

Connecticut DOT Statewide Freight Plan: TRANSEARCH® Freight Movements

[this page is intentionally blank]

Table of Contents

Executive Summary	1
Movement Totals	1
Perspective	4
Forecast	5
1 Introduction	7
2 Current Freight	9
2.1 Truck, 2014	9
2.1.1 Truck Outbound	13
2.1.2 Truck Inbound	18
2.1.3 Truck Intra	22
2.1.4 Truck Through	22
2.2 Rail, 2014	24
2.2.1 Rail Outbound	29
2.2.2 Rail Inbound	33
2.2.3 Rail Intra	37
2.2.4 Rail Through	37
2.3 Water, 2014	37
2.3.1 Water Outbound	39
2.3.2 Water Inbound	40
2.3.3 Water Intra	40
2.3.4 International Waterway and Ports Commodity Flows	41
2.4 Air, 2014	44
2.4.1 Air Outbound	47
2.4.2 Air Inbound	47
2.4.3 International Air Commodity Flows	47
2.5 Pipeline, 2014	50
3 Forecast Freight	52
3.1 Truck Forecast	52
3.2 Rail Forecast	56
3.3 Port Forecast	60
3.4 Air Forecast	62
3.5 Pipeline Forecast	63
4 Summary	65
Appendix	68

List of Figures

Figure 1: Total Tons and Value by Mode, 2014.....	1
Figure 2: Tonnage Share by Mode and Direction, 2014	3
Figure 3: Value Share by Mode and Direction, 2014	3
Figure 4: Top Commodities by Tonnage and Mode, 2014.....	6
Figure 5: Top Commodities by Value and Mode, 2014.....	6
Figure 6: Truck Percentages by Direction, 2014.....	9
Figure 7: Truck Density, 2014	11
Figure 8: Truck Top Commodities by Tonnage, 2014.....	12
Figure 9: Truck Top Commodities by Units, 2014.....	12
Figure 10: Truck Top Commodities by Value, 2014.....	13
Figure 11: Truck Outbound Commodities by County Origin, 2014.....	16
Figure 12: Truck Outbound Commodities by State Destination, 2014	16
Figure 13: Truck Outbound by Origin and Destination, 2014.....	17
Figure 14: Truck Inbound Commodities by State Origin, 2014	20
Figure 15: Truck Inbound Commodities by County Destination, 2014	20
Figure 16: Truck Inbound by Origin and Destination, 2014.....	21
Figure 17: Origin of Commodities Shipped Through Connecticut by Truck, 2014 (in tons)	23
Figure 18: Destination of Commodities Shipped Through Connecticut by Truck, 2014 (in tons)	24
Figure 19: Rail Percentages by Direction, 2014	25
Figure 20: Rail Density, 2014	26
Figure 21: Rail Top Commodities by Tonnage, 2014	27
Figure 22: Rail Top Commodities by Units, 2014	27
Figure 23: Rail Top Commodities by Value, 2014	28
Figure 24: Rail Outbound Commodities by County Origin, 2014	31
Figure 25: Rail Outbound Commodities by State Destination, 2014	31
Figure 26: Rail Outbound by Origin and Destination, 2014.....	32
Figure 27: Rail Inbound Commodities by State Origin, 2014	35
Figure 28: Rail Inbound Commodities by County Destination, 2014.....	35
Figure 29: Rail Inbound by Origin and Destination, 2014	36
Figure 30: Water Percentages by Direction, 2014	38
Figure 31: Water Top Commodities by Tonnage, 2014	39
Figure 32: Water Top Commodities by Value, 2014	39
Figure 33: Air Percentages by Direction, 2014	44
Figure 34: Air Top Commodities by Tonnage, 2014	46
Figure 35: Air Top Commodities by Value, 2014	46
Figure 36: Pipeline Percentages by Direction, 2014.....	50
Figure 37: Truck Density Absolute Growth, 2014 to 2040	54
Figure 38: Truck Density Percentage Growth, 2014 to 2040	55
Figure 39: Rail Density Absolute Growth, 2014 to 2040	58
Figure 40: Rail Density Percentage Growth, 2014 to 2040.....	59

List of Tables

Table 1: Tons and Value by Mode and Direction, 2014	2
Table 2: Top Commodities by Tonnage, 2014.....	4
Table 3: Top Commodities by Value, 2014.....	5
Table 4: Truck by Direction, 2014.....	9
Table 5: Outbound Truck O/D by Commodity, 2014.....	15
Table 6: Inbound Truck O/D by Commodity, 2014.....	19
Table 7: Rail by Direction, 2014	25
Table 8: Outbound Rail O/D by Commodity, 2014.....	30
Table 9: Inbound Rail O/D by Commodity, 2014	34
Table 10: Water by Direction, 2014.....	37
Table 11: Top Ten Water Port Exports by Value, 2015	41
Table 12: Top Ten Water Port Exports by Weight (ton), 2015	41
Table 13: Top Ten Water Port Imports by Value, 2015.....	42
Table 14: Top Ten Water Port Imports by Weight (ton), 2015	43
Table 15: Air by Direction, 2014	44
Table 16: Top Ten Airport Exports by Value, 2015.....	48
Table 17: Top Ten Airport Exports by Weight (tons), 2015.....	48
Table 18: Top Ten Airport Imports by Value, 2015.....	49
Table 19: Top Ten Airport Imports by Weight (ton), 2015.....	49
Table 20: Pipeline by Direction, 2014.....	50
Table 21: Tonnage Forecast by Mode and Direction, 2014 to 2040	52
Table 22: Truck Forecast by Direction, 2014 to 2040	53
Table 23: Rail Forecast by Direction, 2014 to 2040.....	57
Table 24: Water Forecast by Direction, 2014 to 2040.....	61
Table 25: Air Forecast by Direction, 2014 to 2040.....	62
Table 26: Pipeline Forecast by Direction, 2014 to 2040	64
Table 27: Truck Outbound, 2014.....	68
Table 28: Truck Inbound, 2014	69
Table 29: Truck Intra, 2014	70
Table 30: Truck Through, 2014	71
Table 31: Truck Total, 2014	72
Table 32: Rail Outbound, 2014	73
Table 33: Rail Inbound, 2014	74
Table 34: Rail Intra, 2014.....	75
Table 35: Rail Through, 2014.....	76
Table 36: Rail Total, 2014	77
Table 37: Water Outbound, 2014.....	78
Table 38: Water Inbound, 2014.....	79
Table 39: Water Intra, 2014.....	80
Table 40: Water Through, 2014	81
Table 41: Water Port Total, 2014	82
Table 42: Air Outbound, 2014	83
Table 43: Air Inbound, 2014.....	84
Table 44: Air Intra, 2014.....	85
Table 45: Air Through, 2014.....	86

Table 46: Air Total, 2014.....	87
Table 47: Pipeline Outbound, 2014.....	88
Table 48: Pipeline Inbound, 2014.....	89
Table 49: Pipeline Intra, 2014	90
Table 50: Pipeline Through, 2014	91
Table 51: Pipeline Total, 2014.....	92
Table 52: Truck Forecast, 2040	93
Table 53: Rail Forecast, 2040	94
Table 54: Water Forecast, 2040.....	95
Table 55: Air Forecast, 2040	96
Table 56: Pipeline Forecast, 2040.....	97
Table 57: Truck Forecast Growth, in Tons, 2014 to 2040.....	98
Table 58: Rail Forecast Growth in Tons, 2014 to 2040.....	99
Table 59: Water Forecast Growth in Tons, 2014 to 2040	100
Table 60: Air Forecast Growth in Tons, 2014 to 2040	101
Table 61: Pipeline Forecast Growth in Tons, 2014 to 2040	102
Table 62: Total (All Modes) Forecast Growth in Tons, 2014 to 2040	103

Executive Summary

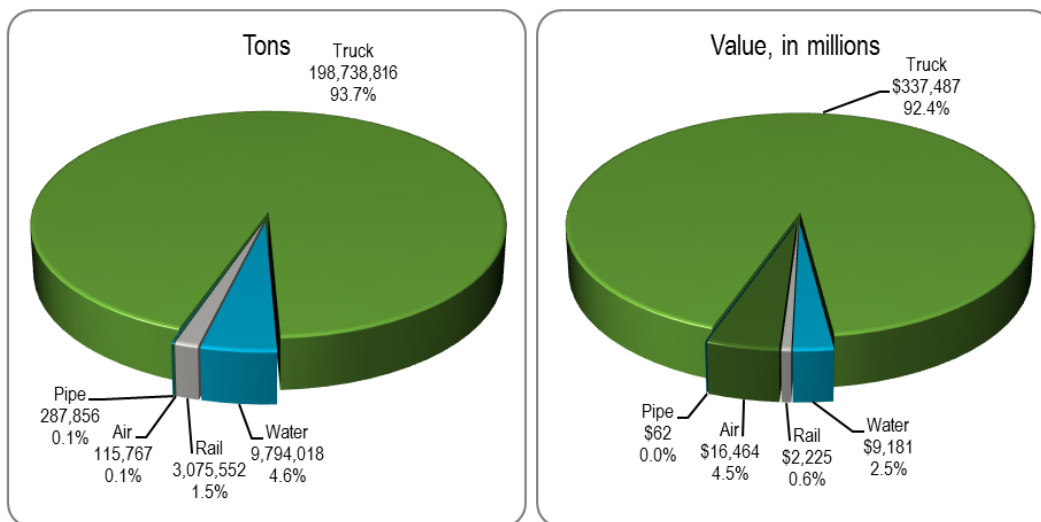
Different analyses perspectives help identify the most important freight movements to Connecticut. TRANSEARCH® provides Connecticut-related freight data by mode, direction, and commodity; by tonnage, units, and value. Sorting the extensive TRANSEARCH® database generates different perspectives and observations. For example, are the most important movements assessed by volume (tons), units (trucks or railcars), shipment value (dollars), commodity type, transport mode, directional movement, or some other factor (e.g., economic relevancy), or a combination of the abovementioned? As such, the data multidimensionality and complexity precludes a simplified synopsis of all relevant freight dimensions simultaneously, instead necessitating selected partial depictions of the most-salient combinations, with such combinations not exceeding three dimensions at once.

While the ensuing report details various TRANSEARCH® data components in stepwise progression, this summary provides a broad overview with different conclusions drawn from different perspectives.

Movement Totals

Over 212.0 million tons of freight traversed the Connecticut transportation infrastructure network in 2014, valued at over \$365.4 billion (in 2014-dollar values)¹. Clearly, truck carries the significant majority of both tonnage (93.7%) and value (92.4%), as per Figure 1. However, as values per ton vary significantly between modes, the non-truck statewide modal composition varies between tonnage and value.

Figure 1: Total Tons and Value by Mode, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

¹ In comparison, the United States' Gross Domestic Product (GDP) in 2014 amounted to \$17.2 trillion (Bureau of Economic Analysis); as such, the \$365.4 billion freight value represents about 2.1%.

- *Truck* – largest: 198.7 million tons (93.7% of total) and \$337.5 billion (92.4% of total).
- *Port* – second largest volumes: 9.8 million tons (4.6%), valued at \$9.2 billion (2.5%).
- *Rail* – third largest volumes: 3.1 million tons (1.5%) and \$2.2 billion (0.6%).
- *Air* – second largest value: \$16.5 billion (4.5%), but small volumes (0.1% of total)
- *Pipeline* – relatively insignificant volumes and value compared to other modes

Disaggregation of the modal movements by direction reveals nuances. Through tonnage dominates directional movements, due almost entirely to trucking. Tonnage and value data are tabulated by mode and direction in Table 1, and summarized below:

- *Outbound* – 36.1 million tons from Connecticut to out-of-state destinations represent 17.0% of directional volumes, with trucking as the dominate mode (33.6 million, 93.1%), followed by rail (1.8 million, 5.0%). Outbound value is \$64.0 billion, for 17.5% of directions.
- *Inbound* – 58.3 million tons from out-of-state destined to Connecticut (27.5% of directions) are mostly truck (48.6 million, 83.4%) and water (8.7 million, 15.0%). Inbound tonnage is valued at \$92.8 billion, for 25.4% of directional value.
- *Intrastate* – At 23.3 million tons (11.0% of directions) and valued at \$29.9 billion (8.2%), intrastate tonnage movements are the smallest proportion of directional movements. As with other directions, the movements are comprised mostly of truck (95.9% for tonnage and 99.7% for value).
- *Through* – A total of 94.3 million tons of through movements valued at \$178.6 billion, almost entirely via truck (99.9% for both tonnage and value), comprise the largest relative share of the directional movements (44.5% of volumes and 48.9% of values), highlighting Connecticut’s role as “bridge” state.

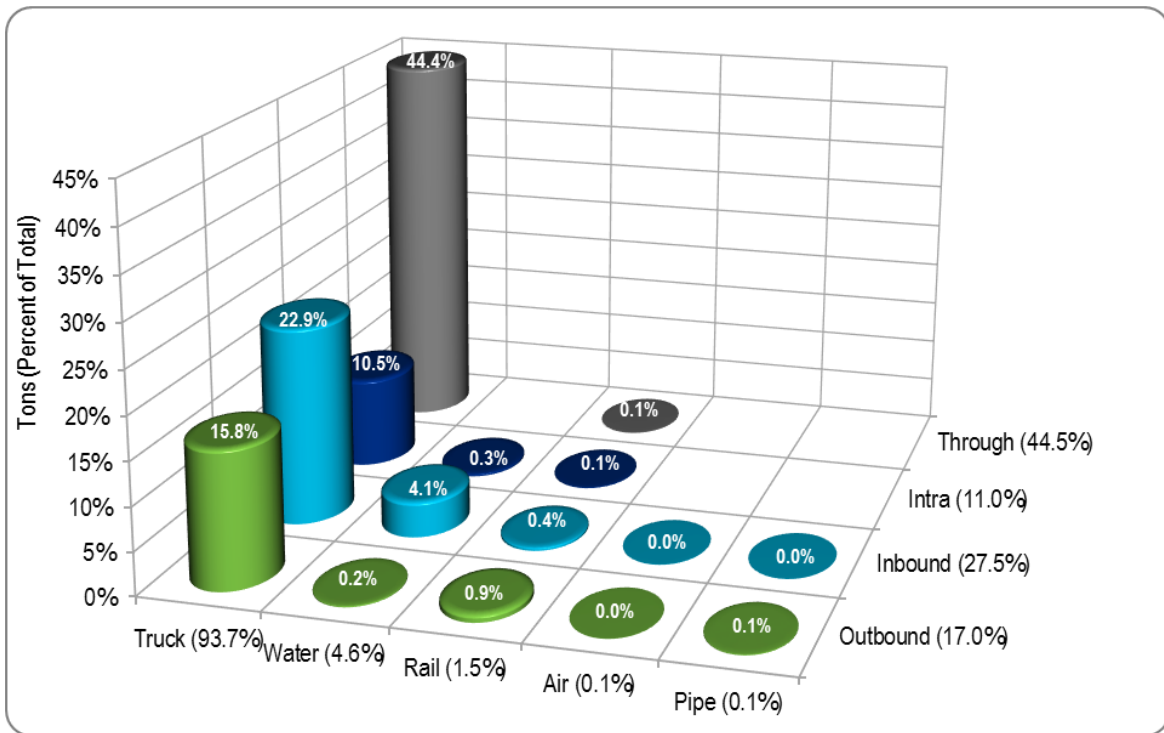
Table 1: Tons and Value by Mode and Direction, 2014

Direction	Truck	Water	Rail	Air	Pipe	Total
Tons						
Outbound	33,587,287	379,313	1,814,036	53,641	253,135	36,087,412
Inbound	48,633,101	8,721,976	859,476	62,126	34,721	58,311,400
Intra	22,360,696	692,729	262,452	#N/A	#N/A	23,315,878
Through	94,157,731	#N/A	139,588	#N/A	#N/A	94,297,319
Total	198,738,816	9,794,018	3,075,552	115,767	287,856	212,012,009
Value, in millions						
Outbound	\$53,702	\$165	\$724	\$9,408	\$41	\$64,041
Inbound	\$75,455	\$8,938	\$1,364	\$7,056	\$22	\$92,836
Intra	\$29,839	\$77	\$2	#N/A	#N/A	\$29,919
Through	\$178,490	#N/A	\$134	#N/A	#N/A	\$178,624
Total	\$337,487	\$9,181	\$2,225	\$16,464	\$62	\$365,419

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

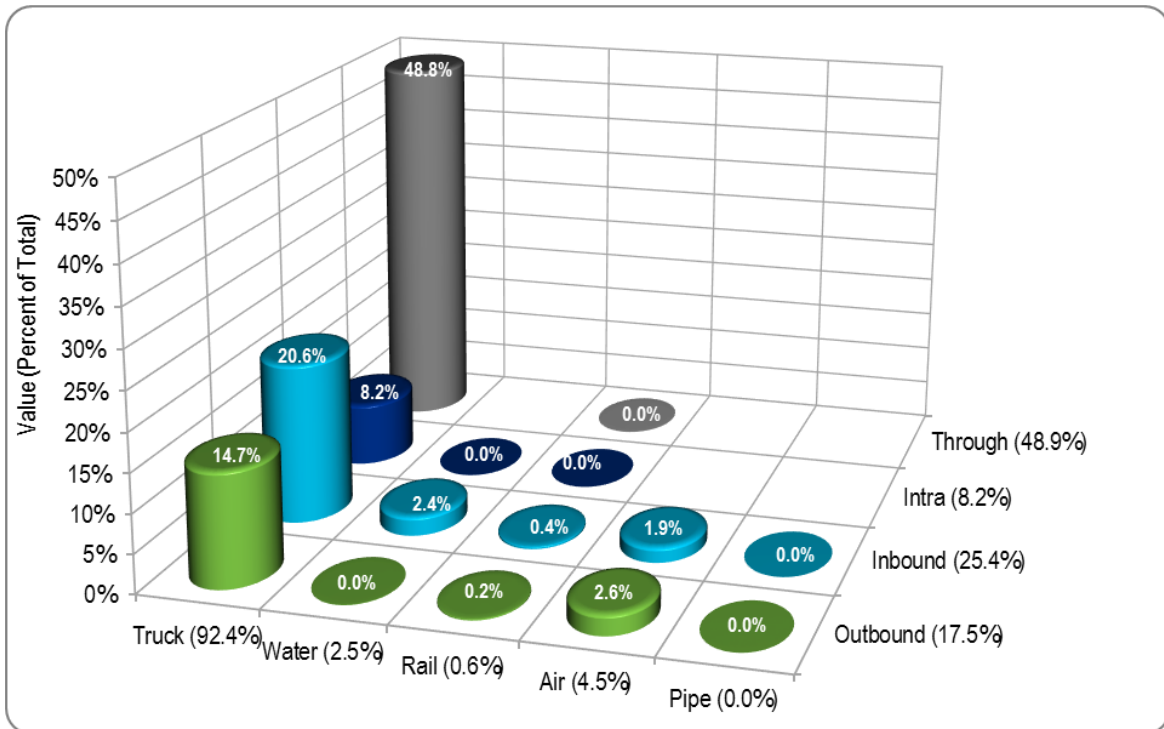
Relative modal and directional shares of total tonnage movements are depicted in Figure 2, and by total value in Figure 3, which clearly indicate that through-based truck movements comprise almost half of all freight in Connecticut (44.4% of total tonnage and 48.8% of total value). This reinforces the perspective of Connecticut’s bridge-state role between metropolitan New York/mid-Atlantic and the rest of New England.

Figure 2: Tonnage Share by Mode and Direction, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 3: Value Share by Mode and Direction, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Perspective

Directional movement, commodity tonnage, and commodity value help illustrate the importance of freight movements to Connecticut from different perspectives.

Directional Movement – Directional freight movements affect Connecticut differently. Inbound commodities from out-of-state comprise two basic types: final goods and intermediate production materials (inputs). Final goods typically go directly to consumers or to retail outlets, while inbound materials are used in Connecticut manufacturing or other value-added processes. The top inbound commodities as shown in Section 2.12 include non-metallic minerals such as gypsum, used in residential and commercial construction, and fuel, which is used in heating and transportation. Similarly, outbound commodities from Connecticut to other states also represent the result of value-added Connecticut production. Additionally, intrastate Connecticut movements represent both value-added Connecticut production and/or final product consumption. However, freight movements through Connecticut generate little, if any, economic value to the State (i.e., transport service only). Nonetheless, the magnitude of through state truck volumes is important in a freight plan, given the effect on modal infrastructure capacity.

Commodity Tonnage and Value – While important to understand tonnage movements, such observations do not unilaterally address the importance of freight movements to Connecticut (other considerations matter such as value, direction, mode, etc.). Top commodity tonnages (via all modes and directions, combined) are led by Petroleum or Coal Products (39.3 million, 18.5%), followed by Nonmetallic Minerals (34.3 million, 16.2%), and Food or Kindred Products (25.4 million, 12.0%); see Table 2. Comparatively, the top commodity value movements (via all modes and directions, combined) are led by Electrical Equipment (\$42.7 billion, 11.7%), followed by Transportation Equipment (\$34.5 billion, 9.4%), and Food or Kindred Products (\$34.1 billion, 9.3%), see Table 3.

Table 2: Top Commodities by Tonnage, 2014

STCC2	Commodity	Tons (in thousands)	
		Amount	Percent
29	Petroleum or Coal Prods.	39,272	18.5%
14	Nonmetallic Minerals	34,274	16.2%
20	Food or Kindred Prods.	25,366	12.0%
50	Secondary Traffic	18,680	8.8%
32	Clay, Concrete, Glass, or Stone	16,541	7.8%
40	Waste or Scrap Materials	14,446	6.8%
28	Chemicals or Allied Prods.	10,202	4.8%
33	Primary Metal Prods.	8,254	3.9%
01	Farm Prods.	8,094	3.8%
24	Lumber or Wood Prods.	6,452	3.0%
	Remaining Commodities	30,432	14.4%
	Total	212,012	100.0%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 3: Top Commodities by Value, 2014

STCC2	Commodity	Value (in millions)	
		Amount	Percent
36	Electrical Equipment	\$42,670	11.7%
37	Transportation Equipment	\$34,496	9.4%
20	Food or Kindred Prods.	\$34,095	9.3%
29	Petroleum or Coal Prods.	\$33,069	9.0%
28	Chemicals or Allied Prods.	\$29,820	8.2%
50	Secondary Traffic	\$27,198	7.4%
33	Primary Metal Prods.	\$24,970	6.8%
35	Machinery	\$22,318	6.1%
34	Fabricated Metal Prods.	\$17,150	4.7%
30	Rubber or Misc Plastics	\$16,315	4.5%
	Remaining Commodities	\$83,319	22.8%
	Total	\$365,419	100.0%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

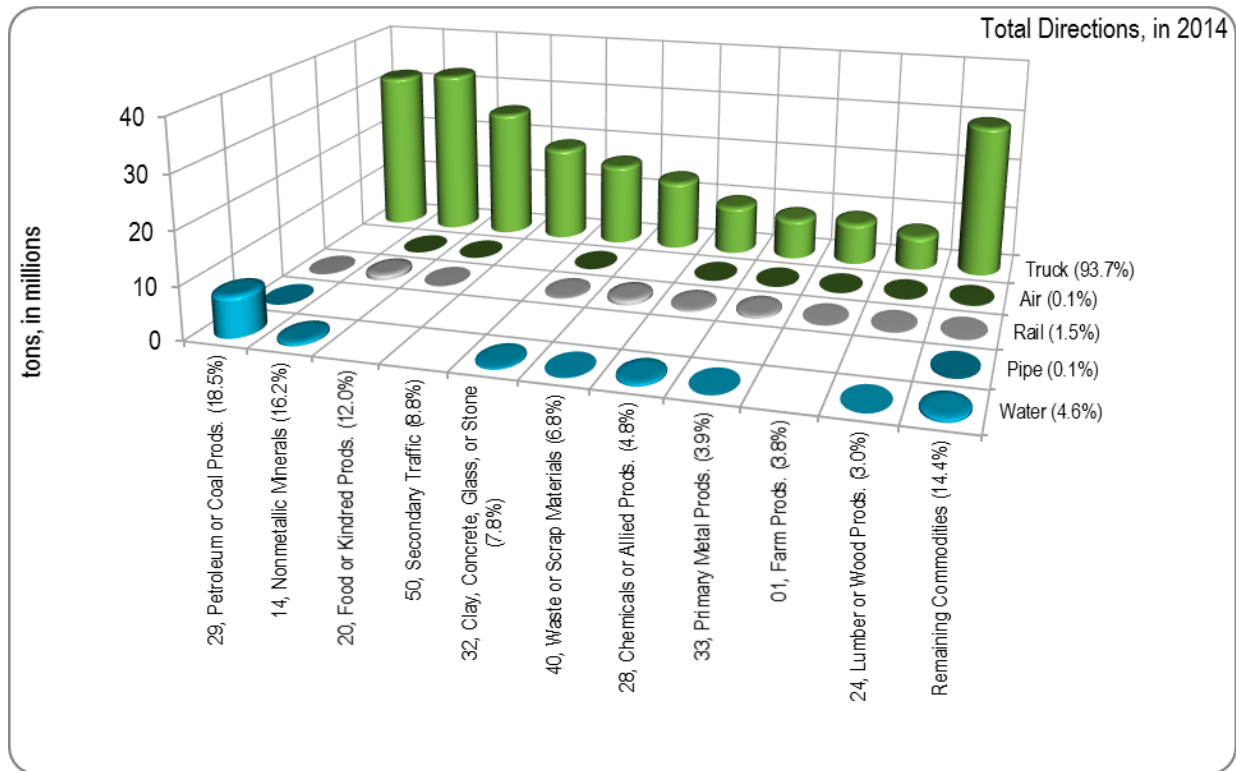
Commodity Tons by Mode – Figure 4 illustrates modal differences by commodity tonnage. Truck leads all major commodity ton movements. However, Petroleum or Coal Products also move via the ports. Aside from truck and water-bound Petroleum or Coal Products, all other mode/commodity combinations are relatively minor.

Commodity Value by Mode – Figure 5 shows modal differences by commodity value. A similar pattern is observed, with truck-based commodity movements generally exceeding all other modes. As with freight volumes, port-based Petroleum or Coal Products, and air-based other commodities (mostly Miscellaneous Manufacturing Products) are observable by value. All other modal commodities are relatively insignificant compared to truck and the two water- and air-specific commodities.

Forecast

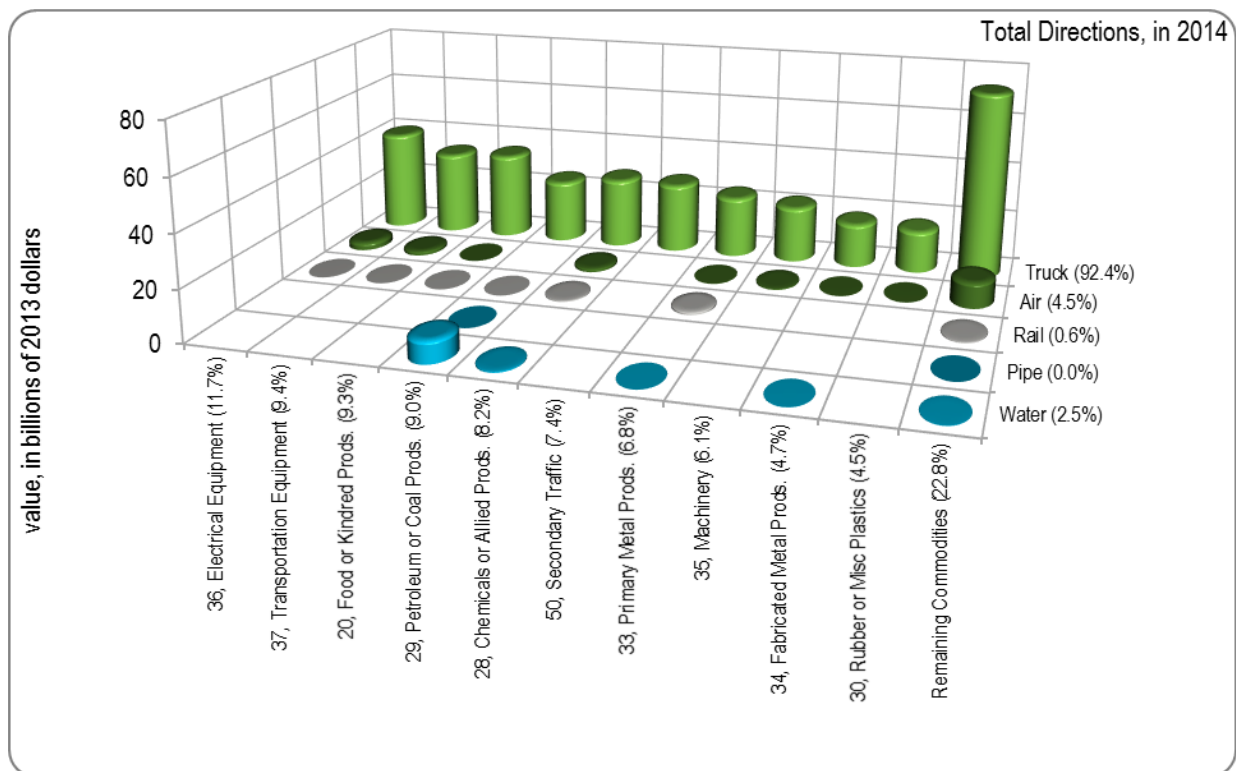
By 2040, TRANSEARCH® forecasts an increase in tonnage to 332.4 million, a 56.8% increase (1.7% CAGR) from the 212.0 million 2014 base tonnage. In value terms, the forecasted amount of \$732.5 billion represents a 100.4% increase (2.7% CAGR) from the \$365.4 billion 2014 base value. Compositionally, the directional movements remain relatively constant, with trough traffic continuing to amount to almost as much as the other directions combined. Additionally, the commodity mix remains similar to 2014, with the same top five commodities by tonnage but with a moderate re-ranking.

Figure 4: Top Commodities by Tonnage and Mode, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 5: Top Commodities by Value and Mode, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

1 Introduction

Millions of tons and billions of dollars' worth of freight traverses Connecticut's infrastructure annually. Such freight includes finished goods, materials, and supplies. Central issues concerning freight are identifying the movements most important to Connecticut, and identifying options to facilitate/support them. Identifying the importance of, and solutions for, freight comprises several perspectives: volumes (especially compared to capacity), values, and public perception.

In this paper, freight volume (tons), units (trucks or railcars), shipment value (dollars), as reported in the TRANSEARCH® database, are summarized using tables and charts to simplify understanding. Structurally, the report is as follows:

- Section 1 overviews the commodity reporting conventions and primary data source;
- Section 2 summarizes year 2014 volumes, units, and value by mode (truck, rail, port/water, air, and pipeline) and direction (outbound, inbound, intrastate, and through);
- Section 3 summarizes forecast movements (year 2040), and growth rates;
- Section 4 summarizes and concludes; and,
- Section 5 is an Appendix with various freight data tables used in the analysis.

Standard Transportation Commodity Code (STCC) – A STCC is a seven-digit numeric code, categorized by 40 commodity groupings, based on a publication specifying physical product information used on waybills and other shipping documents and published/maintained by the American Association of Railroads (AAR). A STCC for any physical product is associated with a commodity description conforming to exact descriptions in freight transportation classifications of rail and motor carriers. North American Freight Railroads, the Railroad Waybill, the Commodity Flow Survey (CFS), and TRANSEARCH® adopt the STCC coding system. A hierarchical STCC structure allows data collapsibility, enabling summarization of commodity information at various levels (i.e., '01' represents 'Farm Products', '011' identifies 'Field Crops,' '0112' indicates 'Raw Cotton', etc., narrowing in specificity to a seven-digit level). Although freight movements are tallied at the four-digit STCC detail in TRANSEARCH®, the information reported herein is aggregated at the two-digit level for ease of summary.

TRANSEARCH® – Developed by IHS Global Insight, TRANSEARCH® is an extensive database of North American freight flows, compiled from more than a hundred industry, commodity, and proprietary data exchange sources. TRANSEARCH® combines primary shipment data obtained from some of the nation's largest rail and truck freight carriers with information from public, commercial, and proprietary sources to generate a base year estimate of freight flows at the county level. Further, TRANSEARCH® establishes market-specific production tonnages by industry or commodity, drawn mostly from IHS Global Insight's Business Markets Insights (BMI) database, and supplemented by trade association and industry reports, and United States government-collected data. TRANSEARCH® provides data for NAFTA-related trade and excludes international freight traffic from countries other than Canada and Mexico.

However, TRANSEARCH's modal comprehensiveness varies. Originally built for private sector truck and rail users, other modal movement data subsequently added lacks the extensiveness found in other sources. This is because the truck and rail data focus on movements across North America – specifically the NAFTA countries of the United States, Canada, and Mexico. As such, water movements to/from Asia, the Middle East, Europe, South America, etc. are not included. Similarly, non-NAFTA air movements, as well as many other small volume air movements, are not included. Lastly, pipeline movements are perhaps the most under-represented modal movements in Transearch due to insufficient U.S. federal reporting requirements and insufficient private sector pipeline data-sharing participation. Nonetheless, TRANSEARCH® provides the most comprehensive database of all movements, especially of the two major modes (truck and rail).

Other Potential Data Sources – A more comprehensive analysis of all modes requires supplementing the other three modes (water, air, and pipeline). Water is the quickest and easiest to supplement by using the United States Army Corps of Engineers (USACE) Waterborne Commerce Statistics (obtained at no cost via the internet), which includes all tonnage but excludes values.² United States Census USA Trade Online provides additional tonnage and value data on goods shipped between the U.S. and foreign countries; such data can supplement both water and air data provided herein by TRANSEARCH®.

² Note monetary values can be estimated using both TRANSEARCH®, U.S. Census, and other data.

2 Current Freight

The following discussion presents year 2014 freight movements by mode (truck, rail, port/water, air, and pipeline), direction (outbound, inbound, intrastate, and through), and terms (tons, units³, and values), as applicable and available, and generally in that sequencing. Each subsection summarizes modal movements by direction and term, and identifies the top two-digit STCC commodity movements. Graphic data presentation facilitates visualization of important commodity movements and related observations, with the supporting tabulated comprehensive data located in the Appendix, in Table 27 through Table 51. Structurally, a report compilation and synopsis facilitates independent review of respective sections without dependence on preceding or subsequent subsections.

2.1 Truck, 2014

Connecticut truck movements in 2014 totaled 198.7 million tons, valued at \$337.5 billion, and carried within 12.7 million units (see Table 4). On average, total truck commodity movements are valued at \$1,698/ton. Truck movements represent 93.7% of modal tonnage in Connecticut and 92.4% of total modal value in 2014, by far the largest relative share.

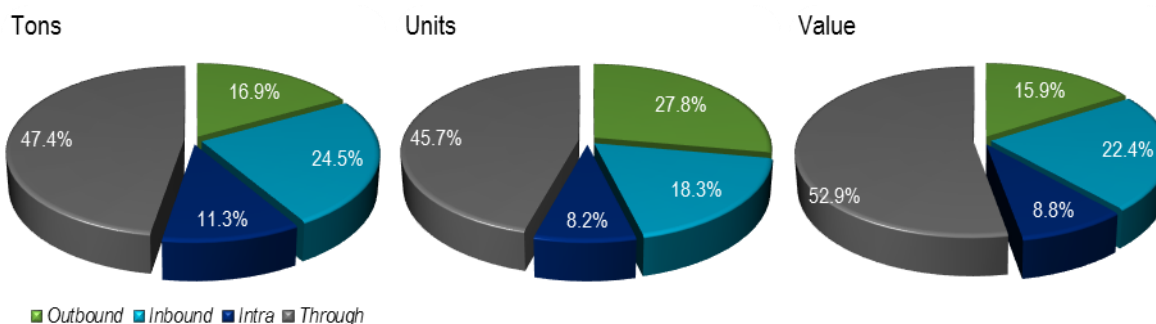
Direction – As depicted in Figure 6, through truck movements are the largest relative directional movements: 47.4% of total tonnage, 45.7% of units, and 52.9% of value; the higher proportion of value relative to tonnage reflects the higher average value/ton for through-based truck movements as compared with the other truck directions. Outbound, inbound, and intrastate movements comprise a remaining 104.6 million tons (52.6%), valued at \$159.0 billion (47.1%).

