

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

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EX PARTE NO. 704 (Sub-No. 1)

REVIEW OF COMMODITY, BOXCAR, AND TOFC/COFC EXEMPTIONS

REPLY COMMENTS OF CN

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The U.S. rail operating subsidiaries of Canadian National Railway Company¹ (hereafter “CN”) respectfully submit these reply comments on the Decision served on September 30, 2020, in the above-captioned proceeding and the proposed approach that the Office of Economics has set forth as a tool for the Board to use in analyzing commodity exemptions (the “Proposed Approach”). CN reiterates the appreciation that it expressed in Opening Comments for the Board’s willingness to explore the more systematic use of data tools. While CN and other parties like the Association of American Railroads (“AAR”) offered some constructive criticism of the Proposed Approach, the Board’s efforts to explore the use of rigorous data tools are a positive step that is consistent with the statute and sound regulatory policy.

CN’s reply comments focus on two points. First, in Opening Comments, CN and several other parties encouraged the Board to consider the use of reliable market share data of transportation modes when considering exemptions or exemption revocations. Understanding the rail share of traffic vis-à-vis other modes like trucking and barge is essential to any analysis of whether regulation is necessary to protect against potential abuses of market power. And it is important for the Board to consider actual modal share data and not to rely on extrapolations from rail waybill records, as the Proposed Approach would do. CN’s witnesses Andreas Aeppli and Daniel Beagan demonstrated the utility of modal share data

¹ CN’s U.S. rail operating subsidiaries include Illinois Central Railroad Company, Wisconsin Central Ltd., Grand Trunk Western Railroad Company, and Bessemer & Lake Erie Railroad Company, and they report to the Board on a consolidated, Class I basis under the name of Grand Trunk Corporation, CN’s U.S. holding company.

with an example analysis of data from Transearch, a widely used source for analyzing commodity flow data between points in the United States, Canada, and Mexico. Other parties suggested that the Board could use publicly available Freight Analysis Framework (“FAF”) data. For these reply comments, CN asked Mr. Aepli and Mr. Beagan to provide an overview of FAF data and explain the differences between FAF and Transearch data. Mr. Aepli and Mr. Beagan also used FAF data to perform analyses similar to the analyses they presented on Opening using Transearch data. The result of this FAF analysis parallels their prior conclusion: The commodities that have been at issue in this proceeding all fall within categories of traffic that are overwhelmingly transported by modes other than rail service.

Second, CN strongly endorses AAR’s call for the Board to withdraw the 2016 Notice of Proposed Rulemaking and close the Ex Parte 704 docket. CN noted on Opening that the Board’s governing statute directs it to grant exemptions “to the maximum extent consistent with [the statute] and to only exercise its authority to revoke an existing exemption if it finds that re-regulation “is necessary to carry out the transportation policy of [49 U.S.C.] section 10101.” 49 U.S.C. § 10502(a, d). As the Appendix to AAR’s Reply Comments illustrates, parties advocating revocation of class exemptions have failed to present adequate evidence to support such a Board action and instead rely primarily on conclusory assertions and flawed arguments about revenue-to-variable cost ratios. In contrast, parties supporting the existing exemptions have presented specific qualitative evidence about the continued existence of competition in these markets—like the verified statement of Kelly Levis

in CN's Opening Comments—and quantitative evidence about the continued dominance of non-rail modes in transportation markets for exempt commodities—like the modal analyses of Mr. Aepli and Mr. Beagan. The record does not support revocation of any class exemption, and the Board should end this proceeding.

I. TRANSEARCH AND FAF DATA CONFIRM THAT MODAL COMPETITION IS ROBUST.

On opening, CN and multiple other commenters urged the Board to incorporate reliable modal share data into any quantitative analysis that it uses to assist in its consideration of exemption requests or revocation requests. The Board has recognized that “the extent of railroad market power is an essential issue in exemption revocation proceedings,” and federal courts have agreed.² Evidence about the extent to which a commodity is transported via rail, via truck, or via other modes like barges or vessels is critical to evaluating whether regulation is necessary to address any potential abuse of market power. Such modal share evidence was regularly considered by the ICC and STB when creating class exemptions.³

² *WTL Rail Corp. Pet. for Partial Revocation of Exemption*, STB Ex Parte No. 230 (Sub-No. 9) (served Feb. 17, 2006) (“[W]e have held that the extent of railroad market power is an essential issue in exemption revocation proceedings.”); see *Mr. Sprout, Inc. v. United States*, 8 F.3d 118, 123 (2d Cir. 1993) (“The Commission properly found the initial inquiry in a reregulation case is whether the carrier has market power.”).

