount Olive Township	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

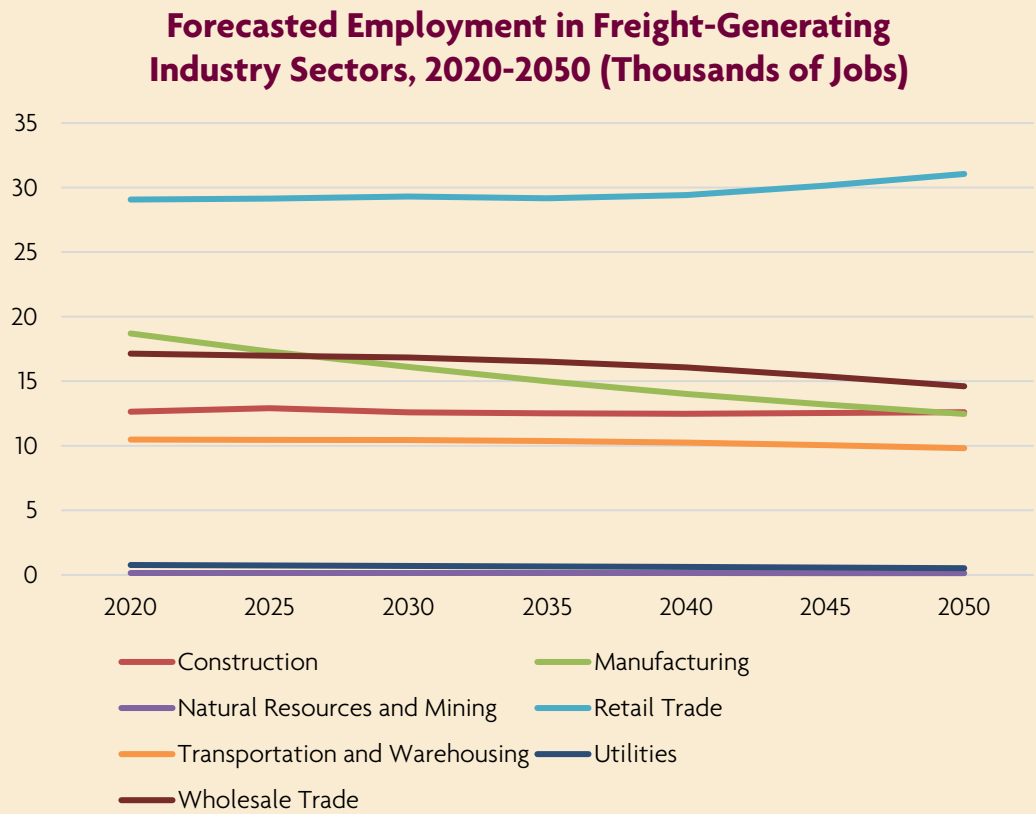
"Logistics" includes Transportation and Distribution

"Sales" includes all other categories



EMPLOYMENT FORECAST

Employment in freight-intensive industries is expected to decrease by about 9 percent during the forecast period. The manufacturing, utilities, and wholesale trade sectors are expected to experience the greatest reductions in employment. Retail trade employment, on the other hand, is expected to increase by 7 percent between 2020 and 2050.



