

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

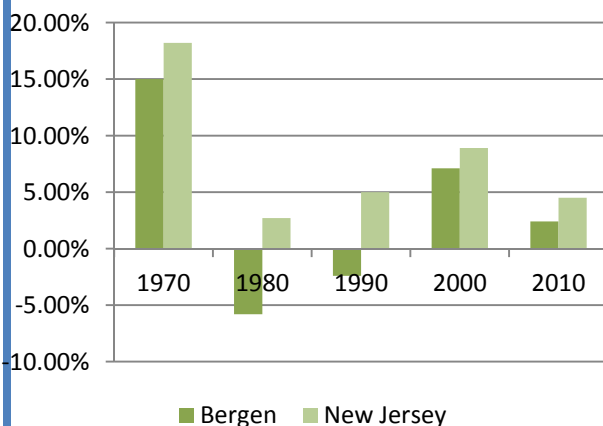
With a 2010 population of 905,116, Bergen is the most-populous County in the State of New Jersey. Bergen County's population has historically grown at a slower pace than the State overall, since much of the County's land area was developed late last century. Household income in Bergen County is higher than the State median, indicating a greater level of affluence and higher demand for consumer products.

Bergen County is home to...

- 905,116 people
- 33,348 businesses that employ 453,400 people; 39% of these jobs are in businesses that are highly dependent on freight movement
- More than 1,300 warehousing/distribution buildings and 400 manufacturing buildings
- About 54 million tons of domestic freight shipped or received 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.

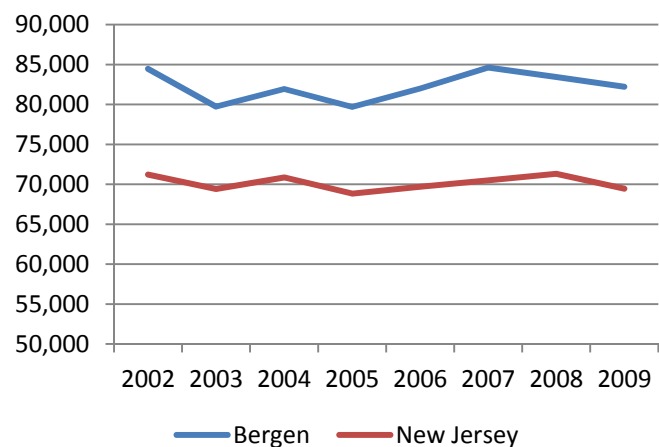
Population Growth by Decade

Source: U.S. Census Bureau



Household Income, Constant 2010 Dollars

Source: U.S. Census Bureau



Employment

The County's economy employs 453,400 people in more than 33,000 establishments. About 35% are employed in "freight-intensive" industries, such as construction, manufacturing, mining and extraction, retail trade, wholesale trade, and logistics. About 65% are employed in industries that may generate freight, but are less dependent on freight movement.

FREIGHT FLOWS

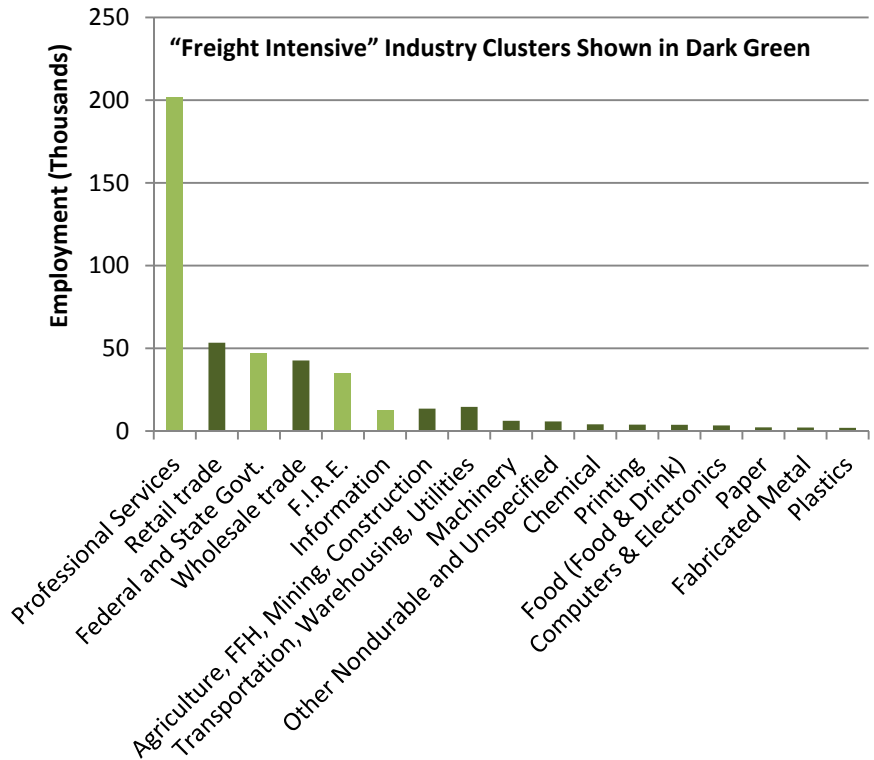
In 2007, approximately 54.0 million tons of domestic freight moved into, out of, or within Bergen County, by all modes of transportation (truck, rail, water, and air). This figure includes commodities moving into or out of Bergen County, but excludes pass-through tonnage. (The movement of international cargo to and from seaports, airports, and border crossings is captured and counted as domestic tonnage.)