³ See, e.g., *Miscellaneous Manufactured Commodities*, Ex Parte No. 346 (Sub-No. 24), 6 I.C.C.2d 186, 189, 191–94 (1989) (relying heavily on market share data, noting that “at least 80% of the total nationwide traffic of each of the commodity groups ultimately selected for exemption moved by modes other than rail. More recent data submitted here show that non-rail modal shares for these movements have generally increased.”).

CN presented modal share evidence on opening in the Verified Statement of Andreas Aeppli and Daniel Beagan. Mr. Aeppli and Mr. Beagan used the Transearch database to study modal share for movements between U.S. counties for seven commodity groups down to the 4-digit STCC level:

- Rip Rap or Broken or Crushed Stone (5-digit STCCs 14 211, 14 212, 14 213, 14 219)
- Lumber or Wood Products (5-digit STCCs 24 114, 24 115, 24 211, 24 321, 24 991, 24 996)
- Paper Products (5-digit STCCs 26 217, 26 311)
- Coke Produced from Coal (5-digit STCC 29 914)
- Hydraulic Cement (5-digit STCCs 32 411, 32 412)
- Primary Iron or Steel Products (5-digit STCCs 33 121 through 129)
- Iron or Steel Scrap, Wastes, or Tailings (5-digit STCCs 40 211, 40 241)

As described in opening, Mr. Aeppli and Mr. Beagan concluded that carload rail has a minority market share of the transportation of every commodity group that has been at issue in this proceeding,⁴ and moreover that trucks have substantial market share at all distance bands—not just distance bands less than 500 miles.⁵

Other parties pointed to the Commodity Flow Survey or the Freight Analysis Framework as sources of reliable modal share data.⁶ As Mr. Aeppli and Mr. Beagan explain in their appended Reply Verified Statement, FAF data is informative and could be used in exemption proceedings or revocation proceedings. FAF is developed from the Commodity Flow Survey, which is produced by the Bureau of

⁴ Source: CN Opening Aeppli/Beagan Verified Statement at 14, Fig. 8.

⁵ Source: CN Opening Aeppli/Beagan Verified Statement at Figs. 1-7.

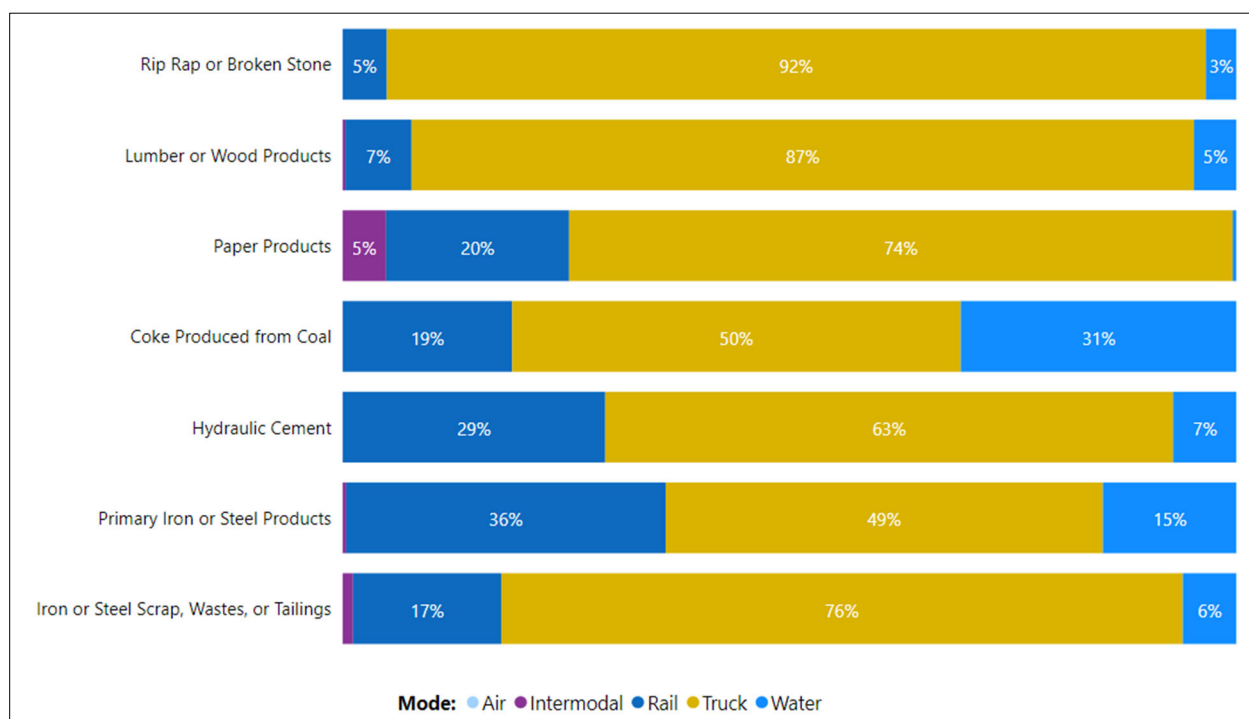
⁶ See, e.g. AAR Opening Comments at 15, V.S. of Baranowski & Fisher at 10-14; NS Opening Comments at 16-17, V.S. Israel at ¶¶ 65-66; CSX Opening Comments at 4.

