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

REGIONAL FREIGHT COMMODITY PROFILE

Textiles and Apparel

COMMODITY BUNDLE OVERVIEW

The textiles and apparel commodity bundle consists of three specific commodity groups: textiles, apparel, and leather products. Textiles include fabrics, carpet and floor coverings, upholstery, and yarns and threads. Apparel consists of clothing and clothing accessories. Leather products includes leather gloves and mittens, leather clothing and accessories, and leather handbags and luggage.

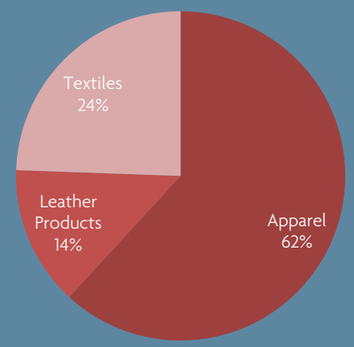
The primary data source for commodity flows reported in this profile is NJTPA's Freight Forecasting Tool, which generates commodity freight data and forecasts for a 2010 base year and 2040 forecast year. This profile describes freight flows between domestic origins and destinations.

Highlights

- 4.4 million tons in 2010, increasing 34% to 5.9 million tons in 2040.
- Represents 0.6% of the goods moved in the region by weight and 2.6% by value.
- 7,175 business establishments employing 62,481 people send or receive goods in this commodity bundle.
- More than 101 million square feet of warehousing/ distribution center space dedicated to this bundle..
- 96% moves by truck, 4% by rail, and less than 1% by air or water.

Composition

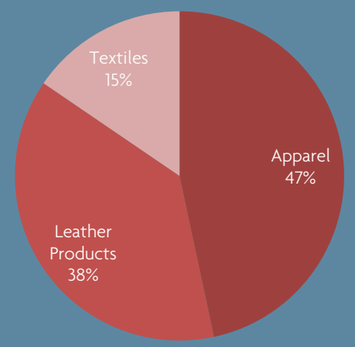
Domestic Tons in 2010



Total Tons: 4.4 million

Source: NJTPA Freight Forecasting Tool, 2012

Domestic Value in 2010



Total Value: $49 billion

Source: NJTPA Freight Forecasting Tool, 2012

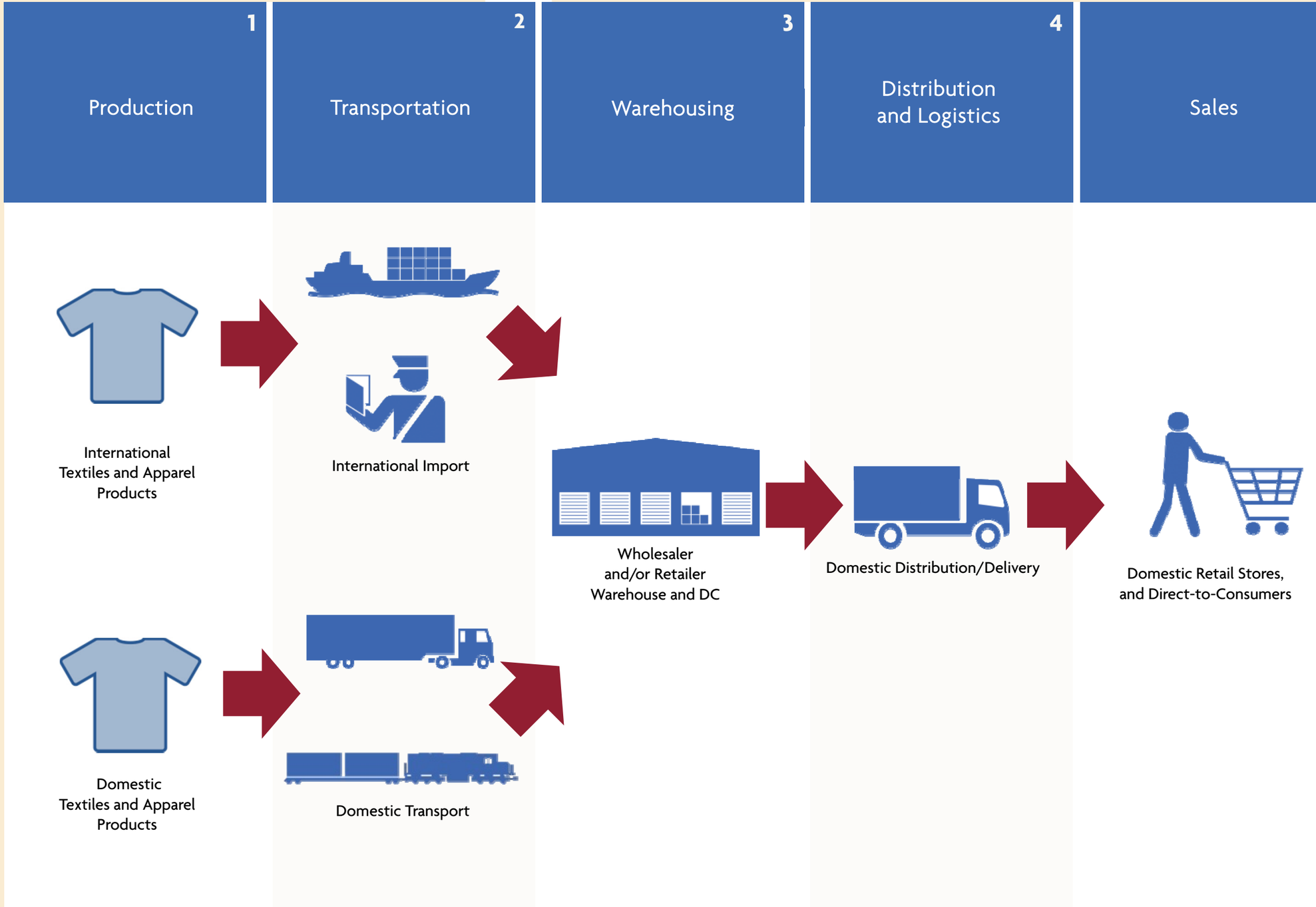
Apparel represents nearly two-thirds of goods in this commodity bundle by weight, and slightly less than half of the bundle by value. Textiles make up nearly one-quarter of the bundle by weight, but about 15 percent by value. Leather products represent only 14 percent of the bundle by weight but 38 percent by value.

