

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

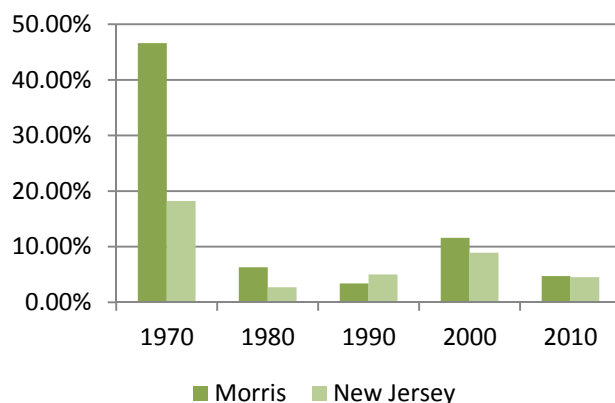
With a 2010 population of 492,276, Morris is the tenth most-populous County in the State of New Jersey, and ninth most populous in the NJTPA region. Morris County grew much faster than the State overall during the 1960s and 1970s, however, growth has conformed more closely to the State's overall growth rate in recent decades. The median household income in Morris is 40% higher than the State overall.

Morris County is home to...

- 492,276 people
- 30,828 businesses that employ 281,200 people; 29% of these jobs are in businesses that are highly dependent on freight movement
- Nearly 400 warehousing/distribution buildings and 180 manufacturing buildings
- About 34.4 million tons of domestic freight shipped or received annually
- Interstate, State, and County highways used by tens of thousands of trucks every day
- Several short line and Class I rail-served industries

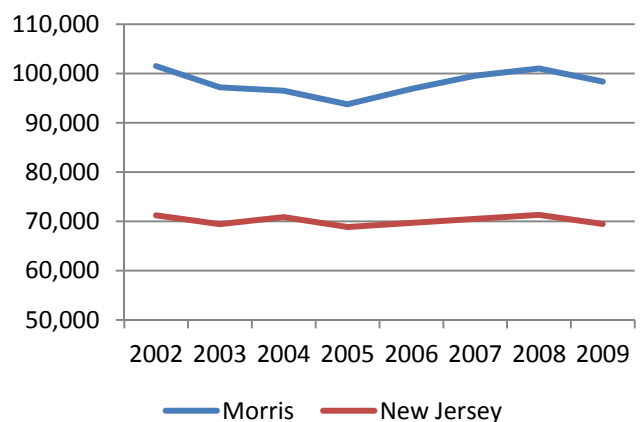
Population Growth by Decade

Source: U.S. Census Bureau



Household Income, Constant 2010 Dollars

Source: U.S. Census Bureau



Employment

The County's economy employs 281,200 people in more than 30,800 establishments. About 29% are employed in "freight-intensive" industries, such as construction, manufacturing, mining and extraction, retail trade, wholesale trade, and logistics. About 71% are employed in industries that may generate freight, but are less dependent on freight movement.

FREIGHT FLOWS

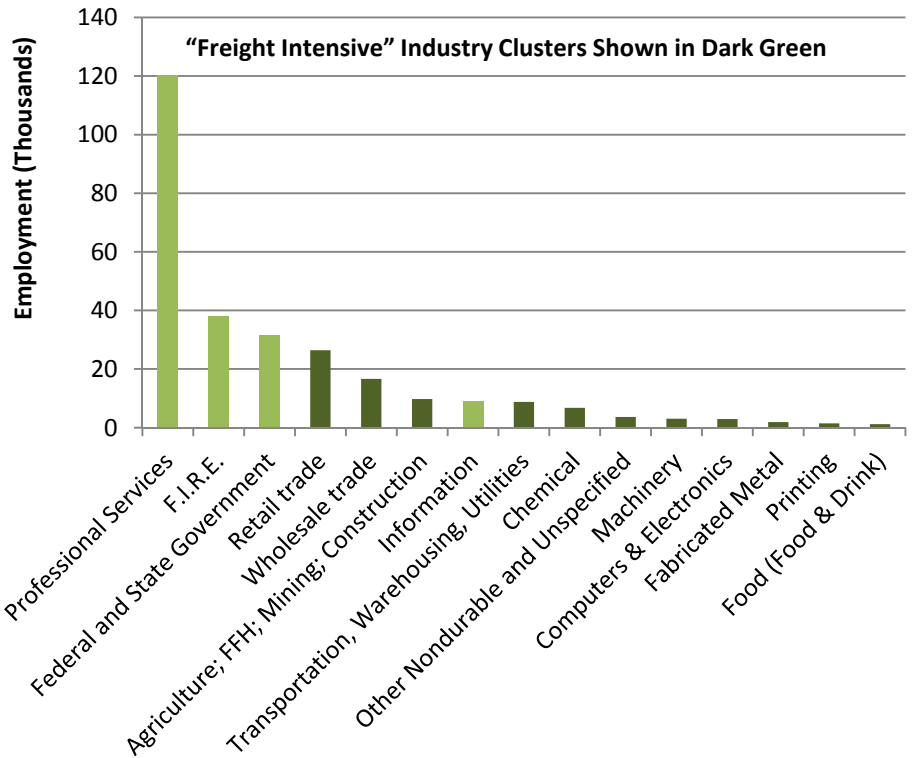
In 2007, approximately 34.4 million tons of domestic freight moved into, out of, or within Morris County, by all modes of transportation. This figure includes commodities moving into or out of Morris County, but excludes pass-through tonnage. (The movement of international cargo to and from seaports, airports, and border crossings is captured and counted as domestic tonnage.)