Transportation Statistics and the U.S. Census Bureau. The Commodity Flow Survey collects data directly from approximately 100,000 shippers, and is conducted on a five-year cycle, most recently in 2017.

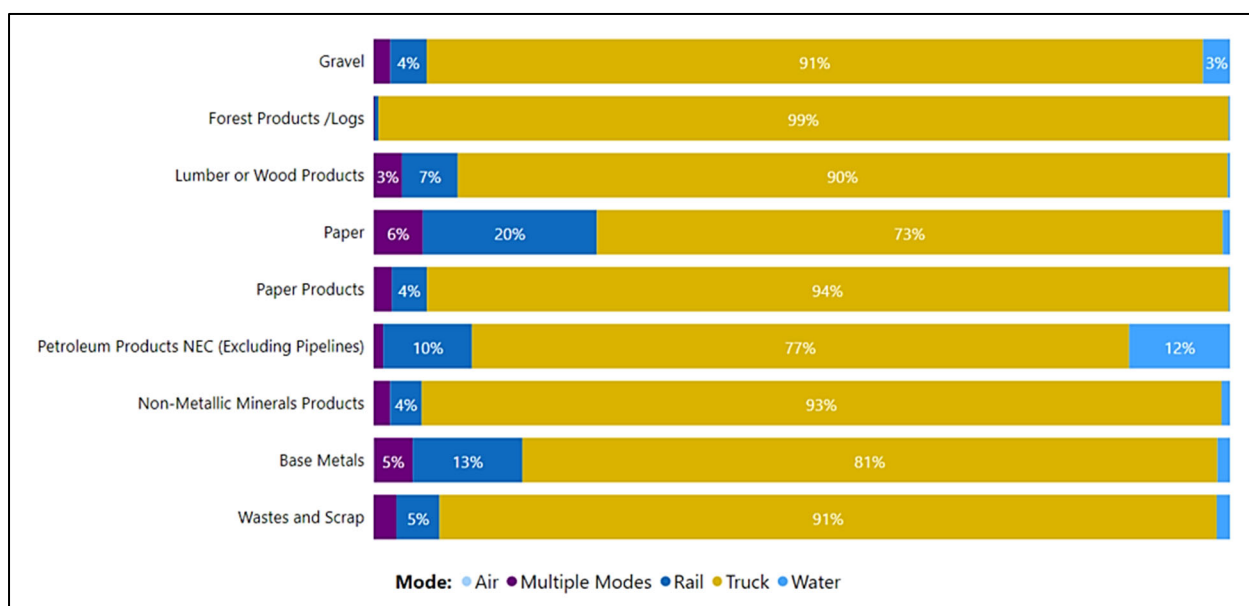
Mr. Aepli and Mr. Beagan discuss several differences between the FAF and Transearch in their Reply Verified Statement. In sum, the major advantage of FAF data over Transearch data is that the FAF is publicly available, while Transearch is a licensed data source (albeit a widely used one). The major disadvantage of FAF is that public FAF data is aggregated at a high level, generally corresponding to broad, two-digit STCC codes. Mr. Aepli and Mr. Beagan note, however, that the Commodity Flow Survey collects raw data at a more granular level than the data that is reported publicly in the FAF, and it may be possible for the Board to obtain the more detailed, raw survey data. The more granular data would permit the Board to conduct more detailed analyses of particular commodity groups.