Table 4: Truck by Direction, 2014

Direction	Tons		Units		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	Amount	Percent	
Outbound	33,587,287	16.9%	3,542,453	27.8%	\$53,702	15.9%	\$1,599
Inbound	48,633,101	24.5%	2,333,134	18.3%	\$75,455	22.4%	\$1,552
Intra	22,360,696	11.3%	1,049,615	8.2%	\$29,839	8.8%	\$1,334
Through	94,157,731	47.4%	5,824,384	45.7%	\$178,490	52.9%	\$1,896
Total	198,738,816	100.0%	12,749,585	100.0%	\$337,487	100.0%	\$1,698

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 6: Truck Percentages by Direction, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

³ Units are available and presented only for truck and rail modes.

Density – As expected, the major truck freight corridors include the major interstates (I-95, I-91, I-84, and I-395), as seen in Figure 7. The densest truck freight routes are from New York City to New Haven along I-95, from New Haven to Harford along I-91, and most of I-84.

Commodities – Figure 8, Figure 9, and Figure 10 depict the top two-digit STCC commodities for Connecticut truck movements, by tonnage, units, and value, respectively, with a directional composition⁴. Tabular support data by direction is shown in Table 27 through Table 31 (in the Appendix), and is expanded upon in the respective subsections.

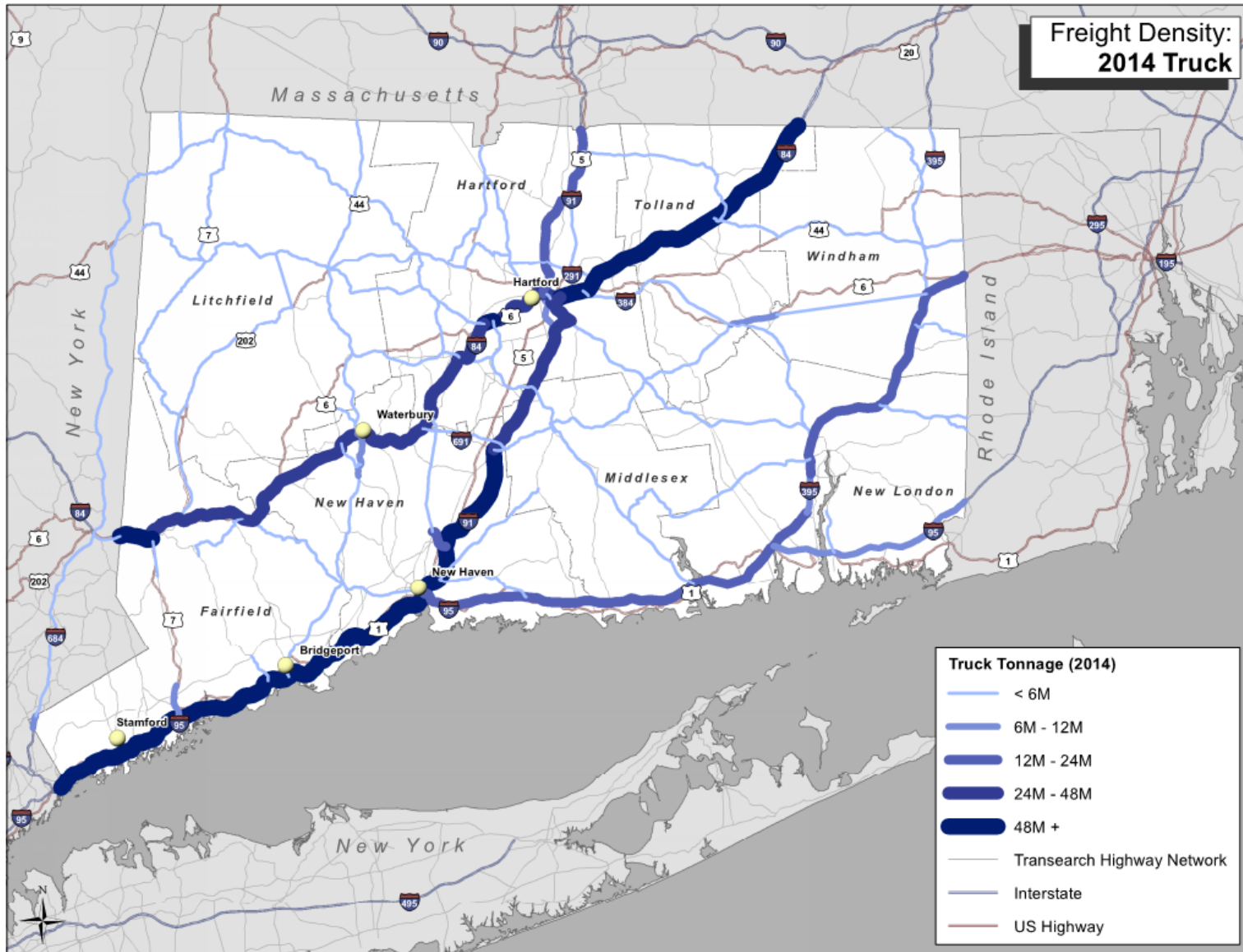
In terms of all truck directions combined, the top five commodities include:

- *by Tonnage:*
 1. Nonmetallic Minerals (32.7 million tons, 16.5% of truck total);
 2. Petroleum or Coal Products (31.6 million, 15.9%);
 3. Food or Kindred Products (25.3 million, 12.7%);
 4. Secondary Traffic (18.7 million, 9.4%); and,
 5. Clay, Concrete, Glass, or Stone (16.0 million, 8.1%)
- *by Units:*
 1. Shipping Containers (3.2 million units, 24.7% of truck total);⁵
 2. Nonmetallic Minerals (1.3 million, 10.6%);
 3. Petroleum or Coal Products (1.3 million, 10.5%);
 4. Food or Kindred Products (1.1 million, 8.8%); and,
 5. Clay, Concrete, Glass, or Stone (1.0 million, 7.8%)
- *by Value:*
 1. Electrical Equipment (\$39.7 billion, 11.8% of truck total);
 2. Food or Kindred Products (\$34.0 billion, 10.1%);
 3. Transportation Equipment (\$32.8 billion, 9.7%);
 4. Chemicals or Allied Products (\$27.4 billion, 8.1%); and,
 5. Secondary Traffic (\$27.2 billion, 8.1%)

⁴The respective figures identify the top commodities by relative percentage of the depicted term (tons, units, or value), sequenced left-to-right in descending order; the same convention is applied for all modes; the numbers preceding the commodity descriptions are the corresponding STCC2 codes.

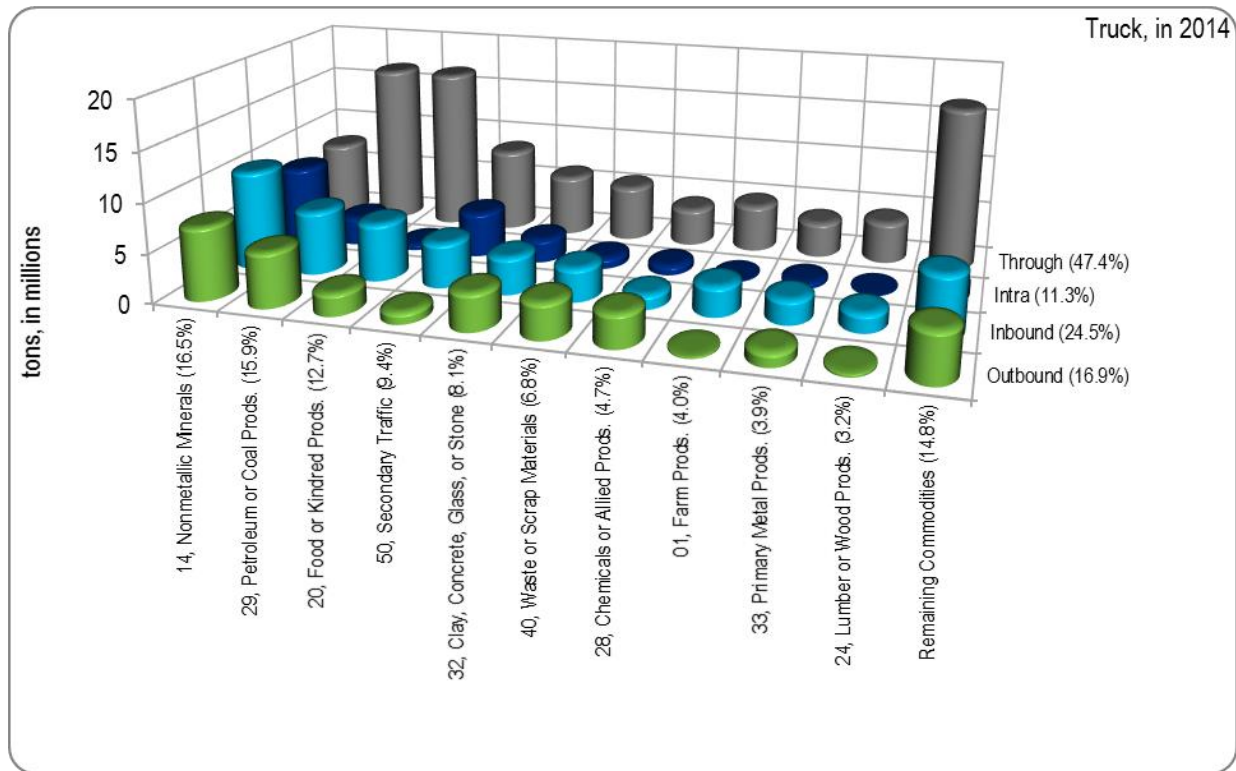
⁵ "Shipping Containers" includes empty shipping containers and Semi-Trailers Returned Empty.

Figure 7: Truck Density, 2014



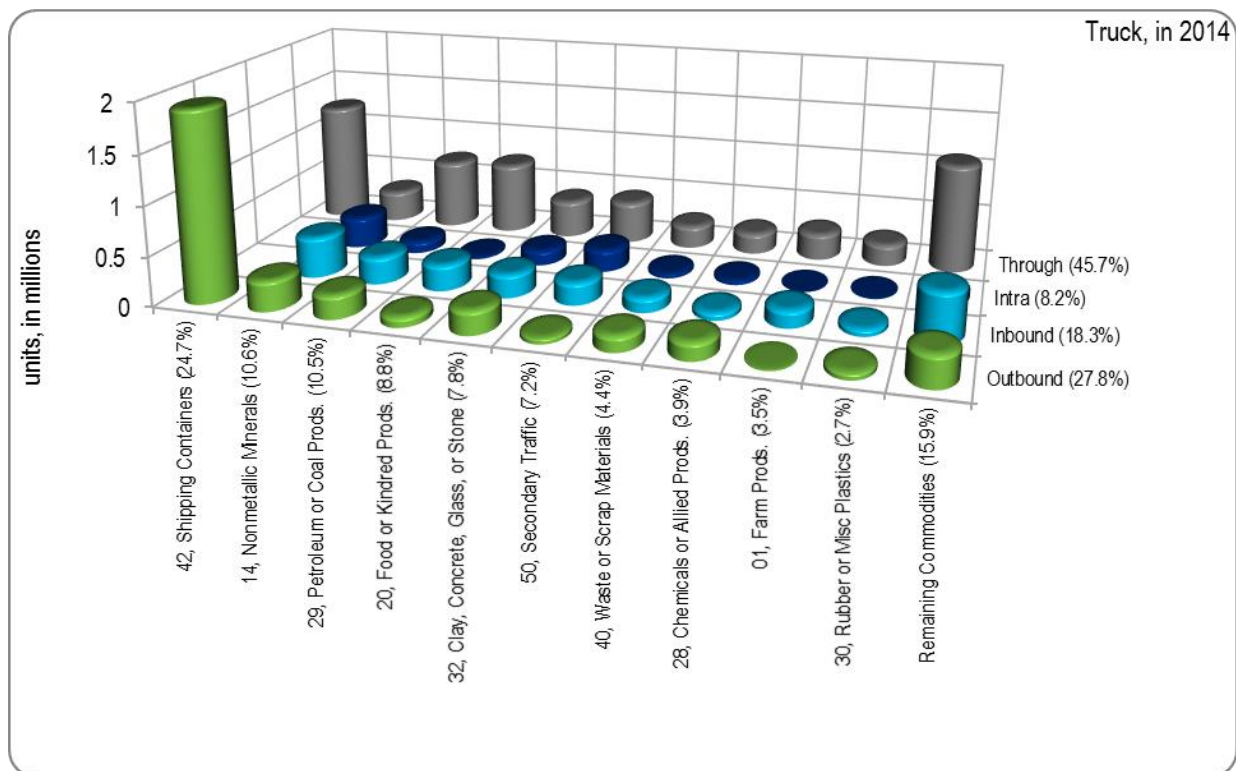
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 8: Truck Top Commodities by Tonnage, 2014



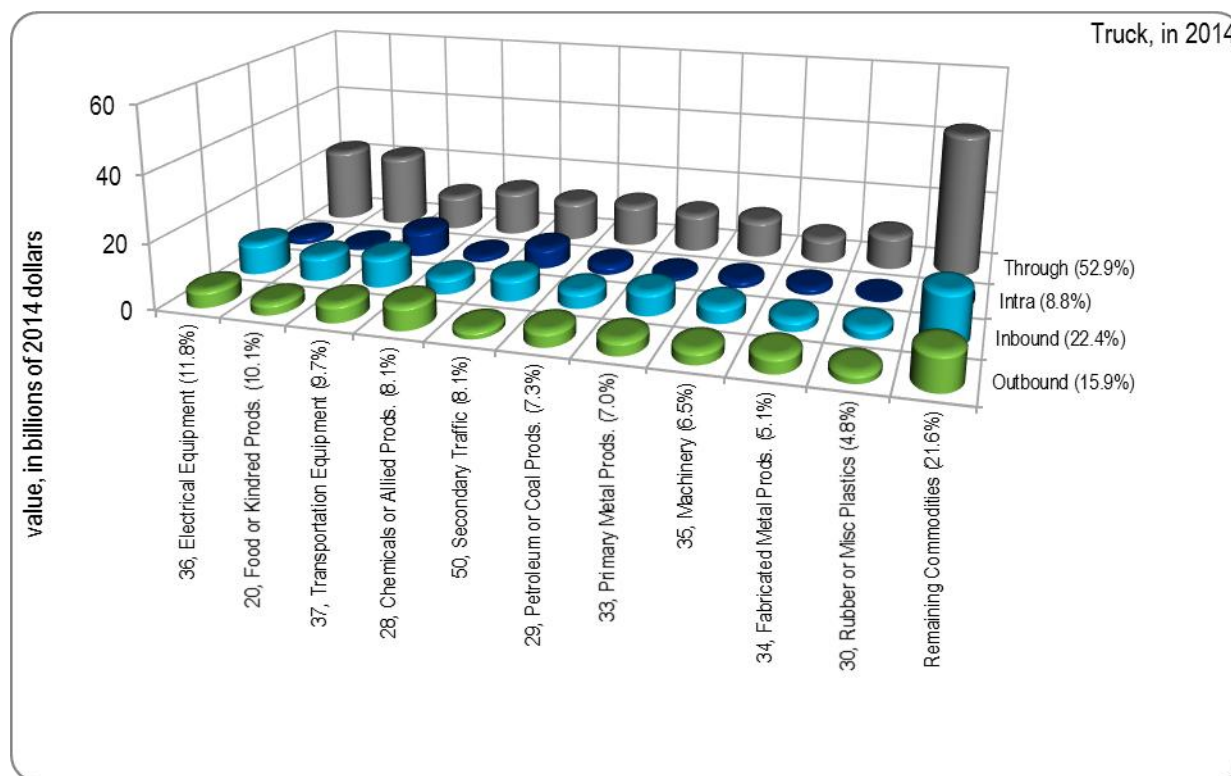
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 9: Truck Top Commodities by Units, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 10: Truck Top Commodities by Value, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

2.1.1 Truck Outbound

Table 27 in the Appendix presents outbound truck commodities from Connecticut, in 2014, which total 33.6 million tons (16.9% of directional movements), via 3.5 million units (27.8%), valued at \$53.7 billion (15.9%), with an average value/ton of \$1,599; top five commodities include:

- *by Tonnage:*
 1. Nonmetallic Minerals (7.4 million tons, 21.9% of outbound total);
 2. Petroleum or Coal Products (5.5 million, 16.5%);
 3. Clay, Concrete, Glass, or Stone (3.7 million, 11.1%);
 4. Waste or Scrap Materials (3.6 million, 10.6%); and,
 5. Chemicals or Allied Products (3.3 million, 9.8%)
- *by Units:*
 1. Shipping Containers (1,914.6 thousand units, 54.0% of outbound total);
 2. Nonmetallic Minerals (303.4 thousand, 8.6%);
 3. Clay, Concrete, Glass, or Stone (235.8 thousand, 6.7%);
 4. Petroleum or Coal Products (233.3 thousand, 6.6%); and,
 5. Chemicals or Allied Products (170.5 thousand, 4.8%)

- *by Value:*
 1. Chemicals or Allied Products (\$7.1 billion, 13.2% of outbound total);
 2. Transportation Equipment (\$5.4 billion, 10.0%);
 3. Electrical Equipment (\$5.2 billion, 9.6%);
 4. Fabricated Metal Products (\$4.7 billion, 8.7%); and,
 5. Petroleum or Coal Products (\$4.5 billion, 8.3%)

Outbound Tonnage Origin – Major outbound truck tonnages in 2014 are shown by county origin in Figure 11 and Figure 13. Truck movements destined out-of-state are primarily traveling from Hartford County (8.5 million, 25.4%), New Haven County (7.0 million, 20.9%), and Fairfield County (6.0 million, 17.8%).

- *Hartford County:*
 1. Nonmetallic Minerals (2.7 million tons, 31.5% of outbound county total);
 2. Petroleum or Coal Products (0.9 million, 11.0%); and,
 3. Food or Kindred Products (0.8 million, 9.9%)
- *New Haven County:*
 1. Petroleum or Coal Products (1.6 million tons, 22.7% of outbound county total);
 2. Clay, Concrete, Glass, or Stone (1.2 million, 16.6%); and,
 3. Nonmetallic Minerals (0.9 million, 12.7%)
- *Fairfield County:*
 1. Petroleum or Coal Products (2.0 million tons, 33.4% of outbound county total);
 2. Waste or Scrap Materials (1.2 million, 20.0%); and,
 3. Clay, Concrete, Glass, or Stone (0.6 million, 9.5%)

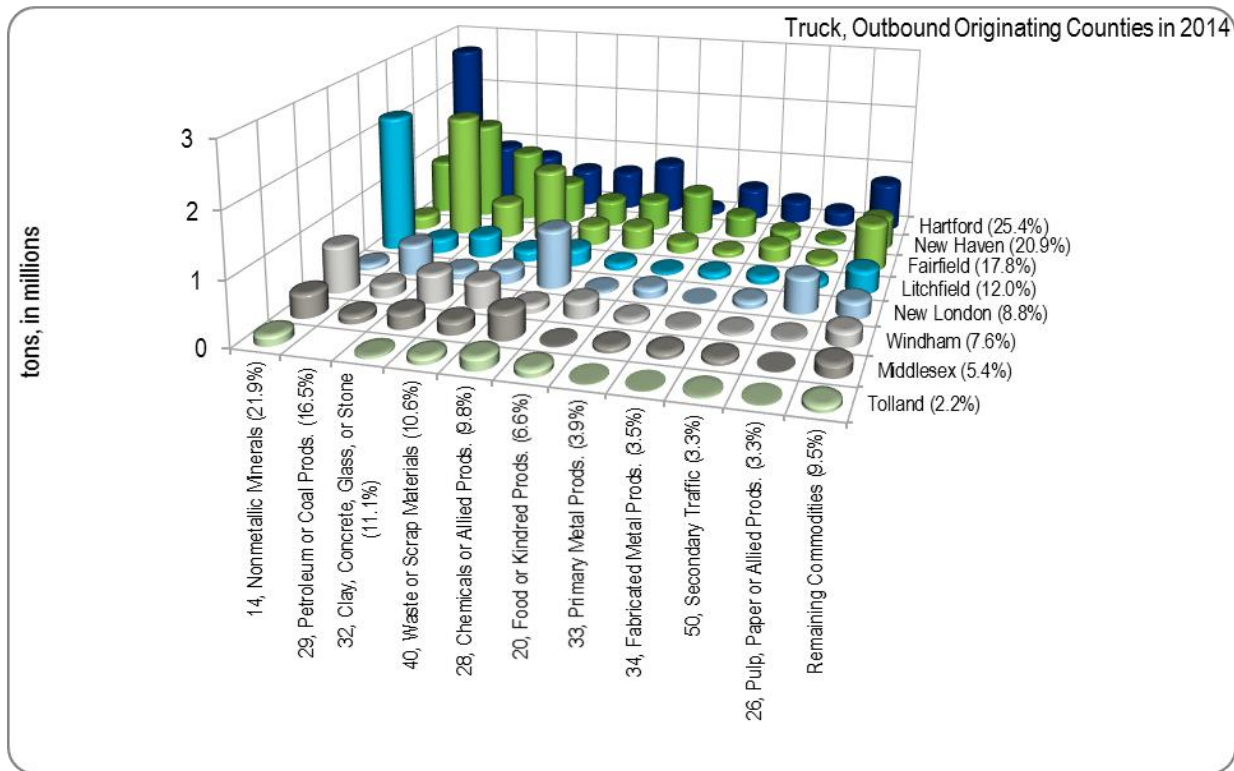
Outbound Tonnage Destination – Major outbound truck tonnages in 2014 are shown by state destination in Figure 12 and Figure 13. Truck movements destined out-of-state are primarily traveling to New York (10.2 million, 30.3%), Massachusetts (7.8 million, 23.3%), and New Jersey (3.5 million, 10.4%).

- *New York:*
 1. Nonmetallic Minerals (2.6 million tons, 25.7% of outbound state total);
 2. Clay, Concrete, Glass, or Stone (1.7 million, 16.8%); and,
 3. Petroleum or Coal Products (1.6 million, 15.4%)
- *Massachusetts:*
 1. Nonmetallic Minerals (3.1 million tons, 39.1% of outbound state total);
 2. Clay, Concrete, Glass, or Stone (1.0 million, 12.6%); and,
 3. Waste or Scrap Materials (0.8 million, 9.6%)
- *New Jersey:*
 1. Petroleum or Coal Products (0.9 million tons, 26.6% of outbound state total);
 2. Nonmetallic Minerals (0.6 million, 17.8%); and,
 3. Chemicals or Allied Products (0.3 million, 9.7%)

Table 5: Outbound Truck O/D by Commodity, 2014

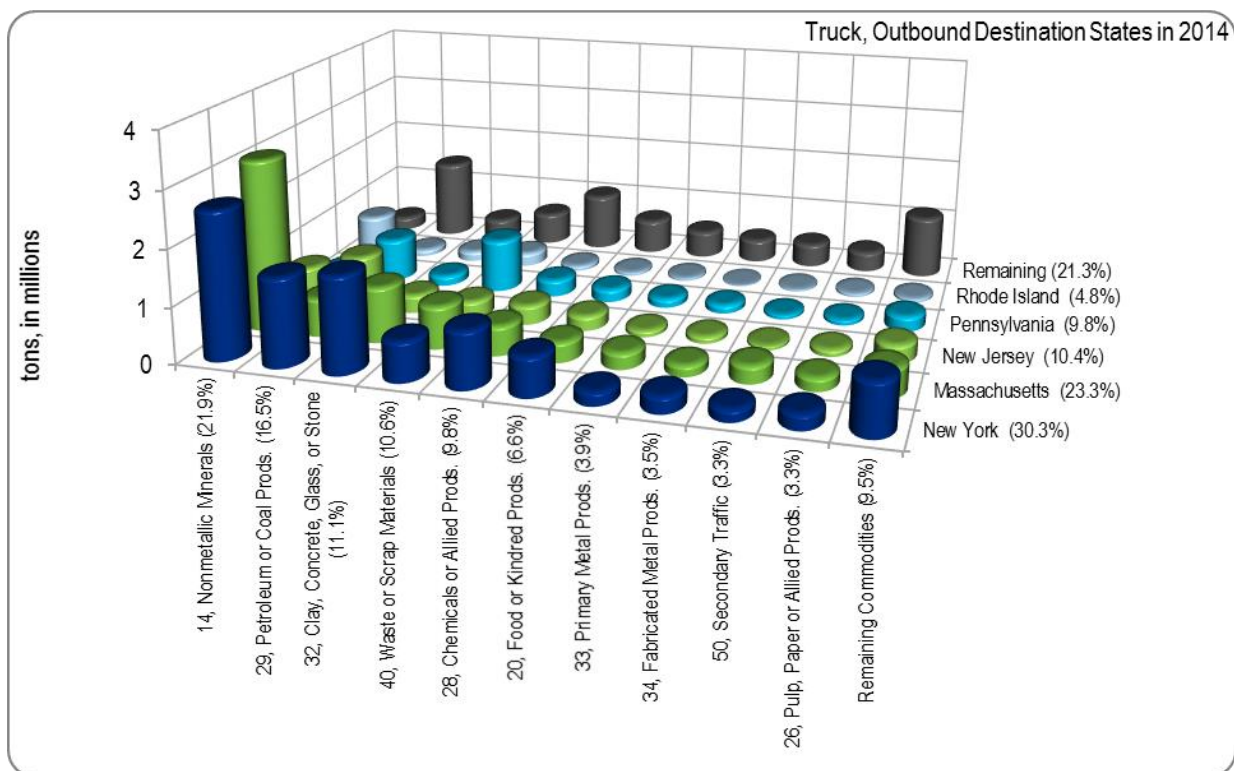
STCC2		Truck, Outbound Originating Connecticut Counties in 2014							Total	Percent
		Hartford	New Haven	Fairfield	Litchfield	New London	Remaining			
14	Nonmetallic Minerals	2,690,375	888,517	213,539	2,219,166	85,652	1,263,669	7,360,917	21.9%	
29	Petroleum or Coal Prods.	938,303	1,595,891	1,993,995	222,846	476,344	315,401	5,542,781	16.5%	
32	Clay, Concrete, Glass, or Stone	810,118	1,162,005	568,607	344,163	132,138	724,626	3,741,658	11.1%	
40	Waste or Scrap Materials	617,387	672,124	1,191,371	170,619	209,135	692,593	3,553,228	10.6%	
28	Chemicals or Allied Prods.	635,606	423,909	310,034	258,796	924,343	739,300	3,291,988	9.8%	
	Remaining Commodities	2,847,223	2,273,199	1,685,593	812,455	1,116,765	1,361,481	10,096,715	30.1%	
	Total	8,539,013	7,015,644	5,963,139	4,028,044	2,944,377	5,097,070	33,587,287	100.0%	
	Percent	25.4%	20.9%	17.8%	12.0%	8.8%	15.2%	100.0%		
STCC2		Truck, Outbound Terminating State in 2014						Total	Percent	
		NY	MA	NJ	PA	RI	Remaining			
14	Nonmetallic Minerals	2,620,226	3,059,724	620,246	128,704	690,503	241,514	7,360,917	21.9%	
29	Petroleum or Coal Prods.	1,570,303	678,815	929,183	778,671	115,205	1,470,604	5,542,781	16.5%	
32	Clay, Concrete, Glass, or Stone	1,711,386	985,236	318,767	176,931	176,974	372,364	3,741,658	11.1%	
40	Waste or Scrap Materials	707,392	753,092	306,031	963,093	238,980	584,640	3,553,228	10.6%	
28	Chemicals or Allied Prods.	1,002,612	518,011	338,161	299,035	87,556	1,046,614	3,291,988	9.8%	
	Remaining Commodities	2,574,180	1,835,944	976,436	951,390	313,448	3,445,318	10,096,715	30.1%	
	Total	10,186,099	7,830,821	3,488,823	3,297,824	1,622,667	7,161,054	33,587,287	100.0%	
	Percent	30.3%	23.3%	10.4%	9.8%	4.8%	21.3%	100.0%		

Figure 11: Truck Outbound Commodities by County Origin, 2014



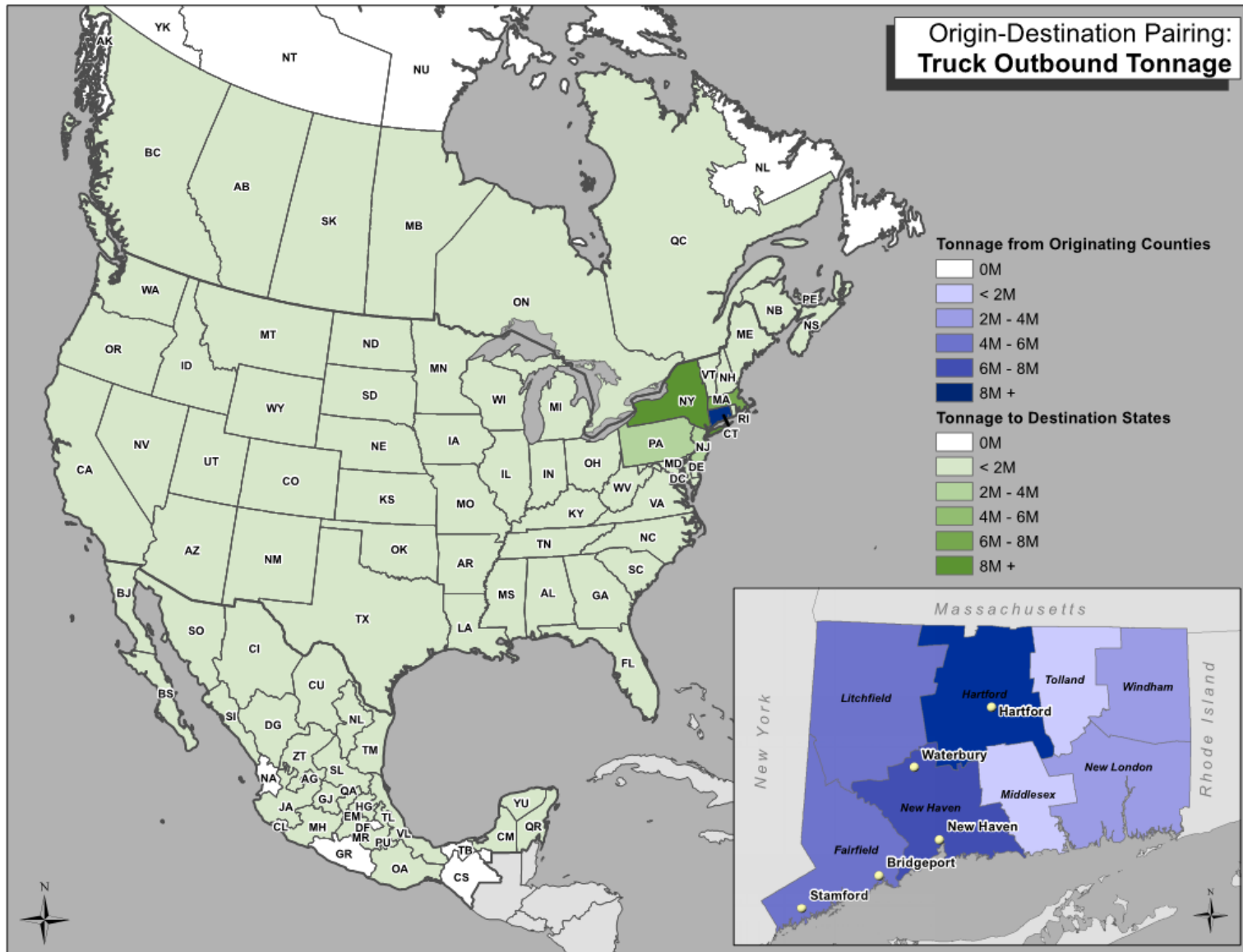
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 12: Truck Outbound Commodities by State Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 13: Truck Outbound by Origin and Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

2.1.2 Truck Inbound

Table 28 in the Appendix presents inbound truck commodities to Connecticut, in 2014, which total 48.6 million tons (24.5% of directional movements), via 2.3 million units (18.3%), valued at \$75.5 billion (22.4%), with an average value/ton of \$1,552; top five commodities include:

- *by Tonnage:*
 1. Nonmetallic Minerals (10.0 million tons, 20.6% of inbound total);
 2. Petroleum or Coal Products (6.5 million, 13.3%);
 3. Food or Kindred Products (5.8 million, 12.0%);
 4. Secondary Traffic (4.5 million, 9.2%); and,
 5. Clay, Concrete, Glass, or Stone (3.7 million, 7.7%)
- *by Units:*
 1. Nonmetallic Minerals (412.1 thousand units, 17.7% of inbound total);
 2. Petroleum or Coal Products (272.3 thousand, 11.7%);
 3. Food or Kindred Products (259.8 thousand, 11.1%);
 4. Clay, Concrete, Glass, or Stone (232.2 thousand, 10.0%); and,
 5. Secondary Traffic (220.6 thousand, 9.5%)⁶
- *by Value:*
 1. Electrical Equipment (\$9.4 billion, 12.5% of inbound total);
 2. Transportation Equipment (\$9.0 billion, 11.9%);
 3. Food or Kindred Products (\$7.3 billion, 9.6%);
 4. Primary Metal Products (\$6.8 billion, 9.0%); and,
 5. Secondary Traffic (\$6.7 billion, 8.8%)

Inbound Tonnage Origin – Major inbound truck tonnages in 2014 are shown by state origin in Figure 14 and Figure 16. Truck movements originating out-of-state are primarily traveling from New York (11.2 million, 23.0%), Massachusetts (7.7 million, 15.9%), and New Jersey (6.5 million, 13.4%).

- *New York:*
 1. Nonmetallic Minerals (4.1 million tons, 36.5% of inbound state total);
 2. Petroleum or Coal Products (1.2 million, 11.2%); and,
 3. Waste or Scrap Materials (1.2 million, 10.6%)
- *Massachusetts:*
 1. Nonmetallic Minerals (2.3 million tons, 29.8% of inbound state total);
 2. Food or Kindred Products (0.9 million, 11.6%); and,
 3. Petroleum or Coal Products (0.9 million, 11.4%)
- *New Jersey:*
 1. Secondary Traffic (1.8 million tons, 27.1% of inbound state total);
 2. Petroleum or Coal Products (1.0 million, 15.5%); and,
 3. Food or Kindred Products (0.9 million, 13.4%)

⁶ Secondary traffic refers to freight movements from distribution centers or warehouses to consuming points like retail stores.

Inbound Tonnage Destination – Major inbound truck tonnages in 2014 are shown by county destination in Figure 15 and Figure 16. Truck movements originating out-of-state are primarily traveling to Hartford County (14.0 million, 28.8%), Fairfield County (11.7 million, 24.0%), and New Haven County (10.5 million, 21.6%).