Commodities

For domestic Origin-Destination (O-D) tonnage, about 38% consisted of moves of nonmetallic minerals, comprised mostly of riprap and broken stone. Inbound tonnage of freight moving to or from warehouses or distribution centers totaled nearly 7.8 million tons, exceeding inbound or outbound moves of nonmetallic minerals. Clay, concrete, glass or stone products, and inbound moves of food were also among the top commodity moves in Morris County.

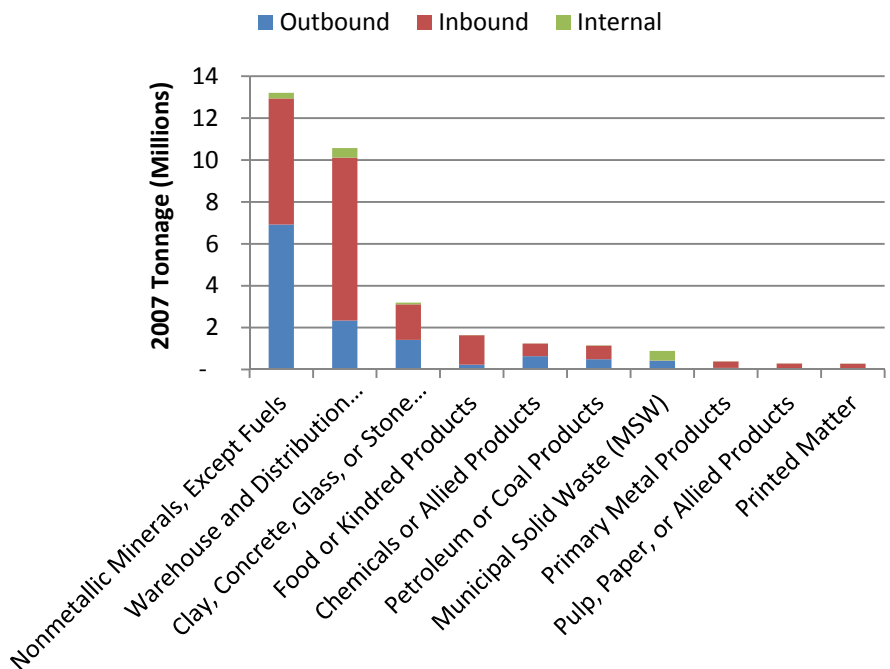
Employment by Industry, 2010

Source: R/ECON



Domestic O-D Commodities by Tonnage, 2007

Source: IHS Global Insight



Trading Partners

Not surprisingly, more than half of Morris County’s trade is with other counties in New Jersey, much of which consists of inbound moves of warehouse/distribution center traffic. Trade with Pennsylvania, Morris County’s second largest trading partner, is primarily inbound, while trade with New York, the third largest trading partner, is primarily outbound. The New England States of Vermont, Massachusetts, and Connecticut; the Midwestern States of Michigan and Ohio; Florida; and Canada are also important sources and destinations for Morris County freight.