Mr. Aepli and Mr. Beagan also provide a modal share analysis using FAF data that parallels the analysis they performed using Transearch data. The two data sets tell a remarkably similar story. The exempt commodities that have been at issue in this proceeding are all in commodity groups that are primarily transported by truck. Like the Transearch data, the FAF data also establish that trucks have substantial market share—and are therefore competitive—at distance bands greater than 500 miles. Some of the similarities in the conclusions each data set yields are illustrated below, by comparing a chart of Transearch modal share data with a chart of FAF modal share data:

Transearch Modal Share by EP 704 Commodity Group (%)⁷



FAF Modal Share by EP 704 Commodity Group (Tonnage Basis)⁸



⁷ Source: CN Opening Aepli/Beagan Verified Statement at 14.

⁸ Source: Reply Verified Statement at 20.

In short, CN and other commenters have highlighted two sets of reliable modal share data the Board can analyze, each of which strongly suggests that shippers of the exempt commodities in this proceeding use non-rail modes for the majority of that transportation. The Board should consider data like this in future exemption and revocation proceedings, and it should encourage parties to utilize data like this in future proceedings.

In this and every other proceeding, the Board should follow the data where it leads. Here, it leads to the conclusion that, by virtue of its substantial share of the transportation markets for each of the commodities at issue here, the trucking industry exerts significant competitive constraints on railroads for the transport of each of the commodities whose existing exemptions have been questioned in this proceeding. These shares indicate that trucks offer shippers viable alternatives to rail for the movements of these commodities, and, for that reason, the Board has no basis to conclude that re-regulation is necessary to curb the potential abuse of rail market power.

II. THE BOARD SHOULD WITHDRAW THE NPRM.

The weight of opening comments confirm that the Board should close the Ex Parte 704 docket and withdraw the 2016 Notice of Proposed Rulemaking. This proceeding has been pending in one form or another for a decade, and in that time the Board has amply fulfilled its original purpose in 2010 to conduct a “review of commodity, boxcar, and TOFC/COFC exemptions.” But over the course of this proceeding, the Board has not been presented with firm evidence that would

warrant revocation of any exemption. Parties seeking revocation have been given opportunities to present evidence justifying re-regulating commodities by revoking the class exemptions that this agency or its predecessor adopted. But they have not come forward with either reliable quantitative data or persuasive qualitative arguments that would justify the Board in reversing prior determinations to adopt these class exemptions.

If parties believe they have industrywide evidence that could justify revocation of a class exemption, then they can file petitions for revocation based on reliable evidence that conforms with the Board's precedents and the statutory standard. And if a party shipping an exempted commodity believes that its situation presents particularized evidence that would warrant a partial revocation of an exemption as applied to it, then it can present that evidence to the Board. But there is no basis in this docket for the Board to take further actions to revoke long-established class exemptions for commodities that continue to be overwhelmingly transported by modes other than rail transportation.

CONCLUSION

As CN explained in its Opening Comments, any data analysis that the Board chooses to pursue in exemption decisions needs to conform with the statutory standard, which encourages exemptions to be granted and sets a high standard for revocations. Any data analysis also needs to use accurate available information that bears on critical issues, including data on the extent to which commodities are transported via modes other than railroads. Moreover, any data analysis should be

considered only in conjunction with qualitative evidence about competition among modes to transport the commodities to market, as well as indirect competition where commodities can be sourced from other locations.

When these principles are applied to this proceeding, it is clear that the record does not support revocation of any of the exemptions proposed for revocation in the 2016 NPRM, or any other exemption. The Board should withdraw the 2016 NPRM and close this proceeding.

Respectfully submitted,

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Dated: March 1, 2021

Review of Commodity, Boxcar, and TOFC/COFC Exemptions

STB Ex Parte No. 704 (Sub-No. 1)

Verified Statement of Andreas Aepli and Daniel Beagan

1. Our names are Andreas Aepli and Daniel Beagan, and we submit this verified statement on behalf of the U.S. rail operating subsidiaries of Canadian National Railway Company (“CN”) in the Surface Transportation Board’s Ex Parte No. 704 (Sub-No. 1) proceeding.¹
2. The purpose of this statement is to present data about (a) the degree to which each of the commodity groups that have been the subject of EP 704 are constrained by modal competition by using reliable data to measure modal market shares, and (b) the typical length of haul for each of these commodity groups by mode. Specifically, we present an analysis of data from version 4.5.1 of the Federal Highway Administration’s Freight Analysis Framework (“FAF”),² a publicly available database that collects information from shippers on freight movements by commodity, transportation mode, and other variables used in the marketplace.³ These data, like the Transearch data we analyzed for purposes of the Verified Statement we prepared for CN’s Opening Comments, show that non-rail modes, and, in particular, trucks, are responsible for a significant majority of transportation for most of the commodity groups that have been discussed in this proceeding, including rip rap or broken stone, lumber or wood products, paper products, coke produced from coal, hydraulic cement, primary iron or steel products, and iron or steel scrap, wastes or tailings.
3. Below, we present a brief explanation of the FAF database and our methodology, as well as our findings for the seven commodity groups at issue in EP 704.