Commodities

For domestic O-D tonnage, around 27% consisted of moves of goods between warehouses/distribution centers and freight transportation terminals, which move primarily outbound from Bergen County to other locations. Other leading commodity moves include inbound flows of nonmetallic minerals and food, outbound flows of chemicals, and inbound moves of clay, concrete, glass, or stone.

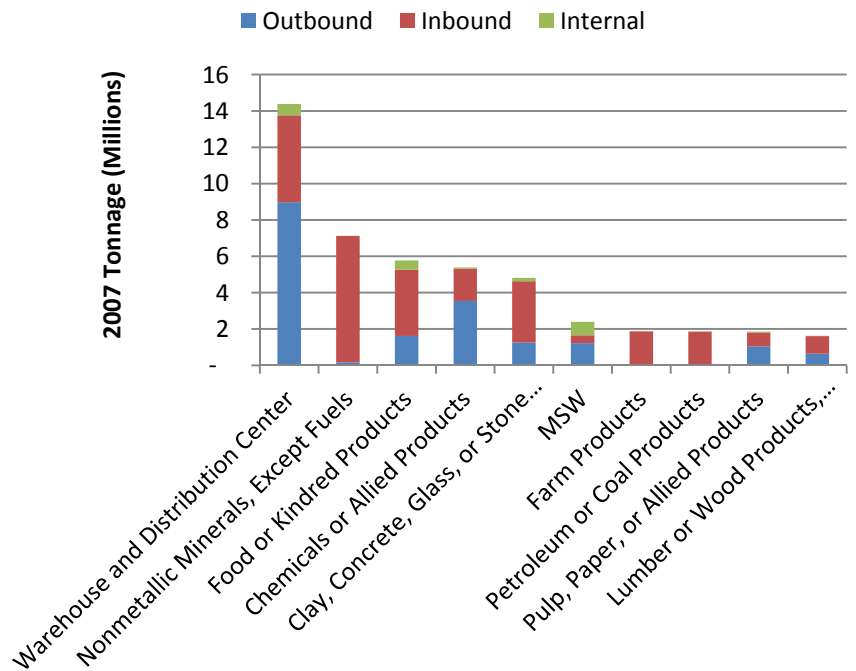
Employment by Industry, 2010

Source: R/ECON



Domestic O-D Commodities by Tonnage, 2007

Source: IHS Global Insight



Trading Partners

Bergen County’s major trading partners are, not surprisingly, its neighbors. As illustrated to the right, locations in New Jersey are the greatest origins of inbound freight and destinations of outbound freight. Beyond New Jersey, New York and Pennsylvania each exchanged more than 5 million tons of freight with Bergen County. Trade with Vermont, California, Illinois, and Michigan is primarily in the inbound direction, while trade with Connecticut, Massachusetts, and Canada is primarily outbound.

FREIGHT TRANSPORTATION NETWORKS

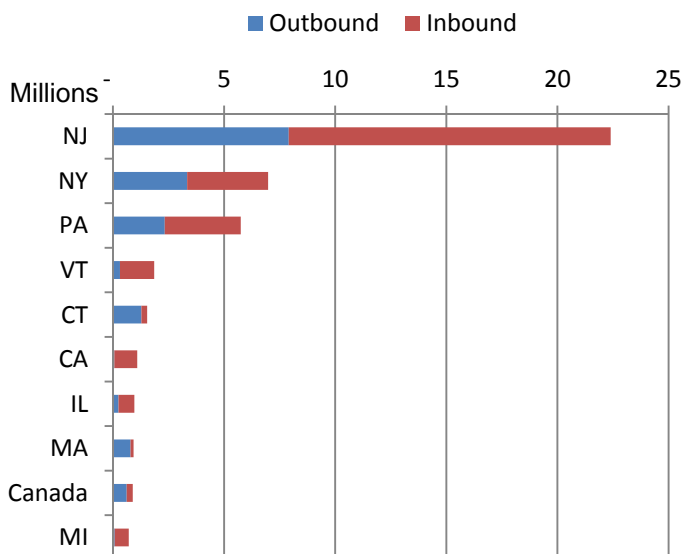
Freight can be handled by truck, rail, air or water. The choice of mode depends on a variety of factors, including: length of trip (rail and air are more competitive at longer distances), commodity type (rail and water are more competitive for heavy materials), time sensitivity (truck and air are most 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 Bergen County, 96% travels by truck, primarily to and from warehouses, distribution centers, manufacturing facilities and retail centers. Around 4% travels by rail.