LOGISTICS SUMMARY

The graphic to the right represents the supply chain for the apparel, textiles, and leather goods commodity bundle from initial production of finished goods to delivery of goods to consumers.

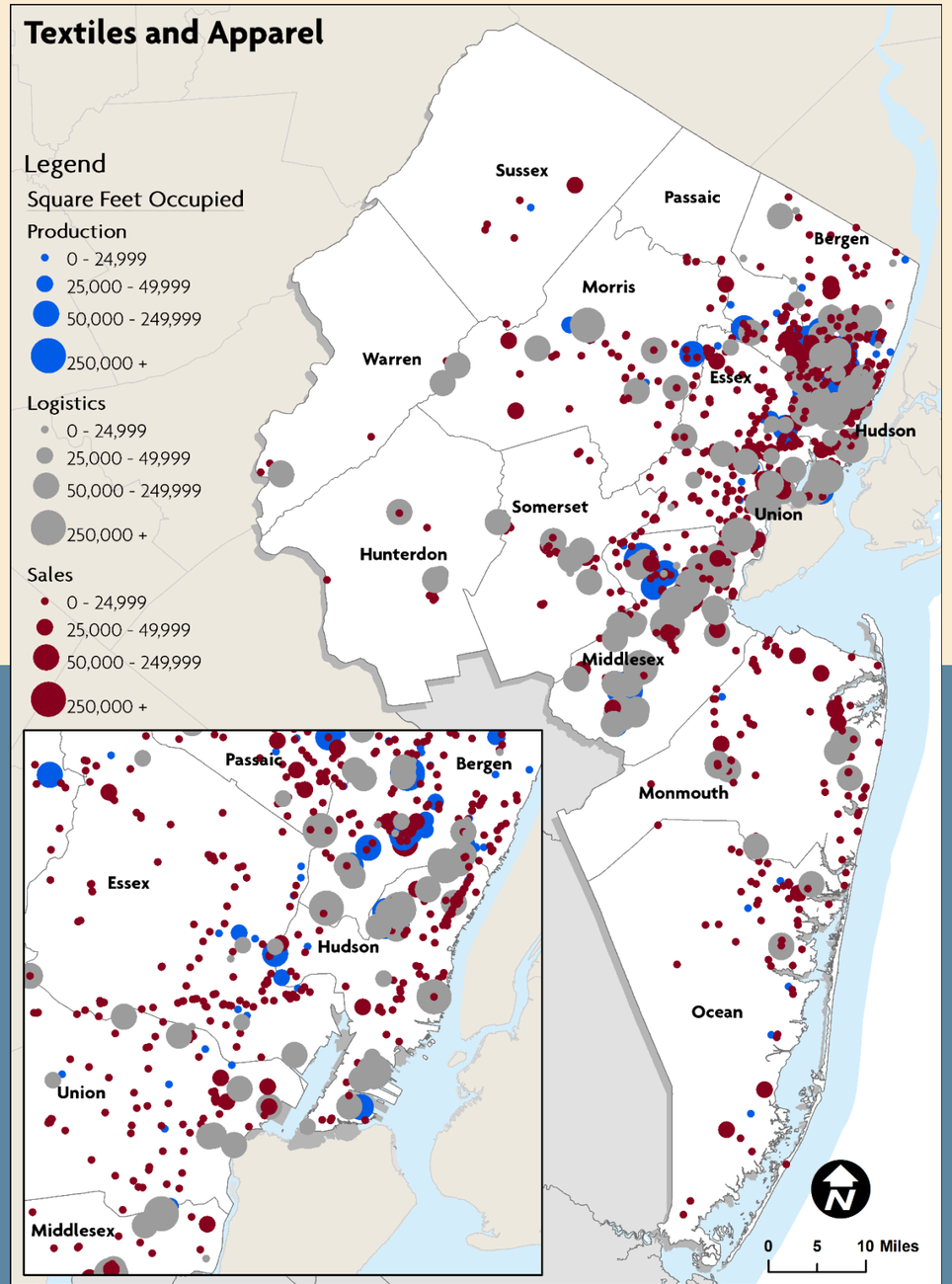
This supply chain consists of five steps:

