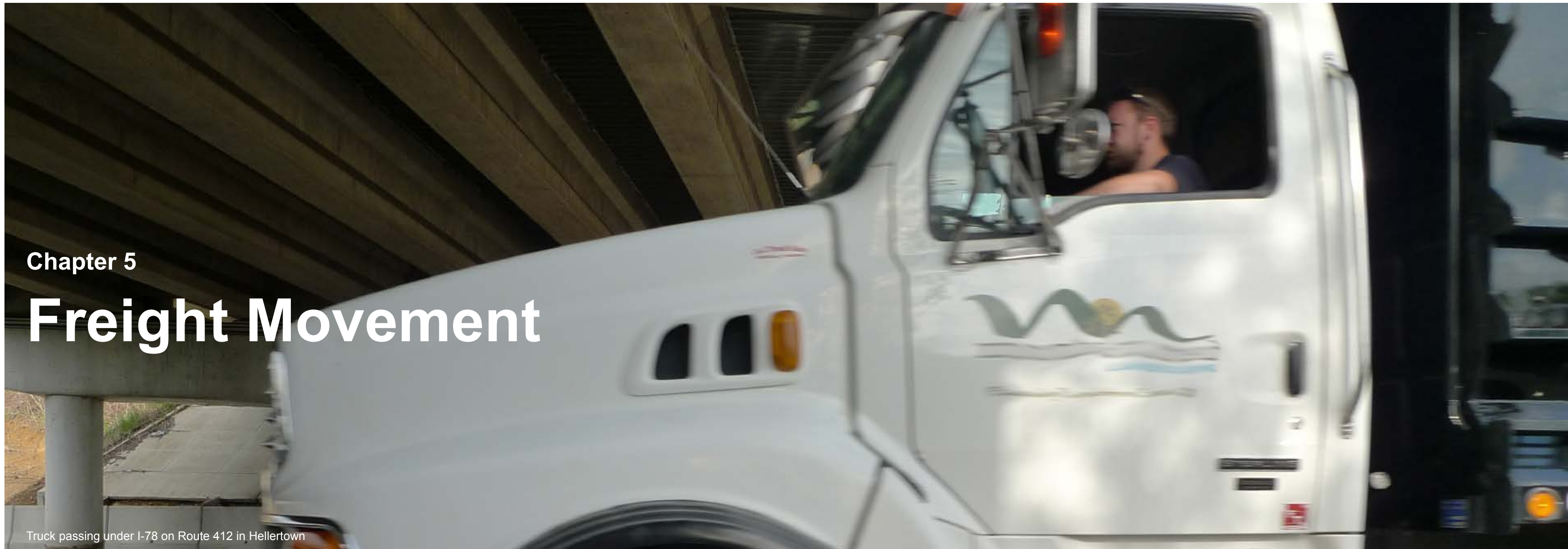


Chapter 5

# Freight Movement



Truck passing under I-78 on Route 412 in Hellertown

This section details the tonnage and value of freight moved by mode and direction in 2011 and the projected tonnage and value in 2040.

### 5.1 TONNAGE

In order to gain a better understanding of how freight moves within the Lehigh Valley, tonnage movement by mode and direction was analyzed for 2011 and 2040.

- **Inbound freight** is freight that originates outside the Valley but has a destination within the Valley.
- **Internal Freight** is freight that both originates and has a destination within the Lehigh Valley.
- **Outbound freight** originates within the Valley and has a destination outside the Valley.

Although through freight (freight moving across the region without an origin or destination in the region) plays an important role in the region, through freight is not included in this analysis due to data limitations. As shown in **Figure 7**, the majority of freight in the Lehigh Valley is inbound freight and is projected to remain that way in 2040, despite a small decrease in percentage terms. Outbound freight comprises the

next highest percentage of freight, and this share is projected to increase by 8% to 46% in 2040. Internal freight accounts for a small percentage of freight movement in the Lehigh Valley, comprising only 2% in 2011 and 3% in 2040.

**Table 3** and **Table 4** break down the freight movement by mode for both 2011 and 2040, respectively. Trucks account for the largest share of freight movement regardless of direction in both 2011 and 2040, followed by rail, air and other modes.

