DVRPC

PROCESS MEMO

DVRPC Freight Centers: 2025 Update Process



JUNE 2025







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Introduction

The movement of freight between regional businesses, end consumers, and national and international markets is a complex system with profound impacts on the region's people, economy, and environment. Orchestrating the efficient goods movement requires cooperation between numerous public and private stakeholders. As part of its role as the federally designated Metropolitan Planning Organization (MPO) for the Greater Philadelphia area, the Delaware Valley Regional Planning Commission (DVRPC) studies where freight-intensive industries—such as manufacturing facilities and warehouses—are located, in order to better understand the region's transportation needs and inform the comprehensive planning process. This analysis identified 75 total freight centers, up from the 67 that were included in the previous 2017 iteration.

Freight Center Definition

A freight center is an area with a concentration of facilities that generate significant amounts of freight activity as well as employment in related sectors. This definition does not include retail centers or other concentrations of businesses that are primarily customer-facing. DVRPC designates freight centers throughout its nine-county region to help document current transportation and land use patterns as part of the comprehensive planning process that includes the development of the region's Transportation Improvement Plan and Long-Range Plan.

Freight Center Typology

Freight centers are assigned a descriptive type based on their physical form and the kind of businesses located within them. The five freight center types are:

- International Gateway Centers are oriented around a major port or airport that serves to connect the region with national and international markets.
- Heavy Industrial Centers are defined by the presence of large industrial facilities such as factories, petroleum refineries, and steel mills, which are engaged in the manufacturing of goods or the refining of raw resources.
- Distribution and Logistics Centers have ample warehousing space and highway connectivity.
- **High Tech Manufacturing Centers** are defined by the presence of pharmaceutical, biotechnology, or aviation businesses, though these facilities can take different physical forms.
- Local Manufacturing and Distribution Centers are comprised of smaller, general-purpose buildings occupied by small businesses and tend to be located closer to end customers in residential or commercial areas than the other types of centers.

Need for an Update

The data used to develop the 2017 freight centers has grown increasingly out of date. At the same time, certain freight-intensive industries, especially warehousing, have seen significant growth across the region. This discrepancy prompted DVPRC to initiate an update of these designations to ensure their continued accuracy and utility. The 2025 update process was similar to the one used in 2017 except that some data sources were replaced because they were no longer available.

Process Overview

The process of identifying freight centers had three main steps. First, a quantitative analysis was performed that calculated a freight score for every Census Block in the DVRPC region using data on land use, employment, industrial properties, and intermodal facilities. Second, these scores were then compared to the 2017 freight centers boundaries to highlight areas that should be examined for possible changes. Third, DVRPC staff manually reviewed these areas, noting where new freight centers may be added or existing freight center boundaries changed. A combination of employment data, environmental records, and manual review was then used to assign or reassign one of five types to the updated centers.

Data Sources for Scoring

This section identifies the data sources used for the raw metric values, which were then translated into subscores for land use, employment, industrial properties, and intermodal facilities.

Land Use

DVRPC maintains a publicly available <u>land use layer</u> for its nine counties that classifies land area based on activity (such as residential, commercial, industrial). Areas are assigned a general two-digit category code and a more specific five-digit sub-category code. A subset of the most recent land use layer, released in 2023, was used to measure the portion of each Census Block occupied by freight-intensive land use.

Employment

Job counts from 2021 were obtained from the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) <u>Origin-Destination Employment Statistics</u>, Version 8 (LODES 8). The number of jobs by North American Industry Classification System (NAICS) sector codes at the 2020 Census Block-level from the LODES 8 workplace area characteristics file was used to quantify freight employment.

Industrial Properties

CoStar is a proprietary real estate and property database comprised of point-based features with attributes such as property type, floor area, and building amenities. The CoStar dataset was retrieved in April 2024 and used to calculate the number of industrial properties and the total square footage of those properties in each Census Block.

Intermodal Facilities

DVRPC maintains datasets of <u>intermodal rail yards</u> and <u>port terminals</u> within its nine-county region. These two datasets were updated in 2024 and combined into an intermodal facilities layer for use as inputs for a proximity-based analysis.