- *Hartford County:*
 1. Nonmetallic Minerals (2.9 million tons, 20.6% of inbound county total);
 2. Petroleum or Coal Products (1.6 million, 11.5%); and,
 3. Food or Kindred Products (1.5 million, 10.7%)

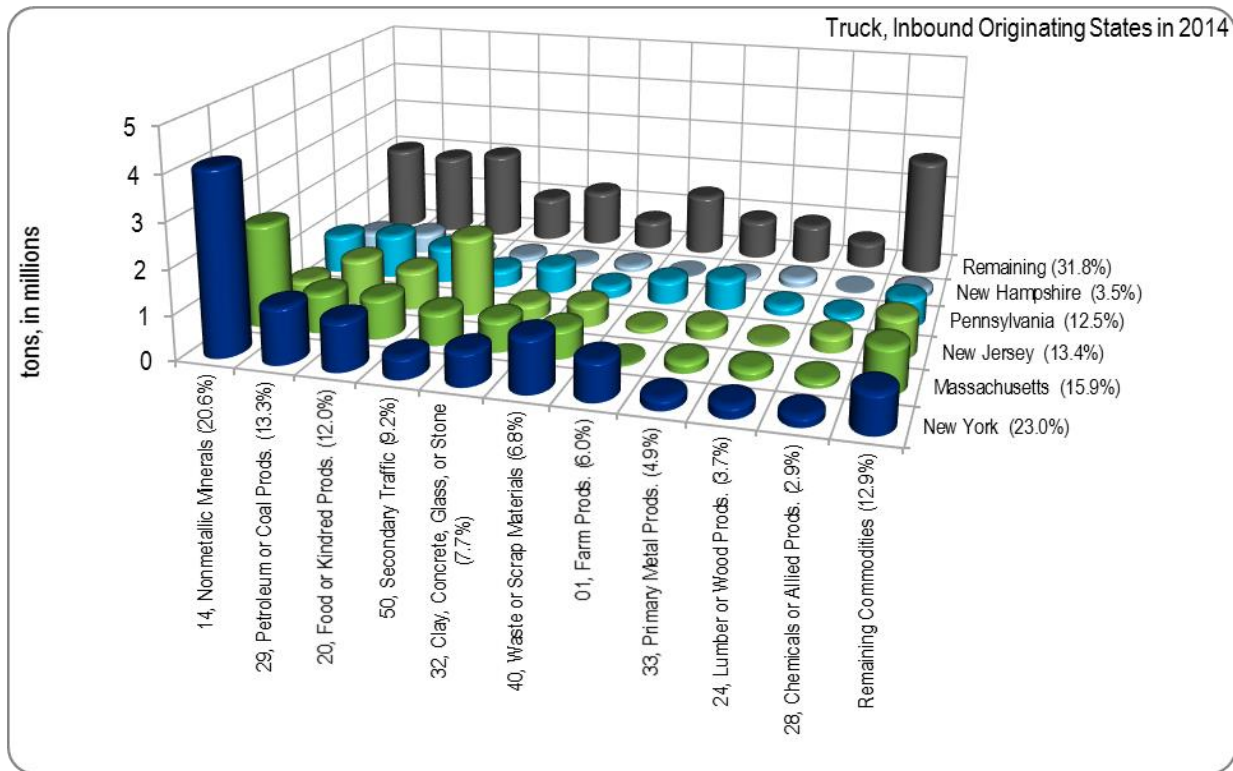
- *Fairfield County:*
 1. Food or Kindred Products (1.9 million tons, 16.2% of inbound county total);
 2. Nonmetallic Minerals (1.7 million, 14.8%); and,
 3. Petroleum or Coal Products (1.7 million, 14.5%)

- *New Haven County:*
 1. Nonmetallic Minerals (2.1 million tons, 20.4% of inbound county total);
 2. Food or Kindred Products (1.5 million, 14.1%); and,
 3. Petroleum or Coal Products (1.4 million, 12.9%)

Table 6: Inbound Truck O/D by Commodity, 2014

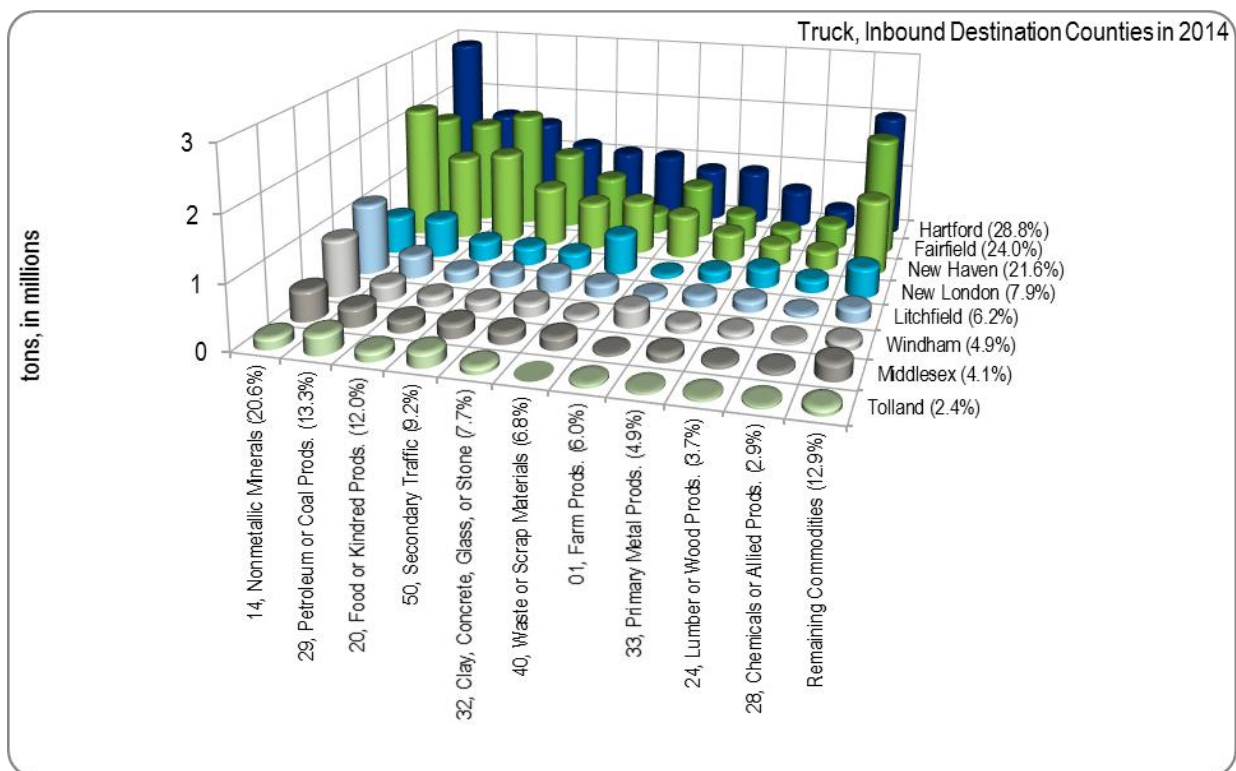
STCC2		Truck, Inbound Originating State in 2014							Total	Percent
		NY	MA	NJ	PA	NH	Remaining			
14	Nonmetallic Minerals	4,083,899	2,300,501	383,583	866,160	368,454	2,014,584	10,017,181	20.6%	
29	Petroleum or Coal Prods.	1,249,847	876,484	1,010,126	990,333	441,647	1,901,035	6,469,472	13.3%	
20	Food or Kindred Prods.	1,087,269	896,925	874,549	817,505	98,020	2,062,643	5,836,911	12.0%	
50	Secondary Traffic	469,223	715,066	1,765,581	391,198	107,258	1,030,109	4,478,434	9.2%	
32	Clay, Concrete, Glass, or Stone	730,364	693,818	358,436	583,184	62,475	1,307,467	3,735,744	7.7%	
	Remaining Commodities	3,557,560	2,238,546	2,125,340	2,408,364	611,024	7,154,527	18,095,361	37.2%	
	Total	11,178,160	7,721,340	6,517,615	6,056,744	1,688,878	15,470,365	48,633,101	100.0%	
	Percent	23.0%	15.9%	13.4%	12.5%	3.5%	31.8%	100.0%		
STCC2		Truck, Inbound Terminating Connecticut Counties in 2014							Total	Percent
		Hartford	Fairfield	New Haven	New London	Litchfield	Remaining			
14	Nonmetallic Minerals	2,878,608	1,728,537	2,146,829	595,611	1,124,674	1,542,922	10,017,181	20.6%	
29	Petroleum or Coal Prods.	1,612,466	1,687,807	1,359,043	611,969	355,513	842,674	6,469,472	13.3%	
20	Food or Kindred Prods.	1,502,531	1,888,022	1,481,947	310,600	179,652	474,159	5,836,911	12.0%	
50	Secondary Traffic	1,160,612	1,260,698	959,443	285,211	232,501	579,969	4,478,434	9.2%	
32	Clay, Concrete, Glass, or Stone	1,065,036	893,746	768,096	253,083	275,916	479,866	3,735,744	7.7%	
	Remaining Commodities	5,768,266	4,209,047	3,791,890	1,786,014	869,190	1,670,954	18,095,361	37.2%	
	Total	13,987,518	11,667,856	10,507,249	3,842,488	3,037,445	5,590,544	48,633,101	100.0%	
	Percent	28.8%	24.0%	21.6%	7.9%	6.2%	11.5%	100.0%		

Figure 14: Truck Inbound Commodities by State Origin, 2014



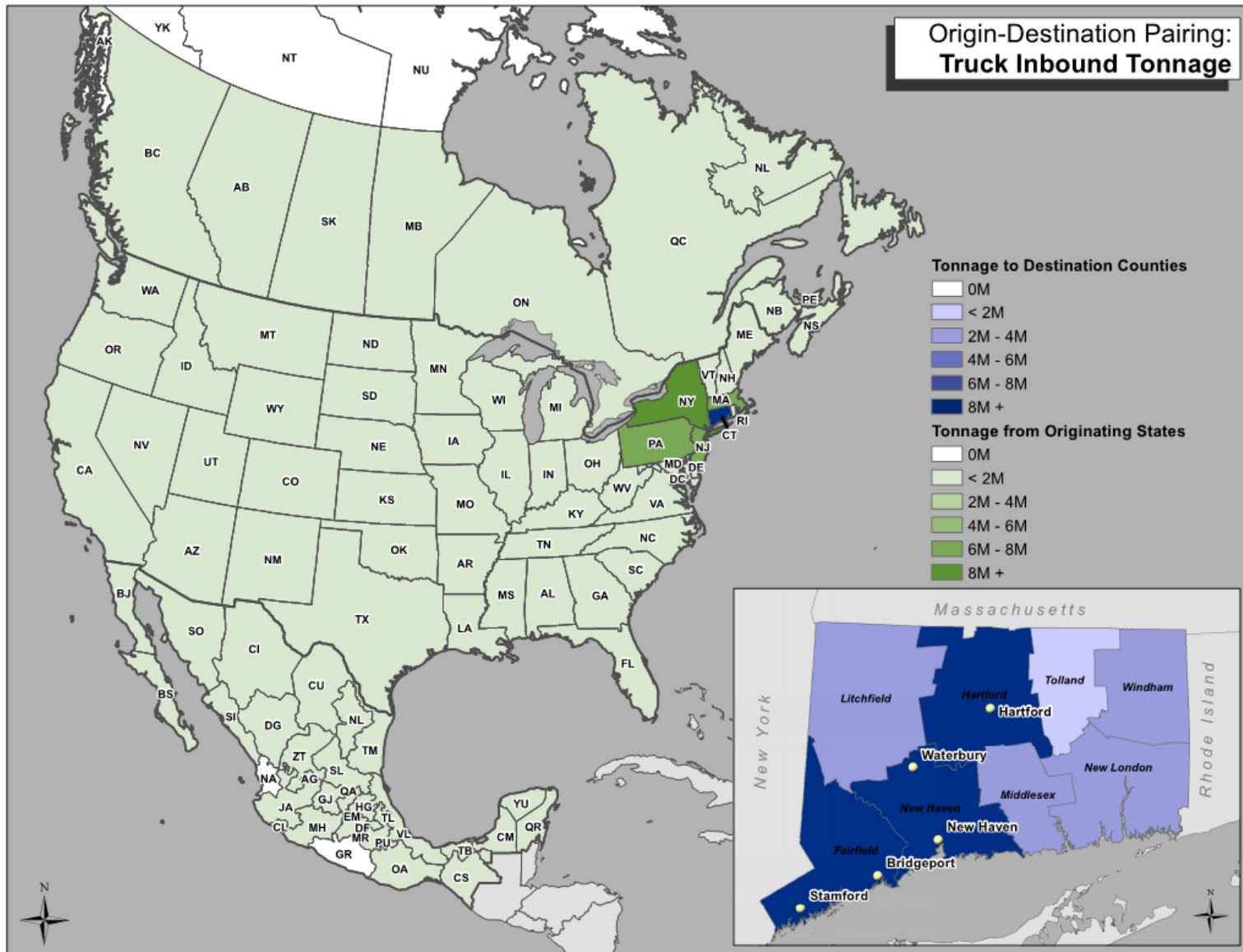
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 15: Truck Inbound Commodities by County Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 16: Truck Inbound by Origin and Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

2.1.3 Truck Intra

Table 29 in the Appendix presents intrastate truck commodities within Connecticut, in 2014, which total 22.4 million tons (11.3% of directional movements), via 1.0 million units (8.2%), valued at \$29.8 billion (8.8%), with an average value/ton of \$1,334; top five commodities include:

- *by Tonnage:*
 1. Nonmetallic Minerals (7.6 million tons, 34.1% of intra total);
 2. Secondary Traffic (4.6 million, 20.4%);
 3. Petroleum or Coal Products (2.9 million, 12.8%);
 4. Clay, Concrete, Glass, or Stone (2.3 million, 10.5%); and,
 5. Waste or Scrap Materials (1.1 million, 4.7%)
- *by Units:*
 1. Nonmetallic Minerals (314.1 thousand units, 29.9% of intra total);
 2. Secondary Traffic (221.6 thousand, 21.1%);
 3. Clay, Concrete, Glass, or Stone (148.1 thousand, 14.1%);
 4. Petroleum or Coal Products (118.3 thousand, 11.3%); and,
 5. Waste or Scrap Materials (46.1 thousand, 4.4%)
- *by Value:*
 1. Transportation Equipment (\$7.7 billion, 25.9% of intra total);
 2. Secondary Traffic (\$6.2 billion, 20.6%);
 3. Petroleum or Coal Products (\$2.7 billion, 8.9%);
 4. Electrical Equipment (\$2.1 billion, 6.9%); and,
 5. Machinery (\$1.9 billion, 6.4%)

2.1.4 Truck Through

Table 30 in the Appendix presents through truck commodities moving across Connecticut, in 2014, which total 94.2 million tons (47.4% of directional movements), via 5.8 million units (45.7%), valued at \$178.5 billion (52.9%), with an average value/ton of \$1,896; top five commodities include:

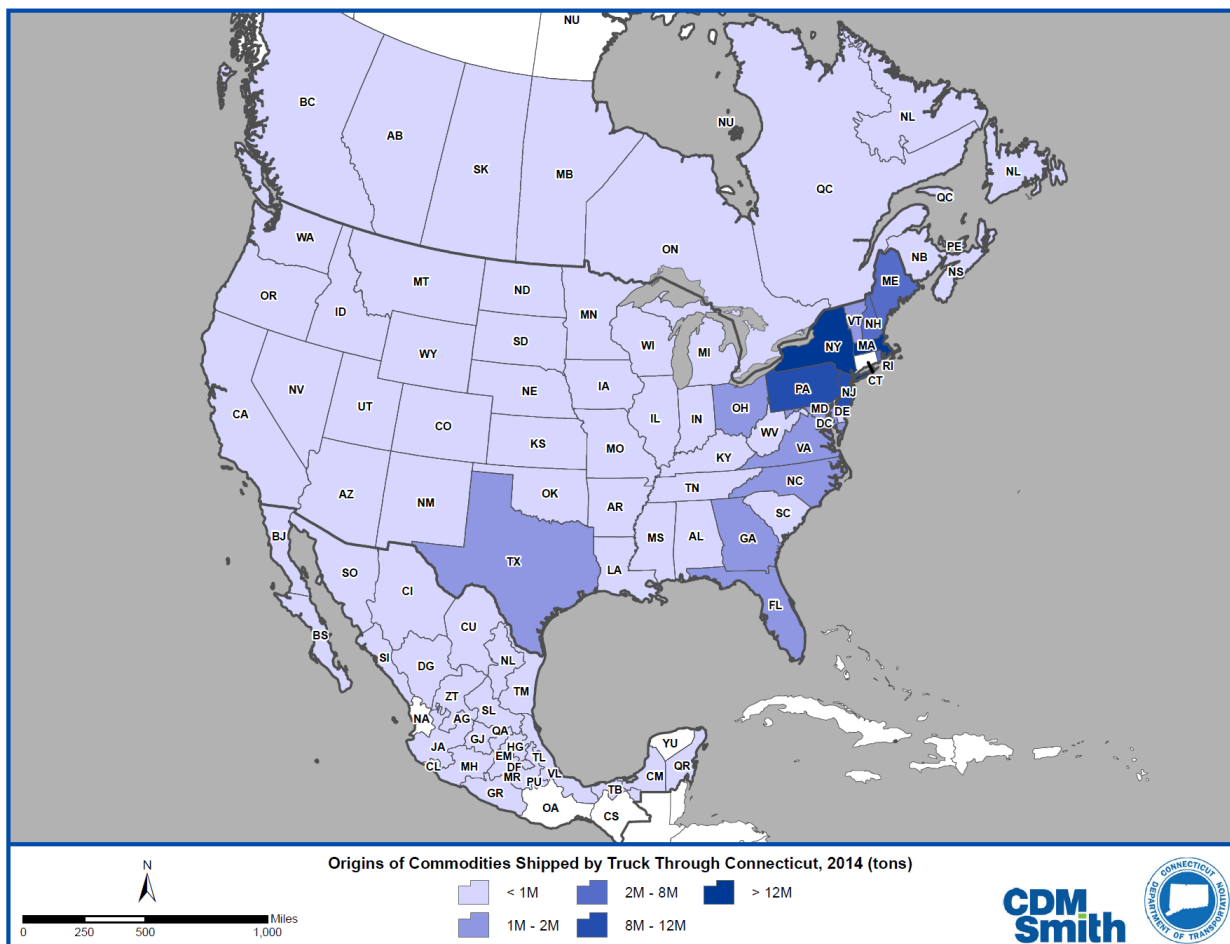
- *by Tonnage:*
 1. Petroleum or Coal Products (16.7 million tons, 17.8% of through total);
 2. Food or Kindred Products (16.7 million, 17.7%);
 3. Secondary Traffic (8.5 million, 9.1%);
 4. Nonmetallic Minerals (7.7 million, 8.2%); and,
 5. Clay, Concrete, Glass, or Stone (6.2 million, 6.6%)
- *by Units:*
 1. Shipping Containers (1,240.4 thousand units, 21.3% of through total);
 2. Food or Kindred Products (734.4 thousand, 12.6%);
 3. Petroleum or Coal Products (709.9 thousand, 12.2%);
 4. Secondary Traffic (426.0 thousand, 7.3%); and,
 5. Clay, Concrete, Glass, or Stone (381.2 thousand, 6.5%)

• *by Value:*

1. Electrical Equipment (\$23.0 billion, 12.9% of through total);
2. Food or Kindred Products (\$22.4 billion, 12.5%);
3. Chemicals or Allied Products (\$13.8 billion, 7.7%);
4. Petroleum or Coal Products (\$12.7 billion, 7.1%); and,
5. Secondary Traffic (\$12.1 billion, 6.8%)

Figures 17 and 18 show the origin of through truck traffic in Connecticut. New York, Pennsylvania Massachusetts and New Jersey ship more truck freight by weight than any other states, and there are several states along the Eastern Seaboard, along with Texas and Ohio, that are second-tier sending states. Every state in the union, as well the Canadian provinces and most Mexican states, send commodities through Connecticut by truck.

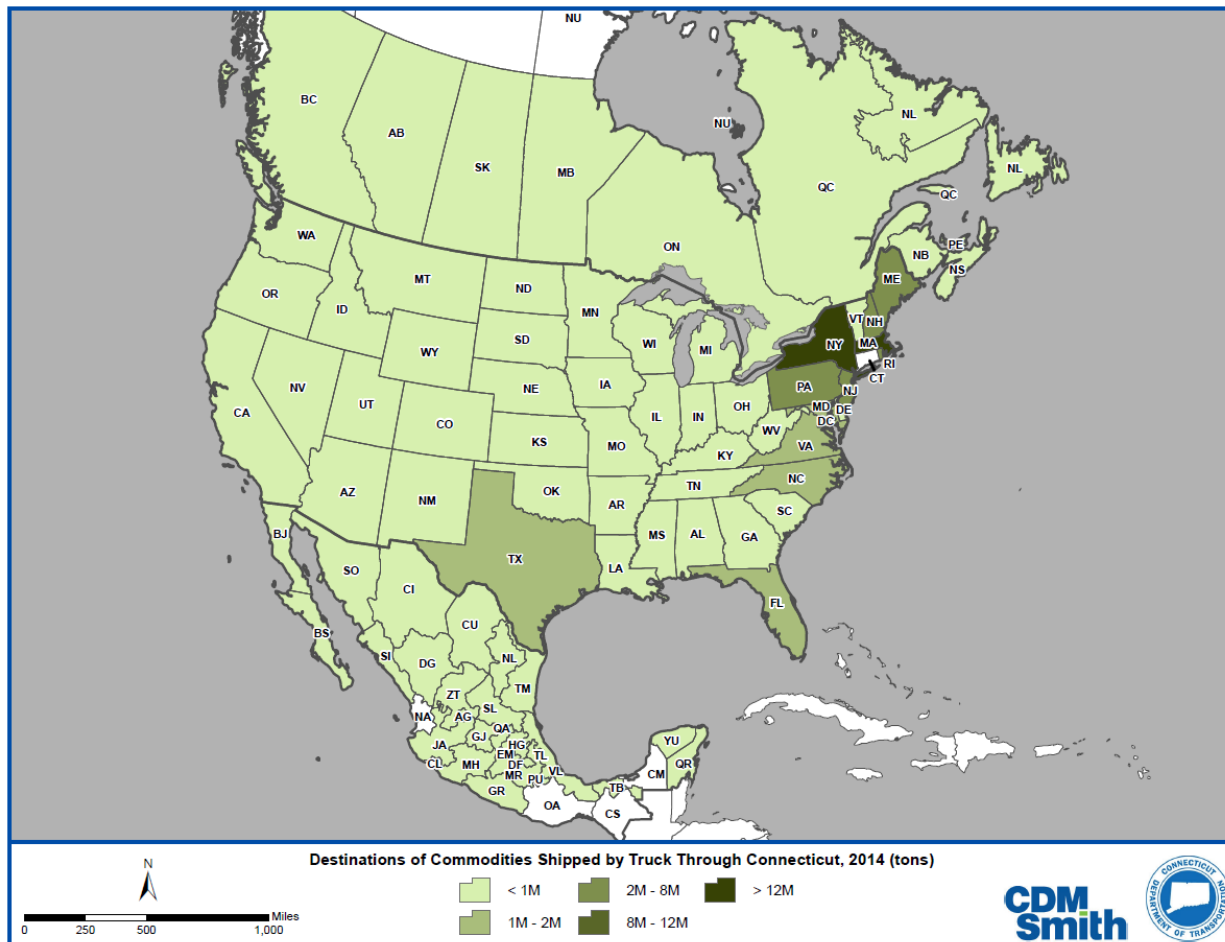
Figure 17: Origin of Commodities Shipped Through Connecticut by Truck, 2014 (in tons)



As shown in Figure 18, New York receives more through truck freight as measured by tonnage than any other state. The Port of New York and New Jersey is a major freight attractor, as is

New York City. Several states along the coast attract a significant amount of through truck traffic, including Florida. Texas is the destination of more truck-borne freight passing through Connecticut than any other non-coastal state.

Figure 18: Destination of Commodities Shipped Through Connecticut by Truck, 2014 (in tons)



2.2 Rail, 2014

Connecticut rail movements in 2014 totaled 3.1 million tons, valued at \$2.2 billion, carried by 32,619 units (see Table 7). On average, total rail commodity movements are valued at \$724/ton. Rail movements represent 1.5% of modal tonnage in Connecticut and 0.6% of total modal value in 2014.

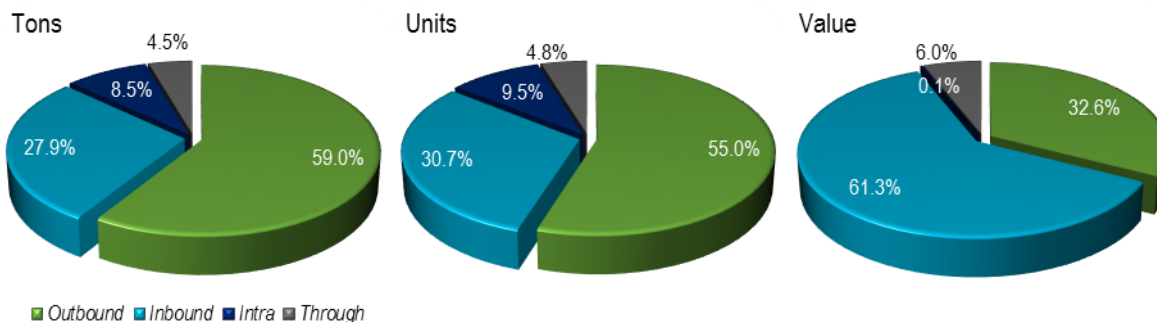
Direction – As depicted in Figure 19, outbound rail movements dominate directional movements by tonnage and units: 59.0% of total tonnage, 55.0% of units. However, inbound dominates by value, at 61.3%, due to the relatively high value/ton.

Table 7: Rail by Direction, 2014

Direction	Tons		Units		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	Amount	Percent	
Outbound	1,814,036	59.0%	17,925	55.0%	\$724	32.6%	\$399
Inbound	859,476	27.9%	10,030	30.7%	\$1,364	61.3%	\$1,588
Intra	262,452	8.5%	3,110	9.5%	\$2	0.1%	\$10
Through	139,588	4.5%	1,554	4.8%	\$134	6.0%	\$960
Total	3,075,552	100.0%	32,619	100.0%	\$2,225	100.0%	\$724

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 19: Rail Percentages by Direction, 2014

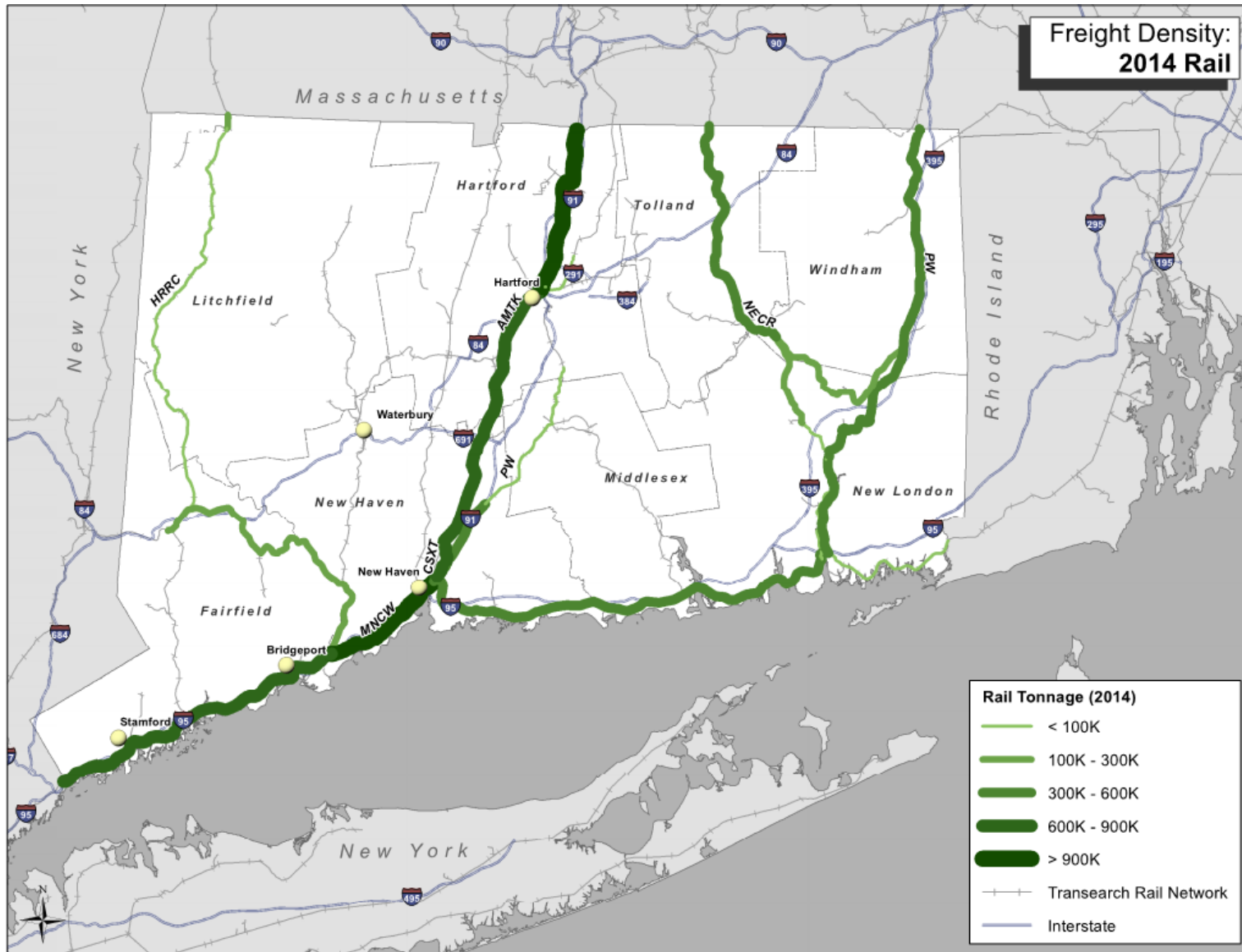


Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Density – Major rail freight corridors include routes served by the Class 1 carriers, as seen in Figure 20; routes with the densest rail traffic are along the route similar to truck density, between New York City and New Haven along the Metro-North Commuter Railroad-owned track (MNCW), up through Hartford and beyond along the Amtrak-owned track (AMTK) parallel to I-91.

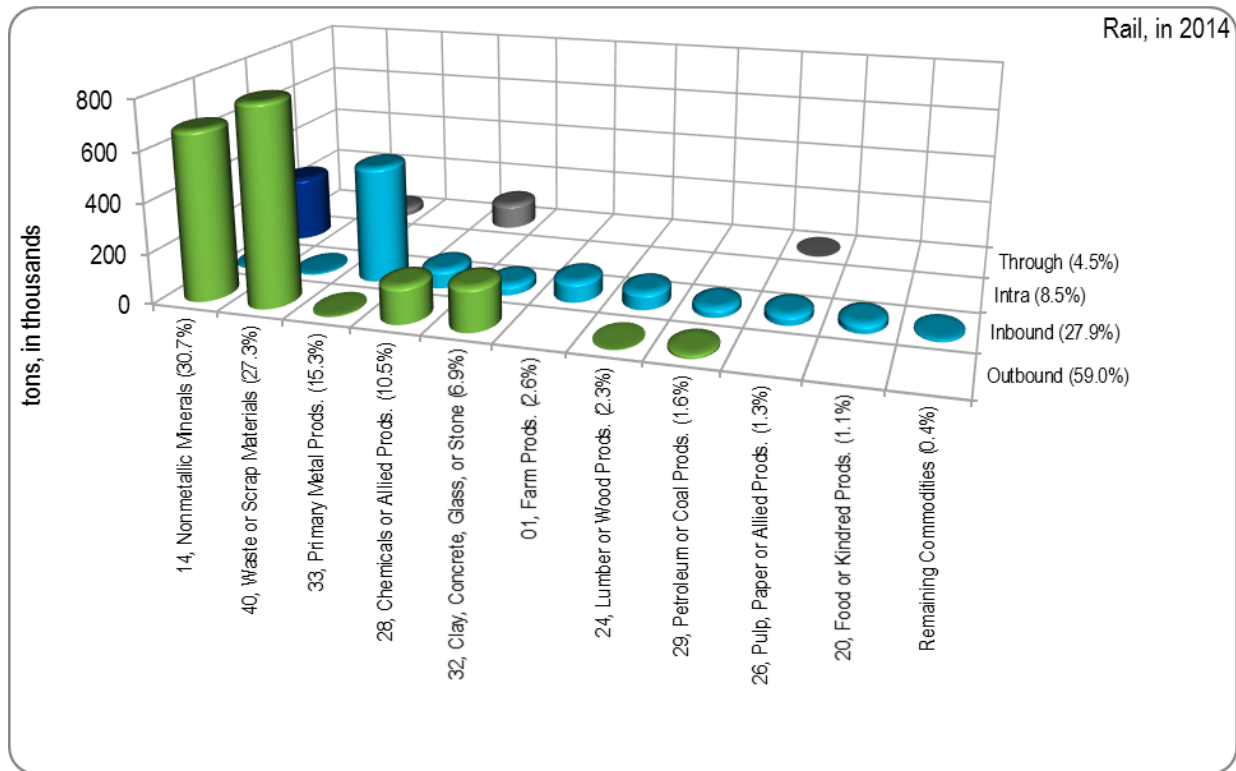
Commodities – Figure 21, Figure 22, and Figure 23 depict the top two-digit STCC commodities for Connecticut rail, by tonnage, units, and value, respectively, with a directional composition. Such graphics depict the largest respective commodity movements for rail by direction, and in conjunction with the tabulated data in Table 32 through Table 36, in the Appendix, the top rail commodity movements by direction are identified in the respective subsections.