FREIGHT TRANSPORTATION NETWORKS

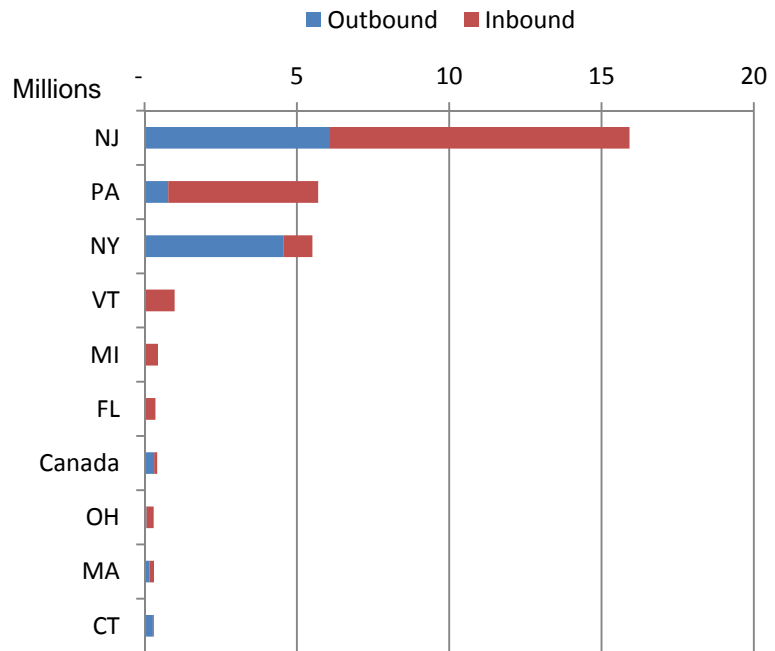
Freight can be handled by truck, rail, air or water. The choice of mode depends on a variety of factors, including: length of trip (rail and air are more competitive at longer distances), commodity type (rail and water are more competitive for heavy materials), time sensitivity (truck and air are most 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 Morris County, more than 99% travels by truck, primarily to and from warehouses, distribution centers, manufacturing facilities and retail centers. About 0.5% arrives or departs by rail.

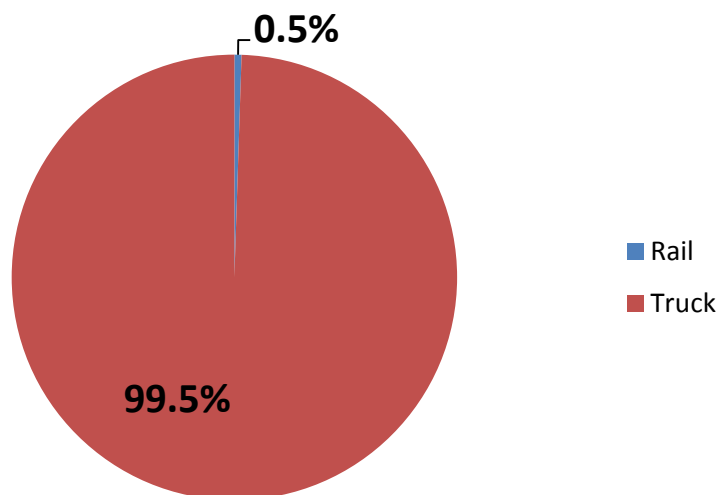
Top Origins and Destinations of Domestic O-D Freight Tonnage, 2007