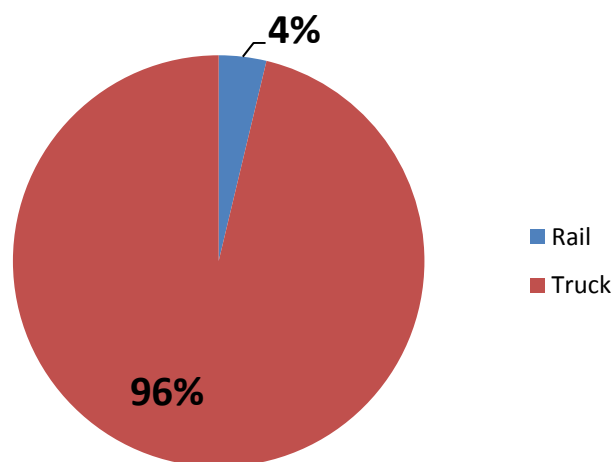
Top Origins and Destinations of Domestic O-D Freight Tonnage, 2007

Source: IHS Global Insight



Mode Split, Domestic O-D Tonnage, 2007

Source: IHS Global Insight



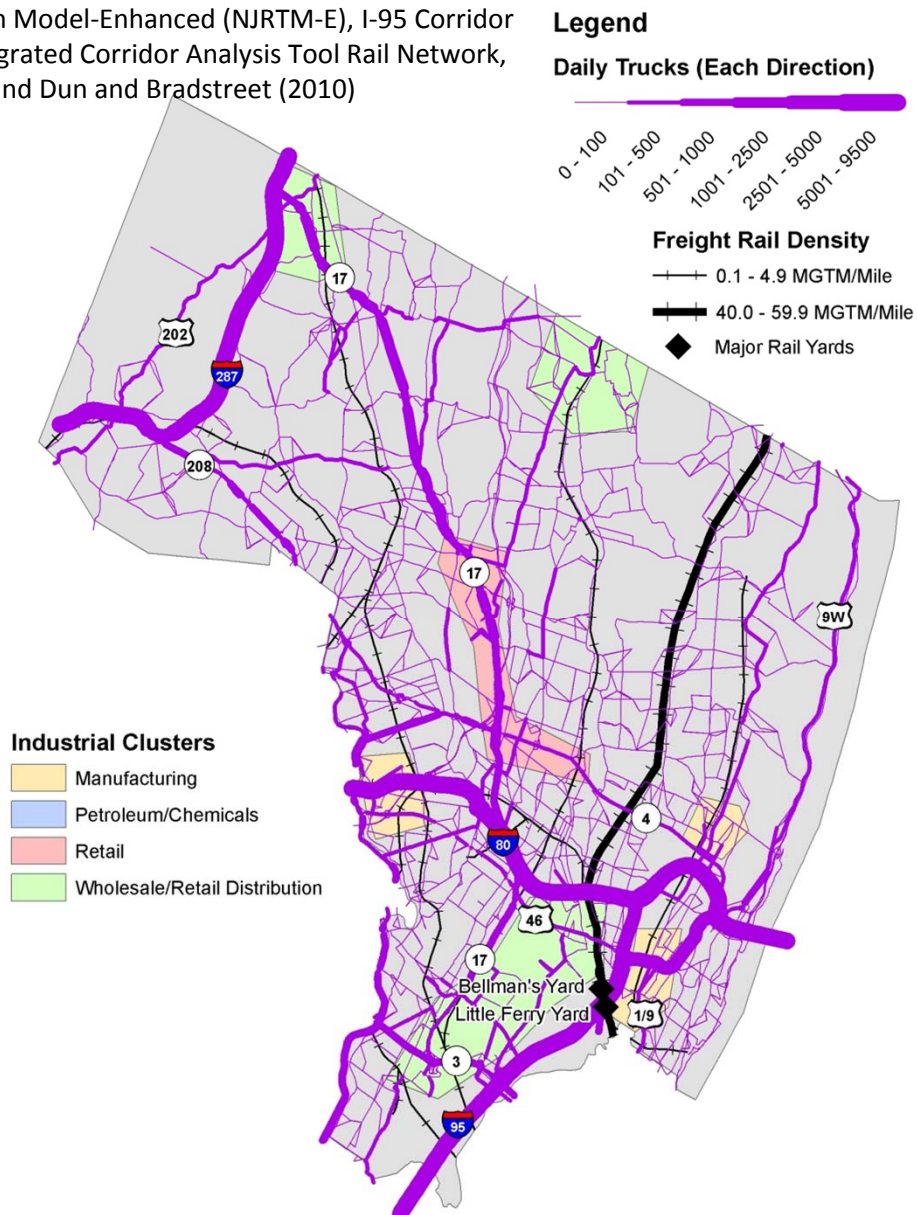
Highway and Rail Network Utilization

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. Segments of the New Jersey Turnpike and Interstate 80, which run across the southern half of the County, accommodate more than 19,000 trucks per day. The highest volume of trucks in the County is near the interchange of these two highways. Portions of NJ Route 17, US Routes 1/9 and 46, and NJ Route 3 carry more than 2,000 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, the CSX River Line, which runs through the northeastern portion of the County, is one of the most heavily-traveled freight rail lines in the State. The map below illustrates how the highway and rail networks and terminals align with industrial activity clusters.

Commodity Truck and Rail Flows in Bergen 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)

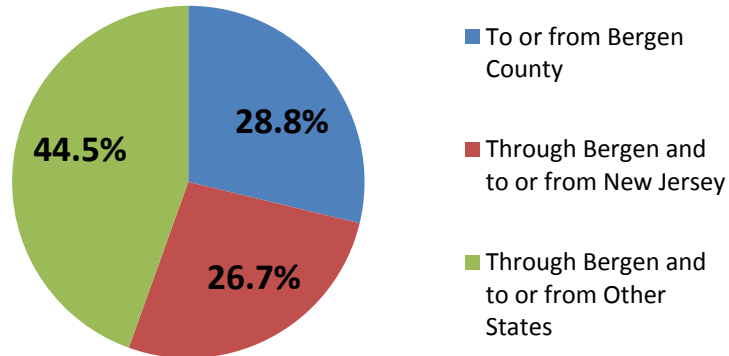


Highway Link Analysis

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 of these highways show significant differences at different locations. Among major highways in Bergen County, including the New Jersey Turnpike/Interstate 95, Interstates 80 and 287, and NJ Route 17, the average values of internal and through traffic are shown in the graph to the right.

Truck Trips on Bergen County Highway Links, 2007

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



About 45% of the trucks on the selected highways in Bergen County were traveling through the County on their way to or from points located outside New Jersey. About 29% of trucks were traveling to or from points within the County. Close to 27% of trucks on the selected highways were traveling through Bergen County on their way to or from locations elsewhere in 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. As illustrated on Pages 6 and 7, over 460 manufacturing buildings are located in the County. Manufacturing buildings tend to be clustered south of the Route 4 corridor, along Route 17 in Mahwah and Ramsey, and in the Northvale and Norwood area. More than 1,300 warehousing/distribution buildings are located within the County, four of which are between 500,000 and 1 million square feet. These buildings are clustered primarily along the US Route 46 and NJ Route 17 corridors in the southern portion of the County.

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, 979 facilities in Bergen County receive more than 8.0 million tons and ship 7.8 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.