Figure 20: Rail Density, 2014



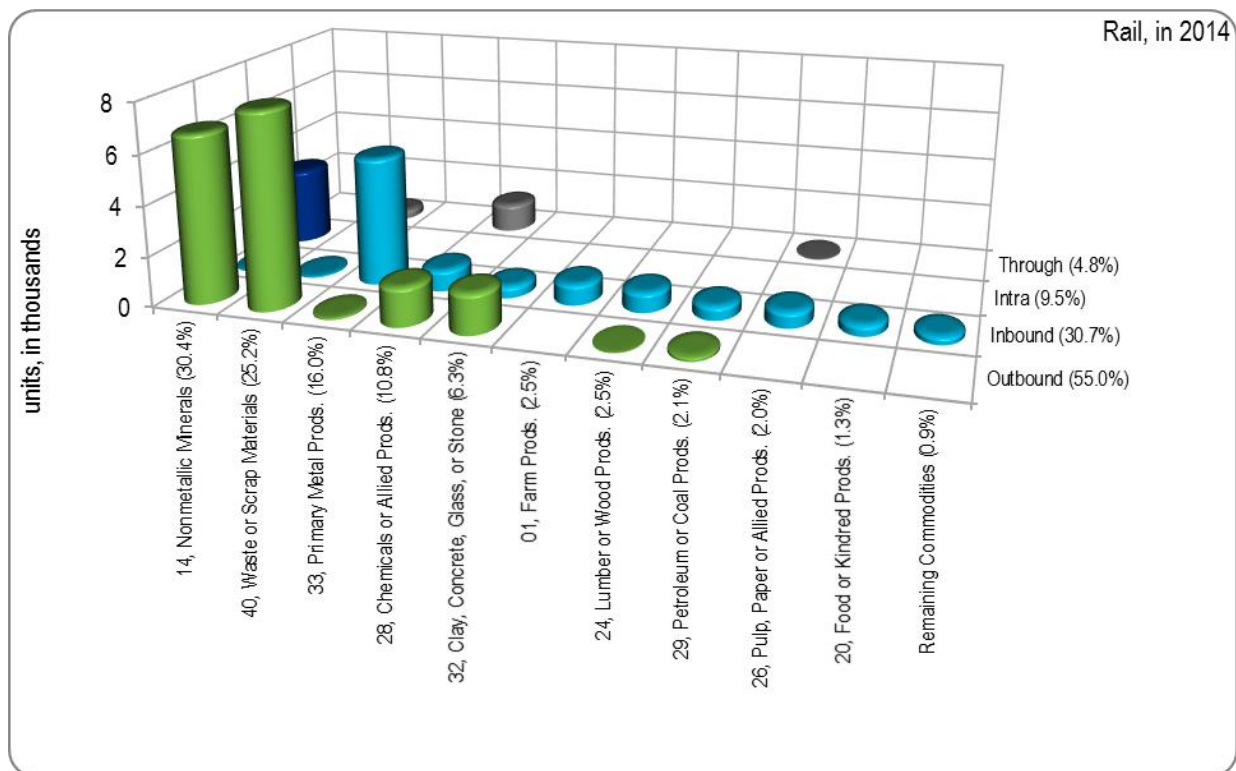
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 21: Rail Top Commodities by Tonnage, 2014



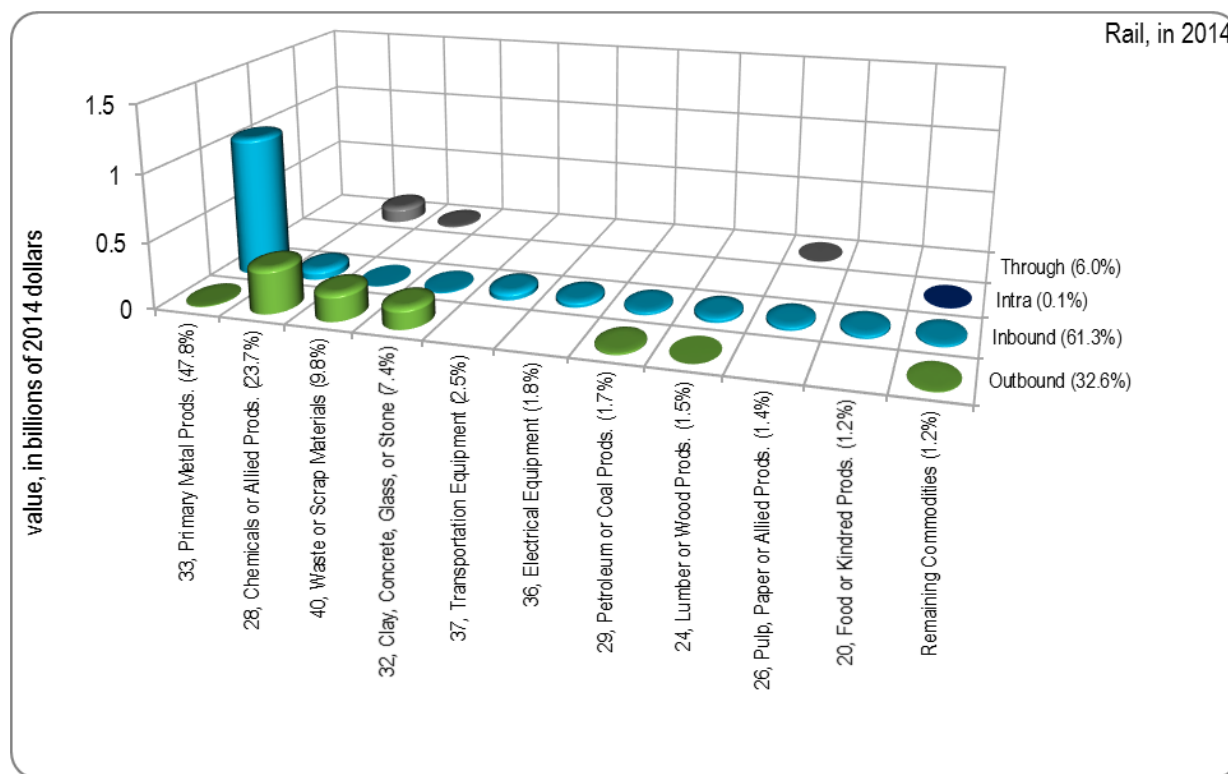
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 22: Rail Top Commodities by Units, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 23: Rail Top Commodities by Value, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

In terms of all rail directions combined, the top five commodities include:

- *by Tonnage:*

1. Nonmetallic Minerals (944.8 thousand tons, 30.7% of rail total);
2. Waste or Scrap Materials (838.6 thousand, 27.3%);
3. Primary Metal Products (471.1 thousand, 15.3%);
4. Chemicals or Allied Products (323.1 thousand, 10.5%); and,
5. Clay, Concrete, Glass, or Stone (212.6 thousand, 6.9%)

- *by Units:*

1. Nonmetallic Minerals (9.9 thousand units, 30.4% of rail total);
2. Waste or Scrap Materials (8.2 thousand, 25.2%);
3. Primary Metal Products (5.2 thousand, 16.0%);
4. Chemicals or Allied Products (3.5 thousand, 10.8%); and,
5. Clay, Concrete, Glass, or Stone (2.1 thousand, 6.3%)

- *by Value:*

1. Primary Metal Products (\$1,063.1 million, 47.8% of rail total);
2. Chemicals or Allied Products (\$527.2 million, 23.7%);
3. Waste or Scrap Materials (\$217.2 million, 9.8%);
4. Clay, Concrete, Glass, or Stone (\$165.3 million, 7.4%); and,
5. Transportation Equipment (\$55.8 million, 2.5%)

2.2.1 Rail Outbound

Table 32 in the Appendix presents outbound rail commodities from Connecticut, in 2014, which total 1.8 million tons (59.0% of directional movements), via 17,925 units (55.0%), valued at \$724 million (32.6%), with an average value/ton of \$399; top five commodities include:

- *by Tonnage:*
 1. Waste or Scrap Materials (797.9 thousand tons, 44.0% of outbound total);
 2. Nonmetallic Minerals (673.6 thousand, 37.1%);
 3. Clay, Concrete, Glass, or Stone (172.2 thousand, 9.5%);
 4. Chemicals or Allied Products (146.3 thousand, 8.1%); and,
 5. Petroleum or Coal Products (14.4 thousand, 0.8%)
- *by Units:*
 1. Waste or Scrap Materials (7.8 thousand units, 43.5% of outbound total);
 2. Nonmetallic Minerals (6.7 thousand, 37.4%);
 3. Clay, Concrete, Glass, or Stone (1.6 thousand, 8.9%);
 4. Chemicals or Allied Products (1.5 thousand, 8.6%); and,
 5. Petroleum or Coal Products (0.2 thousand, 0.9%)
- *by Value:*
 1. Chemicals or Allied Products (\$333.6 million, 46.1% of outbound total);
 2. Waste or Scrap Materials (\$204.2 million, 28.2%);
 3. Clay, Concrete, Glass, or Stone (\$156.1 million, 21.6%);
 4. Petroleum or Coal Products (\$15.2 million, 2.1%); and,
 5. Primary Metal Products (\$8.4 million, 1.2%)

Outbound Tonnage Origin – Major outbound rail tonnages in 2014 are shown by county origin in Figure 24 and Figure 26. Rail movements destined out-of-state are primarily traveling from New Haven County (787.3 thousand, 43.4%), Hartford County (329.3 thousand, 18.2%), and Windham County (240.9 thousand, 13.3%).

- *New Haven County:*
 1. Waste or Scrap Materials (436.3 thousand tons, 55.4% of outbound county total);
 2. Nonmetallic Minerals (330.5 thousand, 42.0%); and,
 3. Petroleum or Coal Products (14.4 thousand, 1.8%)
- *Hartford County:*
 1. Waste or Scrap Materials (287.4 thousand tons, 87.3% of outbound county total);
 2. Clay, Concrete, Glass, or Stone (41.9 thousand, 12.7%)
- *Windham County:*
 1. Nonmetallic Minerals (240.9 thousand tons, 100.0% of outbound county total)

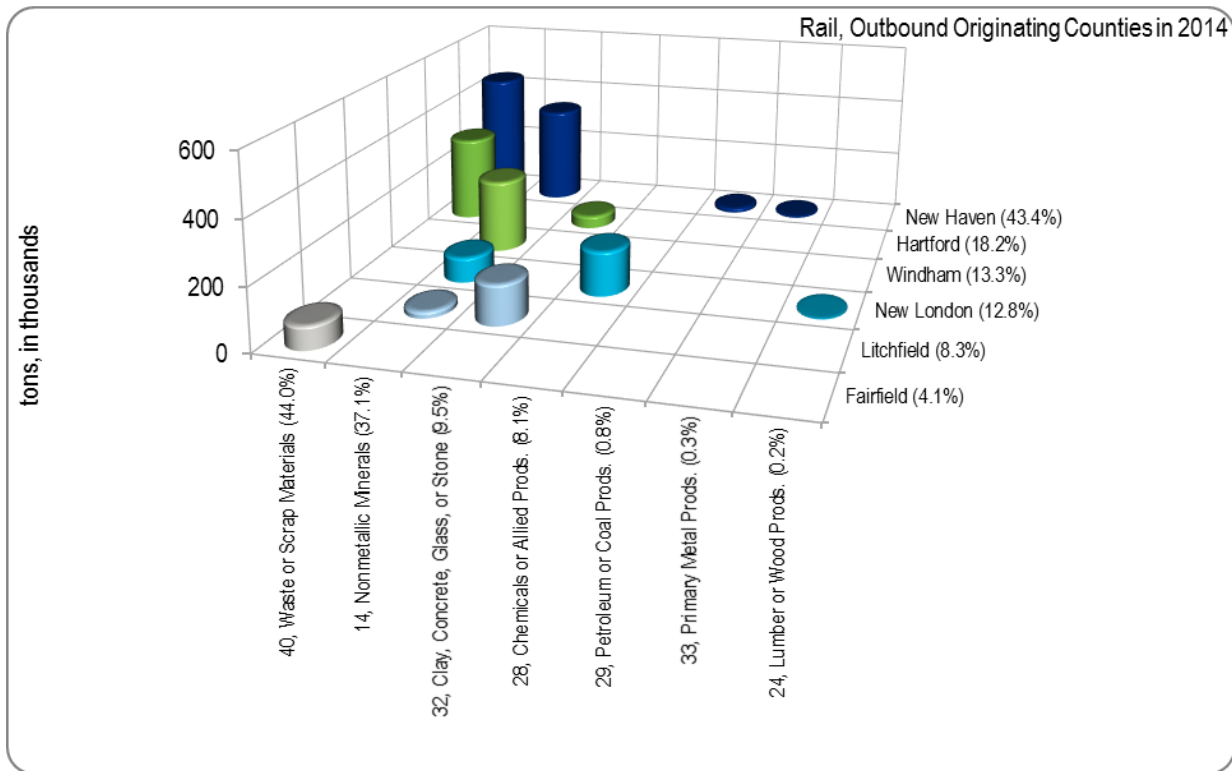
Outbound Tonnage Destination – Major outbound rail tonnages in 2014 are shown by state destination in Figure 25 and Figure 26. Rail movements destined out-of-state are primarily traveling to New York (849.1 thousand, 46.8%), Ohio (715.1 thousand, 39.4%), and Maryland (92.2 thousand, 5.1%).

- *New York:*
 1. Nonmetallic Minerals (653.0 thousand tons, 76.9% of outbound state total);
 2. Waste or Scrap Materials (86.7 thousand, 10.2%); and,
 3. Chemicals or Allied Products (79.1 thousand, 9.3%)
- *Ohio:*
 1. Waste or Scrap Materials (711.1 thousand tons, 99.4% of outbound state total); and,
 2. Chemicals or Allied Products (4.0 thousand, 0.6%)
- *Maryland:*
 1. Clay, Concrete, Glass, or Stone (71.6 thousand tons, 77.6% of outbound state total);
 2. Nonmetallic Minerals (20.6 thousand, 22.4%)

Table 8: Outbound Rail O/D by Commodity, 2014

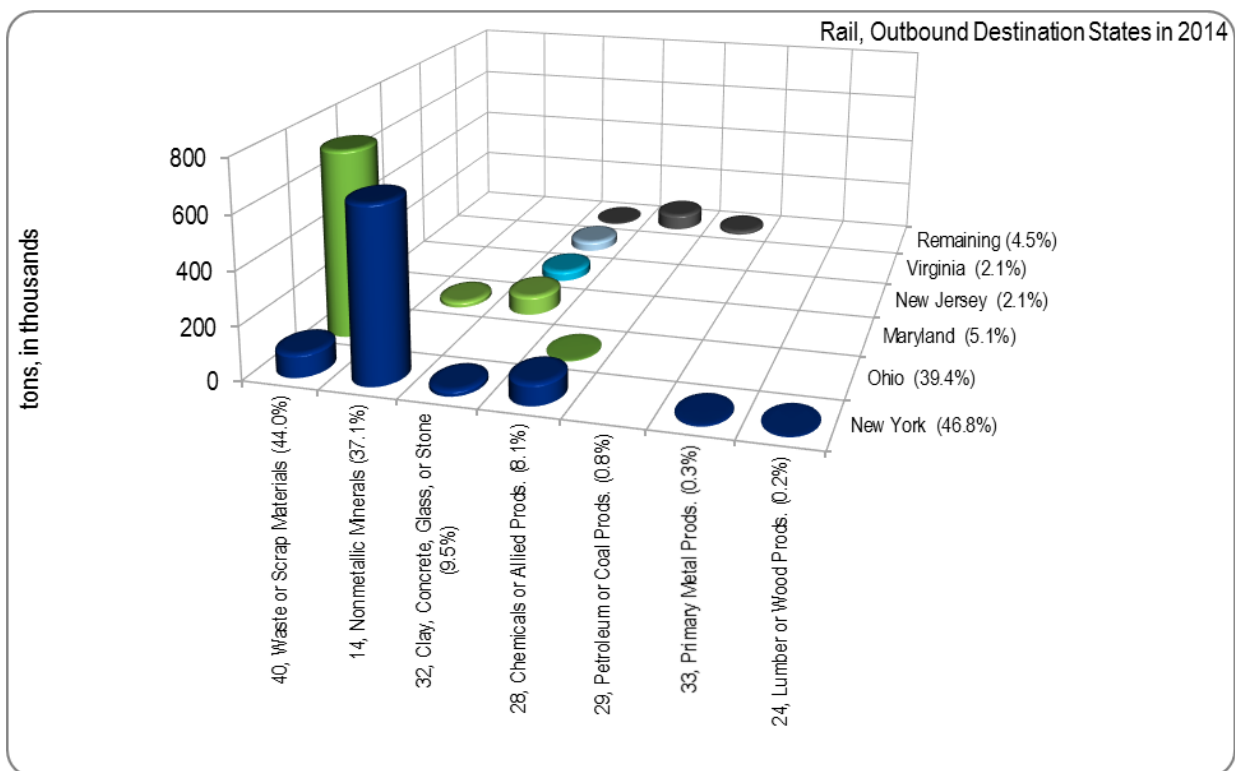
STCC2		Rail, Outbound Originating Connecticut Counties in 2014						Total	Percent
		New Haven	Hartford	Windham	New London	Litchfield	Remaining		
40	Waste or Scrap Materials	436,284	287,397	0	0	0	74,203	797,884	44.0%
14	Nonmetallic Minerals	330,545	0	240,888	81,524	20,643	0	673,600	37.1%
32	Clay, Concrete, Glass, or Stone	0	41,860	0	0	130,362	0	172,222	9.5%
28	Chemicals or Allied Prods.	0	0	0	146,297	0	0	146,297	8.1%
29	Petroleum or Coal Prods.	14,427	0	0	0	0	0	14,427	0.8%
	Remaining Commodities	6,059	0	0	3,547	0	0	9,606	0.5%
	Total	787,315	329,257	240,888	231,369	151,004	74,203	1,814,036	100.0%
	Percent	43.4%	18.2%	13.3%	12.8%	8.3%	4.1%	100.0%	
STCC2		Rail, Outbound Terminating State in 2014						Total	Percent
		NY	OH	MD	NJ	VA	Remaining		
40	Waste or Scrap Materials	86,745	711,139	0	0	0	0	797,884	44.0%
14	Nonmetallic Minerals	652,957	0	20,643	0	0	0	673,600	37.1%
32	Clay, Concrete, Glass, or Stone	20,741	0	71,554	38,067	38,054	3,805	172,222	9.5%
28	Chemicals or Allied Prods.	79,097	3,990	0	0	0	63,209	146,297	8.1%
29	Petroleum or Coal Prods.	0	0	0	0	0	14,427	14,427	0.8%
	Remaining Commodities	9,606	0	0	0	0	0	9,606	0.5%
	Total	849,148	715,129	92,196	38,067	38,054	81,442	1,814,036	100.0%
	Percent	46.8%	39.4%	5.1%	2.1%	2.1%	4.5%	100.0%	

Figure 24: Rail Outbound Commodities by County Origin, 2014



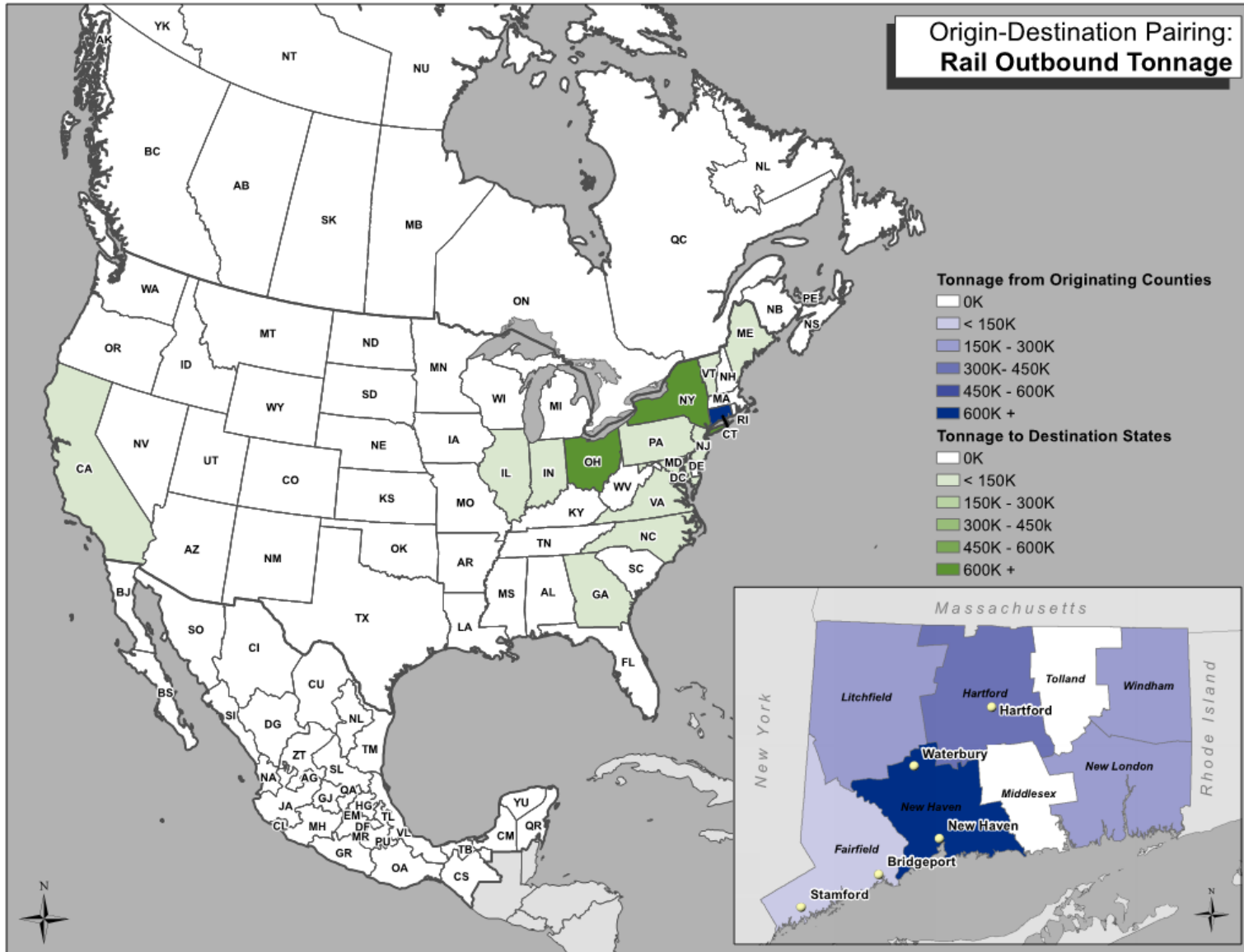
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 25: Rail Outbound Commodities by State Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 26: Rail Outbound by Origin and Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

2.2.2 Rail Inbound

Table 33 in the Appendix presents inbound rail commodities to Connecticut, in 2014, which total 859.5 thousand tons (27.9% of directional movements), via 10,030 units (30.7%), valued at \$1.4 billion (61.3%), with an average value/ton of \$1,588; top five commodities include:

- *by Tonnage:*
 1. Primary Metal Products (465.0 thousand tons, 54.1% of inbound total);
 2. Farm Products (80.2 thousand, 9.3%);
 3. Chemicals or Allied Products (72.9 thousand, 8.5%);
 4. Lumber or Wood Products (65.8 thousand, 7.7%); and,
 5. Clay, Concrete, Glass, or Stone (40.3 thousand, 4.7%)
- *by Units:*
 1. Primary Metal Products (5,132 units, 51.2% of inbound total);
 2. Chemicals or Allied Products (831, 8.3%);
 3. Farm Products (816, 8.1%);
 4. Lumber or Wood Products (770, 7.7%); and,
 5. Pulp, Paper, or Allied Products (613, 6.1%)
- *by Value:*
 1. Primary Metal Products (\$1,054.8 million, 77.3% of inbound total);
 2. Chemicals or Allied Products (\$72.3 million, 5.3%);
 3. Transportation Equipment (\$55.8 million, 4.1%);
 4. Electrical Equipment (\$39.1 million, 2.9%); and,
 5. Lumber or Wood Products (\$33.8 million, 2.5%)

Inbound Tonnage Origin – Major inbound rail tonnages in 2014 are shown by state origin in Figure 27 and Figure 29. Rail movements originating out-of-state are primarily traveling from South Carolina (231.9 thousand, 27.0%), Illinois (148.8 thousand, 17.3%), and New York (99.8 thousand, 11.6%).

- *South Carolina:*
 1. Primary Metal Products (221.4 thousand tons, 95.5% of inbound state total); and,
 2. Lumber or Wood Products (10.5 thousand, 4.5%)
- *Illinois:*
 1. Primary Metal Products (62.6 thousand tons, 42.1% of inbound state total);
 2. Farm Products (48.0 thousand, 32.3%); and,
 3. Lumber or Wood Products (20.9 thousand, 14.0%)
- *New York:*
 1. Primary Metal Products (50.6 thousand tons, 50.6% of inbound state total);
 2. Chemicals or Allied Products (15.1 thousand, 15.1%); and,
 3. Pulp, Paper, or Allied Products (10.1 thousand, 10.1%)

Inbound Tonnage Destination – Major inbound rail tonnages in 2014 are shown by county destination in Figure 28 and Figure 29. Rail movements originating out-of-state are primarily traveling to New Haven County (392.4 thousand, 45.7%), New London (223.6 thousand, 26.0%), and Windham County (167.0 thousand, 19.4%).

- *New Haven County:*
 1. Primary Metal Products (297.4 thousand tons, 75.8% of inbound county total);
 2. Chemicals or Allied Products (44.8 thousand, 11.4%); and,
 3. Pulp, Paper, or Allied Products (16.2 thousand, 4.1%)

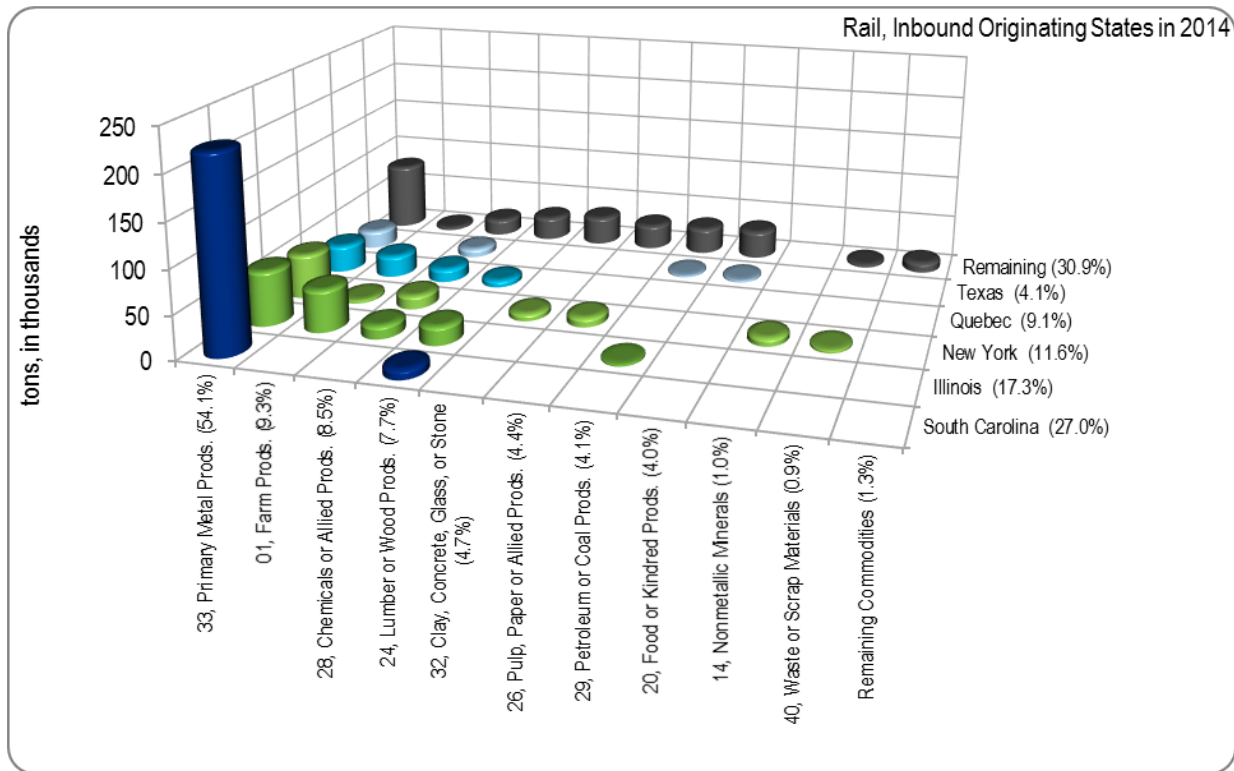
- *New London County:*
 1. Primary Metal Products (124.2 thousand tons, 55.5% of inbound county total);
 2. Farm Products (32.2 thousand, 14.4%); and,
 3. Clay, Concrete, Glass, or Stone (31.7 thousand, 14.2%)

- *Windham County:*
 1. Farm Products (48.0 thousand tons, 28.8% of inbound county total);
 2. Lumber or Wood Products (28.1 thousand, 16.8%); and,
 3. Food or Kindred Products (25.1 thousand, 15.0%)

Table 9: Inbound Rail O/D by Commodity, 2014

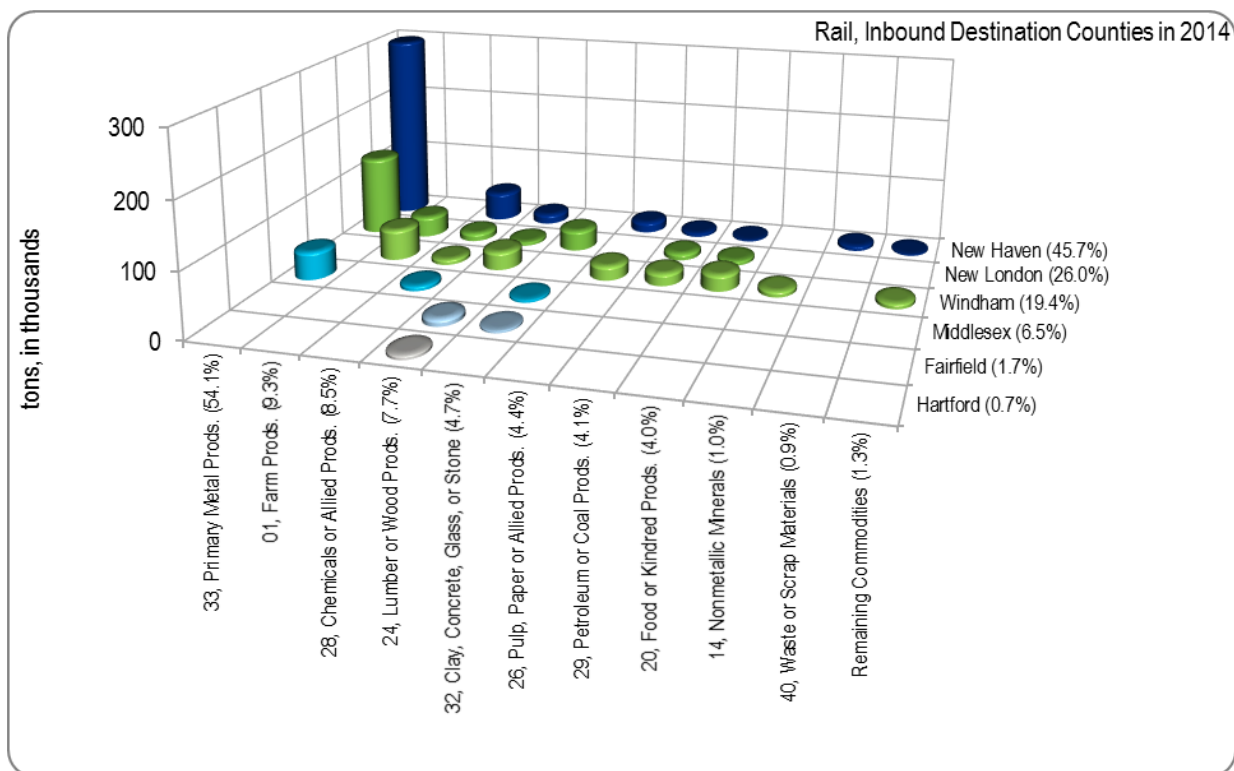
STCC2		Rail, Inbound Originating State in 2014							Total	Percent
		SC	IL	NY	Quebec	TX	Remaining			
33	Primary Metal Prods.	221,381	62,630	50,560	31,100	20,593	78,761	465,026	54.1%	
01	Farm Prods.	0	48,009	3,957	24,410	0	3,784	80,161	9.3%	
28	Chemicals or Allied Prods.	0	14,558	15,055	14,866	9,665	18,791	72,935	8.5%	
24	Lumber or Wood Prods.	10,501	20,857	0	7,484	0	26,929	65,771	7.7%	
32	Clay, Concrete, Glass, or Stone	0	0	7,790	0	0	32,539	40,330	4.7%	
	Remaining Commodities	0	2,715	22,463	0	5,364	104,712	135,255	15.7%	
	Total	231,882	148,769	99,826	77,860	35,622	265,517	859,476	100.0%	
	Percent	27.0%	17.3%	11.6%	9.1%	4.1%	30.9%	100.0%		
STCC2		Rail, Inbound Terminating Connecticut Counties in 2014							Total	Percent
		New Haven	New London	Windham	Middlesex	Fairfield	Remaining			
33	Primary Metal Prods.	297,397	124,193	0	43,435	0	0	465,026	54.1%	
01	Farm Prods.	0	32,152	48,009	0	0	0	80,161	9.3%	
28	Chemicals or Allied Prods.	44,768	12,435	8,275	7,457	0	0	72,935	8.5%	
24	Lumber or Wood Prods.	14,731	6,031	28,051	0	10,667	6,290	65,771	7.7%	
32	Clay, Concrete, Glass, or Stone	0	31,693	0	4,572	4,065	0	40,330	4.7%	
	Remaining Commodities	35,510	17,122	82,623	0	0	0	135,255	15.7%	
	Total	392,406	223,626	166,958	55,465	14,732	6,290	859,476	100.0%	
	Percent	45.7%	26.0%	19.4%	6.5%	1.7%	0.7%	100.0%		

Figure 27: Rail Inbound Commodities by State Origin, 2014



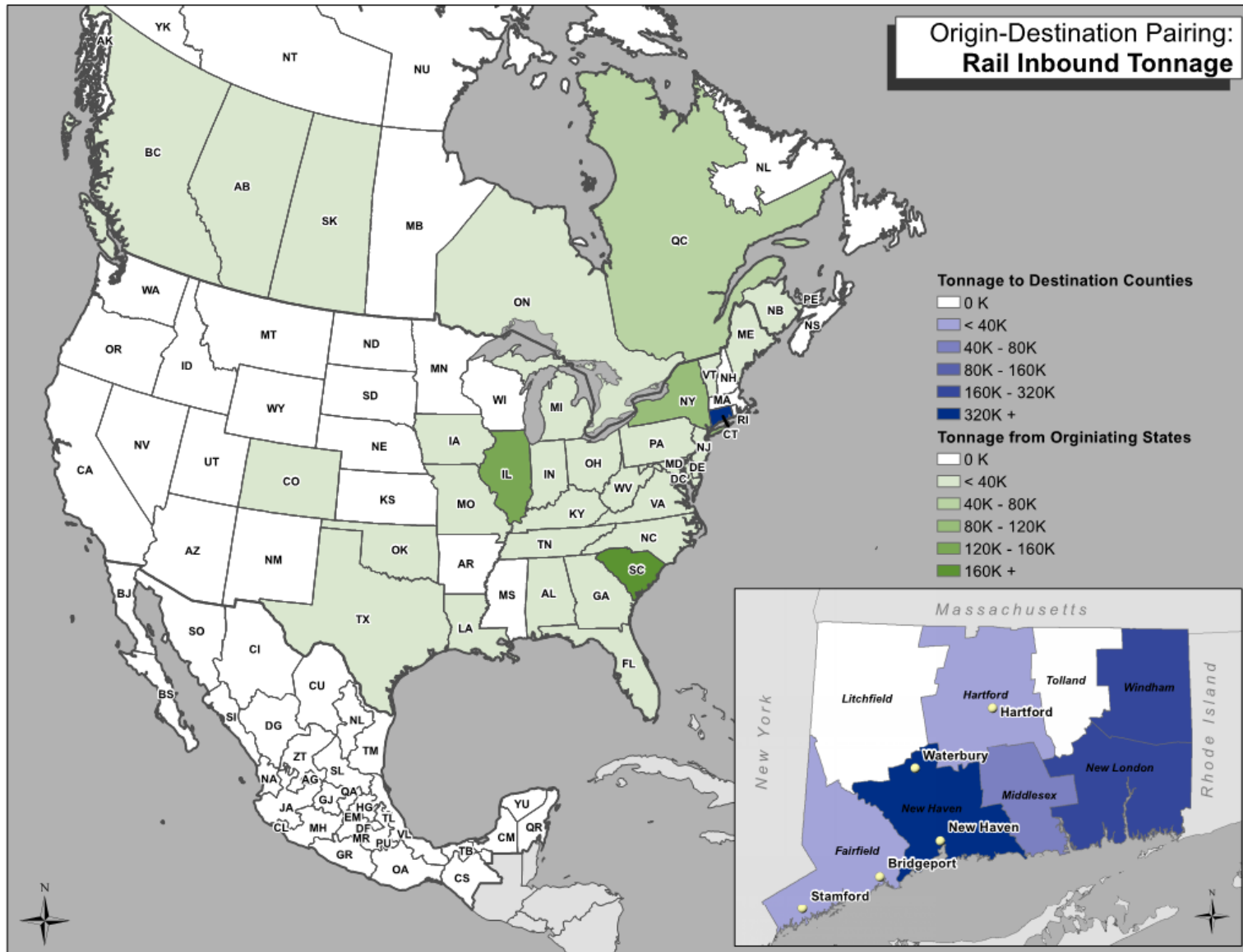
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 28: Rail Inbound Commodities by County Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 29: Rail Inbound by Origin and Destination, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

2.2.3 Rail Intra

Table 34 in the Appendix presents intrastate rail commodities within Connecticut, in 2014 (only Nonmetallic Minerals – Broken Stone/Riprap), which total 262.5 thousand tons (8.5% of directional movements), via 3,110 units (9.5%), valued at \$2 million (0.1%), with an average value/ton of \$10.

