

FREIGHT IN PHILADELPHIA



for:

*Philadelphia City Planning Commission
City of Philadelphia, Office of Transportation and Public Utilities
Select Greater Philadelphia*

by:

 DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

the **BIG** picture

Like powerful Internet networking tools, Philadelphia, Pennsylvania's, freight system affords rapid, productive, and global connections. Once known as the Workshop of the World, Philadelphia now serves as the calling card of the Delaware Valley region's impressive freight assets. For even the casual observer, the city's prominence in international commerce is abundantly evident: mammoth container cranes, multicultural company logos, and nonstop daily pick-up and delivery patterns dot the landscape.

When considering freight movement within and through Philadelphia, it is useful to think about freight in the same terms as trips made by people. Like person trips, freight shipments are influenced by factors such as the total trip distance, the pricing of different travel alternatives, the "size" of the shipment, and the degree to which precise arrival times are needed. These factors, in turn, help shippers, carriers, and logisticians make decisions about how (i.e., which mode or combination of modes) to ship the freight.

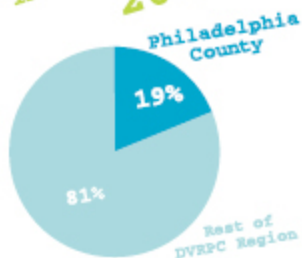
A number of prime industrial centers and major freight transportation generators are located within the Philadelphia city limits. Two large centers straddle either side of the Schuylkill River in South Philadelphia, and a third is clustered around the Northeast Philadelphia Airport. Other smaller but significant centers are located along the Delaware River near the Betsy Ross Bridge and the Walt Whitman Bridge, and near the Juniata Park and Nicetown neighborhoods.

Philadelphia's extensive transportation system is tailor-made for handling all types of freight shipments and, in particular, those that utilize more than one mode of transportation (i.e., intermodal). Three interstate highways, I-95, I-76, and I-676, carry the bulk of commercial vehicle traffic. Twenty six interchanges on those highways, a federally designated set of connector roads, and a new short-term truck parking system provide superb local access.

Shippers and carriers have the luxury of a full range of railroad, port, and airport service options in Philadelphia. The spines of the rail freight system are CSX's north-south oriented Philadelphia and Trenton Subdivision lines and the east-west oriented Norfolk Southern Harrisburg line (also used by the Canadian Pacific). Import and export commodities are handled at nine active marine terminals, with surges in volumes highly anticipated due to major terminal expansion projects and the deepening of the Delaware River's main channel. Philadelphia International Airport provides an exclamation point of market reach courtesy of its air freight terminals (e.g., UPS, FedEx, US Airways, and the U.S. Postal Service) and passenger belly-cargo capabilities.

This brochure provides an introductory overview about freight activity in Philadelphia, including a map, two case study references, data, and helpful contacts. Freight shipments will continue to grow in the coming years, and it is therefore vital for the general public, elected officials, and planners to grasp the factors and dynamics that govern freight shipments and to more fully integrate freight into the planning process. ♦

Manufacturing output (\$) in Philadelphia:
2008



Source: Global Insight's U.S. Business Demographics Service

Philadelphia: Demographic Data

	1970	2000	% Change
Employment			-76%
Manufacturing	241,833	57,965	
Transportation	69,376	37,135	-46%

Source: Bureau of Economic Analysis, 2002 REIS data

PHILADELPHIA

FREIGHT RELATED TRANSPORTATION

	OUTPUT (\$B)
WATER	116,735,612
ROADWAY	405,234,935
RAIL	86,724,079.4
COURIER (PARTIALLY INCLUDES AIR)	1,449,825,098
PIPELINE	2,532,680
WAREHOUSING	244,902,689

TOTAL \$ 2,707,955,093

Source: Global Insight's U.S. Business Demographics Service



Just-in-Time—a logistics term connoting cargo shipment reliability, speed, and transparency.

Of the four primary freight modes (trucking, rail, water based, and aviation), trucking is the most prominent in Philadelphia. The DVRPC simulation model estimates that trucks log roughly two million miles on Philadelphia roadways on an average day. Light trucks account for slightly more vehicle miles than heavy trucks (i.e., single-unit trucks with three axles and larger), and 62 percent of all truck trips occur on arterial highways.

Philadelphia is a hub of air cargo, maritime, and rail freight activity. Close to half a million tons of high-value, time-sensitive air freight were handled at Philadelphia International Airport in 2009 (including air cargo facilities located in Delaware County). Six hundred and twenty two ships from overseas and numerous barges called on the city's port facilities in 2010. With over 100 miles of active rail lines and numerous rail yards and intermodal rail facilities, freight trains are also in vibrant evidence. ♦

<i>Interstate Highway Route Miles</i>	38.76
<i>Other National Highway System Route Miles</i>	90.90
<i>NHS Freight Connector Route Miles</i>	16.46
<i>Interstate Highway Interchanges</i>	26
<i>Total Truck Rest Stop Parking Spaces</i>	0
<i>Light-Truck Miles Traveled Daily</i>	1,080,600
<i>Heavy-Truck Miles Traveled Daily</i>	969,700
<i>Freight Rail Route Miles (total):</i>	104.84
Private lines	76.15
Freight trackage rights on public lines	28.69
<i>Rail Yards and Intermodal Terminals</i>	11
<i>Ports</i>	9
<i>2010 Ship Calls</i>	622
<i>Linear Berthing (feet)</i>	13,712
<i>Ship Cranes</i>	9
<i>Air cargo and air mail (tons)</i>	477,881