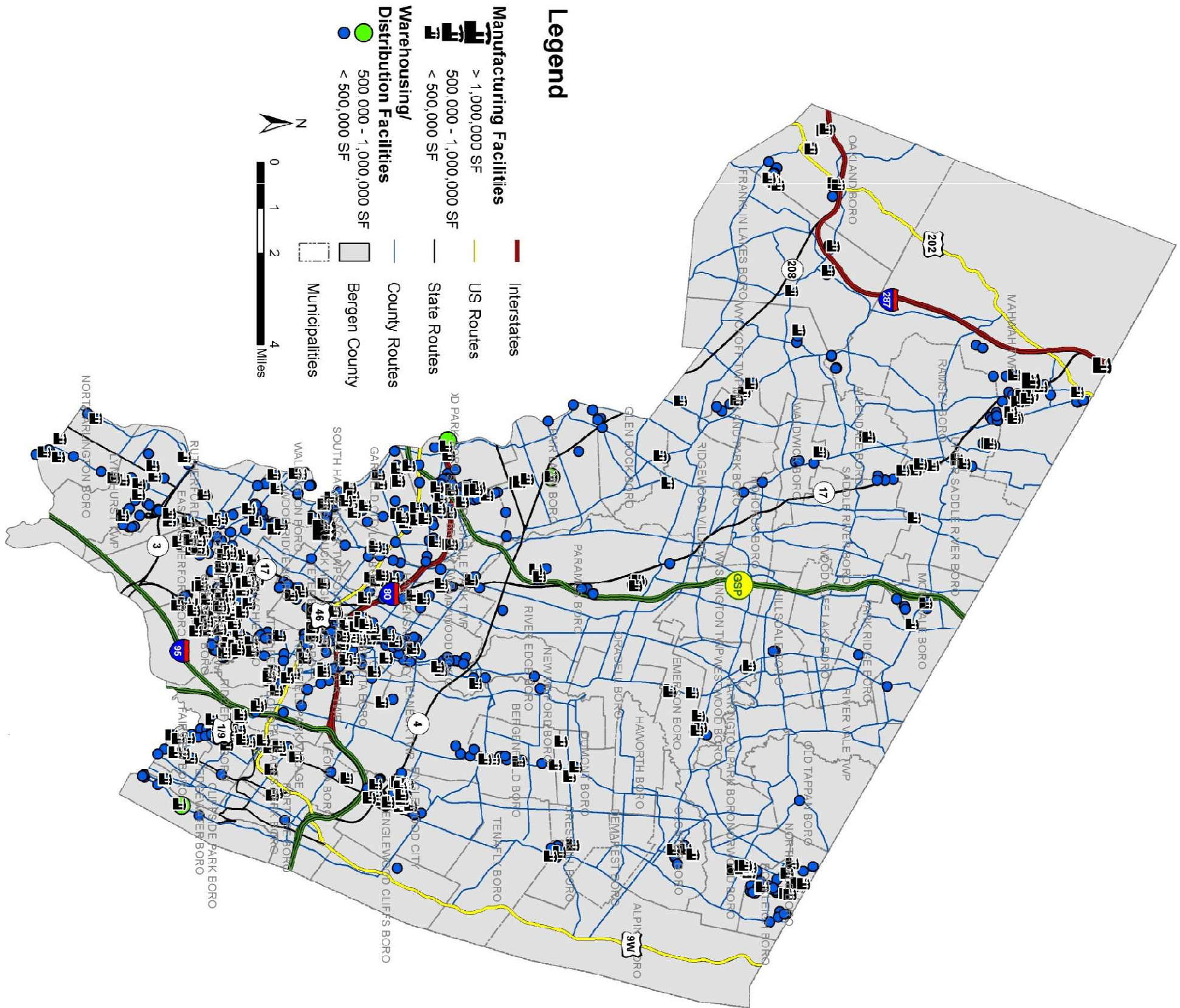
Top 5 Facilities by Inbound/Outbound Tonnage, 2007

Source: IHS Global Insight Freight Locator Database

COMPANY NAME	CITY	INBOUND TONS
SONY ELECTRONICS INC	PARK RIDGE	326,444
RESTAURANT DEPOT FOOD SVC INC	SOUTH HACKENSACK	319,954
MORGAN TECHNICAL CERAMICS	CARLSTADT	228,650
KRAFT FOODS	FAIR LAWN	201,376
COCA-COLA BOTTLING CO	CARLSTADT	192,958
COMPANY NAME	CITY	OUTBOUND TONS
BURGER MAKER INC	CARLSTADT	502,707
LINDENMEYR	MOONACHIE	412,340
KRAFT FOODS	FAIR LAWN	317,899
RIVIERA PRODUCE CORP	ENGLEWOOD	282,467
TENSION ENVELOPE CORP	SOUTH HACKENSACK	234,523