Freight Score Calculation

Each Census Block was assigned a freight score defined by the sum of four subscores, as shown in Table 1, the freight score for was defined by the sum of four sub-scores. Census Blocks were chosen as the unit of analysis due to their complete coverage of the region and the availability of data at that level. The industrial land use, freight employment, and industrial properties subscores were calculated by transforming a raw metric value into a score between zero and five, inclusive, using manually established breakpoints. The breakpoints were established through an exploratory process that aimed for a score distribution that would indicate if a freight center has grown, shrunk, or recently been established, in relation to the existing freight center boundaries. Ultimately, all blocks whose metric values were zero were assigned a zero score, and all blocks that had a metric value greater than zero were assigned a score of at least one. Breakpoints were set such that blocks with a score of four or more were heavily concentrated within or adjacent to existing freight centers, and blocks with a score of two or three tended to cluster in and around existing freight centers but were also visibly present outside of existing freight centers. The proximity to an intermodal facility subscore was calculated using a geospatial process, which is described below.

Table 1: Component Subscores

Subscore		Raw Metric	Maximum Score
Industrial Land Use		Percent of area occupied by a freight-intensive land use	5
Freight Employment		Number of Employees	5
Industrial Properties	•		5
Maximum of	Industrial Properties	Number of Industrial Properties	
Maxilliulli Oi	Industrial Space	Square Feet of Industrial Space	
Proximity to an Inter	modal Facility	Distance	2
Total			17

Industrial Land Use

The industrial land use subscore is based on the portion of the Census Block's land area that is occupied by freight-intensive land use. For the purposes of this analysis, freight-intensive land uses include the following subcategories:

- 03000 (Industrial: General)
- 03009 (Parking-Industrial: General)
- 03010 (Industrial: Mixed-Use)
- 03019 (Parking-Industrial: Mixed-Use)
- 03020 (Industrial:
 - Warehousing/Distribution/Open Storage)
- 03029 (Parking-Industrial:
 - Warehousing/Distribution/Open Storage)
- 04000 (Transportation: Facility)
- 04009 (Parking-Transportation: Facility)
- 04030 (Transportation: Airport)
- 04039 (Parking-Transportation: Airport)

- 05000 (Utility: Right-of-Way)
- 05010 (Utility: Landfill)
- 05019 (Parking-Utility: Landfill)
- 05020 (Utility: Wastewater Treatment)
- 05029 (Parking-Utility: Wastewater Treatment)
- 05030 (Utility: Other Facility)
- 05039 (Parking-Utility: Other Facility)
- 05040 (Utility: Recycling)
- 05049 (Parking-Utility: Recycling)
- 11000 (Mining)
- 11009 (Parking-Mining)

Freight Employment

The freight employment sub-score was calculated based on the number of jobs in freight-intensive industries. For this analysis freight-intensive industries include those with NAICS sector codes 11 (Agriculture, Forestry, Fishing, and Hunting), 21 (Mining, Quarrying, and Oil and Gas Extraction), 22 (Utilities), 23 (Construction), 31-33 (Manufacturing), 42 (Wholesale Trade), and 48-49 (Transportation and Warehousing).

Industrial Properties

For the industrial properties subscore, two metrics, the number of buildings and the total square footage of those buildings—were calculated at the Census Block-level and assigned a value between zero and five, inclusive, but only the greater of the two contributed to the final score. Both metrics were based on industrial properties extracted from the point-based CoStar real estate database. This data was used to sum the number of industrial properties and the floor area in square feet of those buildings for each Census Block.

Proximity to an Intermodal Facility

The points awarded for proximity intermodal facility were based on a geometric buffer was created around the intermodal facilities. Those buffer polygons were intersected with the Census Blocks to determine their score. Census blocks were given two points if they were within a half of a mile of an intermodal facility and one point if they were within one mile of an intermodal facility.