2.2.4 Rail Through

Table 35 in the Appendix presents the three through rail commodities moving across Connecticut, in 2014, which total 139.6 thousand tons (4.5% of directional movements), via 1,554 units (4.8%), valued at \$134 million (6.0%), with an average value/ton of \$960; the three through commodities include:

- *by Tonnage:*
 1. Chemicals or Allied Products (103.9 thousand tons, 74.4% of through total);
 2. Waste or Scrap Materials (33.3 thousand, 23.8%); and,
 3. Pulp, Paper, or Allied Products (2.5 thousand, 1.8%)
- *by Units:*
 1. Chemicals or Allied Products (1,154 units, 74.3% of through total);
 2. Waste or Scrap Materials (359, 23.1%); and,
 3. Pulp, Paper, or Allied Products (41, 2.6%)
- *by Value:*
 1. Chemicals or Allied Products (\$121.3 million, 90.5% of through total);
 2. Waste or Scrap Materials (\$10.8 million, 8.1%); and,
 3. Pulp, Paper, or Allied Products (\$1.9 million, 1.4%)

2.3 Water, 2014⁷

Connecticut water (p) movements in 2014 totaled 9.8 million tons, valued at \$9.2 billion, see Table 10. On average, total water commodity movements are valued at \$937/ton. Water movements represent 4.6% or modal tonnage in Connecticut and 2.5% of total modal value in 2014, representing the second and third largest relative modal movement by tonnage and value, respectively. As TRANSEARCH® compiles freight movement data on NAFTA-related trade only, the data presented excludes any international ocean-bound freight from/to non-Canada and Mexico origins and/or destinations.

Direction – As depicted in Figure 30, inbound water movements constitute the significant directional majority: 89.1% and 97.4% of tonnage and value, respectively. TRANSEARCH® does not report any through-related water movements, while intrastate and outbound, combined, comprise the remaining 10.9% and 2.6% of tonnage and value, respectively. Inbound water movements exhibit a relatively high value per ton of \$1,025, reflecting the major commodity movement of Petroleum and Coal Products.

Table 10: Water by Direction, 2014

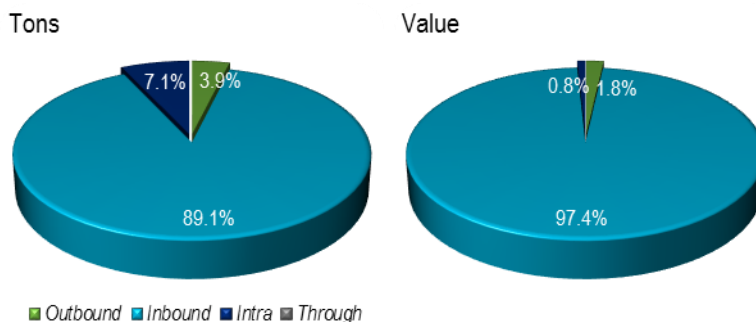
Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	

⁷ This section describes trade patterns provided by Transearch, an IHS product. The movements described include domestic and foreign trade with Canada and Mexico.

Outbound	379,313	3.9%	\$165	1.8%	\$436
Inbound	8,721,976	89.1%	\$8,938	97.4%	\$1,025
Intra	692,729	7.1%	\$77	0.8%	\$111
Through	#N/A	#N/A	#N/A	#N/A	#N/A
Total	9,794,018	100.0%	\$9,181	100.0%	\$937

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 30: Water Percentages by Direction, 2014



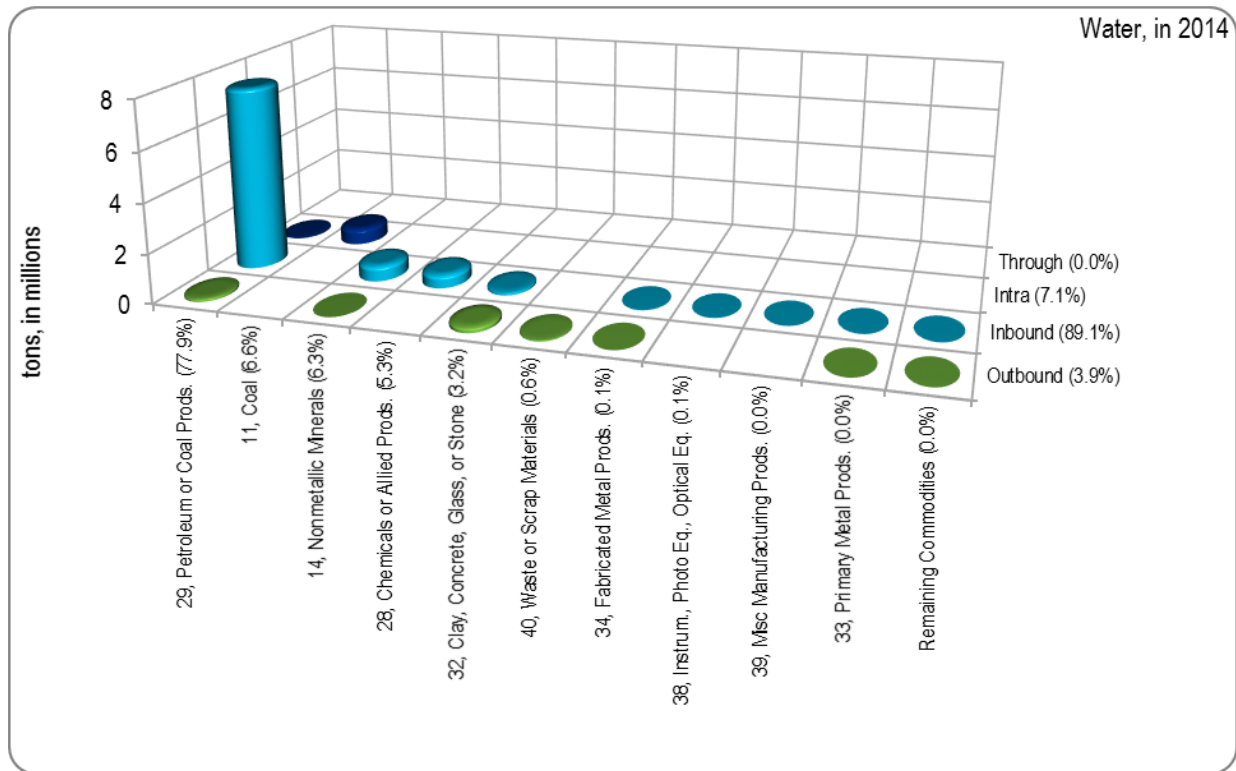
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Commodities – Figure 31 and Figure 32 depict the top two-digit STCC commodities for Connecticut port, by tonnage and value, respectively, with a directional composition. Such graphics depict the largest respective commodity movements for water by direction, and in conjunction with the tabulated data in Table 37 through Table 41, in the Appendix, the top water commodity movements by direction are identified in the respective subsections.

In terms of all water directions combined, the top five commodities include:

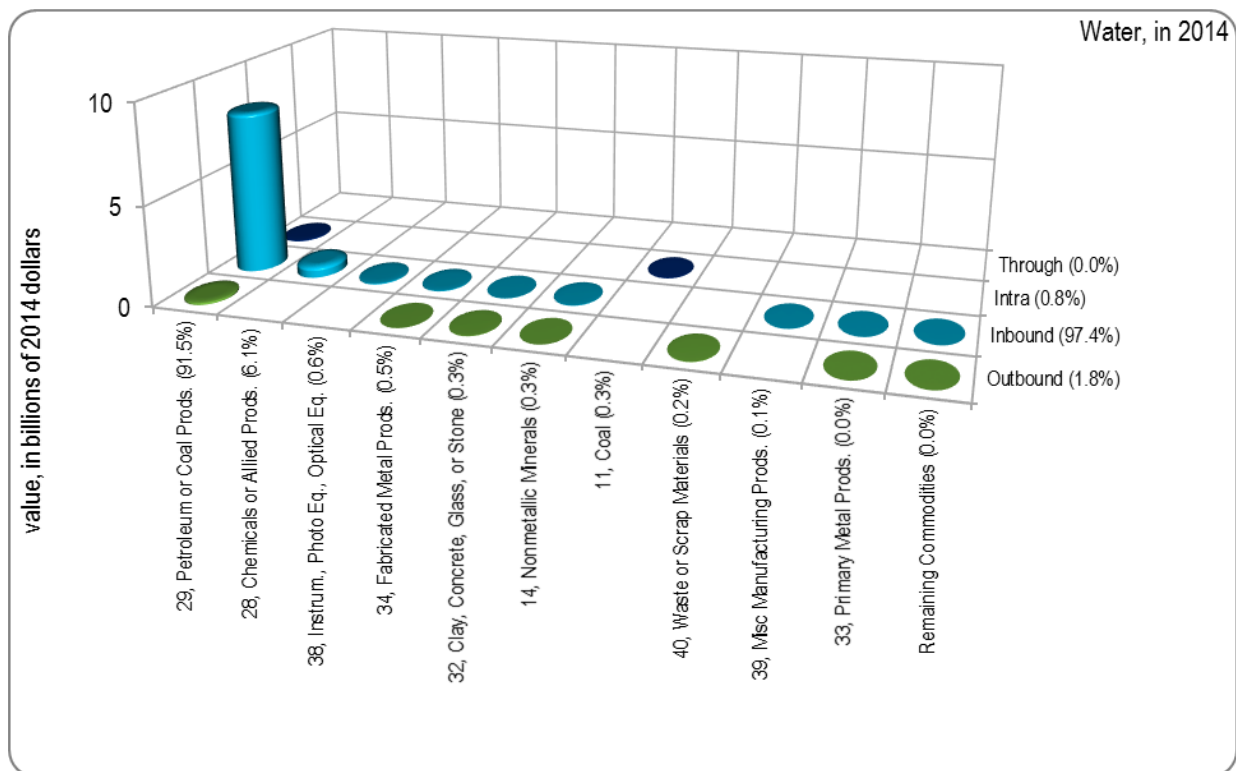
- *by Tonnage:*
 1. Petroleum or Coal Products (7,626.2 thousand tons, 77.9% of water total);
 2. Coal (642.9 thousand, 6.6%);
 3. Nonmetallic Minerals (614.2 thousand, 6.3%);
 4. Chemicals or Allied Products (514.7 thousand, 5.3%); and,
 5. Clay, Concrete, Glass, or Stone (317.1 thousand, 3.2%)
- *by Value:*
 1. Petroleum or Coal Products (\$8,398.9 million, 91.5% of water total);
 2. Chemicals or Allied Products (\$563.8 million, 6.1%);
 3. Instrument, Photo, and Optical Equip. (\$58.1 million, 0.6%);
 4. Fabricated Metal Products (\$44.7 million, 0.5%); and,
 5. Clay, Concrete, Glass, or Stone (\$31.2 million, 0.3%)

Figure 31: Water Top Commodities by Tonnage, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 32: Water Top Commodities by Value, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

2.3.1 Water Outbound

Table 37 in the Appendix presents outbound water commodities from Connecticut, in 2014, which total 379.3 thousand tons (3.9% of directional movements), valued at \$165 million (1.8%), with an average value/ton of \$436; top five commodities include:

- *by Tonnage:*
 1. Clay, Concrete, Glass, or Stone (194.6 thousand tons, 51.3% of outbound total);
 2. Petroleum or Coal Products (121.8 thousand, 32.1%);
 3. Waste or Scrap Materials (56.7 thousand, 14.9%);
 4. Nonmetallic Minerals (4.4 thousand, 1.1%); and,
 5. Fabricated Metal Products (1.5 thousand, 0.4%)
- *by Value:*
 1. Petroleum or Coal Products (\$122.7 million, 74.1% of outbound total);
 2. Clay, Concrete, Glass, or Stone (\$19.1 million, 11.6%);
 3. Waste or Scrap Materials (\$18.5 million, 11.2%);
 4. Fabricated Metal Products (\$4.5 million, 2.7%); and,
 5. Furniture or Fixtures (\$0.5 million, 0.3%)

2.3.2 Water Inbound

Table 38 in the Appendix presents inbound water commodities to Connecticut, in 2014, which total 8.7 million tons (89.1% of directional movements), valued at \$8.9 billion (97.4%), with an average value/ton of \$1,025; top five commodities include:

- *by Tonnage:*
 1. Petroleum or Coal Products (7,454.5 thousand tons, 85.5% of inbound total);
 2. Nonmetallic Minerals (609.8 thousand, 7.0%);
 3. Chemicals or Allied Products (514.7 thousand, 5.9%);
 4. Clay, Concrete, Glass, or Stone (122.5 thousand, 1.4%); and,
 5. Fabricated Metal Products (10.8 thousand, 0.1%)
- *by Value:*
 1. Petroleum or Coal Products (\$8,222.8 million, 92.0% of inbound total);
 2. Chemicals or Allied Products (\$563.8 million, 6.3%);
 3. Instrument, Photo, and Optical Equip. (\$58.1 million, 0.7%);
 4. Fabricated Metal Products (\$40.2 million, 0.5%); and,
 5. Nonmetallic Minerals (\$25.1 million, 0.3%)

2.3.3 Water Intra

Table 39 in the Appendix presents intrastate water commodities within Connecticut, in 2014, which total 692.7 thousand tons (7.1% of directional movements), valued at \$77 million (0.8%), with an average value/ton of \$111; only two STCC2 commodities move intrastate via the ports, which include:

- *by Tonnage:*
 1. Coal (642.9 thousand tons, 92.8% of intra total); and,
 2. Petroleum or Coal Products (49.8 thousand, 7.2%)

• *by Value:*

1. Petroleum or Coal Products (\$53.5 million, 69.3% of intra total); and,
2. Coal (\$23.7 million, 30.7%)

2.3.4 International Waterway and Ports Commodity Flows⁸

Connecticut port (waterborne) movements (including domestic movements and movements involving any other nation) in 2015 totaled 8.7 million tons, valued at \$26.7 billion. On average, total water cargo movements are valued at \$3,068 per ton. Water port commodity movements by weight are dominated by inbound/import making up 90 percent of the total water port movements however imports account for only 53 percent of the total value of water port movements.

Connecticut's water ports export a wide variety of commodities to all across the world. **Table 11** and **Table 12** show the top ten water way export commodities by value and weight. Transportation Equipment, Machinery, and Computer/Electronic Products lead the way accounting for over 73 percent of the exports by value. Petroleum/Coal Products, Minerals/Ores, and Waste/Scrap which make up nearly 70 percent of the exports by weight.

Table 11: Top Ten Water Port Exports by Value, 2015

Commodity	Value (million US\$)	Percent
Transportation Equipment	\$6,682	53.8%
Machinery, Except Electrical	\$1,401	11.3%
Computer & Electronic Products	\$1,031	8.3%
Electrical Equipment, Appliances & Components	\$670	5.4%
Chemicals	\$664	5.3%
Fabricated Metal Products	\$549	4.4%
Miscellaneous Manufactured Commodities	\$266	2.1%
Primary Metal Mfg	\$213	1.7%
Plastics & Rubber Products	\$163	1.3%
Petroleum & Coal Products	\$132	1.1%

Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

Table 12: Top Ten Water Port Exports by Weight (ton), 2015

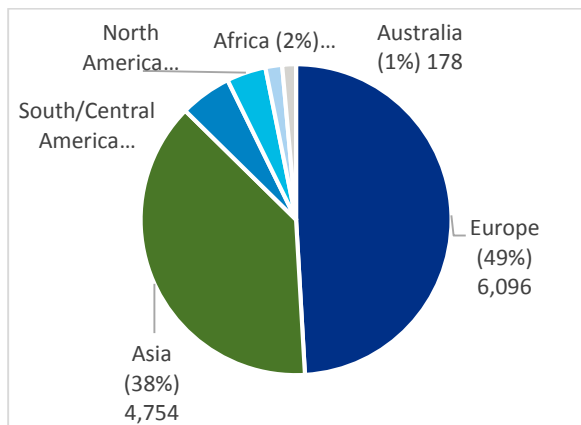
Commodity	Weight (ton)	Percent
Petroleum & Coal Products	272,673	29.9%
Minerals & Ores	228,312	25.0%
Waste and Scrap	128,477	14.1%
Chemicals	74,312	8.1%
Primary Metal Mfg	28,847	3.2%
Machinery, Except Electrical	22,302	2.4%
Fabricated Metal Products	19,456	2.1%
Paper	18,189	2.0%
Food & Kindred Products	15,870	1.7%
Electrical Equipment, Appliances & Components	15,842	1.7%

Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

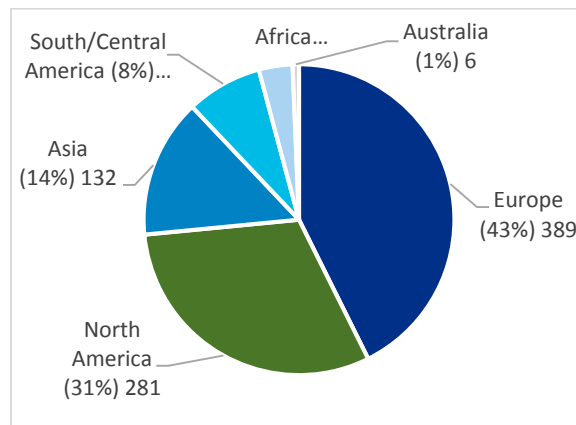
⁸ This section describes trade patterns provided by USA Trade Online, a US Census Bureau product. The movements described include domestic and foreign trade.

The primary destinations of Connecticut exports by value are Europe (49%), Asia (38%), and South/Central America (5%) which combine for 92 percent of the state's total exports. The same three trade regions account for 88 percent of the exports by weight.

Water Exports by Value (\$ million)



Water Exports by ton (in 1,000)



Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

Table 13 and **Table 14** show the top ten water way import commodities by value and weight. Primary Metals, Machinery, and Fabricated Metal Products lead the way accounting for over 32 percent of the imports by value. Minerals/Ores, Petroleum/Coal Products, and Primary Metals which make up 60 percent of the imports by weight.

Table 13: Top Ten Water Port Imports by Value, 2015

Commodity	Value (million US\$)	Percent
Primary Metal Mfg	\$1,737	12.2%
Machinery, Except Electrical	\$1,628	11.4%
Fabricated Metal Products	\$1,166	8.2%
Leather and Allied Products	\$1,086	7.6%
Chemicals	\$957	6.7%
Electrical Equipment, Appliances & Components	\$809	5.7%
Apparel and Accessories	\$739	5.2%
Furniture and Fixtures	\$711	5.0%
Petroleum & Coal Products	\$673	4.7%
Miscellaneous Manufactured Commodities	\$628	4.4%

Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

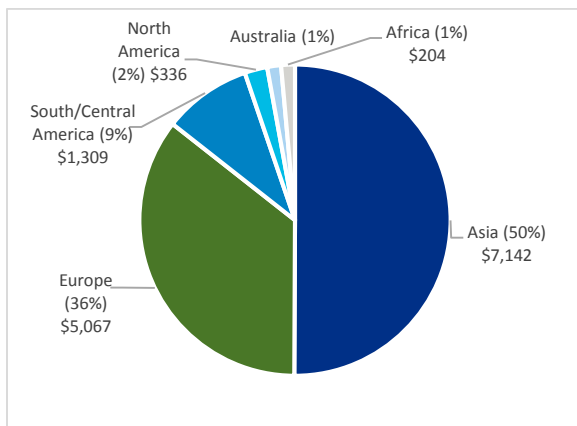
Table 14: Top Ten Water Port Imports by Weight (ton), 2015

Commodity	Weight (1,000 ton)	Percent
Minerals and Ores	2,166	27.9%
Petroleum and Coal Products	1,291	16.6%
Primary Metal Mfg	1,203	15.5%
Chemicals	525	6.7%
Waste and Scrap	365	4.7%
Paper	344	4.4%
Food and Kindred Products	263	3.4%
Furniture and Fixtures	258	3.3%
Nonmetallic Mineral Products	165	2.1%
Fabricated Metal Products	145	1.9%

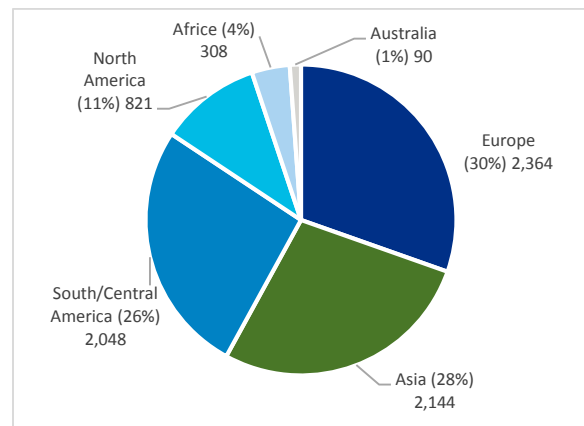
Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

The Connecticut imports by value are primarily from Asia (50%), Europe (36%), and South/Central America (9%) which combine for 95 percent of the state's imports by value. The same three trade regions account for 84 percent of the imports by weight.

Water Imports by Value (\$ million)



Water Imports by tons (in 1,000)



Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

2.4 Air, 2014⁹

Connecticut air movements in 2014 totaled 115.8 thousand tons, valued at \$16.5 billion, see Table 15. On average, total water commodity movements are valued at \$142,220/ton. Air movements represent less than 0.1% of modal tonnage, but due to the very high value/ton, the total air freight value represents 4.5% of total Connecticut freight value, the second largest following truck freight value. As noted for waterborne movements, the Transearch® database only includes NAFTA-related freight movements; as such, the airborne freight data presented would exclude any non-Canada/Mexico international movements.

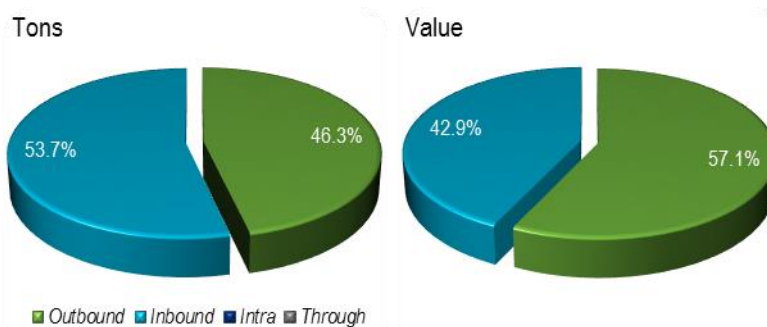
Direction – As depicted in Figure 33, the proportional composition of air freight between outbound and inbound is closely split, with inbound tonnage constituting the majority at 53.7%, while outbound, at 57.1% is the majority for value. Outbound share of value exceeds tonnage proportion, given the higher value/ton at \$175,386 for outbound relative to inbound at \$113,583. Intrastate and through air movements are not provided.

Table 15: Air by Direction, 2014

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Outbound	53,641	46.3%	\$9,408	57.1%	\$175,386
Inbound	62,126	53.7%	\$7,056	42.9%	\$113,583
Intra	#N/A	#N/A	#N/A	#N/A	#N/A
Through	#N/A	#N/A	#N/A	#N/A	#N/A
Total	115,767	100.0%	\$16,464	100.0%	\$142,220

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 33: Air Percentages by Direction, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Commodities – Figure 34 and Figure 35 depict the top two-digit STCC commodities for Connecticut air, by tonnage and value, respectively, with a directional composition. Such graphics depict the largest respective commodity movements for air by direction, and in conjunction with the tabulated data in Table 42 through Table 46, in the Appendix, the top air commodity movements by direction are identified in the respective subsections (for only inbound and outbound).

⁹ This section describes trade patterns provided by HIS/Transearch, an IHS Product. The movements described include domestic and foreign trade with Canada and Mexico.

In terms of all water directions combined, the top five commodities include:

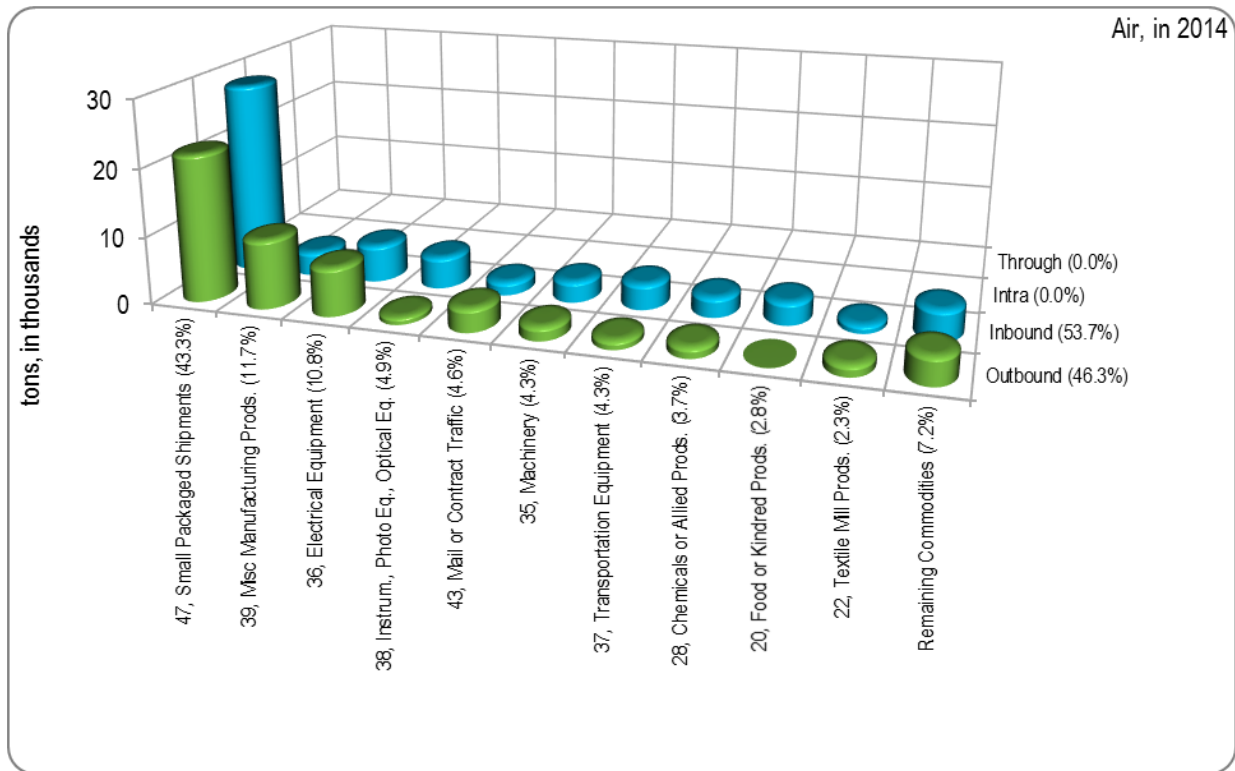
- *by Tonnage:*

1. Small Packaged Shipments (50.1 thousand tons, 43.3% of air total);
2. Miscellaneous Manufacturing Products (13.6 thousand, 11.7%);
3. Electrical Equipment (12.6 thousand, 10.8%);
4. Instrument, Photo, and Optical Equip. (5.7 thousand, 4.9%); and,
5. Mail or Contract Traffic (5.3 thousand, 4.6%)

- *by Value:*

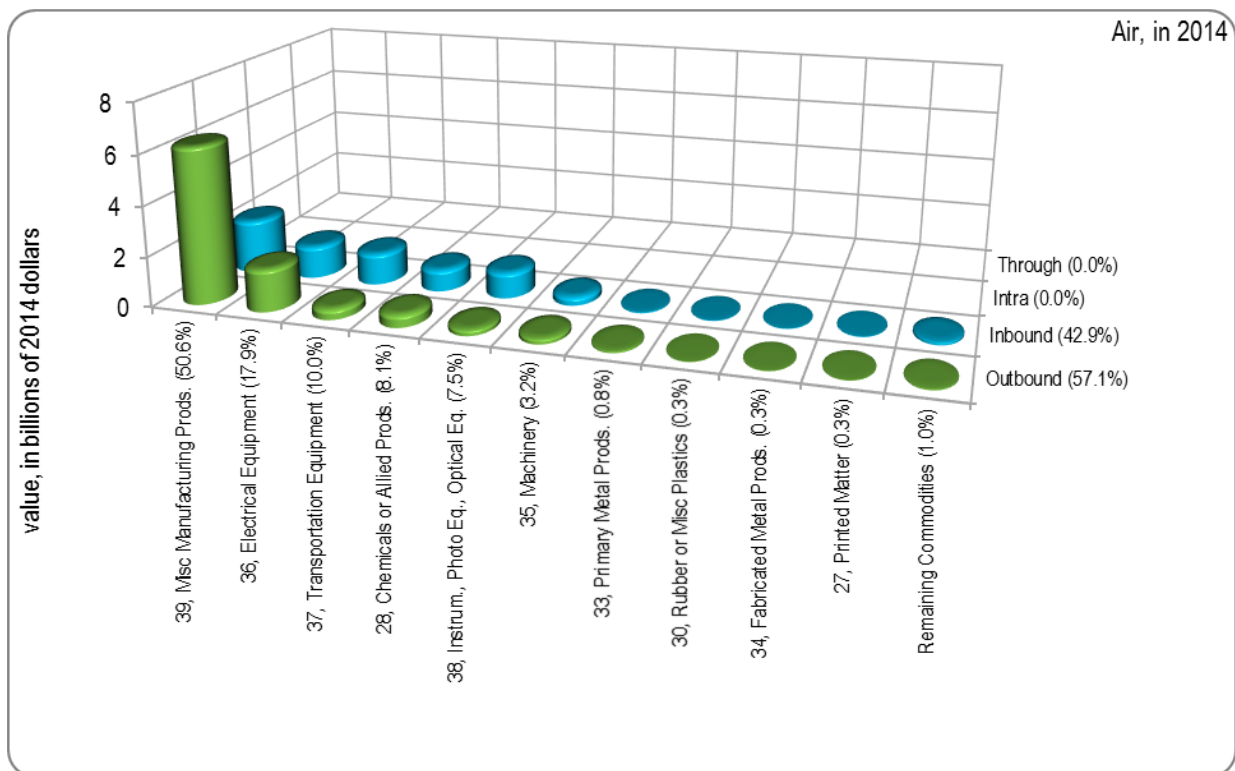
1. Miscellaneous Manufacturing Products (\$8.3 billion, 50.6% of air total);
2. Electrical Equipment (\$3.0 billion, 17.9%);
3. Transportation Equipment (\$1.6 billion, 10.0%);
4. Chemicals or Allied Products (\$1.3 billion, 8.1%); and,
5. Instrument, Photo, and Optical Equip. (\$1.2 billion, 7.5%)

Figure 34: Air Top Commodities by Tonnage, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 35: Air Top Commodities by Value, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

2.4.1 Air Outbound

Table 42 in the Appendix presents outbound air commodities from Connecticut, in 2014, which total 53,641 tons (46.3% of directional movements), valued at \$9.4 billion (57.1%), with an average value/ton of \$175,386; top five commodities include:

- *by Tonnage:*
 1. Small Packaged Shipments (21.8 thousand tons, 40.6% of outbound total);
 2. Miscellaneous Manufacturing Products (10.1 thousand, 18.9%);
 3. Electrical Equipment (7.1 thousand, 13.2%);
 4. Mail or Contract Traffic (3.4 thousand, 6.4%); and,
 5. Machinery (1.9 thousand, 3.6%)
- *by Value:*
 1. Miscellaneous Manufacturing Products (\$6.2 billion, 66.2% of outbound total);
 2. Electrical Equipment (\$1.7 billion, 17.7%);
 3. Chemicals or Allied Products (\$0.5 billion, 5.1%);
 4. Transportation Equipment (\$0.4 billion, 4.3%); and,
 5. Instrument, Photo, and Optical Equip. (\$0.2 billion, 2.4%)

2.4.2 Air Inbound

Table 43 in the Appendix presents inbound air commodities to Connecticut, in 2014, which total 62,126 tons (53.7% of directional movements), valued at \$7.1 billion (42.9%), with an average value/ton of \$113,583; top five commodities include:

- *by Tonnage:*
 1. Small Packaged Shipments (28.4 thousand tons, 45.6% of inbound total);
 2. Electrical Equipment (5.5 thousand, 8.8%);
 3. Instrument, Photo, and Optical Equip. (4.6 thousand, 7.5%);
 4. Transportation Equipment (3.7 thousand, 6.0%); and,
 5. Miscellaneous Manufacturing Products (3.4 thousand, 5.5%)
- *by Value:*
 1. Miscellaneous Manufacturing Products (\$2.1 billion, 29.9% of inbound total);
 2. Electrical Equipment (\$1.3 billion, 18.2%);
 3. Transportation Equipment (\$1.2 billion, 17.6%);
 4. Instrument, Photo, and Optical Equip. (\$1.0 billion, 14.3%); and,
 5. Chemicals or Allied Products (\$0.8 billion, 12.0%)

2.4.3 International Air Commodity Flows¹⁰

Connecticut air cargo movements in 2015 totaled 250 million tons, valued at \$13.1 billion. On average, total air cargo movements are valued at \$52,400 per ton. Airport commodity movements are dominated by inbound/import making up 78 percent of the total airport movements however imports account for only 9 percent of the total value of airport movements.

Connecticut's airports contribute to the State's commodity exports and imports. **Table 16** and **Table 17** show the top ten airport exports commodities by value and weight. Chemicals, Machinery, and Electrical Equipment lead the way accounting for over half of Connecticut's

¹⁰ This section describes trade patterns provided by USA Trade Online, a US Census Bureau product. The movements described include domestic and foreign trade.

imports by value. Chemicals, Minerals/Ores, and Primary Metals which make up over 54 percent of the imports by weight.