1. International and domestic manufacturers produce textiles and apparel goods.
2. International products are transported by ocean vessel to U.S. Ports-of-Entry where they are inspected by U.S. Customs and transloaded to truck or rail intermodal modes. Domestically produced products are transported by truck and rail intermodal.
3. Products are sorted and stored at wholesaler or retailer warehouses and distribution centers.
4. Products are distributed to customers via truck, either to retail stores or direct-to-customers to fulfill orders.
5. Shipments are delivered according to customers' specifications.



Business Locations by Industry Type

Business Square Footage by Industry Type



Source: Co-Star, 2014; NJOIT, 2008; Esri, 2014.
Note: "Production" includes Manufacturing, Utilities, Mining & Agriculture, corresponding to Step 1 in the Logistics Summary on Pages 2-3.
"Logistics" includes Wholesale Trade and Warehousing, corresponding to Steps 2-4 in the Logistics Summary on Pages 2-3.
"Sales" includes Retail, Health Care, and Professional Services, corresponding to Step 5 in the Logistics Summary on Pages 2-3.

BUSINESS LOCATIONS SUMMARY

The map on the previous page illustrates the locations of facilities that ship, handle, or receive commodities in this bundle, including:

- Production facilities such as manufacturing businesses where goods are produced, and correspond to Step 1 in the logistics summary chart on pages 2 and 3.
- Logistics facilities, including warehousing and transportation facilities through which goods are distributed, and correspond to steps 2 through 4 on the logistics summary chart.
- Sales, represented in Step 5 on the logistics summary chart, including retail, services, and institutional establishments where goods are sold.

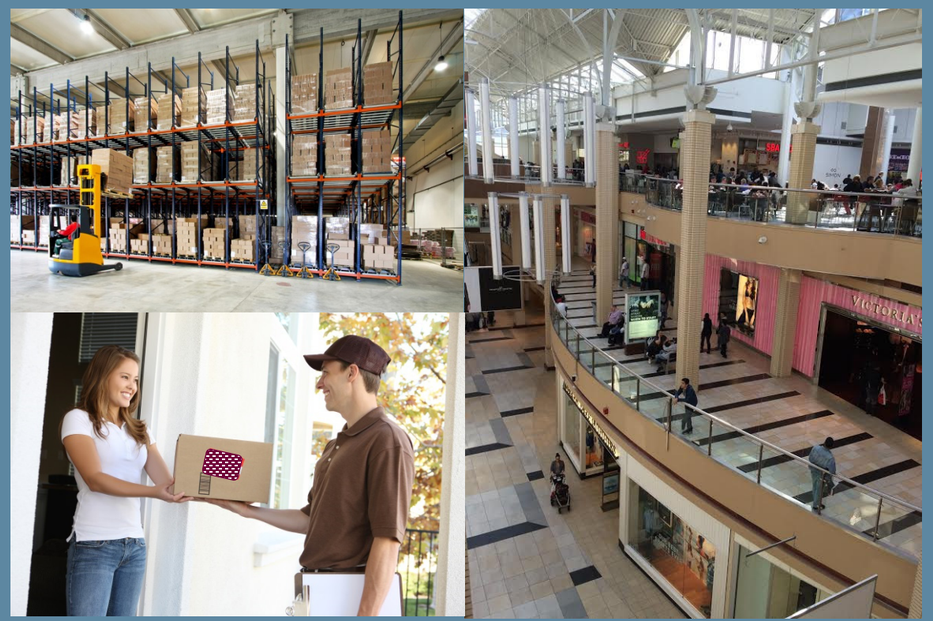
Clusters of establishments are located in the urban areas of the region, including southern Bergen, southern Passaic, Hudson, eastern Essex and Union , and Middlesex counties. Clusters are also located along many commercial corridors such as Route 10 in Morris County, Routes 202/206 in Somerset County, Routes 9 and 35 in Monmouth and Ocean counties.