Manual Review

Once the freight score had been calculated for all Census Blocks in the region, the scores were compared to the freight center boundaries established in 2017 to determine which blocks needed to be reviewed for changes using the following cutoffs:

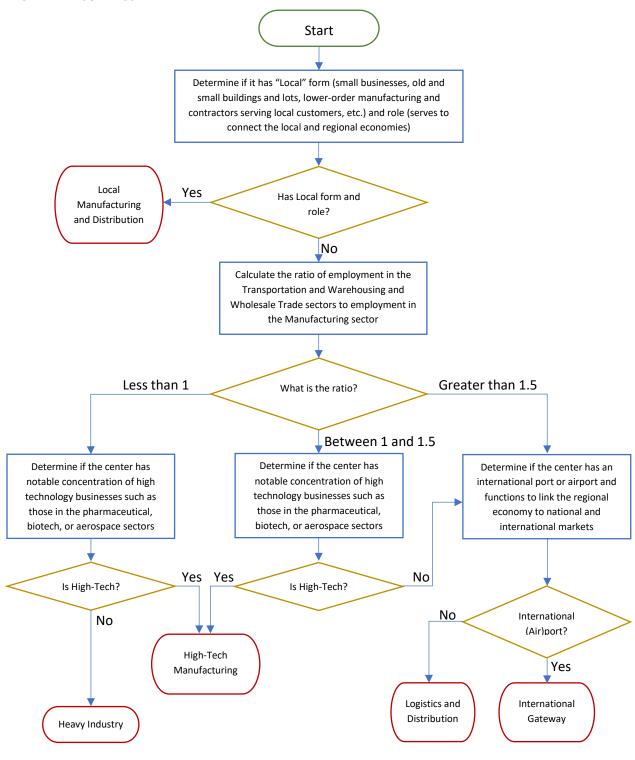
- Blocks outside of an existing center with a score of nine or higher were reviewed for a possible new
 center.
- Blocks adjacent to or partially overlapping with an existing center with a score of five or higher were reviewed for a possible expansion of that center.
- Blocks that overlap with an existing center with a score of four or less were reviewed for a possible shrinkage of that center.

Within each Census Block, each property parcel was evaluated separately for the presence of a freight-intensive business, and parcels for addition or deletion were noted. Following the manual review, the center boundaries were redrawn to reflect these changes.

Typology Classification

After the boundaries had been redrawn, the newly added centers were assigned a type, and existing centers were re-examined to determine if their classifications were still appropriate. As shown in Figure 2, one of the key details considered, in addition to the physical form of the center, was a calculated ratio between the combined employment of the wholesale trade and transportation and warehousing sectors and employment in the manufacturing sector. This meant that a high ratio indicated a logistics focus and a low ratio indicated a manufacturing focus. Furthermore, environmental records and online research were used to help distinguish between high-tech manufacturing and other kinds of industrial activity. These environmental records were downloaded from the United States Environmental Protection Agency's Facility Registry Service and filtered to only include facilities with six-digit NAICS codes beginning with 3254 (Pharmaceutical and Medicine Manufacturing), 3364 (Aerospace Product and Parts Manufacturing), and 3391 (Medical Equipment and Supplies Manufacturing).

Figure 1: Typology Classification Flowchart



Results

The 2025 update process designated a total of 75 freight centers in the DVRPC region, as shown in Figure 2 and listed in Table 2, this is up from 67 centers in 2017. Ultimately, seven new centers were added, 15 centers had their type changed, and six centers were created by redrawing the boundaries of 5 existing centers that had grown large or diffuse enough to be split. As highlighted in Figure 3, of the seven newly added centers, four are Distribution and Logistics centers in New Jersey, two are Local Manufacturing and Distribution centers in Pennsylvania, and one is a Heavy Industrial center in Montgomery County. Of the 15 type changes, eight became Distribution and Logistics centers, four became Local Manufacturing and Distribution centers, one became High Tech, and one became Heavy Industrial. Table 3 shows the current number of centers by type and county as well as the change since 2017. Overall, the new centers and type changes underscore the significant growth seen in the warehousing sector, especially in New Jersey.