Table 16: Top Ten Airport Exports by Value, 2015

Commodity	Value (million US\$)	Percent
Chemicals	\$240	20.4%
Machinery, Except Electrical	\$202	17.2%
Electrical Equipment, Appliances & Components	\$150	12.7%
Primary Metal Mfg	\$77	6.6%
Transportation Equipment	\$70	6.0%
Computer & Electronic Products	\$68	5.8%
Food & Kindred Products	\$64	5.5%
Fabricated Metal Products	\$64	5.4%
Plastics & Rubber Products	\$60	5.2%
Miscellaneous Manufactured Commodities	\$42	3.6%

Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

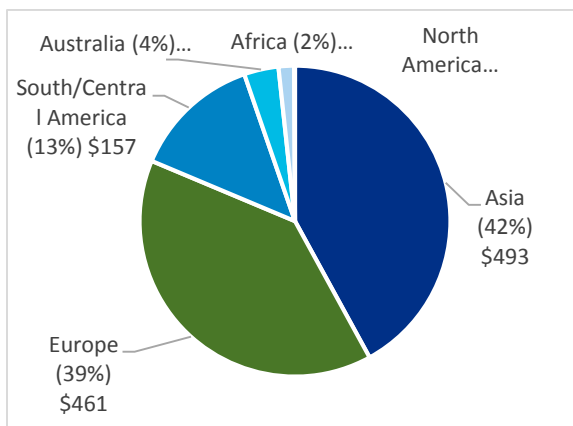
Table 17: Top Ten Airport Exports by Weight (tons), 2015

Commodity	Weight (ton)	Percent
Chemicals	43,209	22.1%
Minerals & Ores	42,272	21.6%
Primary Metal Mfg	21,042	10.8%
Waste and Scrap	17,657	9.0%
Food & Kindred Products	11,710	6.0%
Machinery, Except Electrical	7,620	3.9%
Paper	7,465	3.8%
Electrical Equipment, Appliances & Components	7,194	3.7%
Plastics & Rubber Products	7,005	3.6%
Fabricated Metal Products	4,013	2.1%

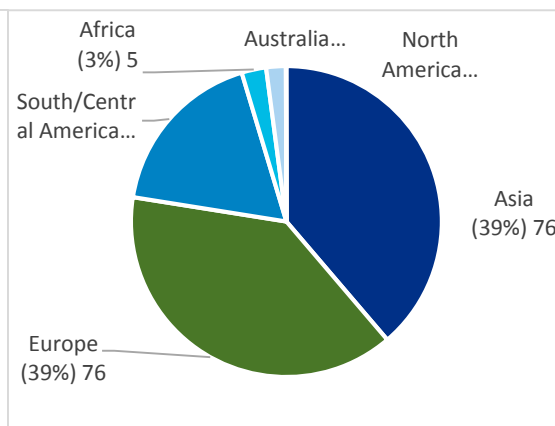
Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

The Connecticut air exports by value are primarily from Asia (42%), Europe (39%), and South/Central America (13%) which combine for 94 percent of the state's exports by value. The same three trade regions account for 96 percent of the exports by weight.

Air Exports by Value (\$ million)



Air Exports by ton (in 1,000)



Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

Table 8 and **Table 9** show the top ten airport exports commodities by value and weight. Chemicals, Transportation Equipment, and Returned Goods lead the way accounting for over 65 percent of the imports by value. Minerals/Ores, Petroleum/Coal Products, and Primary Metals which make up 60 percent of the imports by weight.

Table 18: Top Ten Airport Imports by Value, 2015

Commodity	Value (million US\$)	Percent
Chemicals	\$4,448	37.3%
Transportation Equipment	\$2,507	21.0%
Goods Returned (exports for Canada only)	\$2,054	17.2%
Computer and Electronic Products	\$995	8.3%
Machinery, Except Electrical	\$693	5.8%
Fabricated Metal Products	\$342	2.9%
Miscellaneous Manufactured Commodities	\$338	2.8%
Electrical Equipment, Appliances & Components	\$227	1.9%
Leather and Allied Products	\$84	0.7%
Apparel and Accessories	\$54	0.5%

Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

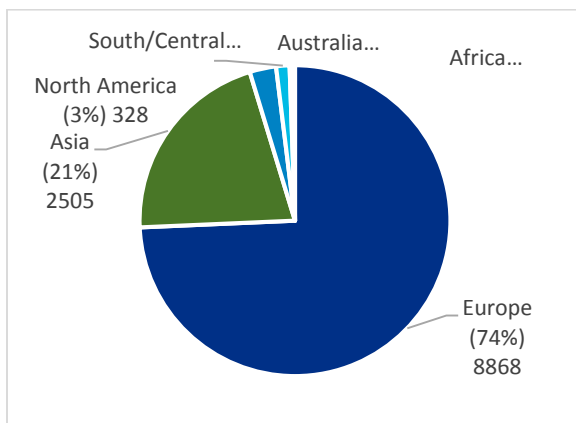
Table 19: Top Ten Airport Imports by Weight (ton), 2015

Commodity	Weight (ton)	Percent
Fabricated Metal Products	12,110	22.3%
Machinery, Except Electrical	9,315	17.2%
Computer and Electronic Products	7,823	14.4%
Transportation Equipment	3,744	6.9%
Goods Returned (exports for Canada only)	3,456	6.4%
Electrical Equipment, Appliances & Components	3,230	6.0%
Leather and Allied Products	2,431	4.5%
Chemicals	2,203	4.1%
Miscellaneous Manufactured Commodities	1,753	3.2%
Plastics and Rubber Products	1,349	2.5%

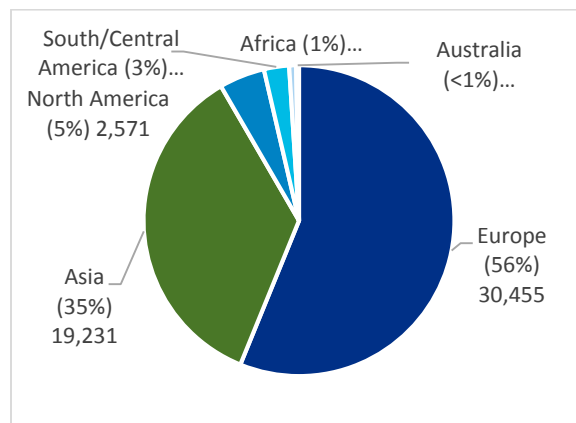
Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

The Connecticut air imports by value are primarily from Europe (74%) and Asia (21%) which combine for 95 percent of the state's air imports by value. The same two trade regions account for 91 percent of the imports by weight.

Air Imports by Value (\$ million)



Air Imports by Ton



Source: prepared by CDM Smith, based on US Census Bureau, Economic Indicators Division, accessed data July 7, 2016.

2.5 Pipeline, 2014

Connecticut pipeline movements in 2014 totaled 287.9 thousand tons, valued at \$62 million, see Table 20. On average, total pipeline commodity movements are valued at \$216/ton. Pipeline movements represent less than 0.2% of modal tonnage in Connecticut and 0.02% of total modal value in 2014: the smallest relative tonnage and value of the freight modes.

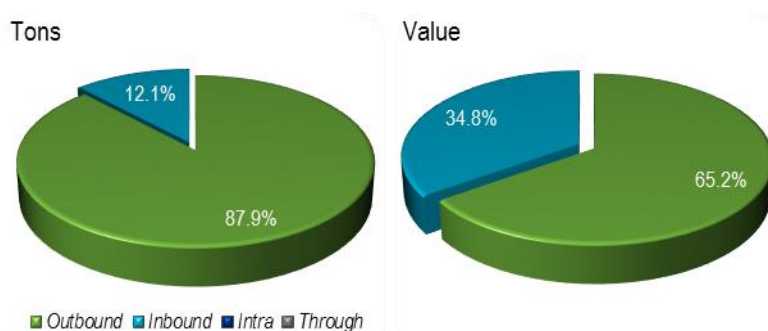
As depicted in Figure 36, only outbound and inbound tonnage directions exist for pipeline in Connecticut, with outbound constituting the significant majority for both tonnage and value, 87.9% and 65.2%, respectively.

Table 20: Pipeline by Direction, 2014

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Outbound	253,135	87.9%	\$41	65.2%	\$160
Inbound	34,721	12.1%	\$22	34.8%	\$623
Intra	#N/A	#N/A	#N/A	#N/A	#N/A
Through	#N/A	#N/A	#N/A	#N/A	#N/A
Total	287,856	100.0%	\$62	100.0%	\$216

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Figure 36: Pipeline Percentages by Direction, 2014



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

As Connecticut pipeline movements comprise only two STCC2 commodities (STCC 13: Crude Petroleum and Natural Gas, and STCC 29: Petroleum or Coal Products) and two directions (inbound and outbound), graphical depictions of the top two-digit STCC commodities are unwarranted, as is the aggregated directional top commodity outline. Table 47 through Table 51, in the Appendix, identify the pipeline commodity movements by direction.

In effect, almost 100.0% of all pipeline-related movements are Crude Petroleum and Natural Gas, most of which is outbound Natural Gas, with some inbound Crude Petroleum. An insignificant fraction of pipeline is for Petroleum or Coal Products as an outbound movement.

3 Forecast Freight

Tonnage across the Connecticut freight network is forecast, by TRANSEARCH®, to grow 56.8% from 2014 to 2040 (1.7% annually), as summarized in Table 21. While pipeline is forecast to exhibit the fastest growth of the modes (3.1% annually), growth is from a relatively small tonnage base in 2014, and has little bearing on the absolute tonnage growth projected on the entire network. In contrast, truck growth is forecast to grow by 58.7% (1.8% annually), from 198.7 million tons in 2014 to 315.4 million in 2040, a 116.6 million-ton increase. In the context of the aggregate 120.3 million-ton growth forecast for all combined modes, this 116.6 million increase in truck constitutes 96.9%, almost half of which is attributable to through movements. Directionally, outbound movements are forecast to exhibit the largest percentage growth (69.9%, or 2.1% annually). Through traffic is projected to increase in absolute tonnage terms by 54.6 million.

Table 21: Tonnage Forecast by Mode and Direction, 2014 to 2040

Direction	Truck	Water	Rail	Air	Pipe	Total
2014						
Outbound	33,587,287	379,313	1,814,036	53,641	253,135	36,087,412
Inbound	48,633,101	8,721,976	859,476	62,126	34,721	58,311,400
Intra	22,360,696	692,729	262,452	#N/A	#N/A	23,315,878
Through	94,157,731	#N/A	139,588	#N/A	#N/A	94,297,319
Total	198,738,816	9,794,018	3,075,552	115,767	287,856	212,012,009
2040						
Outbound	56,665,892	786,942	3,182,818	122,334	561,104	61,319,091
Inbound	77,266,633	9,209,987	1,430,420	129,239	70,642	88,106,921
Intra	32,859,071	606,985	545,787	#N/A	#N/A	34,011,844
Through	148,576,223	#N/A	325,487	#N/A	#N/A	148,901,710
Total	315,367,819	10,603,915	5,484,513	251,572	631,746	332,339,566
Annual Percent Growth						
Outbound	2.0%	2.8%	2.2%	3.2%	3.1%	2.1%
Inbound	1.8%	0.2%	2.0%	2.9%	2.8%	1.6%
Intra	1.5%	-0.5%	2.9%	#N/A	#N/A	1.5%
Through	1.8%	#N/A	3.3%	#N/A	#N/A	1.8%
Total	1.8%	0.3%	2.2%	3.0%	3.1%	1.7%
Total Percent Growth						
Outbound	68.7%	107.5%	75.5%	128.1%	121.7%	69.9%
Inbound	58.9%	5.6%	66.4%	108.0%	103.5%	51.1%
Intra	47.0%	-12.4%	108.0%	#N/A	#N/A	45.9%
Through	57.8%	#N/A	133.2%	#N/A	#N/A	57.9%
Total	58.7%	8.3%	78.3%	117.3%	119.5%	56.8%
Tonnage Growth						
Outbound	23,078,605	407,630	1,368,782	68,692	307,969	25,231,679
Inbound	28,633,531	488,011	570,944	67,113	35,921	29,795,520
Intra	10,498,375	(85,744)	283,335	#N/A	#N/A	10,695,966
Through	54,418,492	#N/A	185,900	#N/A	#N/A	54,604,392
Total	116,629,003	809,897	2,408,961	135,806	343,890	120,327,557

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

3.1 Truck Forecast

Table 22 depicts the directional composition of truck movements in Connecticut between 2014 and 2040, which is relatively constant over the future analysis horizon. Truck tonnage is forecast to increase from 198.7 million in 2014 to 315.4 million in 2040, a cumulative increase of 58.7%

(1.8% annually). Truck commodity value is forecast to increase from \$337.5 billion in 2014 to \$681.1 billion by 2040, a cumulative increase of 101.8% (2.7% annually).

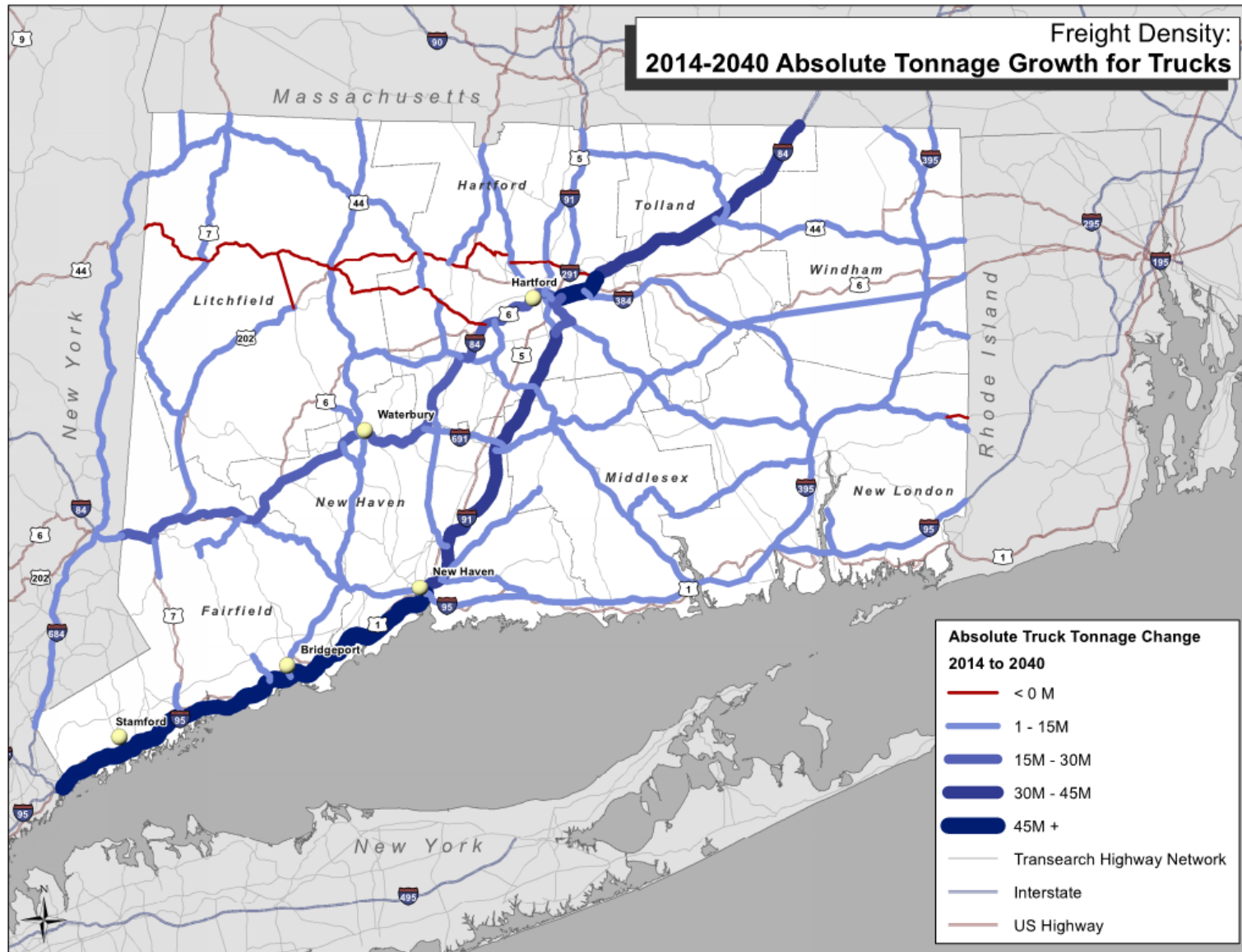
Freight density growth across the Connecticut road network is shown in Figure 37 and Figure 38 for absolute and percentage growth, respectively. Such maps indicate the greatest truck absolute tonnage increase occurs on the existing densest routes, along I-95 from New York City to New Haven, along I-91 from New Haven to Harford, and from Harford to the Massachusetts border along I-84. In percentage terms, the growth is more dispersed throughout Connecticut, with many secondary routes exhibiting greater percentage growth than the primary interstate corridors. CT82 is slated for some of the largest percentage growth in truck traffic.

Table 22: Truck Forecast by Direction, 2014 to 2040

Direction	2014		2040		Percent Change	
	Amount	Percent	Amount	Percent	Total	CAGR
Tons						
Outbound	33,587,287	16.9%	56,665,892	18.0%	68.7%	2.0%
Inbound	48,633,101	24.5%	77,266,633	24.5%	58.9%	1.8%
Intra	22,360,696	11.3%	32,859,071	10.4%	47.0%	1.5%
Through	94,157,731	47.4%	148,576,223	47.1%	57.8%	1.8%
Total	198,738,816	100.0%	315,367,819	100.0%	58.7%	1.8%
Value, in millions						
Outbound	\$53,702	15.9%	\$105,956	15.6%	97.3%	2.6%
Inbound	\$75,455	22.4%	\$148,799	21.8%	97.2%	2.6%
Intra	\$29,839	8.8%	\$54,793	8.0%	83.6%	2.4%
Through	\$178,490	52.9%	\$371,537	54.6%	108.2%	2.9%
Total	\$337,487	100.0%	\$681,086	100.0%	101.8%	2.7%

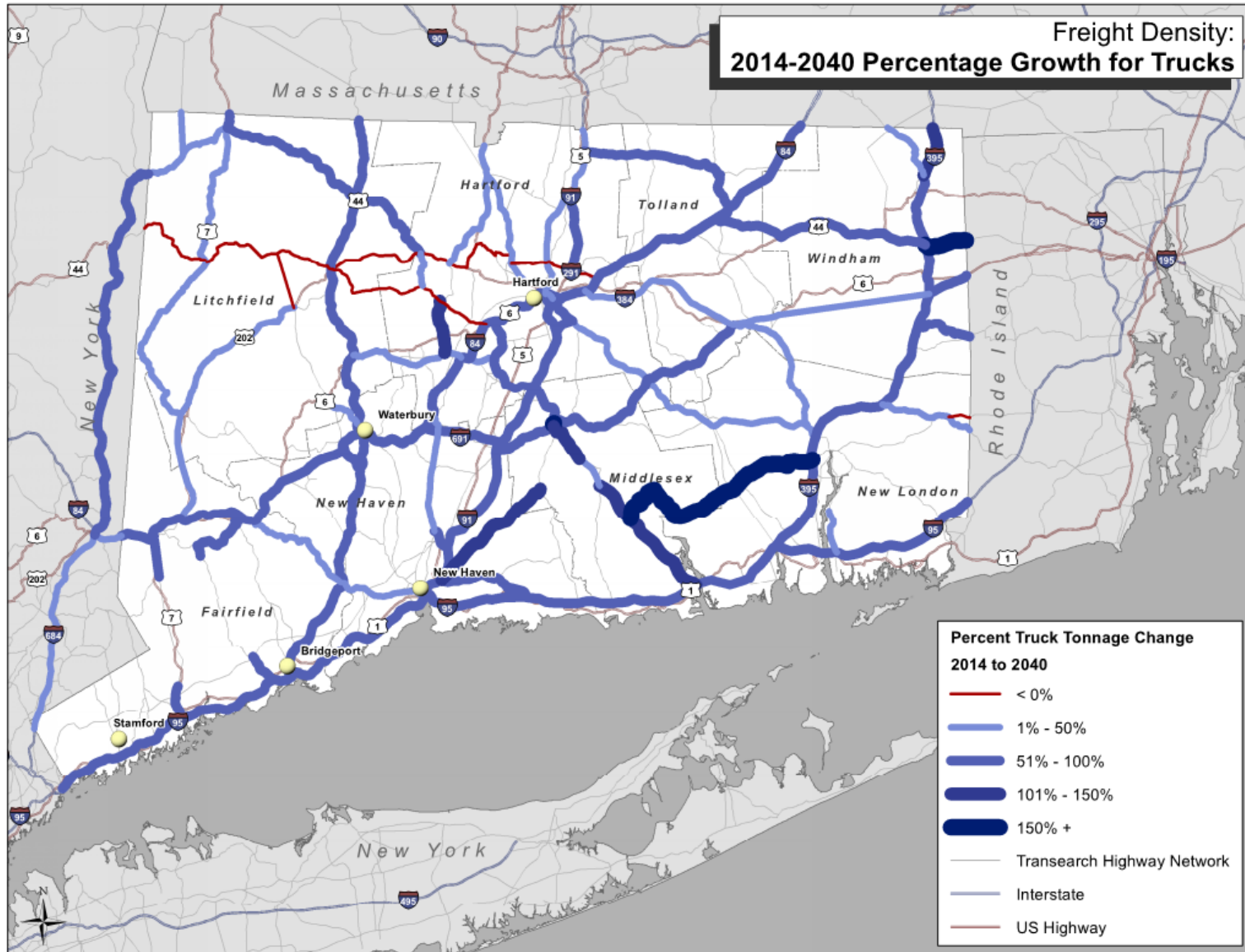
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Figure 37: Truck Density Absolute Growth, 2014 to 2040



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Figure 38: Truck Density Percentage Growth, 2014 to 2040



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 52 in the Appendix presents commodity movements (all directions) by truck, in 2040, which total 315.4 million tons, carried via 21.0 million units, valued at \$681.1 billion, with an average value/ton of \$2,160 (compared with 2014 truck movements for all directions, outlined in Section 2.1); top five commodities include:

- *by Tonnage:*
 1. Nonmetallic Minerals (47.3 million tons, 15.0% of truck total);
 2. Food or Kindred Products (41.2 million, 13.1%);
 3. Secondary Traffic (34.8 million, 11.0%);
 4. Clay, Concrete, Glass, or Stone (30.4 million, 9.6%); and,
 5. Petroleum or Coal Products (29.1 million, 9.2%)
- *by Units:*
 1. Shipping Containers (5.2 million units, 24.7% of truck total);
 2. Nonmetallic Minerals (1.9 million, 9.3%);
 3. Clay, Concrete, Glass, or Stone (1.9 million, 9.0%);
 4. Food or Kindred Products (1.8 million, 8.8%); and,
 5. Secondary Traffic (1.7 million, 8.2%)
- *by Value:*
 1. Electrical Equipment (\$123.2 billion, 18.1% of truck total);
 2. Transportation Equipment (\$66.8 billion, 9.8%);
 3. Chemicals or Allied Products (\$64.8 billion, 9.5%);
 4. Food or Kindred Products (\$57.0 billion, 8.4%); and,
 5. Machinery (\$56.4 billion, 8.3%)

Table 57 in the Appendix summarizes truck-based commodity tonnage growth from 2014 to 2040; top five commodities with the largest growth include:

- *by Tonnage Percent Growth:*
 1. Miscellaneous Mixed Shipments (404.6%, 6.4% CAGR);
 2. Crude Petroleum or Natural Gas (351.1%, 6.0% CAGR);
 3. Instrument, Photo, and Optical Equip. (188.7%, 4.2% CAGR);
 4. Furniture or Fixtures (140.6%, 3.4% CAGR); and,
 5. Electrical Equipment (138.0%, 3.4% CAGR)
- *by Tonnage Volume Growth:*
 1. Secondary Traffic (16.1 million tons, 86.0% change over 2014);
 2. Food or Kindred Products (15.9 million, 62.6% change);
 3. Nonmetallic Minerals (14.6 million, 44.7% change);
 4. Clay, Concrete, Glass, or Stone (14.4 million, 89.7% change); and,
 5. Waste or Scrap Materials (12.1 million, 89.1% change)

3.2 Rail Forecast

Table 23 depicts the directional composition of rail movements in Connecticut between 2014 and 2040, which is relatively constant over the future analysis horizon. Rail tonnage is forecast to increase from 3.1 million in 2014 to 5.5 million in 2040, a cumulative increase of 78.3% (2.2% annually). Rail commodity value is forecast to increase from \$2.2 billion in 2014 to \$3.4 billion by 2040, a cumulative increase of 54.7% (1.7% annually).

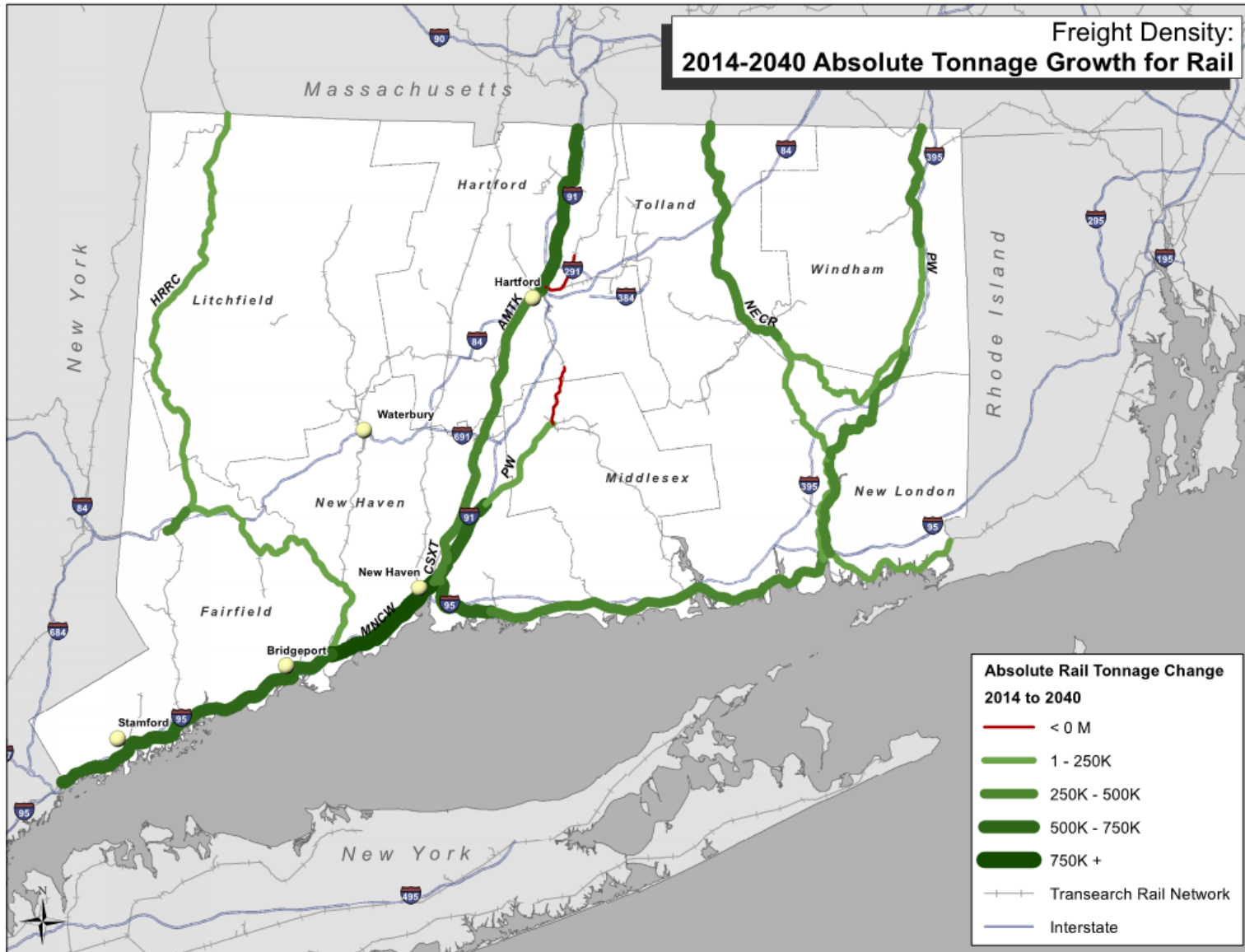
Freight density growth across the Connecticut rail network is shown in Figure 39 and Figure 40 for absolute and percentage growth, respectively. Such maps indicate the greatest rail absolute tonnage increase is expected to occur on the existing densest routes, along the coast from New York City to New Haven, and from New Haven to Harford to the Massachusetts border. Generally, the absolute rail growth is projected to occur on the rail-equivalent corridor of the densest truck routes, generally following I-95 and I-91. In percentage terms, largest growth in rail traffic is projected for the southeastern portion of the state.

Table 23: Rail Forecast by Direction, 2014 to 2040

Direction	2014		2040		Percent Change	
	Amount	Percent	Amount	Percent	Total	CAGR
Tons						
Outbound	1,814,036	59.0%	3,182,818	58.0%	75.5%	2.2%
Inbound	859,476	27.9%	1,430,420	26.1%	66.4%	2.0%
Intra	262,452	8.5%	545,787	10.0%	108.0%	2.9%
Through	139,588	4.5%	325,487	5.9%	133.2%	3.3%
Total	3,075,552	100.0%	5,484,513	100.0%	78.3%	2.2%
Value, in millions						
Outbound	\$724	32.6%	\$1,037	30.1%	43.2%	1.4%
Inbound	\$1,364	61.3%	\$2,064	60.0%	51.3%	1.6%
Intra	\$2	0.1%	\$5	0.2%	108.0%	2.9%
Through	\$134	6.0%	\$336	9.8%	151.2%	3.6%
Total	\$2,225	100.0%	\$3,443	100.0%	54.7%	1.7%

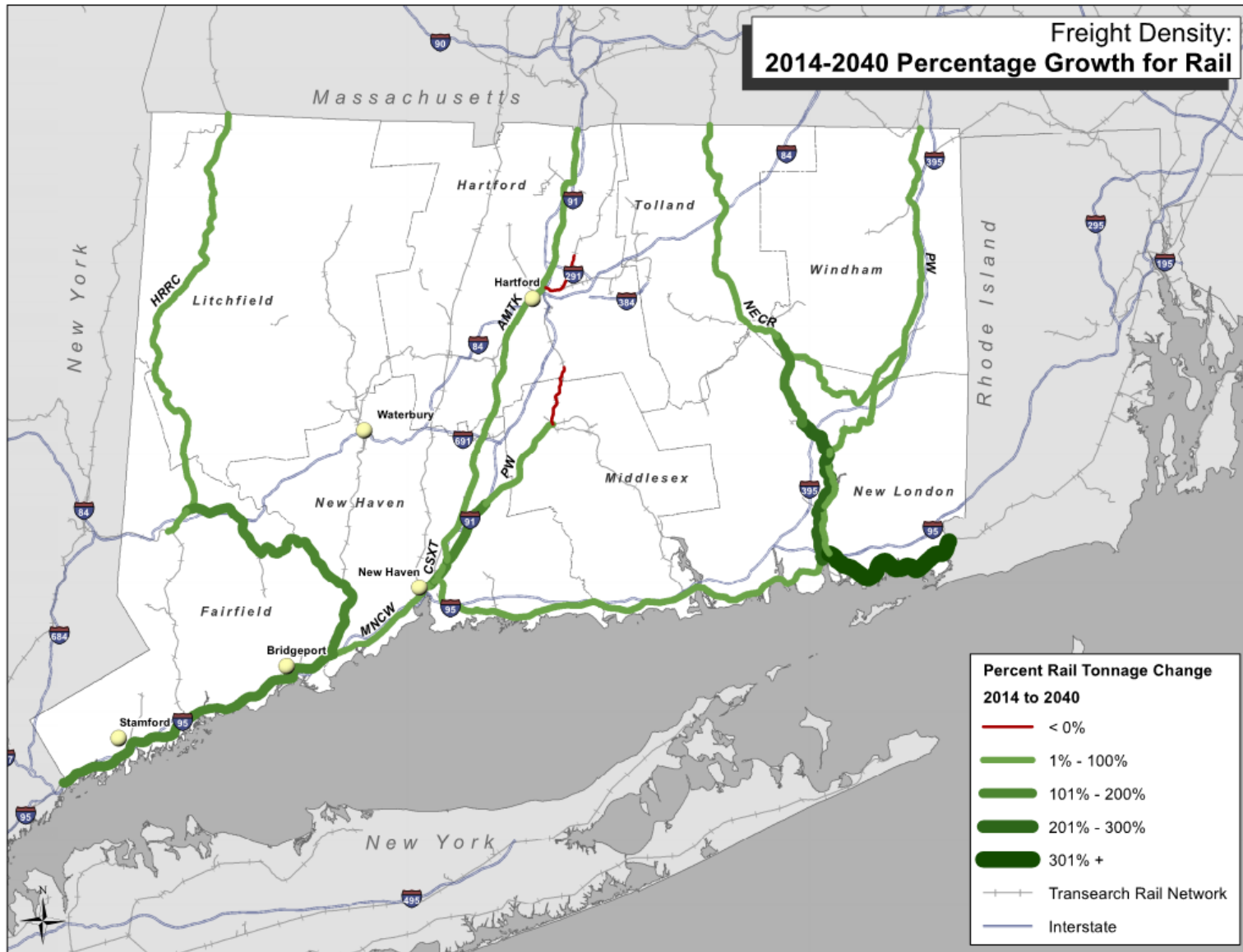
Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Figure 39: Rail Density Absolute Growth, 2014 to 2040



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Figure 40: Rail Density Percentage Growth, 2014 to 2040



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 53 in the Appendix presents commodity movements (all directions) by rail, in 2040, which total 5.5 million tons, carried via 58,103 units, valued at \$3.4 billion, with an average value/ton of \$628 (compared with 2014 rail movements for all directions, outlined in Section 2.2); top five commodities include:

- *by Tonnage:*
 1. Nonmetallic Minerals (1,955.6 thousand tons, 35.7% of rail total);
 2. Waste or Scrap Materials (1,359.7 thousand, 24.8%);
 3. Primary Metal Products (691.4 thousand, 12.6%);
 4. Chemicals or Allied Products (612.8 thousand, 11.2%); and,
 5. Clay, Concrete, Glass, or Stone (296.2 thousand, 5.4%)
- *by Units:*
 1. Nonmetallic Minerals (20.5 thousand units, 35.3% of rail total);
 2. Waste or Scrap Materials (13.3 thousand, 23.0%);
 3. Primary Metal Products (7.7 thousand, 13.2%);
 4. Chemicals or Allied Products (6.7 thousand, 11.5%); and,
 5. Clay, Concrete, Glass, or Stone (2.9 thousand, 4.9%)
- *by Value:*
 1. Primary Metal Products (\$1,526.9 million, 44.4% of rail total);
 2. Chemicals or Allied Products (\$960.1 million, 27.9%);
 3. Waste or Scrap Materials (\$351.6 million, 10.2%);
 4. Clay, Concrete, Glass, or Stone (\$164.7 million, 4.8%); and,
 5. Electrical Equipment (\$116.4 million, 3.4%)

Table 58 in the Appendix summarizes rail-based commodity tonnage growth from 2014 to 2040; top five commodities with the largest growth include:

- *by Tonnage Percent Growth:*
 1. Electrical Equipment (197.5%, 4.3% CAGR);
 2. Food or Kindred Products (172.7%, 3.9% CAGR);
 3. Farm Products (117.4%, 3.0% CAGR);
 4. Lumber or Wood Products (115.6%, 3.0% CAGR); and,
 5. Pulp, Paper, or Allied Products (107.7%, 2.9% CAGR)
- *by Tonnage Volume Growth:*
 1. Nonmetallic Minerals (1,010.8 thousand tons, 107.0% change over 2014);
 2. Waste or Scrap Materials (521.0 thousand, 62.1% change);
 3. Chemicals or Allied Products (289.7 thousand, 89.7% change);
 4. Primary Metal Products (220.4 thousand, 46.8% change); and,
 5. Farm Products (94.1 thousand, 117.4% change)

3.3 Port Forecast

Table 24 depicts the directional composition of water movements in Connecticut between 2014 and 2040, which is relatively constant over the future analysis horizon; but, intrastate movements decrease somewhat while outbound increase. However, despite the compositional shifts in direction, inbound is projected to be continue as the significantly dominant direction. Water tonnage is forecast to increase from 9.8 million in 2014 to 10.6 million in 2040, a

cumulative increase of 8.3% (0.3% annually). Water commodity value is forecast to increase from \$9.2 billion in 2014 to \$9.8 billion by 2040, a cumulative increase of 6.6% (0.2% annually).