Industrial Buildings by Type and Square Footage, 2010

Source: CB Richard Ellis

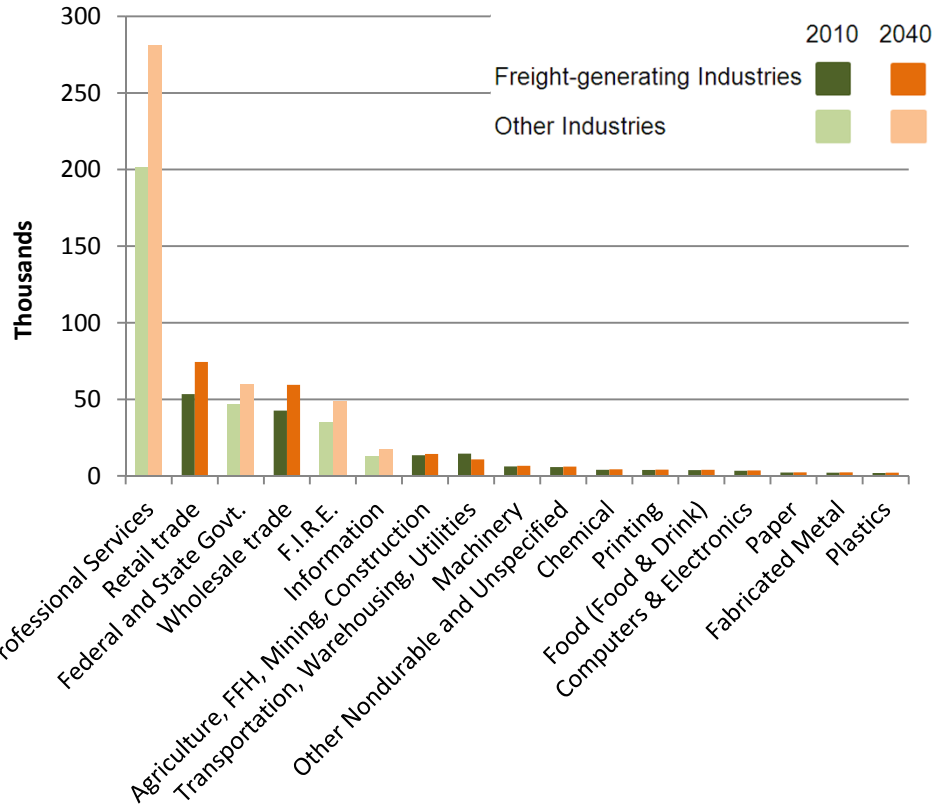


EMPLOYMENT FORECAST

Between 2010 and 2040, non-farm employment in Bergen County is expected to grow by 33%, from 453,400 to 601,700. Employment in freight-intensive industries is expected to grow by 23% during the forecast period, compared to 38% 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 (68% in 2040, compared to 65% in 2010). Among individual industry groups, professional services is expected to experience the greatest employment growth (79,300 jobs), while transportation, warehousing, and utilities may have 3,800 fewer jobs in the future.

Industry Employment Forecast, 2010 - 2040

Source: R/ECON



2040 COMMODITY FLOWS

By 2040, overall commodity flows into, out of, and within Bergen County are expected to have increased by about 47%, from 54.0 million tons to 79.4 million tons (a difference of 25.4 million tons). Warehouse and Distribution Center traffic is expected to remain the number one commodity transported by tonnage, followed by nonmetallic minerals, food, and chemicals. Growth rates for most commodity groups are expected to range from 28% (nonmetallic minerals) to 61% (farm products).

Top 10 Commodities by Tonnage, 2040

Sources: Cambridge Systematics, with data from IHS Global Insight

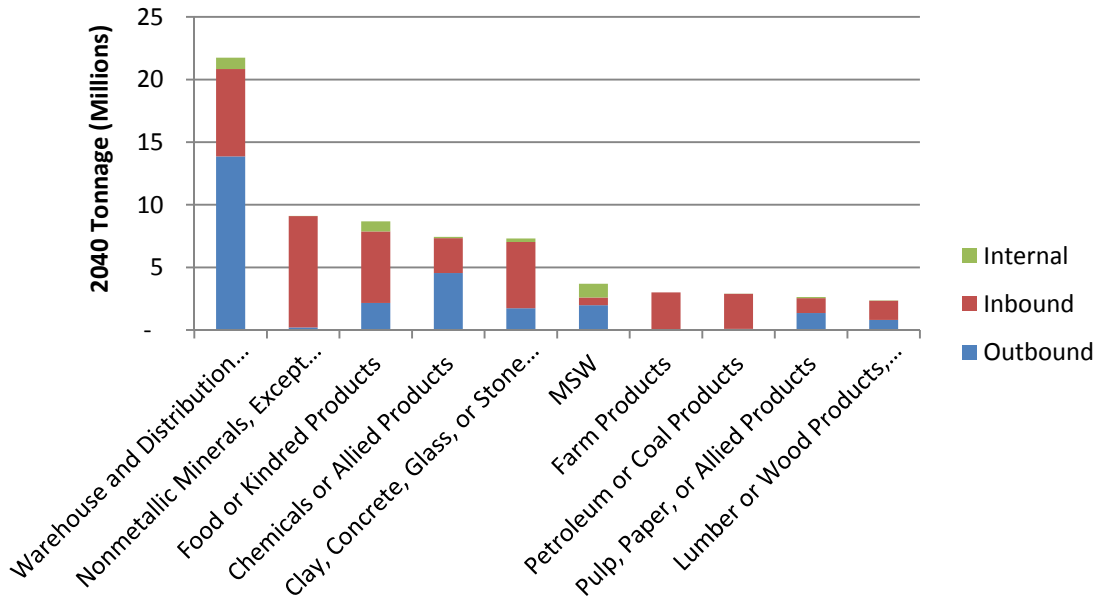
Commodity	2007 Tons	2040 Tons	Difference	Growth Rate
Warehouse and Distribution Center	14,381,491	21,748,592	7,367,101	51%
Nonmetallic Minerals, Except Fuels	7,124,550	9,111,947	1,987,397	28%
Food or Kindred Products	5,773,174	8,679,983	2,906,808	50%
Chemicals or Allied Products	5,385,171	7,439,630	2,054,458	38%
Clay, Concrete, Glass, or Stone Products	4,808,907	7,315,817	2,506,910	52%
MSW	2,395,518	3,693,594	1,298,076	54%
Farm Products	1,874,602	3,010,666	1,136,064	61%
Petroleum or Coal Products	1,857,541	2,898,772	1,041,231	56%
Pulp, Paper, or Allied Products	1,856,776	2,629,443	772,667	42%
Lumber or Wood Products, Excluding Furniture	1,625,075	2,362,741	737,666	45%