KEY INDUSTRY TRENDS

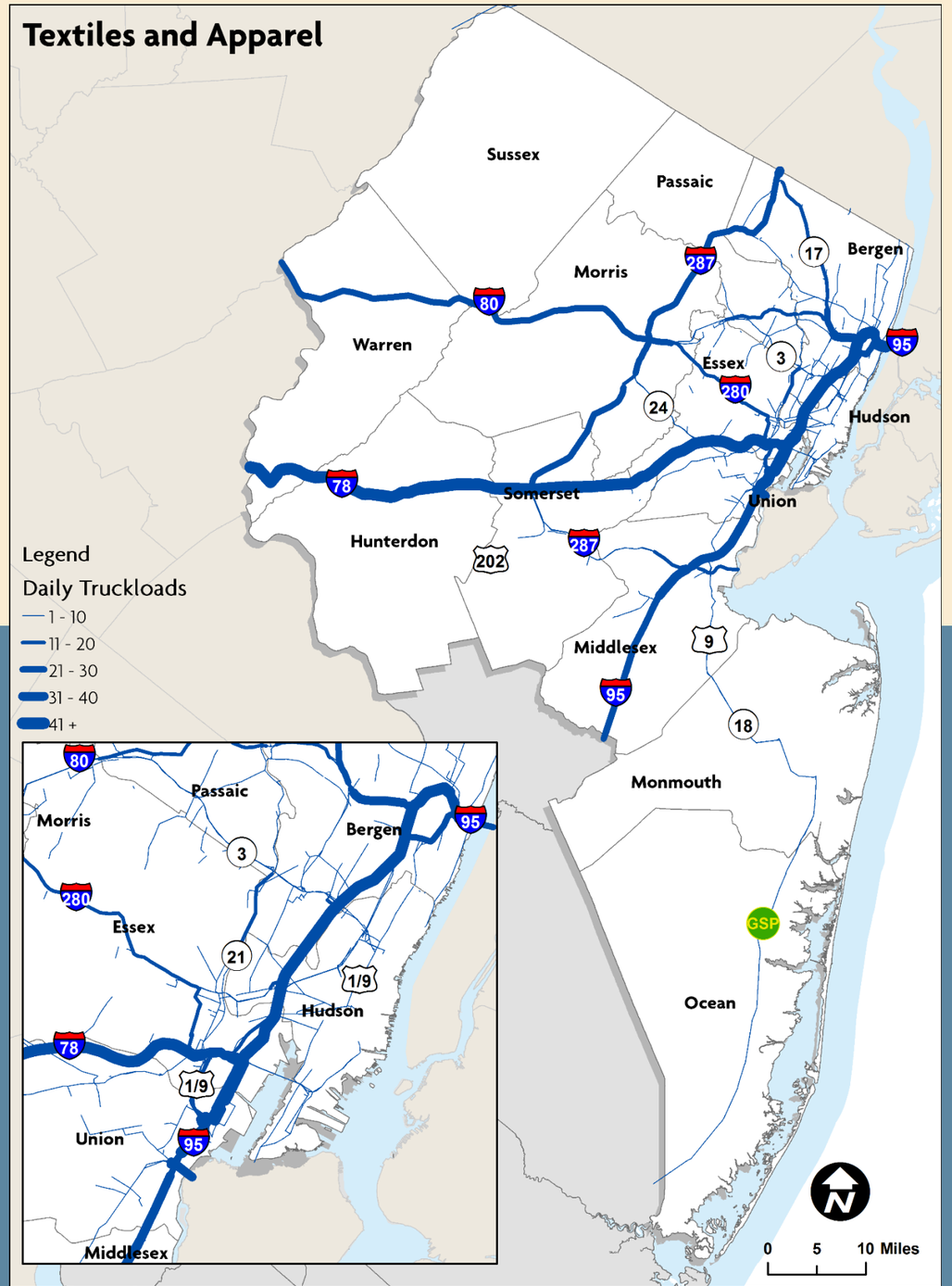
The following trends are shaping demand for textiles and apparel today, and projected demand in the future:

- International supply chains will shift as some companies seek lower labor costs in manufacturing centers outside of China and India.
- Growing demand for "active wear" and "smart" clothing in established markets will influence the U.S. apparel industry.
- In the U.S., the Baby Boom generation is nearing retirement. This will shift demand as tastes and needs change, leading to opportunities for companies that are able to cater to this market.
- Omni-channel marketing—the use of multiple channels to reach a customer including retail stores, online stores, mobile apps, television ads, etc.—continues to expand. This will challenge supply chains, requiring flexibility and speed to meet consumer demands.