### 5.2. VALUE

In addition to tonnage, the value of freight movement was also analyzed by direction and mode for 2011 and 2040. **Figure 7** shows that, similar to tonnage, inbound freight movement accounted for the most value in 2011, then outbound, followed by internal. In 2040, the outbound value of freight is expected to increase in percentage terms, while the inbound percentage of value is expected to decrease and the internal value remains relatively stable.

**Table 5** shows that the 2011 trucks moved the largest value of freight regardless of direction, followed by rail, air and other. This ranking is projected to remain the same in 2040, with values increasing across all modes as tonnages are projected to increase (**Table 6**).

Figure 7

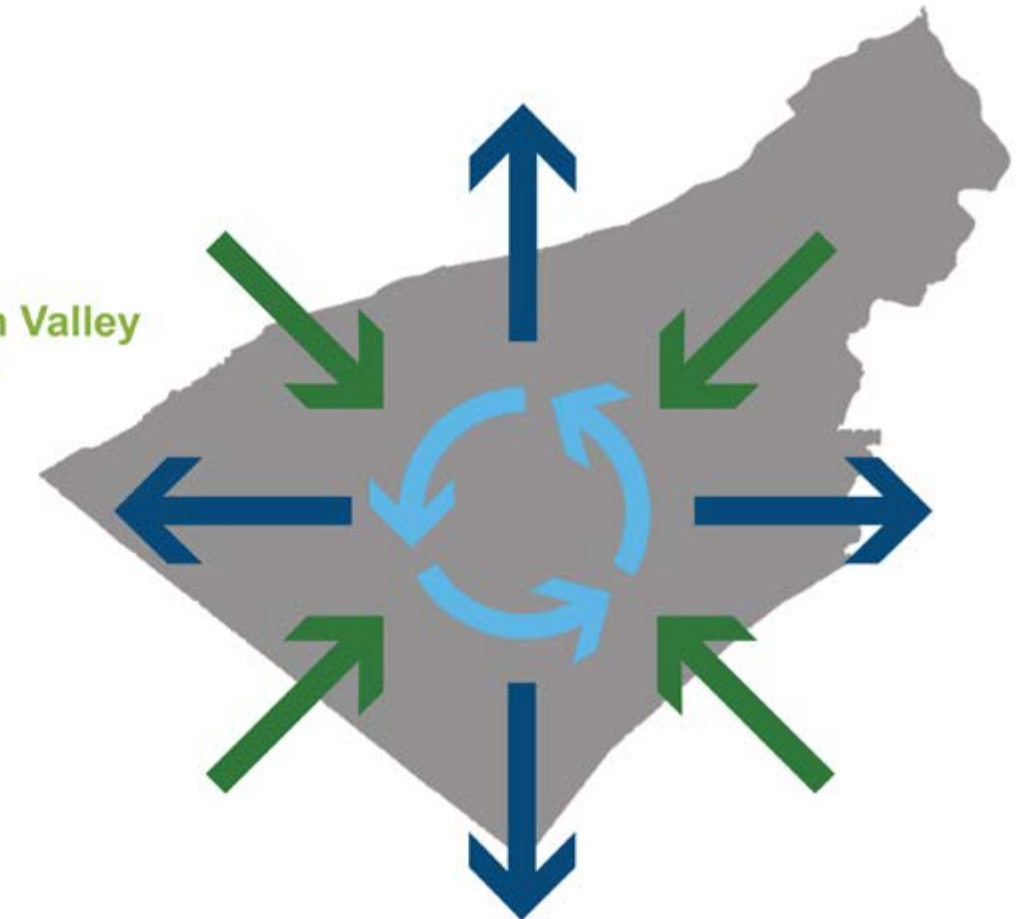
Lehigh Valley Percent Freight Tonnage and Value by Direction, 2011 and 2040

2011	2040	2011	2040	2011	2040
55%	47%	5%	6%	40%	47%
<b>Inbound Freight</b>		<b>Internal Freight</b>		<b>Outbound Freight</b>	