Source: IHS Global Insight



Mode Split, Domestic O-D Tonnage, 2007

Source: IHS Global Insight



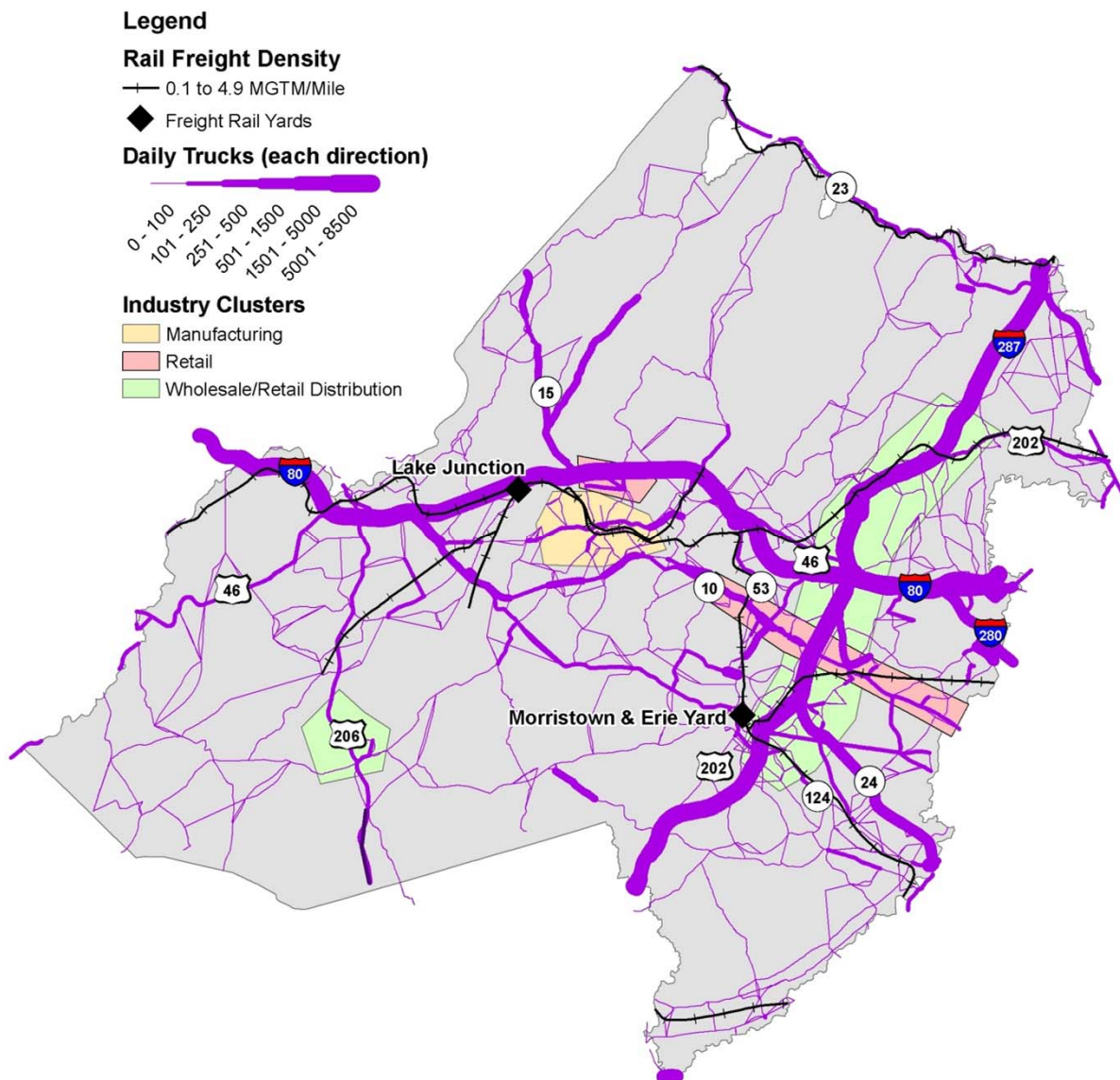
Highway and Rail Network Utilization

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. Interstate 80, which crosses the County east-to-west, and Interstate 287, which traverses the County north-to-south, each accommodate more than 13,000 trucks per day on some segments. Portions of Interstate 280 and NJ Route 24 carry more than 3,000 trucks per day. 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.).

On the rail network, Norfolk Southern, Morristown and Erie, and New York Susquehanna & Western railroads operate lines throughout the County, collectively carrying between 0.1 and 4.9 million gross ton-miles per mile (MGTM/Mile). The map below illustrates how the highway and rail networks and terminals align with industrial activity clusters.

Commodity Truck and Rail Flows in Morris 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)

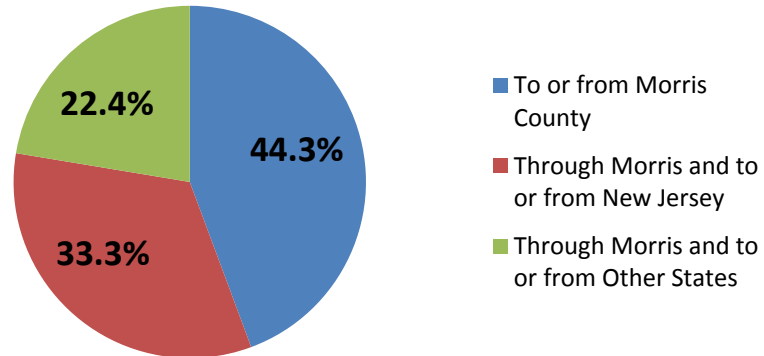


Highway Link Analysis

Different highways can be used by trucks carrying freight in different ways. Some highways have a high percentage of local traffic; others a high percentage of pass-through traffic. Many highways show significant differences at different locations. Among major highways in Morris County, including Interstates 80 and 287, and US Route 46, the average values of internal and through traffic are shown in the graph to the right.