¹ Mr. Aepli’s and Mr. Beagan’s biographies and resumes appear in the Verified Statement CN submitted with its Opening Comments in this proceedings on January 29, 2021.

² See Freight Analysis Framework, FAF⁴ Version Descriptions, <https://faf.ornl.gov/faf4/News.aspx> (version 4.5.1 reflects updates from version 4.0—which included data for 2012—to include data through 2018).

³ See Freight Analysis Framework Version 4, <https://faf.ornl.gov/fafweb/> (“The Freight Analysis Framework (FAF), produced through a partnership between BTS and FHWA, integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. Starting with data from the 2012 Commodity Flow Survey (CFS) and international trade data from the Census Bureau, FAF incorporates data from agriculture, extraction, utility, construction, service, and other sectors.”).

Overview of FAF Database and Methodology

4. The FAF and Transearch are both multimodal commodity flow databases, but they differ in substance and scope. Below are six notable differences between the FAF and Transearch:
5. First, Transearch is a commercial database that is built upon data collected primarily from carriers. The FAF, by contrast, is publicly available and developed from the Commodity Flow Survey (“CFS”), which is conducted as a partnership between the Bureau of Transportation Statistics (“BTS”) and the U.S. Census Bureau.⁴ The CFS collects data directly from approximately 100,000 shippers and is conducted on a five-year cycle as a component of the economic census.⁵ It was conducted most recently in 2017.⁶ Because the FAF is produced by the U.S. government and publicly available to users at no cost, any stakeholder could use the data available in the FAF for purposes of its analysis at no cost. Transearch is widely used, but it is a commercial product that requires a license for access.
6. Second, a key difference between Transearch and the FAF is how commodities are classified and reported. Transearch uses the Standard Transportation Commodity Code (“STCC”) system, while FAF uses the Standard Classification of Transported Goods (“SCTG”) system. Transearch reports data to a greater level of commodity detail (*i.e.*, up to four digits of a STCC code) while the publicly available FAF reports in less detail (*i.e.*, two digits of SCTG code). Notably, however, the raw data from the CFS that BTS and the U.S. Census Bureau collect is recorded in more detail than becomes publicly available via the FAF, and that more granular data may be available to the Board to analyze movements of commodities at greater levels of detail.
7. Third, geographic data in Transearch and the FAF are reported differently. Transearch reports data between various geographies, including U.S. counties, U.S. Bureau of Economic Analysis Economic Areas, Canadian Consolidated Metropolitan Areas, Canadian provinces, and Mexican states. FAF, on the other hand, reports freight flows between 132 different regions that are pre-defined by the CFS. These regions consist of (a) portions of the largest metropolitan areas within states (*e.g.*, FAF NYC (NY Portion); FAF NYC (NJ portion); FAF NYC (CT Portion); FAF NYC (PA Portion)), (b) the remainder of states outside of metropolitan areas, and (c) major international gateways (*e.g.*, Savannah, GA and El Paso, TX). FAF, like Transearch, includes records of movements that travel within the domestic United States, including imports, exports, and domestic only. Like we did in our analysis of Transearch data, we limited our analysis of FAF data to domestic-only movements. To calculate length of haul for each movement, we used the ton and ton-mile data recorded for each movement.

⁴ See Bureau of Transportation Statistics, CFS FAQs, <https://www.bts.gov/cfs/faqs>.

⁵ See Bureau of Transportation Statistics, CFS Overview, <https://www.bts.gov/cfs>.

⁶ See *id.* (Prior to the 2017 CFS, previous surveys were conducted in 1993, 1997, 2002, 2007, and 2012).