#### % Value by Direction

#### 2040 Probable Growth

↑ **61%** Total Value Lehigh Valley Freight Economy to \$130M



#### % Tonnage by Direction

<b>Inbound Freight</b>		<b>Internal Freight</b>		<b>Outbound Freight</b>	
2011	2040	2011	2040	2011	2040
59%	51%	2%	3%	38%	46%

Source: IHS Transearch, Global Insight

**Table 3**  
**Lehigh Valley Total Freight Tonnage by Mode (thousands), 2011**

	Inbound		Within		Outbound		Total	
	2011	% Share	2011	% Share	2011	% Share	2011	% Share
Truck	20,850.10	86%	882.16	98%	14,917.29	95%	36,649.55	90%
Rail	3,425.02	14%	14.44	2%	768.91	5%	4,208.38	10%
Air	8.51	<1%	-	-	1.67	<1%	10.18	<1%
Other*	0.01	<1%	-	-	0.08	<1%	0.09	<1%
Total	24,283.64	100%	896.61	100%	15,687.95	100%	40,868.20	100%

Source: IHS Transearch, Global Insight  
\* Not categorized, or pipelines

**Table 4**  
**Lehigh Valley Total Freight Tonnage by Mode (thousands), 2040**

	Inbound		Within		Outbound		Total	
	2040	% Share	2040	% Share	2040	% Share	2040	% Share
Truck	36,015.95	88%	2,490.58	99%	35,384.75	96%	73,891.28	92%
Rail	4,758.13	12%	18.84	1%	1,504.56	4%	6,281.53	8%
Air	17.19	<1%	-	-	2.98	<1%	20.17	0%
Other*	0.04	<1%	-	-	0.27	<1%	0.31	0%
Total	40,791.31	100%	2,509.41		36,892.57	100%	80,193.29	100%

Source: IHS Transearch, Global Insight  
\* Not categorized, or pipelines

**Table 5**  
**Lehigh Valley Total Freight Value by Mode (millions), 2011\***

	Inbound		Within		Outbound		Total	
	2011	% Share	2011	% Share	2011	% Share	2011	% Share
Truck	\$21,708	78%	\$2,640	100%	\$19,329	94%	\$43,679	85%
Rail	\$4,806	17%	\$7	0%	\$930	5%	\$5,743	11%
Air	\$1,426	5%	-	-	\$242	1%	\$1,668	3%
Other**	-	-	-	-	-	-	-	-
Total	\$27,940	100%	\$2,647	100%	\$20,501	100%	\$51,090	100%

Source: IHS Transearch, Global Insight \*Not indexed for inflation  
\*\*Not categorized, or pipelines

**Table 6**  
**Lehigh Valley Total Freight Value by Mode (millions), 2040\***

	Inbound		Within		Outbound		Total	
	2040	% Share	2040	% Share	2040	% Share	2040	% Share
Truck	\$48,984	81%	\$7,644	100%	\$58,764	96%	\$115,394	89%
Rail	\$8,380	14%	\$8	0%	\$1,954	3%	\$10,342	8%
Air	\$3,408	6%	-	-	\$437	1%	\$3,845	3%
Other**	-	-	-	-	\$1	0%	\$1	0%
Total	\$60,773	100%	\$7,652	100%	\$61,156	100%	\$129,583	100%

Source: IHS Transearch, Global Insight \*Not indexed for inflation  
\*\*Not categorized, or pipelines



Freight awaiting shipment at L+M Fabrication in Bath

### 5.3 COMMODITIES

This section analyzes the top five commodities moved by mode and direction for 2011 and the projected commodities in 2040. This provides an overview of the types of goods moving, and projected to move, in the Lehigh Valley.

#### 5.3.1 Highway Commodity Movement

As previously discussed, truck was the predominant mode for moving freight, both in terms of tonnage and value, and is projected to remain so. The top five inbound truck commodities by tonnage and by value are illustrated in **Figure 9** and **Figure 10** for 2011 and 2040, respectively. **Chapter 12** provides the Transearch Analysis for the region, providing more detail regarding the data and analysis methodology. The top five inbound commodities by truck account for 59% of the total commodities by tonnage in 2011 and 58% in 2040. The top five commodities remain relatively the same from 2011 to 2040 with the exception of rail intermodal drayage from ramp, replacing gravel or sand. The top five commodities by value are similar to the top five by tonnage.