Source: Moody's, 2020

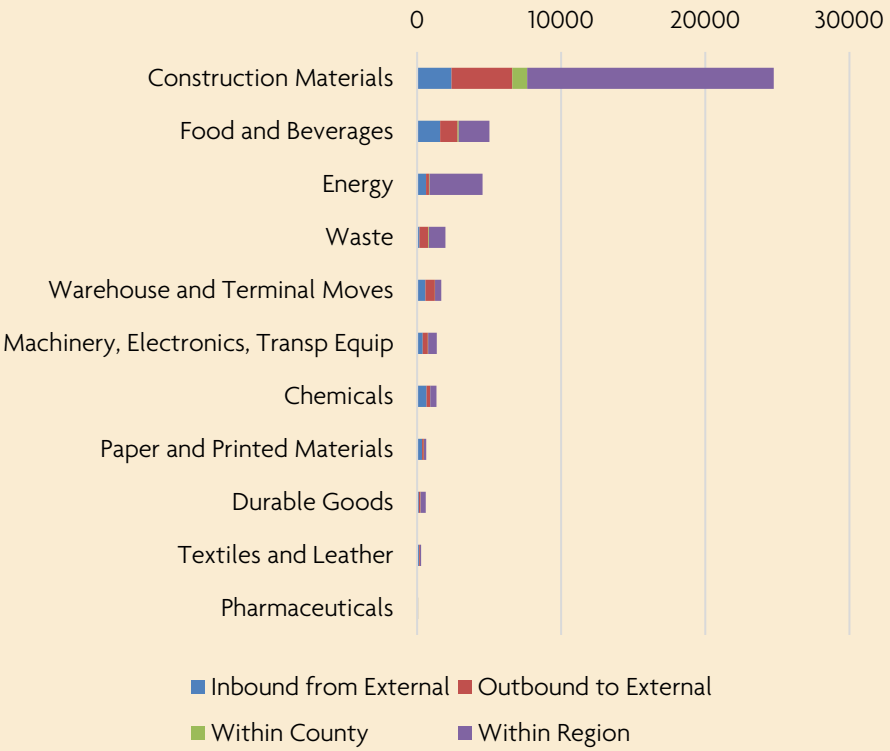
Commodity Flow Forecast, 2020-2050

By 2050, commodity flows into, out of, and within Morris County are expected to have increased by about 10 percent, from 38.5 million tons to 42.3 million tons (a difference of about 4.8 million tons). Construction materials is expected to remain the number one commodity transported by tonnage, followed by food and beverages, which is expected to surpass energy products as the second-largest commodity bundle by weight. Machinery, electronics, and transportation equipment is the top commodity bundle by value of goods and is expected to remain so through 2050.

Commodity Bundle	2020 Tons (thousands)	2050 Tons (thousands)	2020 Value (millions \$)	2050 Value (millions \$)	Change in Tons	Change in Value
Chemicals	1,246	1,349	4,779	5,166	8%	8%
Construction Materials	22,649	24,751	6,711	7,096	9%	6%
Durable Goods	568	607	3,878	4,159	7%	7%
Energy	4,119	4,546	3,786	4,187	10%	11%
Food and Beverages	4,417	5,023	9,033	10,125	14%	12%
Machinery, Electronics, Transp Equip	1,268	1,371	13,875	15,016	8%	8%
Paper and Printed Materials	523	636	1,389	1,820	22%	31%
Pharmaceuticals	71	75	2,752	2,905	5%	6%
Textiles and Leather	251	283	2,212	2,506	13%	13%
Warehouse and Terminal Moves	1,511	1,683	7,782	8,904	11%	14%
Waste	1,827	1,976	510	547	8%	7%
Grand Total	38,451	42,299	56,705	62,431	10%	10%

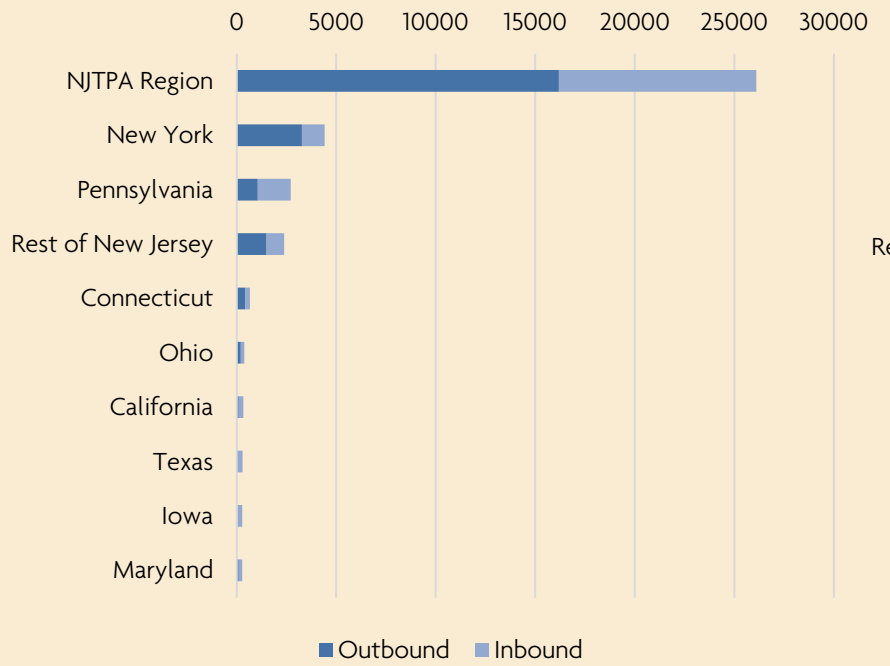
Source: NJTPA Freight Forecasting Tool, 2020