8. Fourth, modes are reported differently in the FAF and Transearch databases. The FAF reports pipeline traffic, whereas Transearch does not. Transearch separates movements by truckload, less-than-truckload, and private fleet highway operations, whereas the FAF does not.
9. Fifth, the difference in sampling perspective between shipper- and carrier-centric data affects how movements containing a mix of commodities are reported in each database, and the FAF is able to offer greater detail regarding many of those movements. When multiple categories of commodities are consolidated into a single shipment or the contents are not reported and/or are unknown to the carrier, Transearch may report the commodity as Freight All Kinds (“FAK”), while the FAF is able to track and report data separately for each commodity contained in that shipment. Transearch therefore may report that such a load is commodity-specific between its origin and an intermediate stop (*e.g.*, an intermodal terminal, distribution center, or warehouse) and as FAK between its intermediate point and the receiver destination (*e.g.*, as STCC 50 Secondary and Drayage Traffic by truck).
10. Sixth, the difference in sampling perspective between shipper- and carrier-centric data also affects how multi-modal flows are reported in each database: a freight flow that involves more than one mode will be reported as two separate records in Transearch but a single record in the FAF. For example, grain transported by railroad from Nebraska to Memphis and then by Mississippi River barge from Memphis to New Orleans would consist of two separate records in Transearch. The location where the modal transfer would occur between modes generally will be identified as the destination of the railroad trip and the origin of the water trip. In the FAF, however, that same flow would be reported as a single record with an origin of Nebraska and destination of New Orleans. Similarly, a flow within one mode of transportation by more than one carrier will be reported as two separate records in Transearch but a single record in the FAF. For example, grain transported by rail from Seattle to Chicago by Union Pacific and then by rail from Chicago to New York City by CSX may consist of two separate records in Transearch. The location where the modal transfer would occur between modes generally will be identified as the destination of the Union Pacific rail trip and the origin of CSX rail trip. In the FAF, however, that same flow would be reported as a single record with an origin of Seattle and destination of New York City.

Mapping Commodity Classification Systems in CCWS and FAF

11. As noted above, the commodity classification system used in the Board’s Confidential Carload Waybill Sample (“CCWS”) and Transearch is different from that used in the FAF. Therefore, in order to prepare an analysis of modal shares of the commodity groups at issue in EP 704, we prepared a mapping of the relevant STCCs in EP 704 to corresponding 2-digit SCTG codes that appear in the FAF. As discussed above in paragraph 6, the 2-digit SCTG codes in the FAF are broader than the 4-digit STCC codes we analyzed using the Transearch data. Therefore, our analysis of FAF data covered a greater range of commodities than was the case for our analysis of Transearch data.
12. We have included as an appendix an illustrative crosswalk for 2-digit SCTG code 26, which corresponds to one of the commodity groups of interest, Lumber and Wood

Products (STCC codes beginning with 24 and 26). Cambridge Systematics would be happy to furnish the Board with additional crosswalks upon request. If it were interested in exploring the FAF further, the Board also could undertake its own mapping exercise, or request a mapping from IHS Markit or other private firms that undertake this exercise in the ordinary course of business.

Analysis of EP 704 Commodity Groups Using FAF Data

A. Rip Rap or Broken or Crushed Stone (5-digit STCCs 14 211, 14 212, 14 213, 14 219)

13. To analyze movements of rip rap or broken or crushed stone, we reviewed FAF records for data within 2-digit SCTG code 12, which represents Gravel and Crushed Stone. We took this SCTG code to most closely correspond to rip rap or broken or crushed stone STCC codes.
14. Table 1 presents the modal shares for this commodity by ton and ton-mile. Truck was the dominant mode for the transport of Gravel and Crushed Stone, carrying approximately 91% of the commodity by tonnage and 59% of the commodity by ton-miles. Rail, on the other hand, carried only approximately 4% of Gravel and Crushed Stone by tonnage and 18.5% by ton-miles.