Center Type
International Gateway
Heavy Industrial
High Tech Manufacturing
Distribution & Logistics
Local Manufacturing &
Distribution

Figure 1: 2025 Freight Centers

Table 2: 2025 Freight Centers and Changes

County	ID	Name	Туре	Change
Bucks	FC81	Bensalem North	Local	New Center
Bucks	FC03	Bensalem South	High Tech	
Bucks	FC05	Bristol North Distribution		Type Change
Bucks	FC04	Bristol South	Heavy Industrial	Type Change
Bucks	FC08	Falls-Keystone Trade Center	Distribution	Type Change
Bucks	FC06	Falls-Middletown	Local	
Bucks	FC07	Falls-Morrisville	Local	Type Change
Bucks	FC45	Plumstead	Local	Type Change
Bucks	FC01	Quakertown Interchange	Distribution	
Bucks	FC82	Telford	Local	Newly Divided
Bucks, Montgomery	FC02	Warminster	High Tech	
Burlington	FC09	Cinnaminson-Delran	Distribution	
Burlington	FC48	Delanco	Distribution	Type Change
Burlington	FC11	Hainesport	Distribution	Type Change
Burlington	FC77	Mansfield	Distribution	New Center
Burlington	FC57	Moorestown	Local	
Burlington	FC47	NJTP Exit 5	Distribution	
Burlington	FC10	NJTP Exit 6A	Distribution	
Burlington	FC56	NJTP Exit 7-Bordentown	Distribution	
Camden	FC55	Barrington-Magnolia	Distribution	
Camden	FC37	Camden-Gloucester Port Complex	International	
Camden	FC78	Camden-Pavonia	Distribution	New Center
Camden	FC79	Lawnside-Ashland	Distribution	New Center
Camden	FC38	NJTP Exit 3	Distribution	Type Change
Camden	FC39	Pennsauken North	Distribution	
Camden	FC50	Pennsauken South	Local	
Camden	FC53	Pennsauken-Cooper River	Local	
Camden	FC60	Winslow	Local	
Camden, Burlington	FC54	NJTP Exit 4	High Tech	
Chester	FC25	Coatesville	Heavy Industrial	
Chester	FC24	Downingtown	Local	
Chester	FC70	East Whiteland	High Tech	
Chester	FC26	New Garden	Local	
Chester	FC67	Oxford	Local	
Chester	FC68	Valley-Sadsbury	High Tech	
Chester	FC87	West Goshen	Local	New Center
Chester	FC69	West Sadsbury	Local	Type Change
Delaware	FC62	Aston-Bethel	Local	
Delaware	FC35	Chester-Eddystone	Heavy Industrial	
Delaware	FC61	Concord	Local	

Delaware	FC36	Darby-Folcroft	Distribution	
Delaware	FC34	Marcus Hook-Trainer	Heavy Industrial	
Delaware	FC33	Upper Chichester	Distribution	
Gloucester	FC80	Logan-Bridgeport	Distribution	New Center
Gloucester	FC22	Logan-Pureland	Distribution	
Gloucester	FC20	Paulsboro	Heavy Industrial	
Gloucester	FC19	West Deptford	Distribution	Type Change
Gloucester	FC21	Westville	Heavy Industrial	
Mercer	FC52	Hamilton North	Distribution	
Mercer	FC58	Hamilton South	Distribution	
Mercer	FC31	NJTP Exit 7A-Robbinsville	Distribution	
Mercer	FC59	NJTP Exit 8	Distribution	
Mercer	FC51	Trenton-Ewing	Local	
Mercer	FC32	Trenton-Hamilton	Heavy Industrial	
Montgomery	FC41	Lansdale Borough	Local	
Montgomery	FC84	Lansdale Interchange	High Tech	Newly Divided
Montgomery	FC29	Montgomery	High Tech	
Montgomery	FC90	Plymouth	Heavy Industrial	Newly Divided
Montgomery	FC27	Pottstown	Heavy Industrial	
Montgomery	FC71	Stowe	Heavy Industrial	New Center
Montgomery	FC40	Upper Gwynedd	High Tech	
Montgomery	FC64	Upper Hanover	Local	
Montgomery	FC86	Upper Merion	High Tech	Newly Divided
Montgomery	FC66	Upper Providence	Distribution	Type Change
Montgomery	FC63	Willow Grove Interchange	High Tech	Type Change
Montgomery, Bucks	FC83	Hatfield East	Local	Newly Divided
Montgomery, Bucks	FC85	Hatfield North	Local	Newly Divided
Philadelphia	FC12	Northeast Philadelphia Airport	Distribution	Type Change
Philadelphia	FC42	Philadelphia-Bridesburg	Heavy Industrial	
Philadelphia	FC17	Philadelphia-Girard Point	Distribution	Type Change
Philadelphia	FC13	Philadelphia-Hunting Park	Local	
Philadelphia	FC49	Philadelphia-Tacony	Local	
Philadelphia	FC16	South Philadelphia Port Complex	International	
Philadelphia	FC15	Tioga Port Complex	International	
Philadelphia, Delaware	FC18	Philadelphia International Airport	International	