Thousands of Tons by Commodity by Direction, 2050



Source: NJTPA Freight Forecasting Tool, 2020

Thousands of Tons by Domestic Trading Partner, 2050



Source: NJTPA Freight Forecasting Tool, 2020

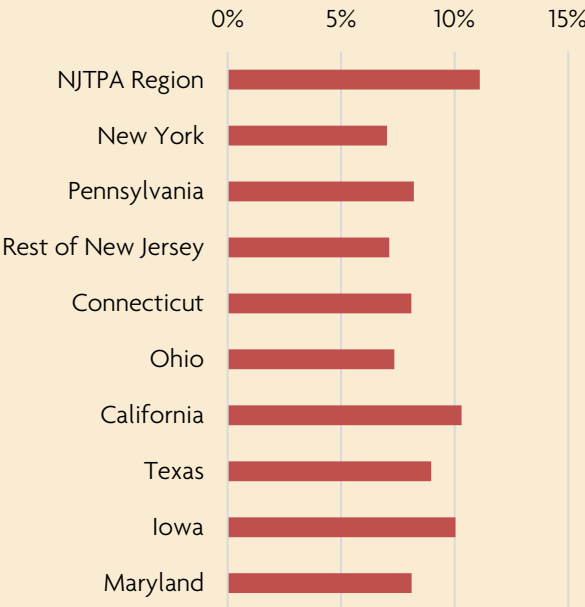
COMMODITY VOLUMES AND DIRECTION

The directional movement of shipments containing the top ten commodities are expected to remain nearly constant as well. In 2050, like 2020, most construction materials moves will be within the NJTPA region. Intraregional moves are expected to remain the predominant travel pattern across many of the other commodity bundles as well.

FUTURE TRADING PARTNERS

Morris County's largest trading partners will continue to be other counties in the NJTPA region, followed by New York, Pennsylvania, and portions of New Jersey outside the NJTPA region. The volume of trade with the NJTPA region is expected to grow at a greater rate (11 percent) than trade with other top trading partners between 2020 and 2050.

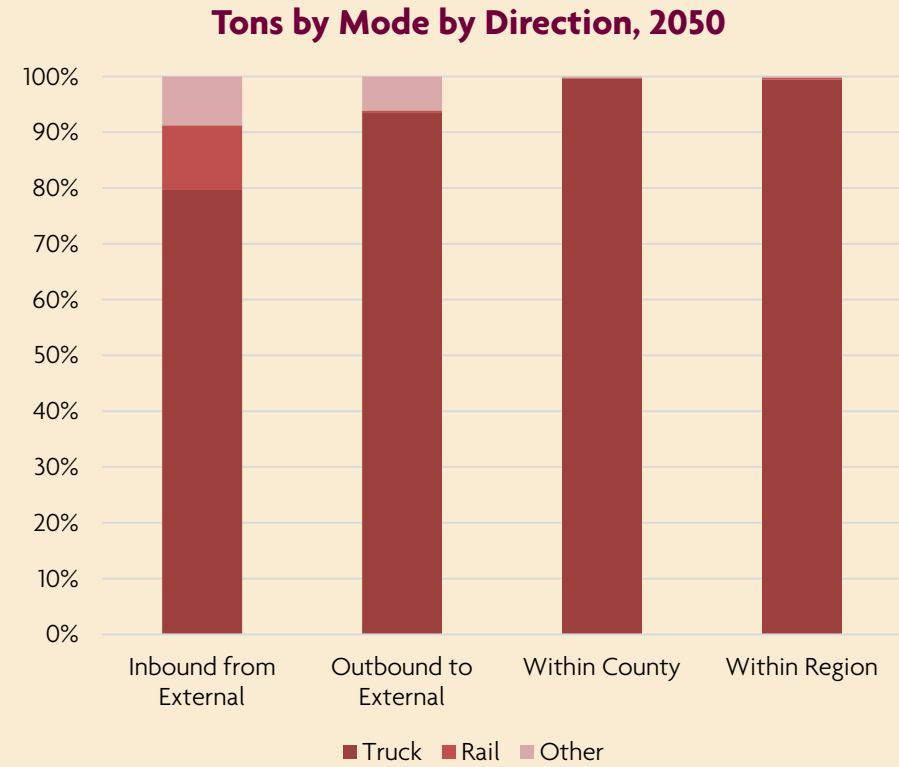
Growth, 2020-2050



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 95 percent of all freight tons, while rail is expected to move 2 percent and other modes are expected to carry about 3 percent. Rail is expected to move 12 percent of inbound tonnage, and truck will carry about 99 percent of intracounty and intraregional freight moves.