It's All About Jobs

The movement of freight is integrally related to the retention and creation of employment in the transportation and manufacturing sectors. Philadelphia, like many other large cities, experienced significant losses in manufacturing and transportation jobs between 1970 to 2000. However, **the manufacturing and transportation sectors still combined to account for 12 percent of total non farm employment and provided higher than average annual salaries in 2000.**

In 2008, Philadelphia accounted for one-fifth of the total manufacturing output for the entire DVRPC region. Roughly 37 percent of the output from Philadelphia came from petroleum refineries, a total of over \$7 billion. Three other sectors topped the billion dollar output threshold. Food manufacturing, led by commercial bakeries, accounted for \$2.5 billion in economic output. Chemical manufacturing also had roughly \$2.5 billion in output due to high levels of manufacturing in medicinal and pharmaceutical manufacturing. Lastly, \$1.5 billion in economic output came from the manufacturing of transportation equipment, mainly car parts and ship building.

Philadelphia was the top county in the Delaware Valley in terms of freight-related transportation output in 2008, primarily due to the amount of economic output from the courier sector. Also of note, the rail sector in Philadelphia accounted for more economic output (\$487 million) than the roadway sector (\$405 million). In 2008, the courier sector in Philadelphia provided \$1.5 billion economic output. ♦

how it

GOES

from here
to there

The 21st century supply chain is an amazing spectacle of interwoven modes, schedules, and partnerships. Each manufactured product results from its own unique logistics and decision-making process as it goes from raw material to production and then to consumers for final consumption.

If you could peer inside factories, warehouses, trucks, rail cars, and ships, you would find a diverse and fascinating number of supply chain case studies criss-crossing Philadelphia at any moment in time. What is particularly interesting about different products is how varied their trip lengths are: they may range from wholly local to regional, national, and even international.

The diagram below details the intricate supply chain process used to construct tanker ships at the Aker Philadelphia Shipyard. The step-by-step progression vividly illustrates Philadelphia's industrial muscle, technological prowess, and critical role in the global and green economies. ♦

#1 Vessel-owning companies contract for the construction of new tanker ships.

#2 Orders for materials and components are placed up to 12 months in advance.

#3 Two thousand and two hundred slabs of custom-made steel are shipped from ArcelorMittal Steel mills in Coatesville and Conshohocken, Pennsylvania, and Indiana.

#4 Other parts, engines, and equipment are transported to the Philadelphia shipyard from Asia and Europe.

#5 Employing two 10-hour shifts a day and using hundreds of thousands of production hours, individual blocks of the hull are formed.

#6 The blocks are assembled and final outfitting is completed in one of two massive drydocks.

#7 Following sea trials and commissioning, the new tanker serves Gulf Coast and West Coast refineries.



PHILADELPHIA

Freight Facilities & Industrial Centers



Freight Facilities

- Interstate Highway
- Interstate Highway Interchange
- Other National Highway System Route
- Overnight Truck Parking Facility
- Freight Rail (Private)
- Freight Trackage Rights (Public)
- ▲ Rail Yard
- Rail Intermodal Facility
- Port Facility
- Air Freight Facility

Industrial Centers

- County Industrial Sub-Center
200 - 499 Acres
- County Industrial Center
500 - 999 Acres
- Regional Industrial Center
1000+ Acres

Featured Brochure Items

- ★ Supply Chain Case Study
- ★ Freight as a Good Neighbor Example

Good Neighbors Right in Our Backyard

Local communities are where the rubber hits the road when it comes to freight shipments. Freight facilities and operations sometimes generate unwanted impacts, so it is important to cultivate partnerships and promote programs that allow for freight movement, but that also protect the quality of life in our neighborhoods.

The Philadelphia Regional Port Authority (PRPA) is blazing new trails in environmental stewardship and sustainability through its Green Ports Initiative. In order to promote cleaner air and water at and nearby its numerous active port terminals, PRPA is proactively seeking to modernize vehicles and equipment, reduce energy consumption, and employ clean energy sources. This far-reaching program supports and complements similar efforts by port operators, the Delaware River Port Authority, the South Jersey Port Corporation, the Clean Air Council, and the U.S. Environmental Protection Agency.

For more information, see DVRPC's special treatment of freight in local communities in a Municipal Implementation Tool brochure released in 2010 (publication # MIT019). ♦

Philadelphia Freight Planning Contacts:

Philadelphia City Planning Commission

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1515 Arch Street
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(215) 683.4615
www.philaplanning.org

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Philadelphia, PA 19103
(215) 686.9003
www.phila.gov

Select Greater Philadelphia

200 South Broad Street, Suite 700
Philadelphia, PA 19102-3789
(800) 221.0774
www.selectgreaterphiladelphia.com

Delaware Valley Regional Planning Commission

190 N Independence Mall West
Philadelphia, PA 19106
Contact: Ted Dahlburg
(215) 238.2844
www.dvrpc.org

Delaware Valley Goods Movement Task Force

DVRPC's freight advisory committee, the Delaware Valley Goods Movement Task Force, allows the local freight community to participate in formulating regional policies, plans, and programs. This diverse committee has been meeting since 1992. Members include shippers, Class I and short line railroads, trucking companies, ports, air freight, 3PL firms, federal, state, and local agencies, toll authorities, and consultants.

County Freight Scans

This brochure has been prepared in conjunction with DVRPC's County Freight Scans Program. During Fiscal Year 2011, brochures were completed for each of the nine counties in the Delaware Valley region: Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania, and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. DVRPC gratefully acknowledges the stalwart support of many members of its freight advisory committee in the conduct of the County Freight Scans and the preparation of the series of county freight brochures.