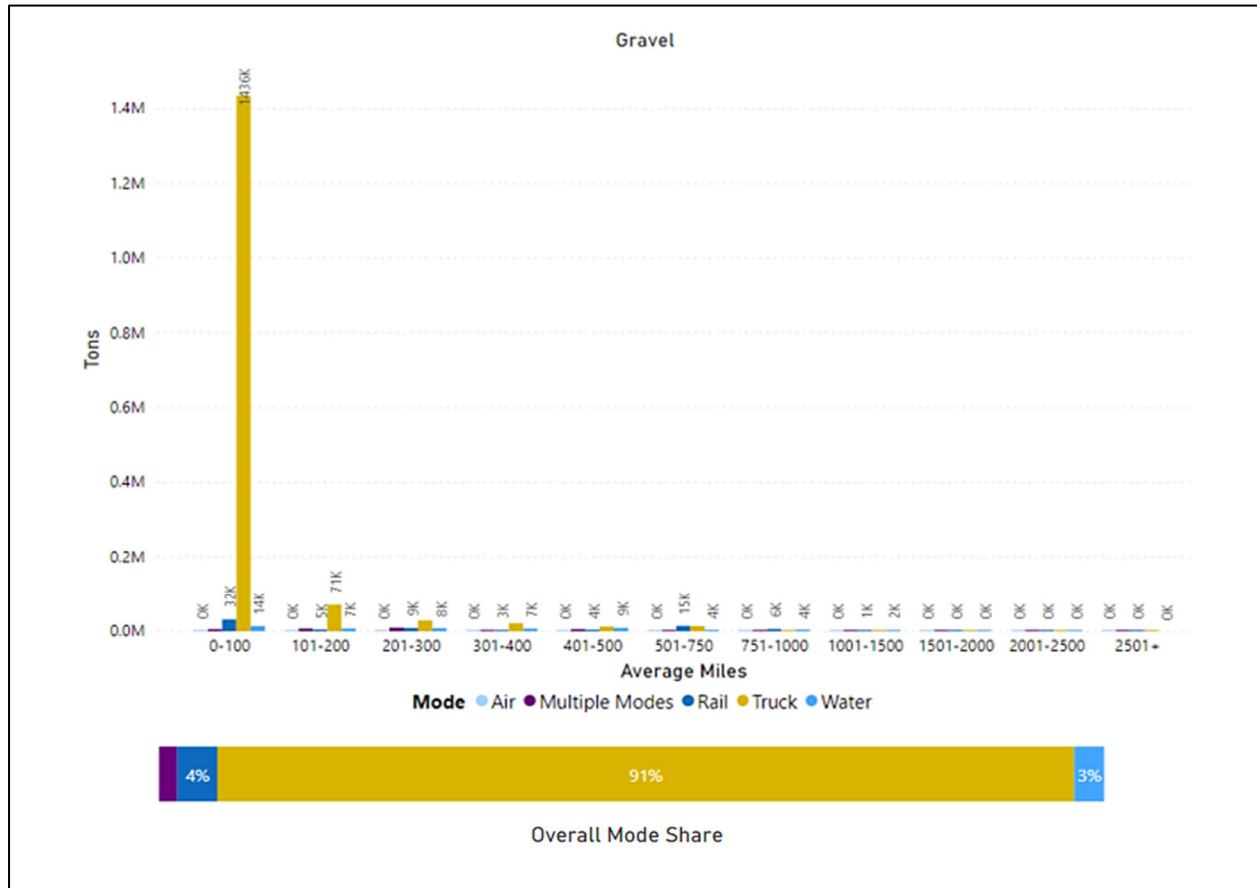
Table 1 Modal Share by Ton and Ton-Mile for Gravel and Crushed Stone (SCTG 12)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	90.6%	58.9%
Rail	4.2%	18.5%
Water	3.2%	14.6%
Air (include truck-air)	0.0%	0.0%
Multiple modes & mail	2.0%	7.9%
Other and unknown	0.0%	0.0%
Total	100.0%	100.0%

15. Figure 1 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 100 miles comprised 85% of the transport of Gravel and Crushed Stone,⁷ and truck dominates hauls within that bandwidth of length of haul, carrying 91% of those hauls.

⁷ See *infra* Figure 12.

Figure 1 Tons by Length of Haul by Mode for Gravel and Crushed Stone (SCTG 12)



B. Lumber or Wood Products (5-digit STCCs 24 114, 24 115, 24 211, 24 321, 24 991, 24 996)

16. To analyze movements of lumber or wood products, we reviewed FAF records for data within 2-digit SCTG code 25, which represents Logs and Other Wood in the Rough. We took this SCTG code, along with SCTG code 26, to most closely correspond to Lumber or Wood Product STCC codes.⁸
17. Table 2 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Logs and Other Wood in the Rough, carrying approximately 99% of the commodity by tonnage and 91% of the commodity by ton-miles. Rail, on the other hand, carried only 0.5% of Logs and Other Wood in the Rough by tonnage and approximately 5% by ton-miles.

⁸ See *infra* at ¶¶ 19-21.