Most Textiles and Apparel Travel Through Distribution Centers (Top-Left) Before Being Delivered to Consumers (Bottom-Left) or Retailers (Right)



Highway Network Utilization, 2010



Source: NJTPA Freight Forecasting Tool, 2012; NJOIT, 2008; Esri, 2014.

HIGHWAY NETWORK FLOWS OF TEXTILES AND APPAREL

The map to the left shows the volume of truckloads of goods in this bundle traveling on highway segments in the NJTPA region every day.

Portions of the NJ Turnpike and I-95 between Exit 13A in Union County and the George Washington Bridge in Bergen County, and Interstate 78 between U.S. Routes 1/9 in Union County and the Pennsylvania border carry more than 40 truckloads of textiles and apparel daily.

Portions of the NJ Turnpike south of Exit 13A in Union County, Interstate 80 between Interstate 280 in Morris County and the Pennsylvania state border in Warren County, Interstate 287 between Interstates 78 and 80 in Somerset and Morris counties, and Route 17 in Bergen County, all carry between 20 and 40 daily truckloads of goods in this bundle.

COMMODITY FLOW SUMMARY

Collectively, more than 4.4 million tons of textiles and apparel goods, worth $49 billion, moved into, out of, through, or within the NJTPA Region in 2010. By 2040, 5.9 million tons worth nearly $69 billion (constant 2010 dollars) will move in the region. These projections represent 34 percent growth by tons and 37 percent growth by value.

Textiles and apparel represented 0.6 percent of the goods moved in the region by weight and 2.6 percent by value in 2010. By 2040, this bundle will represent 0.6 percent of the goods moved in the region by weight and 2.4 percent by value.

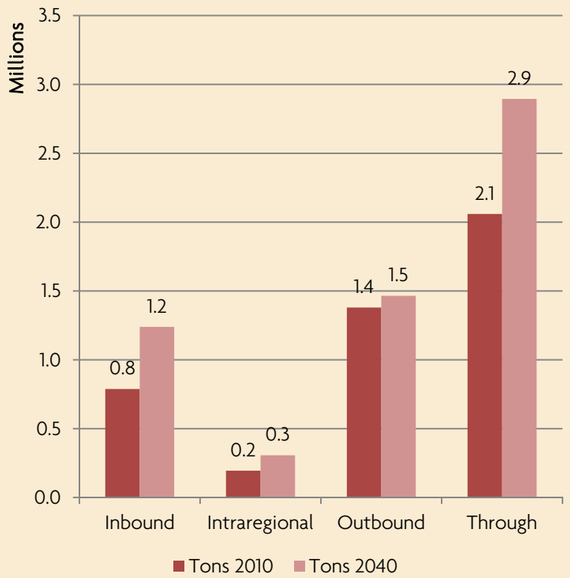
As the table below shows, miscellaneous finished textile goods, women's or children's clothing, men's or boys' clothing, miscellaneous textile goods, and leather luggage or handbags are the top five commodities in this bundle. Together they represent 72 percent of all of the textiles and apparel moved into, out of, or within the NJTPA Region by weight.

Commodities in the Textiles and Apparel Commodity Bundle

STCC4	Commodity	Tons (thousands)	Value (millions)	STCC4	Commodity	Tons (thousands)	Value (millions)
2390	Misc Finished Textile Goods	547	$2,943	2250	Knit Fabrics	34	$776
2330	Women's or Children's Clothing	466	$3,130	2240	Narrow Fabrics	18	$68
2310	Men's or Boys Clothing	314	$1,942	3110	Leather	17	$419
2290	Misc Textile Goods	213	$950	2350	Caps, hats, or Millinery	13	$83
3160	Leather Luggage or Handbags	151	$3,416	3190	Leather Goods, Nec	11	$312
3140	Leather Footwear	142	$3,890	2230	Wool Broad-woven Fabrics	8	$93
2270	Floor Coverings	138	$427	3130	Boot or Shoe Cut Stock	1	$25
2380	Misc Apparel or Accessories	121	$1,854	3121	Industrial Leather Belting	1	$38
2220	Man-made or Silk Woven Fibers	72	$380	2370	Fur Goods	1	$23
2210	Cotton Broad-woven Fabrics	53	$389	3150	Leather Gloves or Mittens	<1	$2
2280	Thread or Yarn	4	$225				

Source: NJTPA Freight Forecasting Tool, 2012
Note: "STCC4" represents the four-digit Standard Transportation Commodity Code (STCC)