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 64% of warehouse and distribution center tonnage will be moving outbound from Bergen County, and 32% will be moving inbound. Nonmetallic minerals, food, clay/concrete/glass/stone, farm products, and petroleum will move primarily inbound, and chemicals, and municipal solid waste (MSW) will move primarily outbound.

Top 10 Commodities by Tonnage by Direction, 2040

Sources: Cambridge Systematics, with data from IHS Global Insight

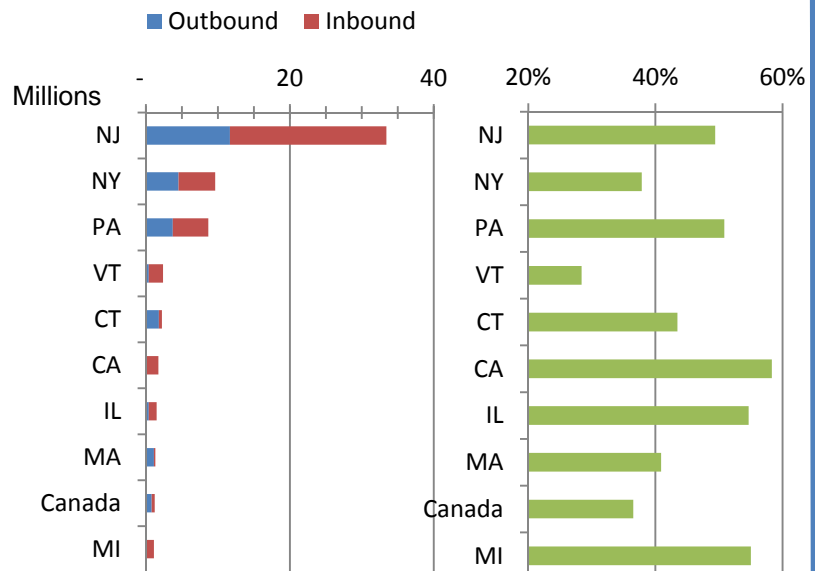


Trading Partners by 2040 Tonnage (Left) and 2007-2040 Growth (Right)

Source: Cambridge Systematics, with data from IHS Global Insight

Future Trading Partners

Bergen County's largest trading partners will continue to be other New Jersey counties, followed by New York and Pennsylvania. Rapid growth in outbound warehouse/distribution center moves will result in a more even inbound/outbound split for trade with Pennsylvania. Trade with distant locations in the West and Midwest, such as California, Illinois, and Michigan, is expected to grow faster than trade with New York and New England.

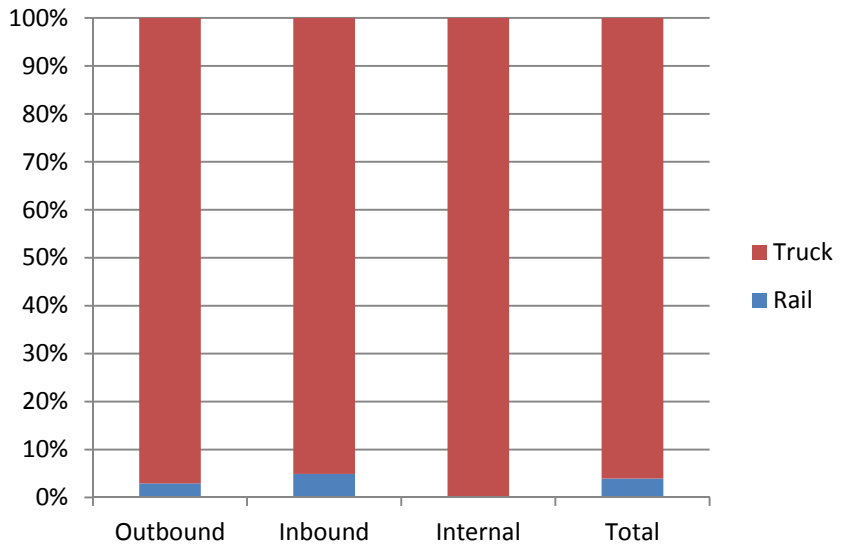


Future Mode Utilization

The forecast anticipates that freight mode splits in 2040 will be similar to 2007 mode splits. Trucks are expected to carry 96% of all freight tons, while rail is expected to carry about 4% of all freight tons. Rail will have a slightly higher share among inbound traffic (about 5%) relative to outbound traffic (about 3%). Trucks will carry 100% of intra-County freight moves.