Truck Trips on Morris County Highway Links, 2007

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



About 44% of truck trips on the selected highways in Morris County were traveling to or from a point within the County. One-third of trucks on these highways were traveling between origins or destinations in parts of New Jersey outside Morris County. About 22% of truck trips were traveling through the County between origins or destinations outside the State of New Jersey.

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. Nearly 180 manufacturing buildings are located in the County, as shown on Pages 6 and 7. The largest clusters of manufacturing buildings are located near the I-287, NJ Route 10, NJ Route 53, and County Route 513 corridors. Nearly 400 warehousing/distribution buildings are located within the County, one of which is more than 1 million square feet, and two of which are between 500,000 and 1 million square feet. These buildings are mostly clustered near the I-287, I-80, US Route 46, US Route 202, NJ Route 10, NJ Route 53, and County Route 513 corridors.

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, 436 facilities in Morris County receive nearly 7.7 million tons and ship 6 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
REGION OIL	DOVER	1,965,827
GIVAUDAN FLAVORS CORP	BUDD LAKE	369,451
SAFILO USA INC	PARSIPPANY	295,068
MORETRENCH AMERICA CORP	ROCKAWAY	271,737
FEDEX NATIONAL LTL	PARSIPPANY	267,337

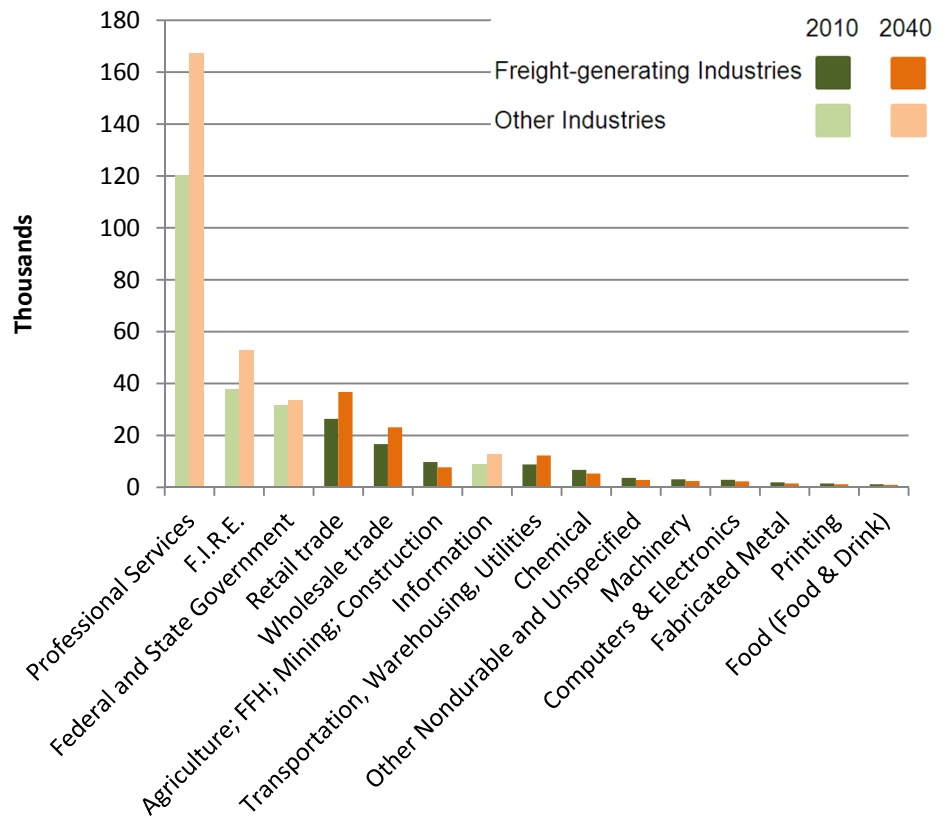
COMPANY NAME	CITY	OUTBOUND TONS
REGION OIL	DOVER	1,042,727
VANTAGE OIL	MOUNTAIN LAKES	770,684
KRAFT FOODS	EAST HANOVER	736,190
TRI State QUIKRETE	FLANDERS	491,819
LONG VALLEY LBR CO & SAWMILL	LONG VALLEY	196,624

EMPLOYMENT FORECAST

Between 2010 and 2040, non-farm employment in Morris County is expected to grow by 29%, from 281,200 to 362,600. Employment in freight-intensive industries is expected to grow by 17% during the forecast period, compared to 34% for other industries. The faster-growing services, finance, insurance, and real estate, and other less freight-intensive industries will make up a larger share of the County's employment in the future (73% in 2040, compared to 71% in 2010). Among individual industry groups, professional services is expected to experience the greatest employment growth (47,000 jobs).