Domestic Tons by Direction, 2010 and 2040



Source: NJTPA Freight Forecasting Tool, 2012

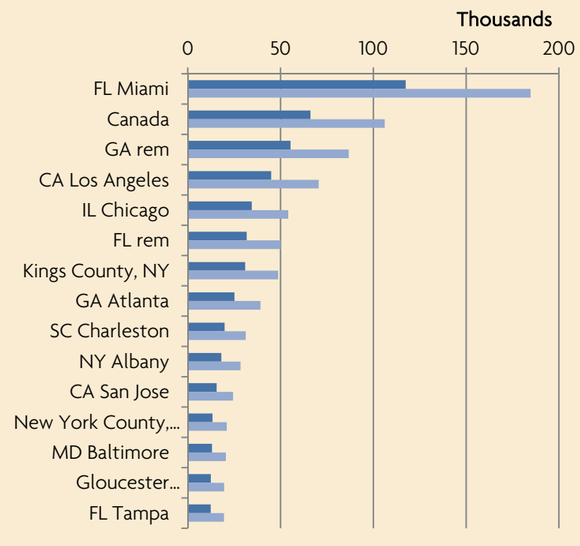
About 2 million tons of textiles and apparel (47 percent of all tons in this bundle) passed through the NJTPA region in 2010. About 1.4 million tons (31 percent) of tons are moving outbound, 800,000 tons (18 percent) moving inbound, and 200,000 tons (4 percent) are intraregional movements.

About 65 percent of the textiles and apparel imported to the NJTPA region originate in one of the locations shown in the graph to the right. The following regions are the top origins: the Miami, Florida region; Canada; portions of Georgia outside the Atlanta metropolitan area; and the Los Angeles region of California. Among the top origins, flows from Canada are expected to grow fastest (60 percent) and flows from Miami are expected to grow slowest (57 percent) through 2040.

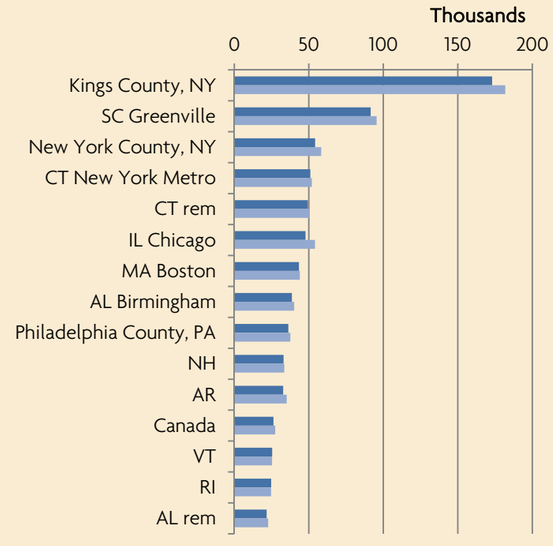
The locations shown in the far-right graph are the destinations of 54 percent of the goods in this commodity bundle that leave the NJTPA region. Kings County, NY (Brooklyn) is the top destination. Among the top destinations shown, flows to Chicago are expected to grow fastest (13 percent), while flows to Vermont and Rhode Island are expected to decline slightly (less than 1 percent) through 2040.

Nearly All of the Textiles and Apparel Goods Move by Truck (Left) or Intermodal Rail (Right)

Top Origins of Inbound Domestic Commodities (Left) and Top Destinations of Outbound Domestic Commodities (Right), 2010 and 2040



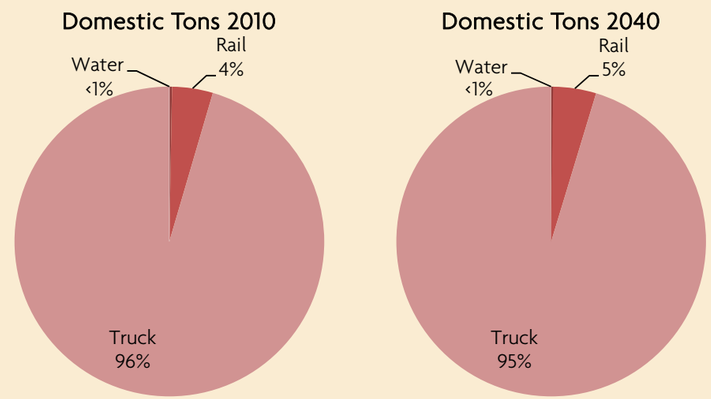
Source: NJTPA Freight Forecasting Tool, 2012
Note: "rem" stands for "remainder," which refers to the portions of a state outside major metropolitan regions.



Source: NJTPA Freight Forecasting Tool, 2012
Note: "rem" stands for "remainder," which refers to the portions of a state outside major metropolitan regions.