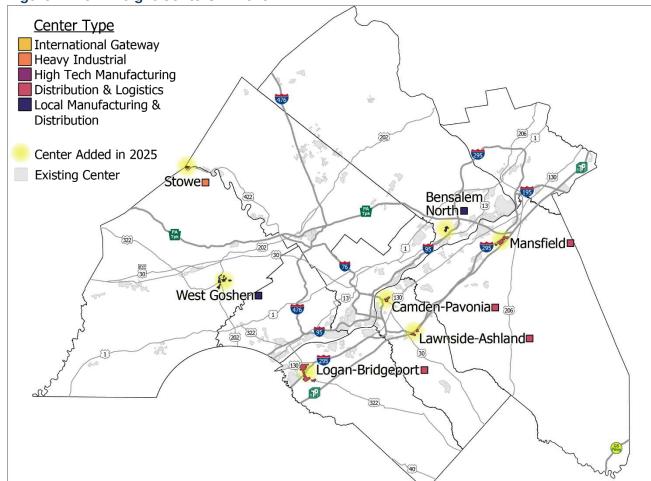


Figure 2: New Freight Centers in 2025

Source: DVRPC, 2025

Table 3: Center Counts and Changes by County and Type

	Distribution	Heavy	High Tech	International	Local	Total
Bucks	3 (+2)	1	2 (-2)		5 (+2)	11 (+2)
Burlington	7 (+3)		0 (-2)		1 (-1)	8
Camden	5 (+3)		1	1	3 (-1)	10 (+2)
Chester		1	2 (-1)		5 (+2)	8 (+1)
Delaware	2	2			2	6
Gloucester	3 (+2)	2			0 (-1)	5 (+1)
Mercer	4	1			1	6
Montgomery	1 (+1)	3 (+1)	5 (+2)		4 (-2)	13 (+2)
Philadelphia	2 (+2)	1 (-1)		3	2 (-1)	8
DVRPC	27 (+13)	11	10 (-3)	4	23 (-2)	75 (+8)

Conclusion

The designations resulting from this analysis are intended to highlight regional trends in employment and industrial development, and in turn inform transportation and land use planning decisions made by planners and elected officials. Within DVPRC, these freight centers are currently being used to help designate a regional truck network and proximity to a freight center is used as a criterion when evaluating projects for inclusion in the region's Transportation Improvement Plan and Long-Range Plan.

The freight center designations resulting of this analysis are publicly available via DVRPC's <u>Data Catalog</u> and the <u>PhillyFreightFinder</u> web application.

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The nine-county DVRPC region, comprised of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania, and Burlington, Camden, Gloucester, and Mercer counties in New Jersey

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freight, centers, economy, land use, industry, warehouse, manufacturing, logistics, distribution, truck, process, methodology, goods movement

Abstract:

This document describes the process used for the 2025 update of DVRPC's freight center designations including data sources, scoring system, and typology classification.

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sustainable region that increases
mobility choices by investing in a safe
and modern transportation system;
that protects and preserves our natural
resources while creating healthy
communities; and that fosters greater
opportunities for all.

DVRPC's mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision-making. We are engaged across the region, and strive to be leaders and innovators, exploring new ideas and creating best practices.



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