Industry Employment Forecast, 2010 - 2040

Source: R/ECON



2040 COMMODITY FLOWS

By 2040, overall commodity flows into, out of, and within Morris County are expected to have increased by about 24%, from 34.4 million tons to 42.6 million tons (a difference of 8.2 million tons). The forecast anticipates that the top ten commodities in 2007 will continue to account for 90% of overall freight movement in 2040. Warehouse and distribution center traffic is expected to replace nonmetallic minerals as the number one commodity in 2040. Growth rates are expected to range from -3% (nonmetallic minerals) to 48% (municipal solid waste).

Top 10 Commodities by Tonnage, 2040

Sources: Cambridge Systematics, with data from IHS Global Insight

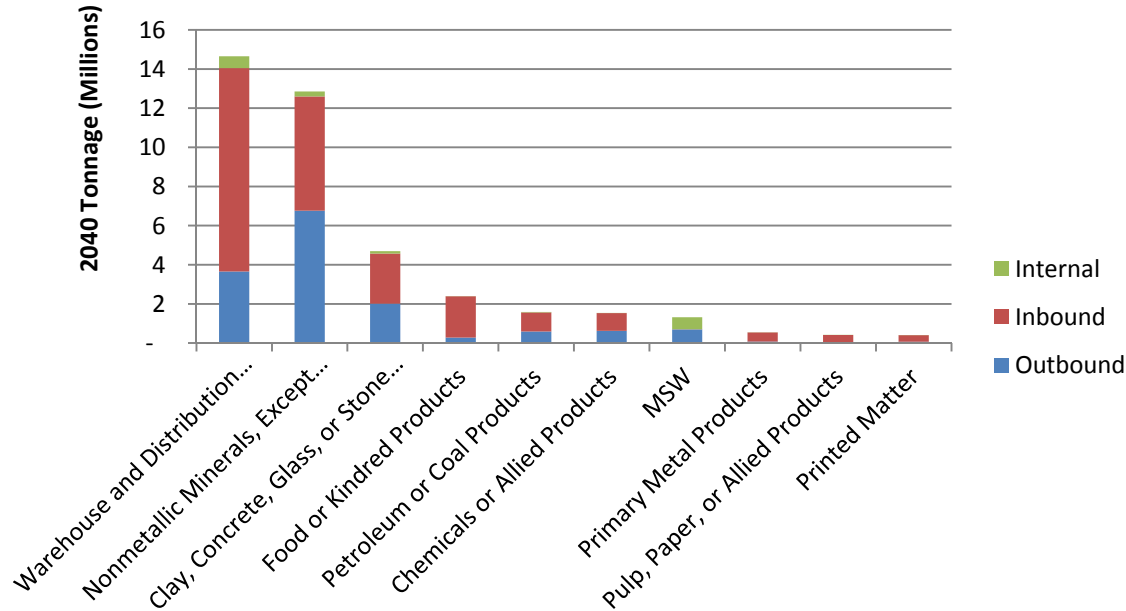
Commodity	2007 Tons	2040 Tons	Difference	Growth Rate
Warehouse and Distribution Center	10,575,529	14,654,326	4,078,798	39%
Nonmetallic Minerals, Except Fuels	13,205,013	12,856,764	(348,250)	-3%
Clay, Concrete, Glass, or Stone Products	3,196,427	4,694,359	1,497,932	47%
Food or Kindred Products	1,644,418	2,401,809	757,392	46%
Petroleum or Coal Products	1,154,736	1,588,182	433,446	38%
Chemicals or Allied Products	1,239,924	1,536,694	296,770	24%
MSW	889,689	1,317,070	427,381	48%
Primary Metal Products	385,619	546,777	161,158	42%
Pulp, Paper, or Allied Products	285,798	412,579	126,781	44%
Printed Matter	277,862	406,140	128,279	46%

Commodity Volumes and Direction

The directional movement of shipments containing the top ten commodities is expected to remain fairly constant as well. In 2040, like 2007, about 70% of warehouse and distribution center traffic will be moving inbound, and 25% will be moving outbound. Nonmetallic minerals and MSW will be moving primarily outbound; and clay, concrete, glass, or stone; food, chemicals, metals, and paper and printed matter will be moving primarily inbound.