**Figure 11** and **Figure 12** illustrate the top five outbound truck commodities by tonnage and value for 2011 and 2040, respectively. The top five commodities leaving the Lehigh Valley via truck account for 58% by tonnage and 62% by value in 2011.

Warehousing and rail intermodal drayage represent a large percentage, both by tonnage and value, of the commodities moving out of the region. This reflects the significant presence of warehousing industries in the region as well as the importance of intermodal movements.

#### 5.3.2 Rail Commodity Movement

In 2011, rail contributed 10% of the total tons of freight movement into, out of and within the Lehigh Valley. This is expected to decrease to 8% by 2040. The top five inbound rail commodities by tonnage and by value are illustrated in **Figure 13** and **Figure 14** for 2011 and 2040, respectively.

**Figure 15** and **Figure 16** illustrate the top five outbound rail commodities by tonnage and value for 2011 and 2040, respectively. In 2011, the top five commodities account for more than 53% by tonnage and 68% by value.

**Figure 8**  
Lehigh Valley Top Commodities, 2011 and 2040



Source: IHS Transearch, Global Insight

- Broken Stone or Riprap
- Warehouse + Distribution Center
- Petroleum Refining Products
- Processed Milk
- Gravel or Sand
- All Other Commodities

- Rail Intermodal Drayage from Ramp
- Warehouse + Distribution Center
- Petroleum Refining Products
- Rail Intermodal Drayage to Ramp
- Processed Milk
- All Other Commodities

- Warehouse + Distribution Center
- Portland Cement
- Rail Intermodal Drayage from Ramp
- Soft Drinks or Mineral Water
- Broken Stone or Riprap
- All Other Commodities

- Rail Intermodal Drayage from Ramp
- Warehouse + Distribution Center
- Rail Intermodal Drayage to Ramp
- Current Carrying Wiring Equipment
- Soft Drinks or Mineral Water
- All Other Commodities

