Delaware Freight Snapshot

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Basics of the Delaware Freight Snapshot

Who?	What?	When?	How?	Why?
•Developed by the Institute for Public Administration in conjunction with DelDOT and the Delmarva Freight Working Group	•Inventories freight impacts & movement within, out of, and into the State of Delaware across all modes of transportation	•To be updated to reflect the latest statistics on freight and goods movement in Delaware	•Data sources include Freight Analysis Framework, U.S. Census data, and IMPLAN Input-Output Software	•Freight movement is an economic driver within the state, and has implications for other major sectors

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Methodology

- Three Snapshots were developed:
    1. Delaware
    2. New Castle and Kent Counties
    3. Sussex County
- Data on freight movement, commodity flows, destinations and origins came from the Freight Analysis Framework, Version 4.
- Employment Data in the Freight Sector came from the US Census Bureau and the Delaware Department of Labor.
- Economic Impact Analysis was performed using IMPLAN Input Output Analysis Software.

What is the Freight Industry?

"Provides transportation of … cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. Establishments in these industries use transportation equipment or transportation related facilities as a productive asset. The type of equipment depends on the mode of transportation. The modes of transportation are air, rail, water, road, and pipeline."

-Office of Management and Budget, "North American Industry Classification System 2017"

National Trends in the Freight Industry

Mode	Weight (Millions of Tons)	Percent of Total Weight	Value ($Billion)	Percent of Total Value
Truck	10,776	60%	11,626	61%
Rail	1,602	9%	623	3%
Water	884	5%	596	3%
Air, air & truck	10	0%	1,178	6%
Multiple modes & mail	1,346	7%	3,590	19%
Pipeline	3,326	19%	1,450	8%
Other & unknown	33	0%	83	0%
Total	**17,978**	**100%**	**19,146**	**100%**

Source: Bureau of Transportation Statistics, "Facts and Figures 2017"

National Trends in the Freight Industry

Weight	Millions of Tons	Percent of Total		Value	Billions of 2012 Dollars	Percent of Total
Natural gas, coke, asphalt1	2,647	15%		Electronics	$1,673	9%
Gravel	1,820	10%		Motorized vehicles	$1,467	8%
Gasoline	1,156	6%		Mixed freight	$1,458	8%
Cereal grains	1,099	6%		Machinery	$1,148	6%
Nonmetal mineral products	1,073	6%		Gasoline	$1,059	6%
Fuel oils	1,039	6%		Natural gas, coke, asphalt	$917	5%
Coal	1,001	6%		Pharmaceuticals	$903	5%
Crude petroleum	912	5%		Fuel oils	$836	4%
Other foodstuffs	704	4%		Miscellaneous manufacturing products	$791	4%
Waste/scrap	653	4%		Other foodstuffs	$710	4%
Top 10 total	12,104	67%		Top 10 total	$10,963	57%
Total, all commodities	**17,978**	**100%**		**Total, all commodities**	**$19,146**	**100%**

Source: Bureau of Transportation Statistics, "Facts and Figures 2017"

Industry Employment in Delaware

Geographic Area Name	Paid Employees	Annual Payroll ($1,000)	Average Payroll Per Employee ($)
Delaware	14,153	601,900	42,528
Kent County, Delaware	3,730	135,312	36,277
New Castle County, Delaware	8,863	410,679	46,336
Sussex County, Delaware	1,530	55,544	36,303

Source: U.S. Census Bureau, "2015 County Business Patterns"

What do we move?

Delaware Outbound Freight					
Commodities by Weight			Commodities by Value		
Rank	Commodity	Weight (1K Tons)	Rank	Commodity	Value ($1 Millions)
1	Gasoline	6,591	1	Pharmaceuticals	12,500
2	Crude Petroleum	5,966	2	Gasoline	5,703
3	Fuel Oils	5,761	3	Basic Chemicals	4,180
4	Waste / Scrap	3,406	4	Crude Petroleum	4,180
5	Gravel	3,306	5	Fuel Oils	4,009

Source: Center for Transportation Analysis, "Freight Analysis Framework Version 4"

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What do we move?

Delaware Inbound Freight					
Commodities by Weight			Commodities by Value		
Rank	Commodity	Weight (1K Tons)	Rank	Commodity	Value ($1 Millions)
1	Crude Petroleum	7,289	1	Gasoline	5,685
2	Gasoline	6,503	2	Pharmaceuticals	5,395
3	Fuel oils	5,795	3	Crude Petroleum	4,939
4	Other Foodstuffs	5,023	4	Mixed Freight	4,748
5	Gravel	4,920	5	Textiles / Leather	4,705

Source: Center for Transportation Analysis, "Freight Analysis Framework Version 4"

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County Differences in Freight Movement

Top Outbound Commodities for New Castle and Kent Counties

Commodities by Weight				Commodities by Value		
Rank	Commodity	Weight (1K Tons)		Rank	Commodity	Value ($1 Millions)
1	Gasoline	6,556		1	Pharmaceuticals	7,822
2	Crude Petroleum	5,966		2	Gasoline	5,670
3	Fuel Oils	5,578		3	Basic Chemicals	4,826

Top Outbound Commodities for Sussex County

Commodities by Weight				Commodities by Value		
Rank	Commodity	Weight (1K Tons)		Rank	Commodity	Value ($1 Millions)
1	Animal feed	2,638		1	Pharmaceuticals	4,678
2	Cereal grains	1,216		2	Meat/seafood	1,614
3	Fertilizers	1,122		3	Animal feed	867

Source: Center for Transportation Analysis, "Freight Analysis Framework Version 4"

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Who do we trade with?