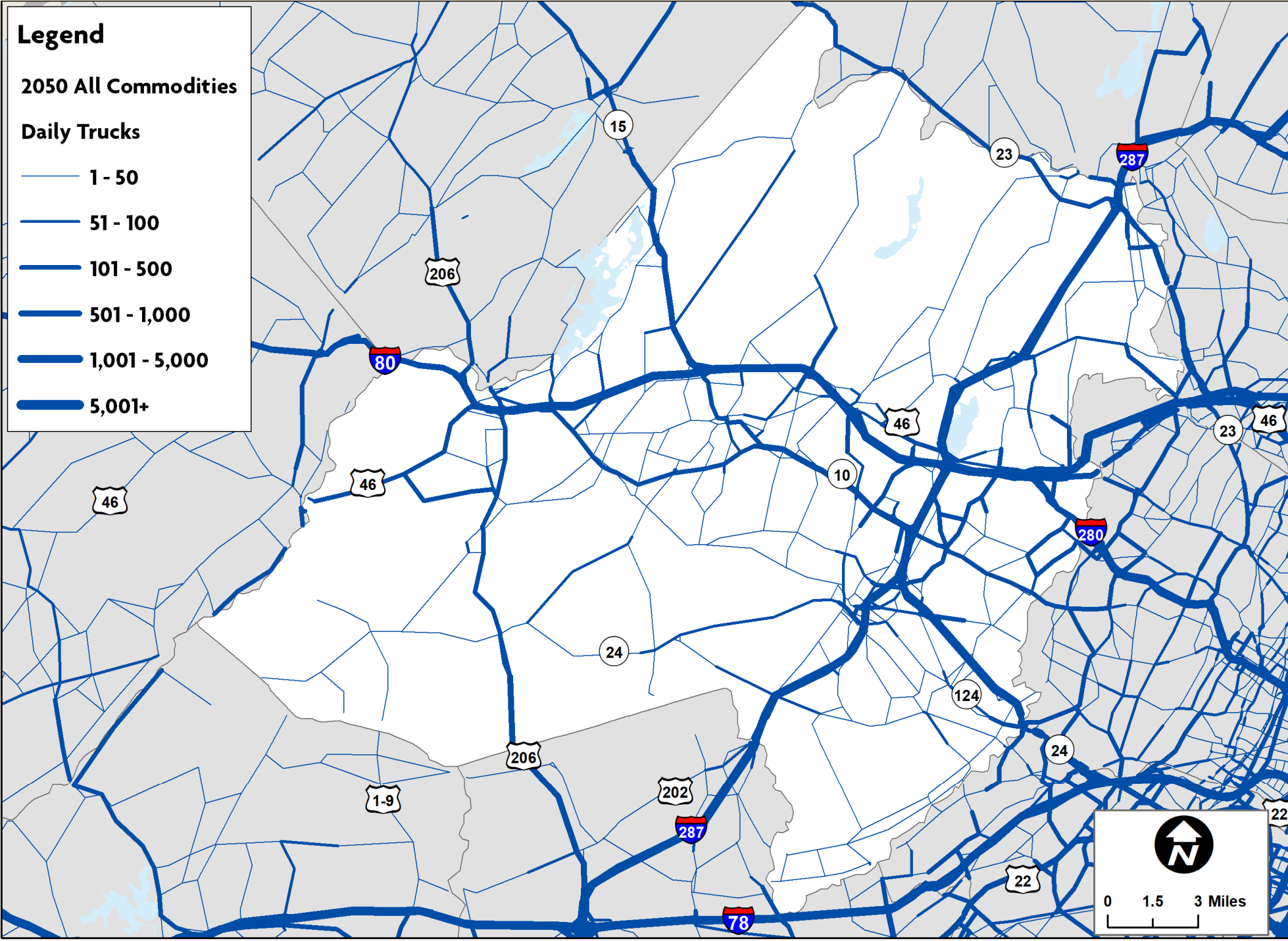


Source: NJTPA Freight Forecasting Tool, 2020

FUTURE HIGHWAY NETWORK UTILIZATION

In 2050, Morris 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 Interstates 80 and 287 are expected to increase by up to 500 per day in each direction between 2020 and 2050. Commodity truck volumes on Routes 10 and 15 could increase by 200-300 per day in each direction by 2050. The map below illustrates the projected commodity truck volumes in 2050 on highways in Morris 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.

Morris County Freeholder Kathryn A. DeFillippo is Chair of the NJTPA Board of Trustees.

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](mailto: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.