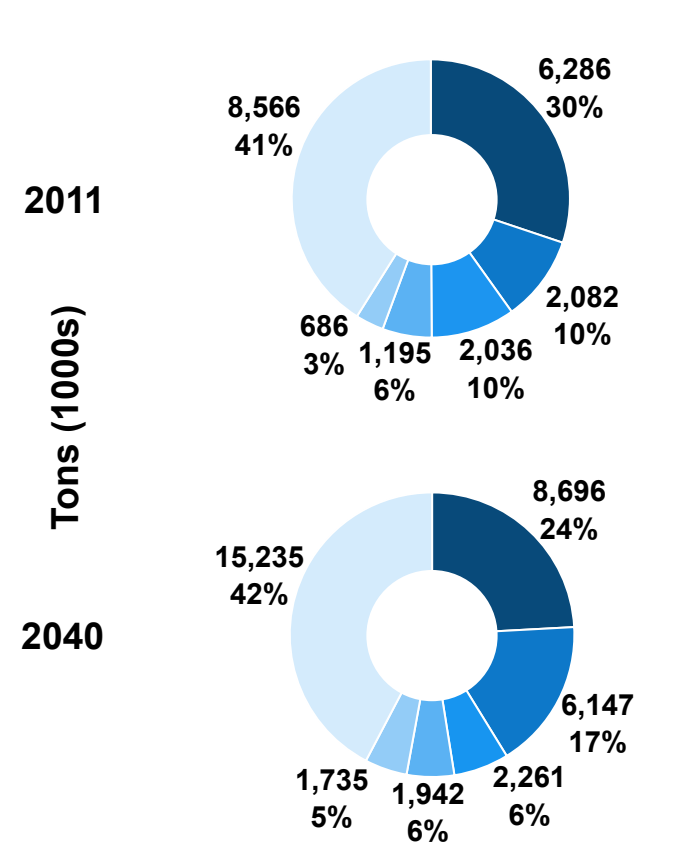


Figure 9  
Top Five Lehigh Valley Inbound Truck Commodities by Tonnage and Value

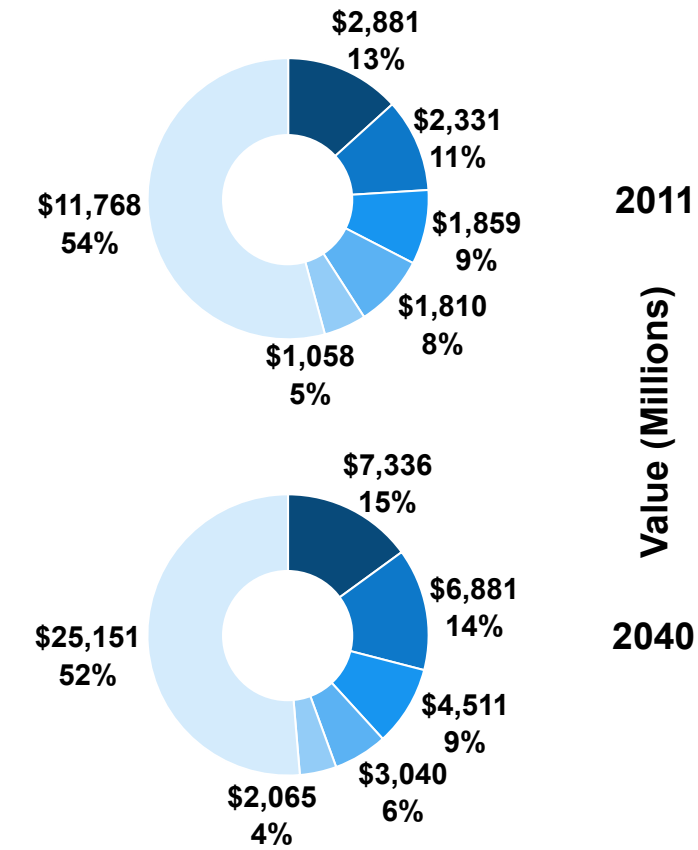


Figure 10  
Top Five Lehigh Valley Outbound Truck Commodities by Tonnage and Value

- Broken Stone or Riprap
- Warehouse + Distribution Center
- Petroleum Refining Products
- Processed Milk
- Rail Intermodal Drayage from Ramp
- All Other Commodities

- Rail Intermodal Drayage from Ramp
- Warehouse + Distribution Center
- Rail Intermodal Drayage to Ramp
- Solid State Semiconductors
- Petroleum Refining Products
- All Other Commodities

- Warehouse + Distribution Center
- Rail Intermodal Drayage from Ramp
- Soft Drinks or Mineral Water
- Portland Cement
- Broken Stone or Riprap
- All Other Commodities

- Rail Intermodal Drayage from Ramp
- Warehouse + Distribution Center
- Rail Intermodal Drayage to Ramp
- Current Carrying Wiring Equipment
- Soft Drinks or Mineral Water
- All Other Commodities