Top 10 Commodities by Tonnage by Direction, 2040

Sources: Cambridge Systematics, with data from IHS Global Insight

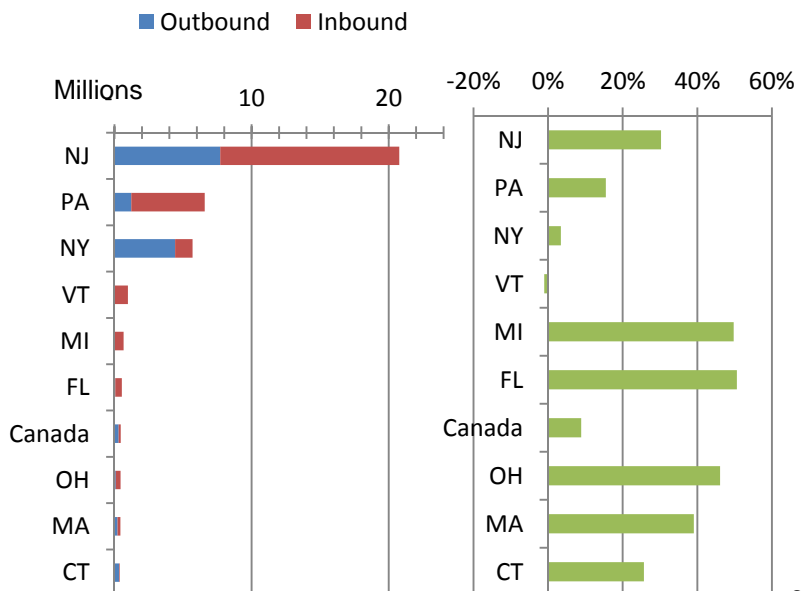


Future Trading Partners

Morris County's largest trading partners will continue to be other counties in New Jersey, followed by Pennsylvania and New York. While the top ten trading partners will each retain their relative rank in 2040, the gap between many will narrow or widen due to differing rates of growth. Trade with distant states in the Midwest, Florida, and New England (except Vermont) is expected to grow by 24-45% during the forecast period, fueled by growth in warehouse/distribution center traffic, clay/concrete/glass/stone, and food. Trade with Pennsylvania, New York and Canada is expected to grow by 3 to 15%. Trade with Vermont is expected to decrease by about 1%, coinciding with the decline in nonmetallic minerals trade.

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

Source: Cambridge Systematics, with data from IHS Global Insight

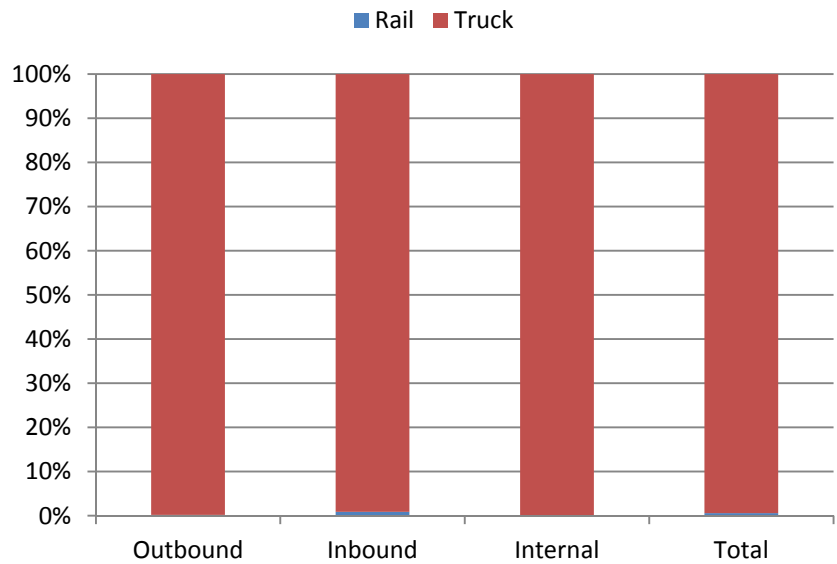


Future Mode Utilization

The forecast anticipates that freight mode splits in 2040 will be similar to 2007 mode splits. Trucks are expected to continue to carry more than 99% of all freight tons. About 1% of inbound freight (0.5% of all freight moves) will be transported by rail. Trucks are expected to transport about 100% of outbound and internal freight.