Table 24: Water Forecast by Direction, 2014 to 2040

Direction	2014		2040		Percent Change	
	Amount	Percent	Amount	Percent	Total	CAGR
Tons						
Outbound	379,313	3.9%	786,942	7.4%	107.5%	2.8%
Inbound	8,721,976	89.1%	9,209,987	86.9%	5.6%	0.2%
Intra	692,729	7.1%	606,985	5.7%	-12.4%	-0.5%
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	9,794,018	100.0%	10,603,915	100.0%	8.3%	0.3%
Value, in millions						
Outbound	\$165	1.8%	\$222	2.3%	34.0%	1.1%
Inbound	\$8,938	97.4%	\$9,509	97.1%	6.4%	0.2%
Intra	\$77	0.8%	\$57	0.6%	-25.5%	-1.1%
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	\$9,181	100.0%	\$9,788	100.0%	6.6%	0.2%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 54 in the Appendix presents commodity movements (all directions) by port, in 2040, which total 10.6 million tons, valued at \$9.8 billion, with an average value/ton of \$923 (compared with 2014 water movements for all directions, outlined in Section 2.3); top five commodities include:

- *by Tonnage:*
 1. Petroleum or Coal Products (7,315.9 thousand tons, 69.0% of water total);
 2. Chemicals or Allied Products (996.7 thousand, 9.4%);
 3. Nonmetallic Minerals (679.1 thousand, 6.4%);
 4. Clay, Concrete, Glass, or Stone (604.8 thousand, 5.7%); and,
 5. Coal (573.1 thousand, 5.4%)
- *by Value:*
 1. Petroleum or Coal Products (\$8,199.5 million, 83.8% of water total);
 2. Chemicals or Allied Products (\$1,091.6 million, 11.2%);
 3. Instrument, Photo, and Optical Equip. (\$159.7 million, 1.6%);
 4. Waste or Scrap Materials (\$127.1 million, 1.3%); and,
 5. Fabricated Metal Products (\$67.1 million, 0.7%)

Table 59 in the Appendix summarizes port-based commodity tonnage growth from 2014 to 2040; top five commodities with the largest growth include:

- *by Tonnage Percent Growth:*
 1. Waste or Scrap Materials (588.8%, 7.7% CAGR);
 2. Instrument, Photo, and Optical Equip. (182.6%, 4.1% CAGR);
 3. Miscellaneous Manufacturing Products (177.4%, 4.0% CAGR);
 4. Furniture or Fixtures (100.9%, 2.7% CAGR); and,
 5. Primary Metal Products (99.0%, 2.7% CAGR)
- *by Tonnage Volume Growth:*
 1. Chemicals or Allied Products (482.0 thousand tons, 93.6% change over 2014);
 2. Waste or Scrap Materials (333.8 thousand, 588.8% change);
 3. Clay, Concrete, Glass, or Stone (287.7 thousand, 90.7% change);
 4. Nonmetallic Minerals (64.9 thousand, 10.6% change); and,
 5. Instrument, Photo, and Optical Equip. (10.4 thousand, 182.6% change)

3.4 Air Forecast

Table 25 depicts the directional composition of air movements in Connecticut between 2014 and 2040, which is constant over the future analysis horizon. Air tonnage is forecast to increase from 115.8 thousand in 2014 to 251.6 thousand in 2040, a cumulative increase of 117.3% (3.0% annually). Air commodity value is forecast to increase from \$16.5 billion in 2014 to \$38.0 billion by 2040, a cumulative increase of 130.9% (3.3% annually).

Table 25: Air Forecast by Direction, 2014 to 2040

Direction	2014		2040		Percent Change	
	Amount	Percent	Amount	Percent	Total	CAGR
Tons						
Outbound	53,641	46.3%	122,334	48.6%	128.1%	3.2%
Inbound	62,126	53.7%	129,239	51.4%	108.0%	2.9%
Intra	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	115,767	100.0%	251,572	100.0%	117.3%	3.0%
Value, in millions						
Outbound	\$9,408	57.1%	\$20,228	53.2%	115.0%	3.0%
Inbound	\$7,056	42.9%	\$17,791	46.8%	152.1%	3.6%
Intra	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	\$16,464	100.0%	\$38,020	100.0%	130.9%	3.3%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 55 in the Appendix presents commodity movements (all directions) by air, in 2040, which total 251.6 thousand tons, valued at \$38.0 billion, with an average value/ton of \$151,128 (compared with 2014 air movements for all directions, outlined in Section 2.4); top five commodities include:

- *by Tonnage:*
 1. Small Packaged Shipments (114.1 thousand tons, 45.4% of air total);
 2. Electrical Equipment (35.7 thousand, 14.2%);
 3. Miscellaneous Manufacturing Products (29.5 thousand, 11.7%);
 4. Instrument, Photo, and Optical Equip. (16.0 thousand, 6.3%); and,
 5. Chemicals or Allied Products (11.4 thousand, 4.5%)
- *by Value:*
 1. Miscellaneous Manufacturing Products (\$18.1 billion, 47.6% of air total);
 2. Electrical Equipment (\$8.4 billion, 22.1%);
 3. Chemicals or Allied Products (\$3.6 billion, 9.4%);
 4. Instrument, Photo, and Optical Equip. (\$3.5 billion, 9.1%); and,
 5. Transportation Equipment (\$2.8 billion, 7.2%)

Table 60 in the Appendix summarizes air-based commodity tonnage growth from 2014 to 2040; top five commodities with the largest growth include:

- *by Tonnage Percent Growth:*
 1. Ordnance or Accessories (420.7%, 6.6% CAGR);
 2. Clay, Concrete, Glass, or Stone (360.0%, 6.0% CAGR);
 3. Electrical Equipment (184.3%, 4.1% CAGR);
 4. Instrument, Photo, and Optical Equip. (182.0%, 4.1% CAGR); and,
 5. Chemicals or Allied Products (164.8%, 3.8% CAGR)
- *by Tonnage Volume Growth:*
 1. Small Packaged Shipments (64.0 thousand tons, 127.7% change over 2014);
 2. Electrical Equipment (23.1 thousand, 184.3% change);
 3. Miscellaneous Manufacturing Products (15.9 thousand, 117.0% change);
 4. Instrument, Photo, and Optical Equip. (10.3 thousand, 182.0% change); and,
 5. Chemicals or Allied Products (7.1 thousand, 164.8% change)

3.5 Pipeline Forecast

Table 26 depicts the directional composition of pipeline movements in Connecticut between 2014 and 2040, which remains constant over the future analysis horizon. Pipeline tonnage is forecast to increase from 287.9 thousand tons in 2014 to 631.7 thousand in 2040, a cumulative increase of 119.5% (3.1% annually). Pipeline commodity value is forecast to increase from \$62 million in 2014 to \$134 million by 2040, a cumulative increase of 115.3% (3.0% annually).

Table 26: Pipeline Forecast by Direction, 2014 to 2040

Direction	2014		2040		Percent Change	
	Amount	Percent	Amount	Percent	Total	CAGR
Tons						
Outbound	253,135	87.9%	561,104	88.8%	121.7%	3.1%
Inbound	34,721	12.1%	70,642	11.2%	103.5%	2.8%
Intra	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	287,856	100.0%	631,746	100.0%	119.5%	3.1%
Value, in millions						
Outbound	\$41	65.2%	\$90	67.1%	121.7%	3.1%
Inbound	\$22	34.8%	\$44	32.9%	103.5%	2.8%
Intra	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	\$62	100.0%	\$134	100.0%	115.3%	3.0%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

In Connecticut, growth in pipeline movements is effectively attributable to increases to only one commodity: Crude Petroleum and Natural Gas. Table 56 in the Appendix presents such commodity movements (all directions) for 2040; and Table 61 in the Appendix summarizes tonnage growth from 2014 to 2040.

4 Summary

Connecticut freight movements comprise a range of commodities moving in different directions (outbound, inbound, intrastate, and through) by various modes (truck, rail, ports, air, and pipeline), measured in different terms (tons, units, and value), and with varying geographic origins and destinations. These various directional movements, modes, terms, and geographies complicate simple summarization. Nonetheless, the following summary highlights major commodity movements.

Total Movements – A combined total 212.0 million tons of freight moved across the transportation network in Connecticut in 2014, valued at over \$365.4 billion, for an average value per ton of \$1,724.

Modal Summary – Trucks carry a significant majority of the freight tonnages and values across Connecticut's transportation infrastructure, with 93.7% of total tonnage and 92.4% of total value attributable to that mode. Water volumes constitute a distant second, with 4.6% of total tonnages; while air values are a distant second to truck, with 4.5% of totals.

- *Truck* – 198.7 million tons in 12.7 million units, valued at \$337.5 billion, for an average value per ton of \$1,698. About half of such truck freight movements are through Connecticut, originating and destined beyond the state borders.
- *Ports* – 9.8 million tons valued at \$9.2 billion, for an average value per ton of \$937. A majority of such port-related freight movements are inbound Petroleum and Coal Products.
- *Rail* – 3.1 million tons in 32,619 carload units, valued at \$2.2 billion, for an average value per ton of \$724. A majority of rail tonnage is outbound; however, a majority of the value is inbound.
- *Air* – 115,767 tons valued at \$16.5 billion, for an average value per ton of \$142,220. Directionally, inbound and outbound movements are relatively balanced. Much of the air cargo is relatively high value per ton, such as Miscellaneous Manufacturing Products, Transportation Equipment, Chemicals or Allied Products, Electrical Equipment, and Instrumental/Optical Equipment.
- *Pipeline* – 287,856 tons of energy-related commodities, valued at \$62 million, for an average value per ton of \$216. Almost all of the movements are Crude Petroleum or Natural Gas, with a majority pertaining specifically to outbound Natural Gas.

Directional Summary – Commodity movement, and composite terms, vary by direction.

- *Through* – Constitutes almost half of all directional movements in terms of both tonnage and value (almost entirely truck related). In terms of tonnage, the 94.3 million tons constitutes 44.5% of all directional movements, and in terms of value, the \$178.6 billion of through traffic represents 48.9% of total directional value. As through traffic amounts to almost as much as inbound, outbound, and intrastate freight combined, the non-

Connecticut related movements impose a disproportionate strain on the Connecticut highway infrastructure, developed with Connecticut-sourced funding.

- *Inbound* – At 58.3 million tons, inbound freight represents 27.5% of all directional tonnage, and at \$92.8 billion, 25.4% of directional value. As with through movements, a majority of the inbound freight is carried via trucks; however, a notable amount of Petroleum and Coal Products are inbound via the ports.
- *Outbound* – About one-sixth of all freight movements for Connecticut pertain to outbound movements, with 36.1 million tons, valued at \$64.0 billion representing 17.0% and 17.5% of directional movements, respectively. As with the other directions, the outbound truck movements far exceed all other modal movements combined.
- *Intrastate* – In comparison with the other directional movements, intrastate represents the smallest relative percentage in terms of both tonnages and value, with 23.3 million tons representing 11.0% and \$29.9 billion equating to 8.2% of the directional movements. Given the relatively small geographic size of Connecticut, the small proportion of intrastate freight is expected.

Notable Commodity Movements – Commodity movements are compared and contrasted.

- *Petroleum or Coal Products (STCC 29)* – The largest tonnage and fourth-largest valued STCC commodity for all modes and directions, at 39.3 million tons (18.5% of all freight), worth \$33.1 billion (9.0%). 16.7 million tons of the Petroleum and Coal Products traverse Connecticut as through movements (42.6% of commodity direction); 14.0 million tons are inbound (35.5%) and 8.6 million tons are either outbound or intrastate movements (21.9%). A majority of the commodity movements are by truck, followed by ports.
- *Nonmetallic Minerals (STCC 14)* – The second largest tonnage STCC commodity for all modes and directions, at 34.3 million tons (16.2% of all freight). However, with a very small value per ton of \$15, with entire Nonmetallic Mineral freight movement is only worth \$512 million, representing just 0.1% of total freight values. Moved almost entirely via trucks and distributed evenly between the four directions, these low value-per-ton movements impose a relatively large burden on the interstate infrastructure without a correspondingly high value to society.
- *Food or Kindred Products (STCC 20)* – The third largest tonnage and value commodity movement, with 25.4 million tons, worth \$34.1 billion, representing 12.0% and 9.3% of total freight tonnage and value, respectively. Almost the entirety of such commodity movements are via truck.
- *Electrical Equipment (STCC 36)* – The major commodity movement by value, with \$42.7 billion dollars, representing 11.7% of all freight value movements. As the commodity has relatively high value per ton, at \$12,335, the tonnage is comparability small, relative to

total movements, with 3.5 million tons, representing just 1.6% of all freight tonnages. Almost all of the tonnage and value is carried via trucks.

Forecasts – By 2040, TRANSEARCH® forecasts an increase in tonnage to 332.4 million, a 56.8% increase (1.7% CAGR) from the 212.0 million 2014 base tonnage. In value terms, the forecasted amount of \$732.5 billion represents a 100.4% increase (2.7% CAGR) from the \$365.4 billion 2014 base value. Compositionally, the directional movements remain relatively constant, with through traffic continuing to amount to almost as much as the other directions combined. Additionally, the commodity mix remains similar to 2014, with the same top five commodities by tonnage but with a moderate re-ranking.

Conclusion – Clearly, from a freight traffic perspective, Connecticut is a bridge state connecting the New York metropolitan region and Mid-Atlantic States with the rest of New England (mostly Boston, Massachusetts). The TRANSEARCH® data confirms this assertion with evidence indicating that the significant proportion of freight traversing the transportation network of Connecticut is truck-based through traffic. In fact, the through truck traffic, by either tonnage or value, almost amounts to the remainder of all other modal directional combined. And, regardless of direction, the highway network is the predominate mode for freight movements, with 93.7% of all tonnage and 92.4% of all freight values¹¹.

It is thus important to understand the implications of these movements on the freight infrastructure network in Connecticut, as a high proportion of the users of the system are accordingly non-Connecticut based. In effect, the freight system in Connecticut is serving the necessary needs of New York and Massachusetts as well as the Connecticut-based population and businesses; and, Connecticut should keep in mind the consequences.

Next Steps – Given the variance of TRANSEARCH's modal data (see Section 1), especially regarding water and air movements, incorporating United States Army Corps of Engineers (USACE) Waterborne Commerce Statistics and the United States Census USA Trade Online data would provide a more comprehensive analysis of all modes.¹²

¹¹ As TRANSEARCH® is limited to NAFTA-related movements only, the airborne and waterborne freight data reported is a subset of what actually traverses the airports and ports. A comprehensive comparison with alternative data sources would supplement such modal-specific freight movements reported herein from TRANSEARCH®; however, the general conclusions regarding trucking dominance is likely to remain.

¹² Both are publically available at no cost via the internet.

Appendix

Table 27: Truck Outbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	238,264	0.7%	14,453	0.4%	\$132	0.2%	\$554
08	Forest Products	1,742	0.0%	82	0.0%	\$3	0.0%	\$1,701
09	Fresh Fish or Marine Products	3,446	0.0%	149	0.0%	\$27	0.1%	\$7,910
10	Metallic Ores	248	0.0%	10	0.0%	\$3	0.0%	\$11,464
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	4,311	0.0%	188	0.0%	\$2	0.0%	\$559
14	Nonmetallic Minerals	7,360,917	21.9%	303,360	8.6%	\$75	0.1%	\$10
19	Ordinance or Accessories	6,912	0.0%	309	0.0%	\$276	0.5%	\$39,987
20	Food or Kindred Products	2,208,639	6.6%	97,389	2.7%	\$3,502	6.5%	\$1,586
21	Tobacco Products	4,461	0.0%	202	0.0%	\$76	0.1%	\$17,057
22	Textile Mill Products	35,736	0.1%	1,670	0.0%	\$213	0.4%	\$5,970
23	Apparel or Related Products	25,530	0.1%	1,559	0.0%	\$154	0.3%	\$6,019
24	Lumber or Wood Products	333,378	1.0%	13,395	0.4%	\$311	0.6%	\$933
25	Furniture or Fixtures	59,599	0.2%	3,956	0.1%	\$282	0.5%	\$4,725
26	Pulp, Paper, or Allied Products	1,105,631	3.3%	45,626	1.3%	\$1,533	2.9%	\$1,387
27	Printed Matter	360,198	1.1%	20,211	0.6%	\$998	1.9%	\$2,771
28	Chemicals or Allied Products	3,291,988	9.8%	170,505	4.8%	\$7,099	13.2%	\$2,157
29	Petroleum or Coal Products	5,542,781	16.5%	233,276	6.6%	\$4,471	8.3%	\$807
30	Rubber or Miscellaneous Plastics	713,900	2.1%	61,485	1.7%	\$2,696	5.0%	\$3,776
31	Leather or Leather Products	2,945	0.0%	194	0.0%	\$32	0.1%	\$10,824
32	Clay, Concrete, Glass, or Stone	3,741,658	11.1%	235,836	6.7%	\$755	1.4%	\$202
33	Primary Metal Products	1,314,246	3.9%	57,152	1.6%	\$4,209	7.8%	\$3,203
34	Fabricated Metal Products	1,165,844	3.5%	65,047	1.8%	\$4,694	8.7%	\$4,027
35	Machinery	376,613	1.1%	29,481	0.8%	\$3,789	7.1%	\$10,061
36	Electrical Equipment	458,279	1.4%	27,837	0.8%	\$5,160	9.6%	\$11,258
37	Transportation Equipment	189,059	0.6%	14,097	0.4%	\$5,359	10.0%	\$28,345
38	Instrument, Photo, and Optical Equip.	196,958	0.6%	15,568	0.4%	\$3,490	6.5%	\$17,721
39	Miscellaneous Manufacturing Products	172,897	0.5%	8,953	0.3%	\$1,022	1.9%	\$5,913
40	Waste or Scrap Materials	3,553,228	10.6%	150,694	4.3%	\$1,069	2.0%	\$301
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	1,914,636	54.0%	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	1,117,879	3.3%	55,134	1.6%	\$2,269	4.2%	\$2,030
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	33,587,287	100.0%	3,542,453	100.0%	\$53,702	100.0%	\$1,599

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 28: Truck Inbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	2,935,816	6.0%	166,508	7.1%	\$2,172	2.9%	\$740
08	Forest Products	17,679	0.0%	761	0.0%	\$29	0.0%	\$1,659
09	Fresh Fish or Marine Products	30,907	0.1%	1,333	0.1%	\$262	0.3%	\$8,464
10	Metallic Ores	34,031	0.1%	1,341	0.1%	\$55	0.1%	\$1,604
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	1,131	0.0%	46	0.0%	\$1	0.0%	\$1,029
14	Nonmetallic Minerals	10,017,181	20.6%	412,071	17.7%	\$137	0.2%	\$14
19	Ordnance or Accessories	15,310	0.0%	683	0.0%	\$334	0.4%	\$21,839
20	Food or Kindred Products	5,836,911	12.0%	259,825	11.1%	\$7,256	9.6%	\$1,243
21	Tobacco Products	19,282	0.0%	874	0.0%	\$323	0.4%	\$16,773
22	Textile Mill Products	130,626	0.3%	6,127	0.3%	\$722	1.0%	\$5,527
23	Apparel or Related Products	128,768	0.3%	7,846	0.3%	\$1,412	1.9%	\$10,963
24	Lumber or Wood Products	1,800,095	3.7%	72,930	3.1%	\$943	1.2%	\$524
25	Furniture or Fixtures	189,725	0.4%	12,574	0.5%	\$832	1.1%	\$4,383
26	Pulp, Paper, or Allied Products	1,057,599	2.2%	43,788	1.9%	\$1,598	2.1%	\$1,511
27	Printed Matter	463,522	1.0%	25,976	1.1%	\$1,484	2.0%	\$3,202
28	Chemicals or Allied Products	1,399,389	2.9%	70,877	3.0%	\$4,814	6.4%	\$3,440
29	Petroleum or Coal Products	6,469,472	13.3%	272,292	11.7%	\$4,769	6.3%	\$737
30	Rubber or Miscellaneous Plastics	744,807	1.5%	64,260	2.8%	\$3,035	4.0%	\$4,074
31	Leather or Leather Products	28,159	0.1%	1,898	0.1%	\$471	0.6%	\$16,726
32	Clay, Concrete, Glass, or Stone	3,735,744	7.7%	232,248	10.0%	\$959	1.3%	\$257
33	Primary Metal Products	2,385,791	4.9%	99,923	4.3%	\$6,776	9.0%	\$2,840
34	Fabricated Metal Products	923,129	1.9%	52,267	2.2%	\$3,225	4.3%	\$3,493
35	Machinery	459,601	0.9%	34,576	1.5%	\$4,779	6.3%	\$10,397
36	Electrical Equipment	931,276	1.9%	56,382	2.4%	\$9,417	12.5%	\$10,112
37	Transportation Equipment	710,626	1.5%	50,996	2.2%	\$9,016	11.9%	\$12,687
38	Instrument, Photo, and Optical Equip.	142,497	0.3%	11,325	0.5%	\$1,899	2.5%	\$13,327
39	Miscellaneous Manufacturing Products	199,088	0.4%	10,291	0.4%	\$1,170	1.6%	\$5,877
40	Waste or Scrap Materials	3,324,872	6.8%	141,476	6.1%	\$774	1.0%	\$233
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	21,635	0.0%	1,052	0.0%	\$117	0.2%	\$5,409
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	4,478,434	9.2%	220,589	9.5%	\$6,676	8.8%	\$1,491
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	48,633,101	100.0%	2,333,134	100.0%	\$75,455	100.0%	\$1,552

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 29: Truck Intra, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	104,562	0.5%	5,501	0.5%	\$66	0.2%	\$636
08	Forest Products	228	0.0%	10	0.0%	\$0	0.0%	\$1,119
09	Fresh Fish or Marine Products	421	0.0%	18	0.0%	\$3	0.0%	\$8,036
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	7,635,558	34.1%	314,087	29.9%	\$77	0.3%	\$10
19	Ordinance or Accessories	2,146	0.0%	96	0.0%	\$89	0.3%	\$41,696
20	Food or Kindred Products	586,007	2.6%	25,547	2.4%	\$889	3.0%	\$1,517
21	Tobacco Products	8,520	0.0%	385	0.0%	\$153	0.5%	\$17,912
22	Textile Mill Products	10,853	0.0%	507	0.0%	\$64	0.2%	\$5,932
23	Apparel or Related Products	11,672	0.1%	714	0.1%	\$72	0.2%	\$6,198
24	Lumber or Wood Products	96,801	0.4%	3,747	0.4%	\$85	0.3%	\$882
25	Furniture or Fixtures	18,275	0.1%	1,214	0.1%	\$83	0.3%	\$4,532
26	Pulp, Paper, or Allied Products	237,174	1.1%	9,782	0.9%	\$327	1.1%	\$1,378
27	Printed Matter	117,251	0.5%	6,576	0.6%	\$346	1.2%	\$2,953
28	Chemicals or Allied Products	903,686	4.0%	43,702	4.2%	\$1,706	5.7%	\$1,888
29	Petroleum or Coal Products	2,861,019	12.8%	118,313	11.3%	\$2,667	8.9%	\$932
30	Rubber or Miscellaneous Plastics	111,628	0.5%	9,467	0.9%	\$424	1.4%	\$3,799
31	Leather or Leather Products	832	0.0%	55	0.0%	\$9	0.0%	\$10,650
32	Clay, Concrete, Glass, or Stone	2,344,893	10.5%	148,096	14.1%	\$340	1.1%	\$145
33	Primary Metal Products	570,323	2.6%	22,814	2.2%	\$1,292	4.3%	\$2,265
34	Fabricated Metal Products	472,422	2.1%	26,188	2.5%	\$1,823	6.1%	\$3,858
35	Machinery	203,088	0.9%	15,254	1.5%	\$1,916	6.4%	\$9,433
36	Electrical Equipment	207,225	0.9%	12,481	1.2%	\$2,068	6.9%	\$9,977
37	Transportation Equipment	142,570	0.6%	10,301	1.0%	\$7,722	25.9%	\$54,161
38	Instrument, Photo, and Optical Equip.	57,331	0.3%	4,522	0.4%	\$936	3.1%	\$16,318
39	Miscellaneous Manufacturing Products	50,583	0.2%	2,614	0.2%	\$279	0.9%	\$5,510
40	Waste or Scrap Materials	1,053,081	4.7%	46,066	4.4%	\$252	0.8%	\$239
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	4,552,548	20.4%	221,561	21.1%	\$6,152	20.6%	\$1,351
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	22,360,696	100.0%	1,049,615	100.0%	\$29,839	100.0%	\$1,334

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 30: Truck Through, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	4,735,122	5.0%	263,780	4.5%	\$4,234	2.4%	\$894
08	Forest Products	74,555	0.1%	3,240	0.1%	\$150	0.1%	\$2,018
09	Fresh Fish or Marine Products	319,458	0.3%	13,770	0.2%	\$2,565	1.4%	\$8,029
10	Metallic Ores	65,918	0.1%	2,597	0.0%	\$105	0.1%	\$1,594
11	Coal	35	0.0%	1	0.0%	\$0	0.0%	\$219
13	Crude Petroleum or Natural Gas	90,318	0.1%	3,770	0.1%	\$58	0.0%	\$639
14	Nonmetallic Minerals	7,700,589	8.2%	316,899	5.4%	\$189	0.1%	\$24
19	Ordnance or Accessories	45,914	0.0%	2,049	0.0%	\$1,226	0.7%	\$26,695
20	Food or Kindred Products	16,696,096	17.7%	734,445	12.6%	\$22,387	12.5%	\$1,341
21	Tobacco Products	63,492	0.1%	2,876	0.0%	\$1,070	0.6%	\$16,845
22	Textile Mill Products	431,594	0.5%	20,212	0.3%	\$2,531	1.4%	\$5,864
23	Apparel or Related Products	292,578	0.3%	17,825	0.3%	\$3,149	1.8%	\$10,762
24	Lumber or Wood Products	4,151,897	4.4%	169,232	2.9%	\$2,238	1.3%	\$539
25	Furniture or Fixtures	493,280	0.5%	32,709	0.6%	\$2,330	1.3%	\$4,723
26	Pulp, Paper, or Allied Products	3,978,267	4.2%	164,998	2.8%	\$4,888	2.7%	\$1,229
27	Printed Matter	1,036,189	1.1%	58,093	1.0%	\$3,279	1.8%	\$3,165
28	Chemicals or Allied Products	3,764,519	4.0%	206,682	3.5%	\$13,784	7.7%	\$3,662
29	Petroleum or Coal Products	16,723,200	17.8%	709,869	12.2%	\$12,724	7.1%	\$761
30	Rubber or Miscellaneous Plastics	2,325,041	2.5%	213,022	3.7%	\$10,107	5.7%	\$4,347
31	Leather or Leather Products	74,297	0.1%	5,012	0.1%	\$1,195	0.7%	\$16,082
32	Clay, Concrete, Glass, or Stone	6,188,778	6.6%	381,178	6.5%	\$2,165	1.2%	\$350
33	Primary Metal Products	3,510,460	3.7%	142,502	2.4%	\$11,502	6.4%	\$3,276
34	Fabricated Metal Products	1,996,605	2.1%	113,803	2.0%	\$7,310	4.1%	\$3,661
35	Machinery	1,206,249	1.3%	91,822	1.6%	\$11,310	6.3%	\$9,376
36	Electrical Equipment	1,840,451	2.0%	112,232	1.9%	\$23,033	12.9%	\$12,515
37	Transportation Equipment	1,093,548	1.2%	79,753	1.4%	\$10,698	6.0%	\$9,783
38	Instrument, Photo, and Optical Equip.	448,433	0.5%	35,830	0.6%	\$6,664	3.7%	\$14,861
39	Miscellaneous Manufacturing Products	614,734	0.7%	31,842	0.5%	\$3,821	2.1%	\$6,215
40	Waste or Scrap Materials	5,619,025	6.0%	225,617	3.9%	\$1,569	0.9%	\$279
41	Miscellaneous Freight Shipments	1,245	0.0%	121	0.0%	\$14	0.0%	\$11,354
42	Shipping Containers	#N/A	#N/A	1,240,415	21.3%	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	44,707	0.0%	2,175	0.0%	\$96	0.1%	\$2,141
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	8,531,136	9.1%	426,014	7.3%	\$12,102	6.8%	\$1,419
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	94,157,731	100.0%	5,824,384	100.0%	\$178,490	100.0%	\$1,896

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 31: Truck Total, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	8,013,764	4.0%	450,243	3.5%	\$6,604	2.0%	\$824
08	Forest Products	94,204	0.0%	4,093	0.0%	\$183	0.1%	\$1,942
09	Fresh Fish or Marine Products	354,233	0.2%	15,270	0.1%	\$2,857	0.8%	\$8,066
10	Metallic Ores	100,197	0.1%	3,948	0.0%	\$163	0.0%	\$1,622
11	Coal	35	0.0%	1	0.0%	\$0	0.0%	\$219
13	Crude Petroleum or Natural Gas	95,760	0.0%	4,003	0.0%	\$61	0.0%	\$640
14	Nonmetallic Minerals	32,714,245	16.5%	1,346,417	10.6%	\$477	0.1%	\$15
19	Ordinance or Accessories	70,282	0.0%	3,137	0.0%	\$1,926	0.6%	\$27,402
20	Food or Kindred Products	25,327,652	12.7%	1,117,205	8.8%	\$34,034	10.1%	\$1,344
21	Tobacco Products	95,756	0.0%	4,336	0.0%	\$1,622	0.5%	\$16,935
22	Textile Mill Products	608,809	0.3%	28,515	0.2%	\$3,530	1.0%	\$5,799
23	Apparel or Related Products	458,547	0.2%	27,943	0.2%	\$4,786	1.4%	\$10,438
24	Lumber or Wood Products	6,382,170	3.2%	259,304	2.0%	\$3,578	1.1%	\$561
25	Furniture or Fixtures	760,879	0.4%	50,453	0.4%	\$3,526	1.0%	\$4,634
26	Pulp, Paper, or Allied Products	6,378,672	3.2%	264,193	2.1%	\$8,345	2.5%	\$1,308
27	Printed Matter	1,977,161	1.0%	110,856	0.9%	\$6,108	1.8%	\$3,089
28	Chemicals or Allied Products	9,359,582	4.7%	491,765	3.9%	\$27,403	8.1%	\$2,928
29	Petroleum or Coal Products	31,596,471	15.9%	1,333,750	10.5%	\$24,632	7.3%	\$780
30	Rubber or Miscellaneous Plastics	3,895,376	2.0%	348,234	2.7%	\$16,261	4.8%	\$4,174
31	Leather or Leather Products	106,233	0.1%	7,159	0.1%	\$1,707	0.5%	\$16,065
32	Clay, Concrete, Glass, or Stone	16,011,073	8.1%	997,358	7.8%	\$4,218	1.2%	\$263
33	Primary Metal Products	7,780,820	3.9%	322,390	2.5%	\$23,779	7.0%	\$3,056
34	Fabricated Metal Products	4,558,000	2.3%	257,305	2.0%	\$17,052	5.1%	\$3,741
35	Machinery	2,245,551	1.1%	171,133	1.3%	\$21,793	6.5%	\$9,705
36	Electrical Equipment	3,437,231	1.7%	208,932	1.6%	\$39,678	11.8%	\$11,544
37	Transportation Equipment	2,135,802	1.1%	155,148	1.2%	\$32,795	9.7%	\$15,355
38	Instrument, Photo, and Optical Equip.	845,218	0.4%	67,245	0.5%	\$12,989	3.8%	\$15,368
39	Miscellaneous Manufacturing Products	1,037,302	0.5%	53,700	0.4%	\$6,292	1.9%	\$6,066
40	Waste or Scrap Materials	13,550,206	6.8%	563,852	4.4%	\$3,664	1.1%	\$270
41	Miscellaneous Freight Shipments	1,245	0.0%	121	0.0%	\$14	0.0%	\$11,354
42	Shipping Containers	#N/A	#N/A	3,155,050	24.7%	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	66,343	0.0%	3,227	0.0%	\$213	0.1%	\$3,207
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	18,679,997	9.4%	923,298	7.2%	\$27,198	8.1%	\$1,456
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	198,738,816	100.0%	12,749,585	100.0%	\$337,487	100.0%	\$1,698

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 32: Rail Outbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	673,600	37.1%	6,705	37.4%	\$6	0.9%	\$10
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	3,547	0.2%	39	0.2%	\$1	0.1%	\$148
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	146,297	8.1%	1,534	8.6%	\$334	46.1%	\$2,280
29	Petroleum or Coal Products	14,427	0.8%	164	0.9%	\$15	2.1%	\$1,052
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	172,222	9.5%	1,593	8.9%	\$156	21.6%	\$906
33	Primary Metal Products	6,059	0.3%	99	0.6%	\$8	1.2%	\$1,379
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	797,884	44.0%	7,790	43.5%	\$204	28.2%	\$256
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	1,814,036	100.0%	17,925	100.0%	\$724	100.0%	\$399

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 33: Rail Inbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	80,161	9.3%	816	8.1%	\$18	1.3%	\$220
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	8,743	1.0%	85	0.8%	\$1	0.1%	\$81
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	34,783	4.0%	415	4.1%	\$27	2.0%	\$772
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	65,771	7.7%	770	7.7%	\$34	2.5%	\$513
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	38,185	4.4%	613	6.1%	\$29	2.1%	\$756
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	72,935	8.5%	831	8.3%	\$72	5.3%	\$991
29	Petroleum or Coal Products	35,092	4.1%	533	5.3%	\$23	1.7%	\$666
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	40,330	4.7%	458	4.6%	\$9	0.7%	\$227
33	Primary Metal Products	465,026	54.1%	5,132	51.2%	\$1,055	77.3%	\$2,268
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	3,731	0.4%	43	0.4%	\$39	2.9%	\$10,483
37	Transportation Equipment	7,229	0.8%	253	2.5%	\$56	4.1%	\$7,715
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	7,490	0.9%	81	0.8%	\$2	0.2%	\$289
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	859,476	100.0%	10,030	100.0%	\$1,364	100.0%	\$1,588

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 34: Rail Intra, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	262,452	100.0%	3,110	100.0%	\$2	100.0%	\$10
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	262,452	100.0%	3,110	100.0%	\$2	100.0%	\$10

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 35: Rail Through, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	2,450	1.8%	41	2.6%	\$2	1.4%	\$756
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	103,867	74.4%	1,154	74.3%	\$121	90.5%	\$1,168
29	Petroleum or Coal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	33,270	23.8%	359	23.1%	\$11	8.1%	\$326
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	139,588	100.0%	1,554	100.0%	\$134	100.0%	\$960

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 36: Rail Total, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	80,161	2.6%	816	2.5%	\$18	0.8%	\$220
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	944,795	30.7%	9,901	30.4%	\$10	0.4%	\$10
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	34,783	1.1%	415	1.3%	\$27	1.2%	\$772
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	69,318	2.3%	809	2.5%	\$34	1.5%	\$495
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	40,635	1.3%	653	2.0%	\$31	1.4%	\$756
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	323,099	10.5%	3,520	10.8%	\$527	23.7%	\$1,632
29	Petroleum or Coal Products	49,519	1.6%	698	2.1%	\$39	1.7%	\$778
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	212,551	6.9%	2,051	6.3%	\$165	7.4%	\$778
33	Primary Metal Products	471,085	15.3%	5,231	16.0%	\$1,063	47.8%	\$2,257
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	3,731	0.1%	43	0.1%	\$39	1.8%	\$10,483
37	Transportation Equipment	7,229	0.2%	253	0.8%	\$56	2.5%	\$7,715
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	838,645	27.3%	8,230	25.2%	\$217	9.8%	\$259
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	3,075,552	100.0%	32,619	100.0%	\$2,225	100.0%	\$724