Source: IHS Transearch, Global Insight

Source: IHS Transearch, Global Insight

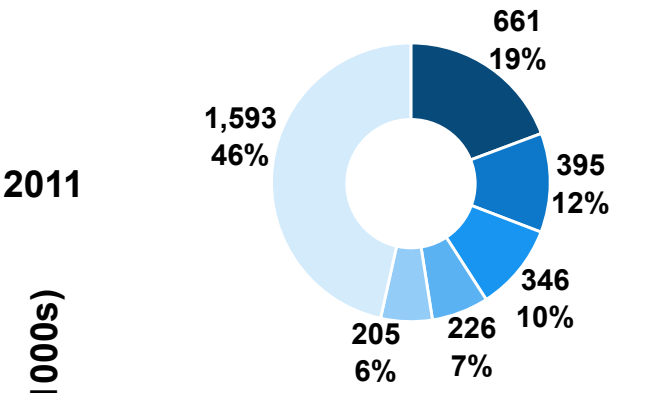
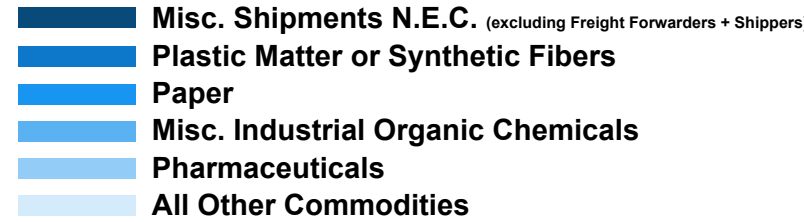
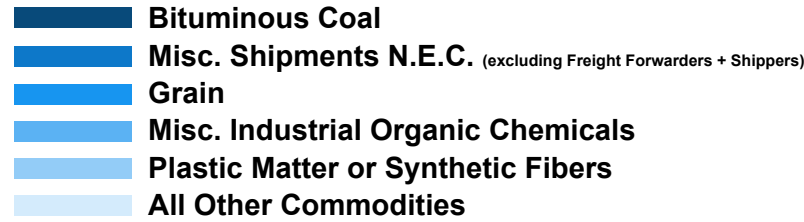
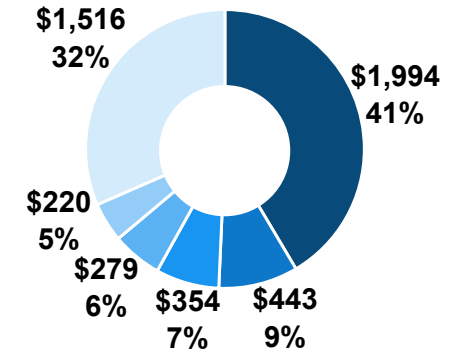


Figure 13  
Top Five Lehigh Valley Inbound Rail Commodities by Tonnage and Value



2011  
Value (Millions)

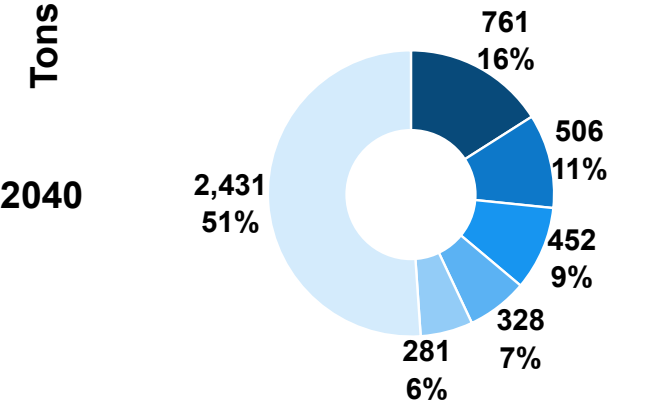
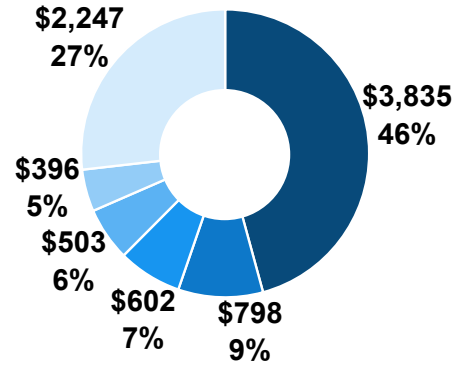