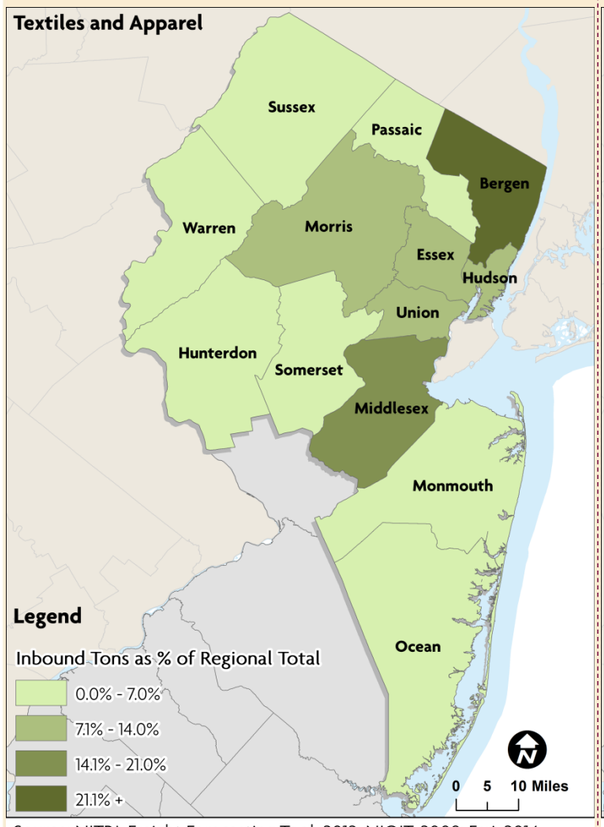
Mode Splits, 2010 and 2040

In 2010, about 96 percent of the textiles and apparel commodities moving in the NJTPA Region traveled by truck. Rail carried about 4 percent of goods in this commodity bundle. Air and water each carried less than 1 percent, and air and domestic water carried no significant volume of goods in this commodity bundle. By 2040, the share of tons moving by each mode is expected to remain similar.



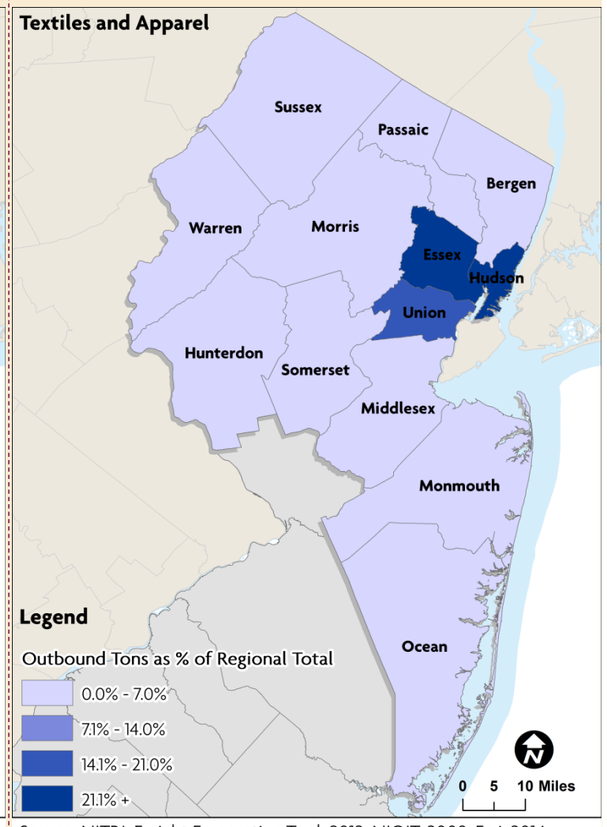
Source: NJTPA Freight Forecasting Tool, 2012

Inbound Domestic Tons by County, 2010



Source: NJTPA Freight Forecasting Tool, 2012; NJOIT, 2008; Esri, 2014.

Outbound Domestic Tons by County, 2010



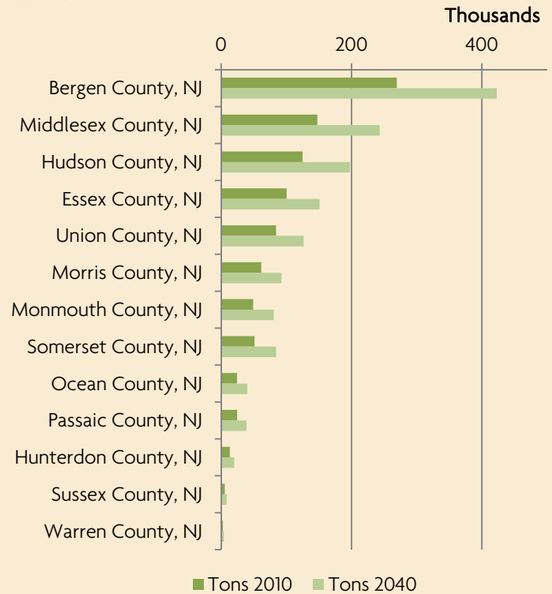
Source: NJTPA Freight Forecasting Tool, 2012; NJOIT, 2008; Esri, 2014.