Freight Tonnage by Mode and Direction, 2040

Source: Cambridge Systematics, with data from IHS Global Insight



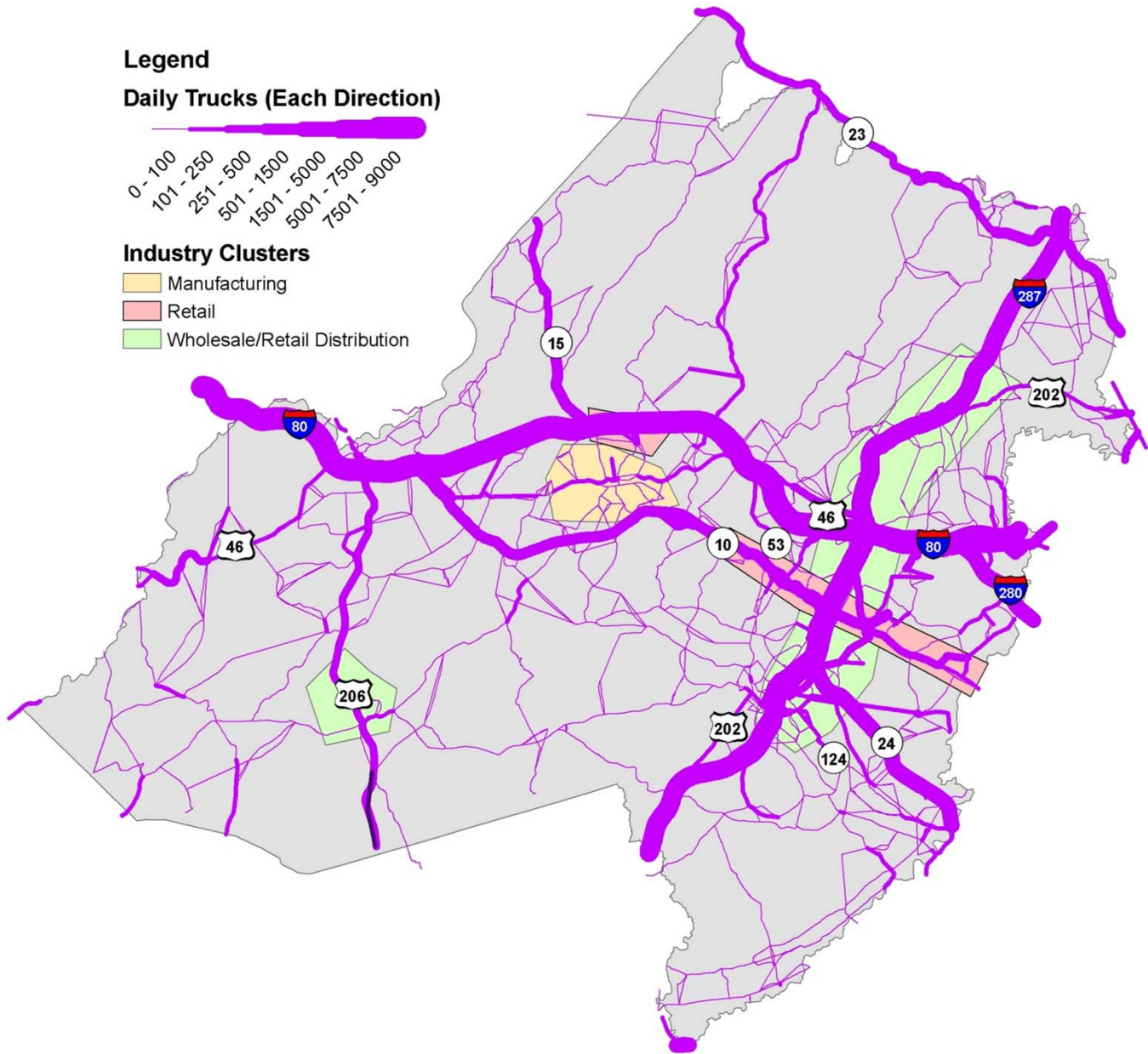
Future Highway Network Utilization

In 2040, 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 trucks traveling on Interstates 80 and 287 are expected to increase by about 25% or 3,300 trucks per day. US Route 46 and NJ Routes 15 and 24 could see numeric increases in truck traffic between 2007 and 2040 of 500 to 1,000 trucks per day.

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

Commodity Truck Flows in Morris 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.

Morris County’s representative on the NJTPA Board of Trustees is Freeholder Gene F. Feyl, who also serves as NJTPA’s Chairman of the Board.

ABOUT THIS STUDY

This Profile is one component of a major NJTPA freight planning initiative – the development of Year 2040 Freight Industry Level Forecasts.

Freight issues are extremely important 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 the region’s residents and 20 million residents in the larger 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, covering the 13 counties of the NJTPA region, 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.