Figure 14



2040  
Value (Millions)

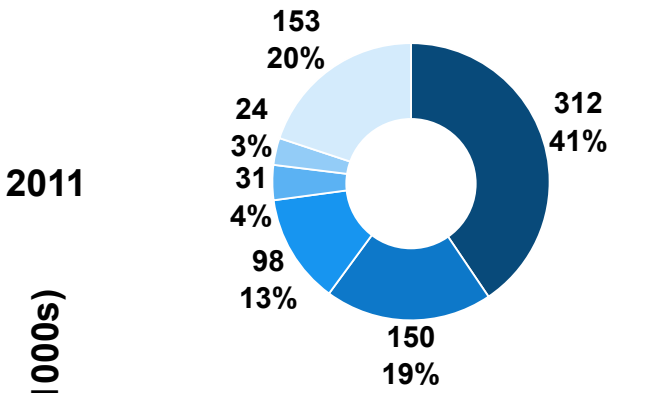
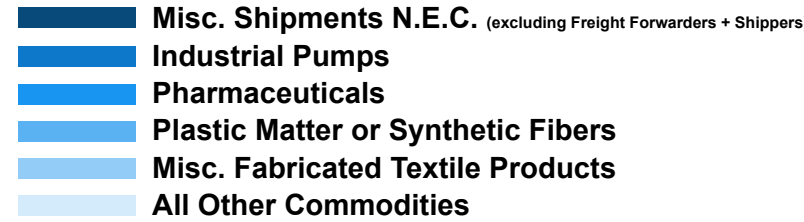
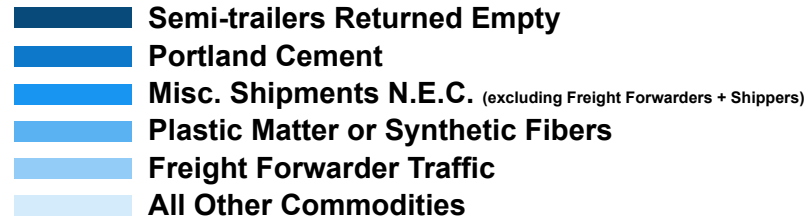
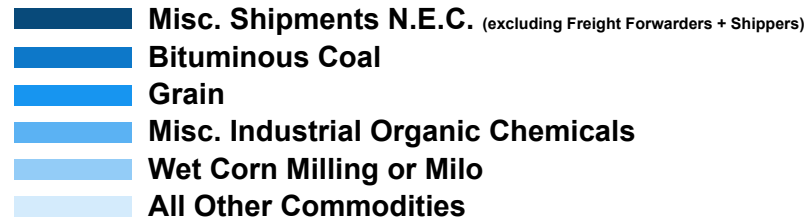
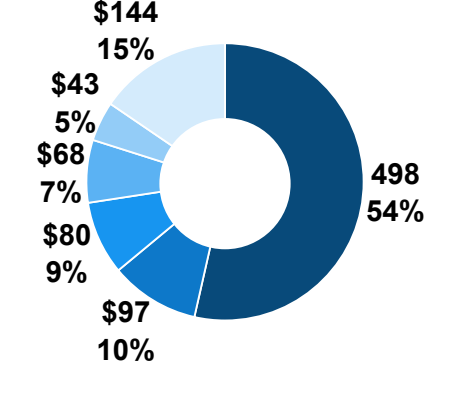


Figure 15  
Top Five Lehigh Valley Outbound Rail Commodities by Tonnage and Value



2011  
Value (Millions)

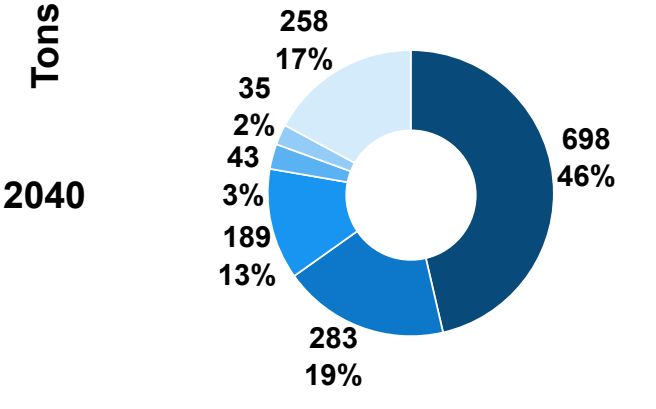
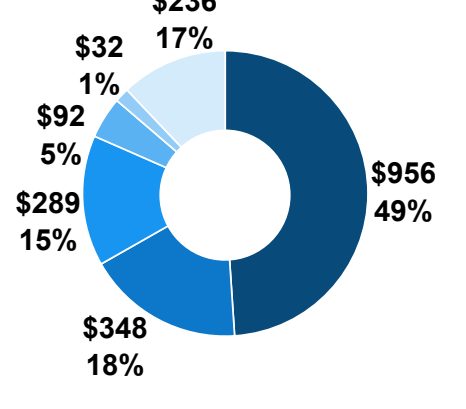


Figure 16



2040  
Value (Millions)