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 37: Water Outbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	4,350	1.1%	#N/A	#N/A	\$0	0.0%	\$8
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	131	0.0%	#N/A	#N/A	\$0	0.1%	\$1,190
25	Furniture or Fixtures	100	0.0%	#N/A	#N/A	\$0	0.3%	\$4,602
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Products	121,834	32.1%	#N/A	#N/A	\$123	74.1%	\$1,007
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	194,647	51.3%	#N/A	#N/A	\$19	11.6%	\$98
33	Primary Metal Products	17	0.0%	#N/A	#N/A	\$0	0.0%	\$3,989
34	Fabricated Metal Products	1,544	0.4%	#N/A	#N/A	\$4	2.7%	\$2,891
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	56,690	14.9%	#N/A	#N/A	\$18	11.2%	\$326
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	379,313	100.0%	#N/A	#N/A	\$165	100.0%	\$436

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 38: Water Inbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	609,848	7.0%	#N/A	#N/A	\$25	0.3%	\$41
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	320	0.0%	#N/A	#N/A	\$0	0.0%	\$1,187
25	Furniture or Fixtures	250	0.0%	#N/A	#N/A	\$1	0.0%	\$4,662
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	514,741	5.9%	#N/A	#N/A	\$564	6.3%	\$1,095
29	Petroleum or Coal Products	7,454,506	85.5%	#N/A	#N/A	\$8,223	92.0%	\$1,103
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	122,479	1.4%	#N/A	#N/A	\$12	0.1%	\$99
33	Primary Metal Products	1,434	0.0%	#N/A	#N/A	\$4	0.0%	\$2,909
34	Fabricated Metal Products	10,836	0.1%	#N/A	#N/A	\$40	0.5%	\$3,712
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	5,699	0.1%	#N/A	#N/A	\$58	0.7%	\$10,201
39	Miscellaneous Manufacturing Products	1,863	0.0%	#N/A	#N/A	\$10	0.1%	\$5,388
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	8,721,976	100.0%	#N/A	#N/A	\$8,938	100.0%	\$1,025

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 39: Water Intra, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	642,893	92.8%	#N/A	#N/A	\$24	30.7%	\$37
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Products	49,836	7.2%	#N/A	#N/A	\$53	69.3%	\$1,073
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	692,729	100.0%	#N/A	#N/A	\$77	100.0%	\$111

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 40: Water Through, 2014

N/A

Table 41: Water Port Total, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	642,893	6.6%	#N/A	#N/A	\$24	0.3%	\$37
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	614,199	6.3%	#N/A	#N/A	\$25	0.3%	\$41
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	450	0.0%	#N/A	#N/A	\$1	0.0%	\$1,188
25	Furniture or Fixtures	350	0.0%	#N/A	#N/A	\$2	0.0%	\$4,645
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	514,741	5.3%	#N/A	#N/A	\$564	6.1%	\$1,095
29	Petroleum or Coal Products	7,626,176	77.9%	#N/A	#N/A	\$8,399	91.5%	\$1,101
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	317,126	3.2%	#N/A	#N/A	\$31	0.3%	\$98
33	Primary Metal Products	1,451	0.0%	#N/A	#N/A	\$4	0.0%	\$2,921
34	Fabricated Metal Products	12,380	0.1%	#N/A	#N/A	\$45	0.5%	\$3,610
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	5,699	0.1%	#N/A	#N/A	\$58	0.6%	\$10,201
39	Miscellaneous Manufacturing Products	1,863	0.0%	#N/A	#N/A	\$10	0.1%	\$5,388
40	Waste or Scrap Materials	56,690	0.6%	#N/A	#N/A	\$18	0.2%	\$326
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	9,794,018	100.0%	#N/A	#N/A	\$9,181	100.0%	\$937

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 42: Air Outbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	38	0.1%	#N/A	#N/A	\$0	0.0%	\$988
19	Ordnance or Accessories	1	0.0%	#N/A	#N/A	\$0	0.0%	\$139,929
20	Food or Kindred Products	30	0.1%	#N/A	#N/A	\$0	0.0%	\$9,275
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	1,567	2.9%	#N/A	#N/A	\$29	0.3%	\$18,276
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	131	0.2%	#N/A	#N/A	\$1	0.0%	\$4,823
25	Furniture or Fixtures	125	0.2%	#N/A	#N/A	\$10	0.1%	\$80,051
26	Pulp, Paper, or Allied Products	242	0.5%	#N/A	#N/A	\$2	0.0%	\$7,988
27	Printed Matter	1,091	2.0%	#N/A	#N/A	\$28	0.3%	\$25,584
28	Chemicals or Allied Products	1,484	2.8%	#N/A	#N/A	\$478	5.1%	\$322,235
29	Petroleum or Coal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Miscellaneous Plastics	857	1.6%	#N/A	#N/A	\$26	0.3%	\$29,865
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	0	0.0%	#N/A	#N/A	\$0	0.0%	\$15,400
33	Primary Metal Products	583	1.1%	#N/A	#N/A	\$75	0.8%	\$129,423
34	Fabricated Metal Products	888	1.7%	#N/A	#N/A	\$27	0.3%	\$29,942
35	Machinery	1,945	3.6%	#N/A	#N/A	\$204	2.2%	\$105,021
36	Electrical Equipment	7,095	13.2%	#N/A	#N/A	\$1,669	17.7%	\$235,252
37	Transportation Equipment	1,224	2.3%	#N/A	#N/A	\$402	4.3%	\$328,257
38	Instrument, Photo, and Optical Equip.	1,024	1.9%	#N/A	#N/A	\$224	2.4%	\$218,907
39	Miscellaneous Manufacturing Products	10,146	18.9%	#N/A	#N/A	\$6,224	66.2%	\$613,398
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	3,411	6.4%	#N/A	#N/A	\$10	0.1%	\$2,820
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	0	0.0%	#N/A	#N/A	\$0	0.0%	\$121,056
47	Small Packaged Shipments	21,759	40.6%	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	53,641	100.0%	#N/A	#N/A	\$9,408	100.0%	\$175,386

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 43: Air Inbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	50	0.1%	#N/A	#N/A	\$0	0.0%	\$8,040
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	21	0.0%	#N/A	#N/A	\$0	0.0%	\$10,807
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	531	0.9%	#N/A	#N/A	\$1	0.0%	\$988
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	3,247	5.2%	#N/A	#N/A	\$34	0.5%	\$10,362
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	1,122	1.8%	#N/A	#N/A	\$20	0.3%	\$18,275
23	Apparel or Related Products	0	0.0%	#N/A	#N/A	\$0	0.0%	\$93,394
24	Lumber or Wood Products	65	0.1%	#N/A	#N/A	\$0	0.0%	\$4,823
25	Furniture or Fixtures	445	0.7%	#N/A	#N/A	\$36	0.5%	\$80,362
26	Pulp, Paper, or Allied Products	20	0.0%	#N/A	#N/A	\$0	0.0%	\$7,985
27	Printed Matter	904	1.5%	#N/A	#N/A	\$23	0.3%	\$25,586
28	Chemicals or Allied Products	2,820	4.5%	#N/A	#N/A	\$847	12.0%	\$300,512
29	Petroleum or Coal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Miscellaneous Plastics	953	1.5%	#N/A	#N/A	\$28	0.4%	\$29,864
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	369	0.6%	#N/A	#N/A	\$48	0.7%	\$130,959
34	Fabricated Metal Products	872	1.4%	#N/A	#N/A	\$26	0.4%	\$29,940
35	Machinery	3,043	4.9%	#N/A	#N/A	\$320	4.5%	\$105,288
36	Electrical Equipment	5,457	8.8%	#N/A	#N/A	\$1,284	18.2%	\$235,234
37	Transportation Equipment	3,706	6.0%	#N/A	#N/A	\$1,243	17.6%	\$335,549
38	Instrument, Photo, and Optical Equip.	4,637	7.5%	#N/A	#N/A	\$1,010	14.3%	\$217,771
39	Miscellaneous Manufacturing Products	3,436	5.5%	#N/A	#N/A	\$2,108	29.9%	\$613,399
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	1,896	3.1%	#N/A	#N/A	\$5	0.1%	\$2,820
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	175	0.3%	#N/A	#N/A	\$21	0.3%	\$120,906
47	Small Packaged Shipments	28,356	45.6%	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	62,126	100.0%	#N/A	#N/A	\$7,056	100.0%	\$113,583

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 44: Air Intra, 2014

N/A

Table 45: Air Through, 2014

N/A

Table 46: Air Total, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	50	0.0%	#N/A	#N/A	\$0	0.0%	\$8,040
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	21	0.0%	#N/A	#N/A	\$0	0.0%	\$10,807
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	570	0.5%	#N/A	#N/A	\$1	0.0%	\$988
19	Ordnance or Accessories	1	0.0%	#N/A	#N/A	\$0	0.0%	\$139,929
20	Food or Kindred Products	3,277	2.8%	#N/A	#N/A	\$34	0.2%	\$10,352
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	2,689	2.3%	#N/A	#N/A	\$49	0.3%	\$18,276
23	Apparel or Related Products	0	0.0%	#N/A	#N/A	\$0	0.0%	\$93,394
24	Lumber or Wood Products	196	0.2%	#N/A	#N/A	\$1	0.0%	\$4,823
25	Furniture or Fixtures	570	0.5%	#N/A	#N/A	\$46	0.3%	\$80,294
26	Pulp, Paper, or Allied Products	262	0.2%	#N/A	#N/A	\$2	0.0%	\$7,988
27	Printed Matter	1,995	1.7%	#N/A	#N/A	\$51	0.3%	\$25,585
28	Chemicals or Allied Products	4,304	3.7%	#N/A	#N/A	\$1,326	8.1%	\$308,003
29	Petroleum or Coal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Miscellaneous Plastics	1,809	1.6%	#N/A	#N/A	\$54	0.3%	\$29,864
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	0	0.0%	#N/A	#N/A	\$0	0.0%	\$15,400
33	Primary Metal Products	952	0.8%	#N/A	#N/A	\$124	0.8%	\$130,019
34	Fabricated Metal Products	1,759	1.5%	#N/A	#N/A	\$53	0.3%	\$29,941
35	Machinery	4,988	4.3%	#N/A	#N/A	\$525	3.2%	\$105,184
36	Electrical Equipment	12,552	10.8%	#N/A	#N/A	\$2,953	17.9%	\$235,244
37	Transportation Equipment	4,929	4.3%	#N/A	#N/A	\$1,645	10.0%	\$333,738
38	Instrument, Photo, and Optical Equip.	5,661	4.9%	#N/A	#N/A	\$1,234	7.5%	\$217,976
39	Miscellaneous Manufacturing Products	13,582	11.7%	#N/A	#N/A	\$8,331	50.6%	\$613,398
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	5,308	4.6%	#N/A	#N/A	\$15	0.1%	\$2,820
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	175	0.2%	#N/A	#N/A	\$21	0.1%	\$120,906
47	Small Packaged Shipments	50,115	43.3%	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	115,767	100.0%	#N/A	#N/A	\$16,464	100.0%	\$142,220

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 47: Pipeline Outbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	253,123	100.0%	#N/A	#N/A	\$41	99.9%	\$160
14	Nonmetallic Minerals	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Products	12	0.0%	#N/A	#N/A	\$0	0.1%	\$2,246
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	253,135	100.0%	#N/A	#N/A	\$41	100.0%	\$160

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 48: Pipeline Inbound, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	34,721	100.0%	#N/A	#N/A	\$22	100.0%	\$623
14	Nonmetallic Minerals	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	34,721	100.0%	#N/A	#N/A	\$22	100.0%	\$623

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 49: Pipeline Intra, 2014

N/A

Table 50: Pipeline Through, 2014

N/A

Table 51: Pipeline Total, 2014

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	287,844	100.0%	#N/A	#N/A	\$62	100.0%	\$216
14	Nonmetallic Minerals	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Products	12	0.0%	#N/A	#N/A	\$0	0.0%	\$2,246
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	287,856	100.0%	#N/A	#N/A	\$62	100.0%	\$216

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014

Table 52: Truck Forecast, 2040

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	13,291,771	4.2%	766,943	3.7%	\$11,077	1.6%	\$833
08	Forest Products	143,843	0.0%	6,277	0.0%	\$274	0.0%	\$1,903
09	Fresh Fish or Marine Products	386,499	0.1%	16,652	0.1%	\$3,041	0.4%	\$7,869
10	Metallic Ores	81,213	0.0%	3,200	0.0%	\$139	0.0%	\$1,708
11	Coal	49	0.0%	2	0.0%	\$0	0.0%	\$219
13	Crude Petroleum or Natural Gas	432,000	0.1%	17,875	0.1%	\$283	0.0%	\$655
14	Nonmetallic Minerals	47,347,723	15.0%	1,949,631	9.3%	\$670	0.1%	\$14
19	Ordinance or Accessories	140,971	0.0%	6,292	0.0%	\$3,949	0.6%	\$28,013
20	Food or Kindred Products	41,186,549	13.1%	1,838,353	8.8%	\$56,962	8.4%	\$1,383
21	Tobacco Products	38,543	0.0%	1,745	0.0%	\$651	0.1%	\$16,886
22	Textile Mill Products	631,721	0.2%	29,561	0.1%	\$3,800	0.6%	\$6,015
23	Apparel or Related Products	472,873	0.1%	28,802	0.1%	\$4,589	0.7%	\$9,704
24	Lumber or Wood Products	8,611,785	2.7%	357,120	1.7%	\$4,851	0.7%	\$563
25	Furniture or Fixtures	1,830,677	0.6%	121,440	0.6%	\$8,554	1.3%	\$4,673
26	Pulp, Paper, or Allied Products	11,790,994	3.7%	488,040	2.3%	\$14,796	2.2%	\$1,255
27	Printed Matter	2,247,626	0.7%	125,652	0.6%	\$7,587	1.1%	\$3,376
28	Chemicals or Allied Products	16,869,844	5.3%	959,855	4.6%	\$64,752	9.5%	\$3,838
29	Petroleum or Coal Products	29,100,941	9.2%	1,231,820	5.9%	\$21,682	3.2%	\$745
30	Rubber or Miscellaneous Plastics	7,846,460	2.5%	725,338	3.5%	\$34,324	5.0%	\$4,374
31	Leather or Leather Products	126,738	0.0%	8,525	0.0%	\$2,073	0.3%	\$16,354
32	Clay, Concrete, Glass, or Stone	30,367,942	9.6%	1,900,122	9.0%	\$7,774	1.1%	\$256
33	Primary Metal Products	13,408,459	4.3%	560,871	2.7%	\$42,528	6.2%	\$3,172
34	Fabricated Metal Products	7,092,566	2.2%	404,537	1.9%	\$27,951	4.1%	\$3,941
35	Machinery	5,139,122	1.6%	398,020	1.9%	\$56,443	8.3%	\$10,983
36	Electrical Equipment	8,179,121	2.6%	502,837	2.4%	\$123,250	18.1%	\$15,069
37	Transportation Equipment	3,316,365	1.1%	246,190	1.2%	\$66,834	9.8%	\$20,153
38	Instrument, Photo, and Optical Equip.	2,440,458	0.8%	195,094	0.9%	\$37,858	5.6%	\$15,513
39	Miscellaneous Manufacturing Products	2,139,160	0.7%	110,667	0.5%	\$14,702	2.2%	\$6,873
40	Waste or Scrap Materials	25,618,530	8.1%	1,070,232	5.1%	\$7,361	1.1%	\$287
41	Miscellaneous Freight Shipments	2,111	0.0%	205	0.0%	\$24	0.0%	\$11,341
42	Shipping Containers	#N/A	#N/A	5,189,127	24.7%	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	334,781	0.1%	16,284	0.1%	\$1,074	0.2%	\$3,207
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	34,750,384	11.0%	1,723,961	8.2%	\$51,235	7.5%	\$1,474
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	315,367,819	100.0%	21,001,273	100.0%	\$681,086	100.0%	\$2,160

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2040

Table 53: Rail Forecast, 2040

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	174,242	3.2%	1,769	3.0%	\$38	1.1%	\$220
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	1,955,581	35.7%	20,500	35.3%	\$19	0.6%	\$10
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	94,869	1.7%	1,118	1.9%	\$82	2.4%	\$863
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	149,484	2.7%	1,676	2.9%	\$52	1.5%	\$345
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	84,402	1.5%	1,357	2.3%	\$64	1.9%	\$756
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	612,834	11.2%	6,688	11.5%	\$960	27.9%	\$1,567
29	Petroleum or Coal Products	43,789	0.8%	530	0.9%	\$30	0.9%	\$685
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	296,216	5.4%	2,872	4.9%	\$165	4.8%	\$556
33	Primary Metal Products	691,435	12.6%	7,692	13.2%	\$1,527	44.4%	\$2,208
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	11,101	0.2%	128	0.2%	\$116	3.4%	\$10,483
37	Transportation Equipment	10,886	0.2%	435	0.7%	\$38	1.1%	\$3,521
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	1,359,674	24.8%	13,338	23.0%	\$352	10.2%	\$259
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	5,484,513	100.0%	58,103	100.0%	\$3,443	100.0%	\$628

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2040

Table 54: Water Forecast, 2040

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	573,110	5.4%	#N/A	#N/A	\$21	0.2%	\$37
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	679,109	6.4%	#N/A	#N/A	\$28	0.3%	\$41
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	609	0.0%	#N/A	#N/A	\$1	0.0%	\$1,111
25	Furniture or Fixtures	703	0.0%	#N/A	#N/A	\$3	0.0%	\$4,606
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	996,708	9.4%	#N/A	#N/A	\$1,092	11.2%	\$1,095
29	Petroleum or Coal Products	7,315,876	69.0%	#N/A	#N/A	\$8,199	83.8%	\$1,121
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	604,802	5.7%	#N/A	#N/A	\$56	0.6%	\$92
33	Primary Metal Products	2,888	0.0%	#N/A	#N/A	\$9	0.1%	\$2,966
34	Fabricated Metal Products	18,344	0.2%	#N/A	#N/A	\$67	0.7%	\$3,659
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	16,104	0.2%	#N/A	#N/A	\$160	1.6%	\$9,915
39	Miscellaneous Manufacturing Products	5,167	0.0%	#N/A	#N/A	\$26	0.3%	\$4,997
40	Waste or Scrap Materials	390,495	3.7%	#N/A	#N/A	\$127	1.3%	\$326
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	10,603,915	100.0%	#N/A	#N/A	\$9,788	100.0%	\$923

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2040

Table 55: Air Forecast, 2040

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	59	0.0%	#N/A	#N/A	\$0	0.0%	\$8,040
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	15	0.0%	#N/A	#N/A	\$0	0.0%	\$10,807
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	715	0.3%	#N/A	#N/A	\$1	0.0%	\$988
19	Ordnance or Accessories	6	0.0%	#N/A	#N/A	\$1	0.0%	\$139,929
20	Food or Kindred Products	5,025	2.0%	#N/A	#N/A	\$52	0.1%	\$10,362
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	2,246	0.9%	#N/A	#N/A	\$41	0.1%	\$18,276
23	Apparel or Related Products	0	0.0%	#N/A	#N/A	\$0	0.0%	\$93,394
24	Lumber or Wood Products	291	0.1%	#N/A	#N/A	\$1	0.0%	\$4,823
25	Furniture or Fixtures	843	0.3%	#N/A	#N/A	\$68	0.2%	\$80,274
26	Pulp, Paper, or Allied Products	329	0.1%	#N/A	#N/A	\$3	0.0%	\$7,988
27	Printed Matter	2,993	1.2%	#N/A	#N/A	\$77	0.2%	\$25,585
28	Chemicals or Allied Products	11,398	4.5%	#N/A	#N/A	\$3,556	9.4%	\$311,936
29	Petroleum or Coal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Miscellaneous Plastics	4,004	1.6%	#N/A	#N/A	\$120	0.3%	\$29,865
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	1	0.0%	#N/A	#N/A	\$0	0.0%	\$15,400
33	Primary Metal Products	2,024	0.8%	#N/A	#N/A	\$264	0.7%	\$130,306
34	Fabricated Metal Products	2,919	1.2%	#N/A	#N/A	\$87	0.2%	\$29,941
35	Machinery	9,338	3.7%	#N/A	#N/A	\$981	2.6%	\$105,080
36	Electrical Equipment	35,688	14.2%	#N/A	#N/A	\$8,396	22.1%	\$235,259
37	Transportation Equipment	7,705	3.1%	#N/A	#N/A	\$2,752	7.2%	\$357,186
38	Instrument, Photo, and Optical Equip.	15,962	6.3%	#N/A	#N/A	\$3,478	9.1%	\$217,920
39	Miscellaneous Manufacturing Products	29,475	11.7%	#N/A	#N/A	\$18,080	47.6%	\$613,395
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	6,053	2.4%	#N/A	#N/A	\$17	0.0%	\$2,820
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	373	0.1%	#N/A	#N/A	\$45	0.1%	\$120,675
47	Small Packaged Shipments	114,110	45.4%	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	251,572	100.0%	#N/A	#N/A	\$38,020	100.0%	\$151,128

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2040

Table 56: Pipeline Forecast, 2040

STCC2	Commodity	Tons		Units		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	Amount	Percent	
01	Farm Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petroleum or Natural Gas	631,734	100.0%	#N/A	#N/A	\$134	100.0%	\$212
14	Nonmetallic Minerals	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper, or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Products	12	0.0%	#N/A	#N/A	\$0	0.0%	\$2,246
30	Rubber or Miscellaneous Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrument, Photo, and Optical Equip.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Miscellaneous Manufacturing Products	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Miscellaneous Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Miscellaneous Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	631,746	100.0%	#N/A	#N/A	\$134	100.0%	\$212

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2040

Table 57: Truck Forecast Growth, in Tons, 2014 to 2040

STCC2	Commodity	2014		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
01	Farm Prods.	8,013,764	4.0%	13,291,771	4.2%	65.9%	2.0%
08	Forest Prods.	94,204	0.0%	143,843	0.0%	52.7%	1.6%
09	Fresh Fish or Marine Prods.	354,233	0.2%	386,499	0.1%	9.1%	0.3%
10	Metallic Ores	100,197	0.1%	81,213	0.0%	-18.9%	-0.8%
11	Coal	35	0.0%	49	0.0%	40.1%	1.3%
13	Crude Petrol. or Natural Gas	95,760	0.0%	432,000	0.1%	351.1%	6.0%
14	Nonmetallic Minerals	32,714,245	16.5%	47,347,723	15.0%	44.7%	1.4%
19	Ordnance or Accessories	70,282	0.0%	140,971	0.0%	100.6%	2.7%
20	Food or Kindred Prods.	25,327,652	12.7%	41,186,549	13.1%	62.6%	1.9%
21	Tobacco Prods.	95,756	0.0%	38,543	0.0%	-59.7%	-3.4%
22	Textile Mill Prods.	608,809	0.3%	631,721	0.2%	3.8%	0.1%
23	Apparel or Related Prods.	458,547	0.2%	472,873	0.1%	3.1%	0.1%
24	Lumber or Wood Prods.	6,382,170	3.2%	8,611,785	2.7%	34.9%	1.2%
25	Furniture or Fixtures	760,879	0.4%	1,830,677	0.6%	140.6%	3.4%
26	Pulp, Paper or Allied Prods.	6,378,672	3.2%	11,790,994	3.7%	84.9%	2.4%
27	Printed Matter	1,977,161	1.0%	2,247,626	0.7%	13.7%	0.5%
28	Chemicals or Allied Prods.	9,359,582	4.7%	16,869,844	5.3%	80.2%	2.3%
29	Petroleum or Coal Prods.	31,596,471	15.9%	29,100,941	9.2%	-7.9%	-0.3%
30	Rubber or Misc Plastics	3,895,376	2.0%	7,846,460	2.5%	101.4%	2.7%
31	Leather or Leather Prods.	106,233	0.1%	126,738	0.0%	19.3%	0.7%
32	Clay, Concrete, Glass, or Stone	16,011,073	8.1%	30,367,942	9.6%	89.7%	2.5%
33	Primary Metal Prods.	7,780,820	3.9%	13,408,459	4.3%	72.3%	2.1%
34	Fabricated Metal Prods.	4,558,000	2.3%	7,092,566	2.2%	55.6%	1.7%
35	Machinery	2,245,551	1.1%	5,139,122	1.6%	128.9%	3.2%
36	Electrical Equipment	3,437,231	1.7%	8,179,121	2.6%	138.0%	3.4%
37	Transportation Equipment	2,135,802	1.1%	3,316,365	1.1%	55.3%	1.7%
38	Instrum., Photo Eq., Optical Eq.	845,218	0.4%	2,440,458	0.8%	188.7%	4.2%
39	Misc Manufacturing Prods.	1,037,302	0.5%	2,139,160	0.7%	106.2%	2.8%
40	Waste or Scrap Materials	13,550,206	6.8%	25,618,530	8.1%	89.1%	2.5%
41	Misc Freight Shipments	1,245	0.0%	2,111	0.0%	69.5%	2.1%
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Misc Mixed Shipments	66,343	0.0%	334,781	0.1%	404.6%	6.4%
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	18,679,997	9.4%	34,750,384	11.0%	86.0%	2.4%
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	198,738,816	100.0%	315,367,819	100.0%	58.7%	1.8%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 58: Rail Forecast Growth in Tons, 2014 to 2040

STCC2	Commodity	2014		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
01	Farm Prods.	80,161	2.6%	174,242	3.2%	117.4%	3.0%
08	Forest Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petrol. or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	944,795	30.7%	1,955,581	35.7%	107.0%	2.8%
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Prods.	34,783	1.1%	94,869	1.7%	172.7%	3.9%
21	Tobacco Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Prods.	69,318	2.3%	149,484	2.7%	115.6%	3.0%
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper or Allied Prods.	40,635	1.3%	84,402	1.5%	107.7%	2.9%
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Prods.	323,099	10.5%	612,834	11.2%	89.7%	2.5%
29	Petroleum or Coal Prods.	49,519	1.6%	43,789	0.8%	-11.6%	-0.5%
30	Rubber or Misc Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	212,551	6.9%	296,216	5.4%	39.4%	1.3%
33	Primary Metal Prods.	471,085	15.3%	691,435	12.6%	46.8%	1.5%
34	Fabricated Metal Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	3,731	0.1%	11,101	0.2%	197.5%	4.3%
37	Transportation Equipment	7,229	0.2%	10,886	0.2%	50.6%	1.6%
38	Instrum., Photo Eq., Optical Eq.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Misc Manufacturing Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	838,645	27.3%	1,359,674	24.8%	62.1%	1.9%
41	Misc Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Misc Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	3,075,552	100.0%	5,484,513	100.0%	78.3%	2.2%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 59: Water Forecast Growth in Tons, 2014 to 2040

STCC2	Commodity	2014		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
01	Farm Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	642,893	6.6%	573,110	5.4%	-10.9%	-0.4%
13	Crude Petrol. or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	614,199	6.3%	679,109	6.4%	10.6%	0.4%
19	Ordnance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Prods.	450	0.0%	609	0.0%	35.1%	1.2%
25	Furniture or Fixtures	350	0.0%	703	0.0%	100.9%	2.7%
26	Pulp, Paper or Allied Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Prods.	514,741	5.3%	996,708	9.4%	93.6%	2.6%
29	Petroleum or Coal Prods.	7,626,176	77.9%	7,315,876	69.0%	-4.1%	-0.2%
30	Rubber or Misc Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	317,126	3.2%	604,802	5.7%	90.7%	2.5%
33	Primary Metal Prods.	1,451	0.0%	2,888	0.0%	99.0%	2.7%
34	Fabricated Metal Prods.	12,380	0.1%	18,344	0.2%	48.2%	1.5%
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrum., Photo Eq., Optical Eq.	5,699	0.1%	16,104	0.2%	182.6%	4.1%
39	Misc Manufacturing Prods.	1,863	0.0%	5,167	0.0%	177.4%	4.0%
40	Waste or Scrap Materials	56,690	0.6%	390,495	3.7%	588.8%	7.7%
41	Misc Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Misc Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	9,794,018	100.0%	10,603,915	100.0%	8.3%	0.3%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 60: Air Forecast Growth in Tons, 2014 to 2040

STCC2	Commodity	2014		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
01	Farm Prods.	50	0.0%	59	0.0%	18.1%	0.6%
08	Forest Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Prods.	21	0.0%	15	0.0%	-29.9%	-1.4%
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petrol. or Natural Gas	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	Nonmetallic Minerals	570	0.5%	715	0.3%	25.6%	0.9%
19	Ordnance or Accessories	1	0.0%	6	0.0%	420.7%	6.6%
20	Food or Kindred Prods.	3,277	2.8%	5,025	2.0%	53.3%	1.7%
21	Tobacco Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Prods.	2,689	2.3%	2,246	0.9%	-16.5%	-0.7%
23	Apparel or Related Prods.	0	0.0%	0	0.0%	152.0%	3.6%
24	Lumber or Wood Prods.	196	0.2%	291	0.1%	48.4%	1.5%
25	Furniture or Fixtures	570	0.5%	843	0.3%	48.0%	1.5%
26	Pulp, Paper or Allied Prods.	262	0.2%	329	0.1%	25.3%	0.9%
27	Printed Matter	1,995	1.7%	2,993	1.2%	50.0%	1.6%
28	Chemicals or Allied Prods.	4,304	3.7%	11,398	4.5%	164.8%	3.8%
29	Petroleum or Coal Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	Rubber or Misc Plastics	1,809	1.6%	4,004	1.6%	121.3%	3.1%
31	Leather or Leather Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	0	0.0%	1	0.0%	360.0%	6.0%
33	Primary Metal Prods.	952	0.8%	2,024	0.8%	112.5%	2.9%
34	Fabricated Metal Prods.	1,759	1.5%	2,919	1.2%	65.9%	2.0%
35	Machinery	4,988	4.3%	9,338	3.7%	87.2%	2.4%
36	Electrical Equipment	12,552	10.8%	35,688	14.2%	184.3%	4.1%
37	Transportation Equipment	4,929	4.3%	7,705	3.1%	56.3%	1.7%
38	Instrum., Photo Eq., Optical Eq.	5,661	4.9%	15,962	6.3%	182.0%	4.1%
39	Misc Manufacturing Prods.	13,582	11.7%	29,475	11.7%	117.0%	3.0%
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Misc Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	5,308	4.6%	6,053	2.4%	14.0%	0.5%
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Misc Mixed Shipments	175	0.2%	373	0.1%	112.7%	2.9%
47	Small Packaged Shipments	50,115	43.3%	114,110	45.4%	127.7%	3.2%
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	115,767	100.0%	251,572	100.0%	117.3%	3.0%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 61: Pipeline Forecast Growth in Tons, 2014 to 2040

STCC2	Commodity	2014		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
01	Farm Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08	Forest Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
09	Fresh Fish or Marine Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10	Metallic Ores	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
11	Coal	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	Crude Petrol. or Natural Gas	287,844	100.0%	631,734	100.0%	119.5%	3.1%
14	Nonmetallic Minerals	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	Ordinance or Accessories	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	Food or Kindred Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	Tobacco Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	Textile Mill Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	Apparel or Related Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	Lumber or Wood Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	Furniture or Fixtures	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	Pulp, Paper or Allied Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	Printed Matter	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	Chemicals or Allied Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	Petroleum or Coal Prods.	12	0.0%	12	0.0%	-3.9%	-0.2%
30	Rubber or Misc Plastics	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	Leather or Leather Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
32	Clay, Concrete, Glass, or Stone	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33	Primary Metal Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
34	Fabricated Metal Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Machinery	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
36	Electrical Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
37	Transportation Equipment	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
38	Instrum., Photo Eq., Optical Eq.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
39	Misc Manufacturing Prods.	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
40	Waste or Scrap Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
41	Misc Freight Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Misc Mixed Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
47	Small Packaged Shipments	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	287,856	100.0%	631,746	100.0%	119.5%	3.1%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040

Table 62: Total (All Modes) Forecast Growth in Tons, 2014 to 2040

STCC2	Commodity	2014		2040		Percent Change	
		Amount	Percent	Amount	Percent	Total	CAGR
01	Farm Prods.	8,093,974	3.8%	13,466,072	4.1%	66.4%	2.0%
08	Forest Prods.	94,204	0.0%	143,843	0.0%	52.7%	1.6%
09	Fresh Fish or Marine Prods.	354,254	0.2%	386,514	0.1%	9.1%	0.3%
10	Metallic Ores	100,197	0.0%	81,213	0.0%	-18.9%	-0.8%
11	Coal	642,928	0.3%	573,159	0.2%	-10.9%	-0.4%
13	Crude Petrol. or Natural Gas	383,604	0.2%	1,063,734	0.3%	177.3%	4.0%
14	Nonmetallic Minerals	34,273,809	16.2%	49,983,128	15.0%	45.8%	1.5%
19	Ordinance or Accessories	70,283	0.0%	140,977	0.0%	100.6%	2.7%
20	Food or Kindred Prods.	25,365,713	12.0%	41,286,444	12.4%	62.8%	1.9%
21	Tobacco Prods.	95,756	0.0%	38,543	0.0%	-59.7%	-3.4%
22	Textile Mill Prods.	611,498	0.3%	633,966	0.2%	3.7%	0.1%
23	Apparel or Related Prods.	458,547	0.2%	472,873	0.1%	3.1%	0.1%
24	Lumber or Wood Prods.	6,452,135	3.0%	8,762,168	2.6%	35.8%	1.2%
25	Furniture or Fixtures	761,799	0.4%	1,832,224	0.6%	140.5%	3.4%
26	Pulp, Paper or Allied Prods.	6,419,569	3.0%	11,875,725	3.6%	85.0%	2.4%
27	Printed Matter	1,979,156	0.9%	2,250,619	0.7%	13.7%	0.5%
28	Chemicals or Allied Prods.	10,201,726	4.8%	18,490,785	5.6%	81.3%	2.3%
29	Petroleum or Coal Prods.	39,272,178	18.5%	36,460,618	11.0%	-7.2%	-0.3%
30	Rubber or Misc Plastics	3,897,185	1.8%	7,850,464	2.4%	101.4%	2.7%
31	Leather or Leather Prods.	106,233	0.1%	126,738	0.0%	19.3%	0.7%
32	Clay, Concrete, Glass, or Stone	16,540,750	7.8%	31,268,960	9.4%	89.0%	2.5%
33	Primary Metal Prods.	8,254,308	3.9%	14,104,806	4.2%	70.9%	2.1%
34	Fabricated Metal Prods.	4,572,139	2.2%	7,113,829	2.1%	55.6%	1.7%
35	Machinery	2,250,540	1.1%	5,148,460	1.5%	128.8%	3.2%
36	Electrical Equipment	3,453,514	1.6%	8,225,910	2.5%	138.2%	3.4%
37	Transportation Equipment	2,147,961	1.0%	3,334,957	1.0%	55.3%	1.7%
38	Instrum., Photo Eq., Optical Eq.	856,578	0.4%	2,472,524	0.7%	188.7%	4.2%
39	Misc Manufacturing Prods.	1,052,747	0.5%	2,173,802	0.7%	106.5%	2.8%
40	Waste or Scrap Materials	14,445,541	6.8%	27,368,698	8.2%	89.5%	2.5%
41	Misc Freight Shipments	1,245	0.0%	2,111	0.0%	69.5%	2.1%
42	Shipping Containers	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
43	Mail or Contract Traffic	5,308	0.0%	6,053	0.0%	14.0%	0.5%
44	Freight Forwarder Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
45	Shipper Association Traffic	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
46	Misc Mixed Shipments	66,518	0.0%	335,153	0.1%	403.9%	6.4%
47	Small Packaged Shipments	50,115	0.0%	114,110	0.0%	127.7%	3.2%
48	Waste	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
49	Hazardous Materials	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
50	Secondary Traffic	18,679,997	8.8%	34,750,384	10.5%	86.0%	2.4%
60	Unclassified	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Total	212,012,009	100.0%	332,339,566	100.0%	56.8%	1.7%

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2014 and 2040