Outbound			
Rank	Destination State	Tons (1K tons)	Value ($ million)
1	Delaware	39,828	24,048
2	Pennsylvania	2,847	4,466
3	Massachusetts	2,176	6,138
4	New Jersey	1,214	1,961
5	Maryland	631	955
6	New York	592	3,143
7	Virginia	345	513
8	Texas	264	852
9	Georgia	222	458
10	North Carolina	198	526

Source: Center for Transportation Analysis, "Freight Analysis Framework Version 4"

Who do we trade with?

Inbound			
Rank	Origin State	Tons (1K tons)	Value ($ million)
1	Delaware	39,829	24,048
2	Pennsylvania	6,163	7,096
3	New Jersey	5,118	5,151
4	Massachusetts	2,660	2,274
5	New York	867	1,739
6	Maryland	770	5,450
7	Virginia	695	4,795
8	North Dakota	648	374
9	Louisiana	578	406
10	Ohio	506	1,015

Source: Center for Transportation Analysis, "Freight Analysis Framework Version 4"

How do we move our freight?

Outbound Freight Movement			
Mode	Tons (1K tons)	Value ($ million)	Ton-Miles
Air (include truck-air)	17	2,500	16
Other and unknown	15	153	4
Pipeline	77	23	6
Rail	1,095	1,294	912
Truck	40,100	40,516	3,069
Water	2,521	1,579	251
Total	50,616	55,243	4,655

Source: Center for Transportation Analysis, "Freight Analysis Framework Version 4"

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How do we move our freight?

Inbound Freight Movement			
Mode	Tons (1K tons)	Value ($ million)	Ton-Miles
Air (include truck-air)	109	5,616	201
Other and unknown	6	79	1
Pipeline	1,696	673	488
Rail	2,080	1,588	2,302
Truck	47,627	42,746	4,191
Water	3,053	1,698	2,068
Total	61,459	64,044	9,706

Source: Center for Transportation Analysis, "Freight Analysis Framework Version 4"

Economic Impacts of Freight

Value of Services Provided by Freight Sector to Other Sectors	
Receiving Sector	**Value of Services ($)**
Agriculture, Forestry, Fish & Hunting	20,659,447
Mining	323,356
Utilities	17,600,284
Constructions	66,713,745
Manufacturing	2,718,575
Wholesale Trade	120,799,594
Transportation & Warehousing	232,256,428
Retail Trade	184,970,191
Professional Services	180,606,022
Educational, Health, Recreation Service	79,598,594
Government & non-NAICs	3,530,279
Total	**909,776,514**

Source: IMPLAN Input-Output Analysis Software

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Economic Impacts of Freight

Value of Services Provided by Freight Industry in Delaware

Value of Services ($)

Economic Impact of Freight

- Calculated using IMPLAN Input-Output Analysis Software.
- Output is defined as the value of services produced by each freight subsector in 2017.
- Value Added is the contribution to the Delaware economy (i.e. Gross Domestic Product) in 2017.

Description	Output ($)	Total Value Added ($)
Air transportation	101,617,630	26,817,910
Rail transportation	323,350,159	118,864,424
Water transportation	38,504,921	5,249,510
Truck transportation	568,562,683	258,289,224
Transit and ground passenger transportation	169,628,433	88,812,074
Pipeline Transportation	4,674,899	2,497,647

Source: IMPLAN Input-Output Analysis Software

Economic Impact of Freight

Direct Effects: the action that occurred in the economy (i.e. the employment level in the Freight Sector in Delaware);

Indirect Effects: changes in employment, output, or income in other sectors of the regional economy;

Induced Effects: changes in employment, output, or income due to household spending and further activity by industry sectors.

Impact Type	Employment	Labor Income ($)	Value Added ($)	Output ($)
Direct Effect	9,838	614,298,983	711,336,813	1,595,806,420
Indirect Effect	4,182	272,208,420	464,635,905	796,366,011
Induced Effect	4,598	212,709,069	414,098,584	657,764,991
Total Effect	18,619	1,099,216,472	1,590,071,301	3,049,937,423

Source: IMPLAN Input-Output Analysis Software

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Key Take-Aways

1. The Freight Industry supports key industries within each county and through out the state

2. Truck is the overwhelmingly preferred mode of transit, with rail the second most preferred. Findings should inform future infrastructure decisions.

3. Freight is a vital part of the Delmarva Economy, and it is important to support its continued growth.

Path forward

- Statewide, NCC & Kent, and Sussex snapshots to be finalized

- Periodic industry snapshots are the next step

- Online map and dashboard on the way

- Updates as we're able

Upcoming Releases

2018

The Upcoming Release Dates are below:

- The Preliminary 2017 Commodity Flow Survey data will be available on December 6, 2018.

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