Freight Tonnage by Mode and Direction, 2040

Source: Cambridge Systematics, with data from IHS Global Insight



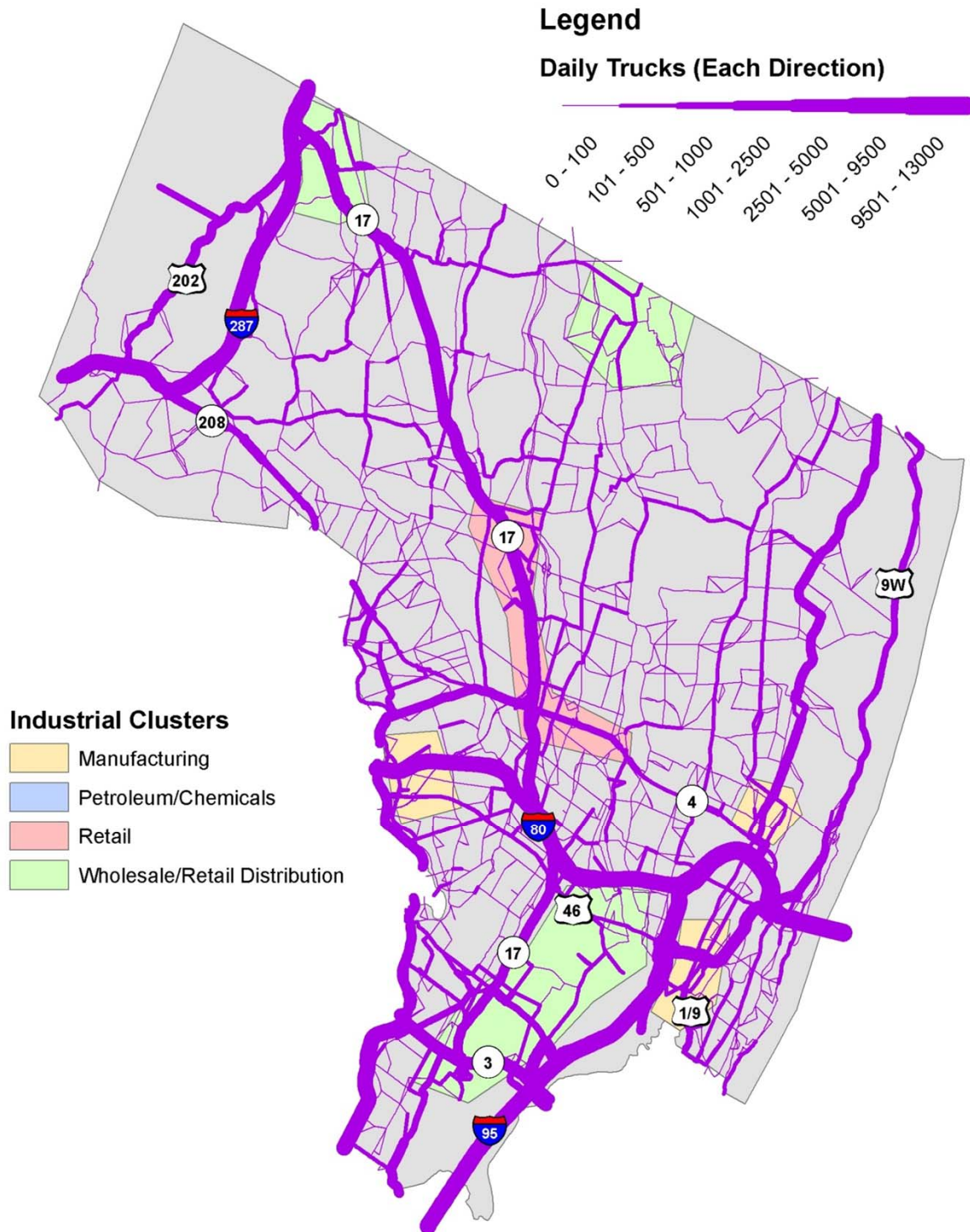
Future Highway Network Utilization

In 2040, 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 trucks traveling on the New Jersey Turnpike/Interstate 95 near its interchange with Interstate 80 is expected to increase by more than 30%, or as many as 6,000 trucks per day. Segments of Routes 1/9, Route 3, and Route 17 could experience a daily increase of 1,000 trucks.

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

Commodity Truck Flows in Bergen 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.

Bergen County’s representative on the NJTPA Board of Trustees is County Executive Kathleen A. Donovan.

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.