The maps above and the graphs on the opposite page show the top counties of origin and top counties of destination for goods in this commodity bundle traveling to or from the NJTPA region.

More than half of the textiles and apparel traveling into the NJTPA region terminate in Bergen, Middlesex, or Hudson counties, each of which received more than 100,000 tons. Projected growth rates in inbound tonnage of textiles and apparel between 2010 and 2040 range from 50 percent (Essex, Union, Morris, Hunterdon and Sussex counties) to 65 percent (Middlesex County).

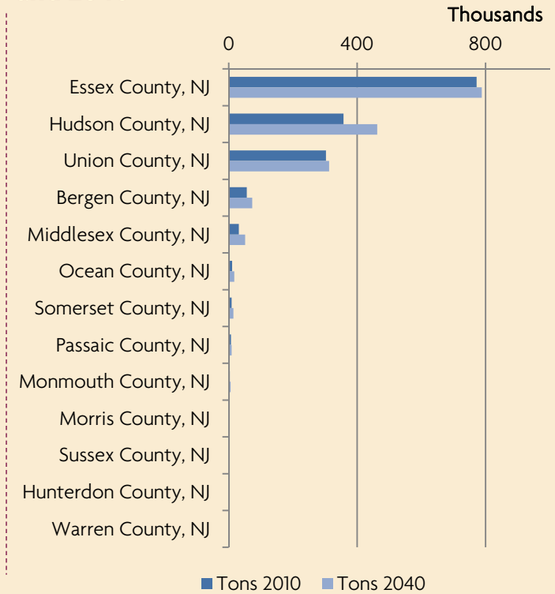
More than 90 percent of all textiles and apparel shipped outbound originate in Essex, Hudson, or Union counties. Nearly half originates in Essex County alone. Projected growth rates in outbound tonnage between 2010 and 2040 range from -5 percent (Hunterdon County) to 64 percent (Ocean County).

Inbound Domestic Tons by County, 2010 and 2040



Source: NJTPA Freight Forecasting Tool, 2012

Outbound Domestic Tons by County, 2010 and 2040



Source: NJTPA Freight Forecasting Tool, 2012

References

For more information on textiles and apparel commodity flows and logistics in the North Jersey region and elsewhere, consult the following sources:

- United States Fashion Industry Association, www.usfashionindustry.com
- International Textile and Apparel Association, www.itaaonline.org
- American Apparel & Footwear Association, www.wewear.org
- Bureau of Labor Statistics, U.S. Department of Labor, www.bls.gov

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, 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.

ABOUT THE STUDY

The NJTPA regional Freight Commodity Profiles study enhanced the NJTPA's freight modeling tools, analyzed, and identified gaps in existing freight and industry data, collected data and information to fill those gaps, and prepared summary data products, including a set of Regional Commodity Profile documents. In addition to supporting freight planning, these profiles will be used in stakeholder outreach and education. Key work tasks included:

- Enhancement of the NJTPA's Freight Forecasting Tool to produce commodity-specific truck trip tables.
- Identification of "Top 11 Regional Commodity Groups" based upon economic and commodity flow data.
- Collection and analysis of data on each of the commodity groups, including: direction of movement; locations of production, shipping, handling, and receiving centers; modes and routes used to transport the commodities.
- Production of "Regional Commodity Profile" documents for each of the Top 11 Regional Commodity Groups, which summarize the data analysis findings using charts, graphs, maps, and descriptive text.

ABOUT THIS PROFILE

The NJTPA developed a Freight Forecasting Tool (FFT) in 2012, which generates alternative domestic freight forecasts to support transportation, land use, and economic development decisions. The FFT was built by Cambridge Systematics, Inc., using commodity flow data from IHS Global Insight and econometric forecasts from the R/ECON model, produced and managed by the Center for Urban Policy Research at Rutgers University. Cambridge Systematics and Parsons Brinckerhoff enhanced the FFT in 2015 to produce commodity group-specific forecast tables.

The NJTPA conducted research on commodity flows and logistics chains for 11 key "commodity bundles," that move in the North Jersey region, including warehouse and terminal moves, food, apparel, paper and printed materials, waste, construction materials, machinery and transportation equipment, other durable goods, pharmaceuticals, chemicals, and hazardous materials. This profile offers an overview of the components, freight demand, and logistics chain for textiles and apparel moving into, out of, through, and within the North Jersey region.

For further information, please contact Jakub Rowinski, NJTPA Project Manager, at jrowinski@njtpa.org. 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.

 Publication Date: June 2015