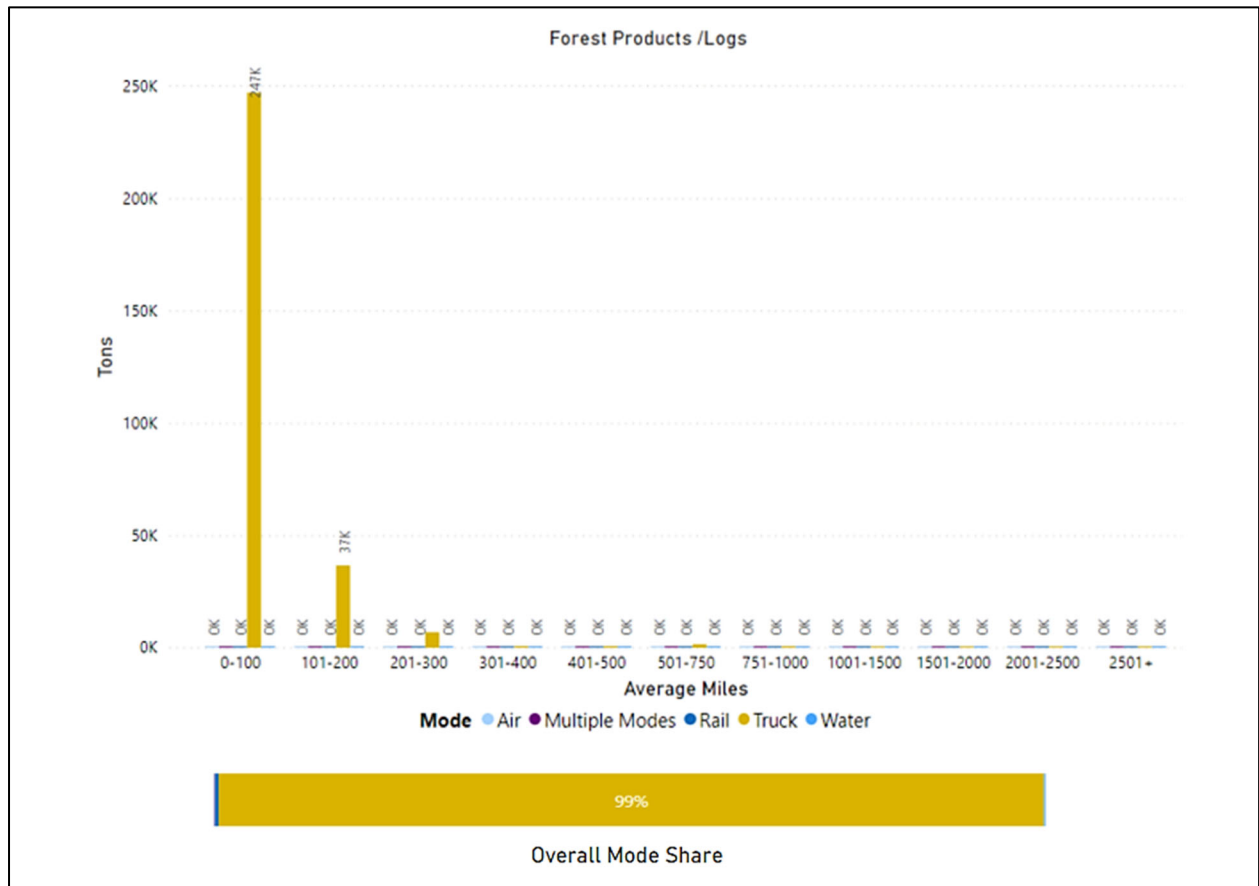
Table 2 Modal Share by Ton and Ton-Mile for Logs and Other Wood in the Rough (SCTG 25)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	99.2%	91.1%
Rail	0.5%	5.2%
Water	0.2%	1.5%
Air (include truck-air)	0.0%	0.0%
Multiple modes & mail	0.1%	2.2%
Other and unknown	0.0%	0.0%
Total	100.0%	100.0%

18. Figure 2 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 100 miles comprised 83% of the transport of Logs and Other Wood in the Rough,⁹ and truck dominates hauls within that bandwidth of length of haul, carrying 84% of those hauls.

⁹ *See id.*

Figure 2 Tons by Length of Haul by Mode for Logs and Other Wood in the Rough (SCTG 25)



19. To analyze movements of lumber or wood products, we also reviewed FAF records for data within 2-digit SCTG code 26, which represents Wood Products. We took this SCTG code, along with SCTG code 25, to most closely correspond to Lumber or Wood Product STCC codes.¹⁰
20. Table 3 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Wood Products, carrying approximately 90% of the commodity by tonnage and 64% of the commodity by ton-miles. Rail carried only 6.5% of Wood Products by tonnage and 23% by ton-miles. Multiple modes and mail, which is largely intermodal rail, accounts for a material proportion of ton-miles at 12.7%.

¹⁰ See *supra* at ¶¶ 16-18.

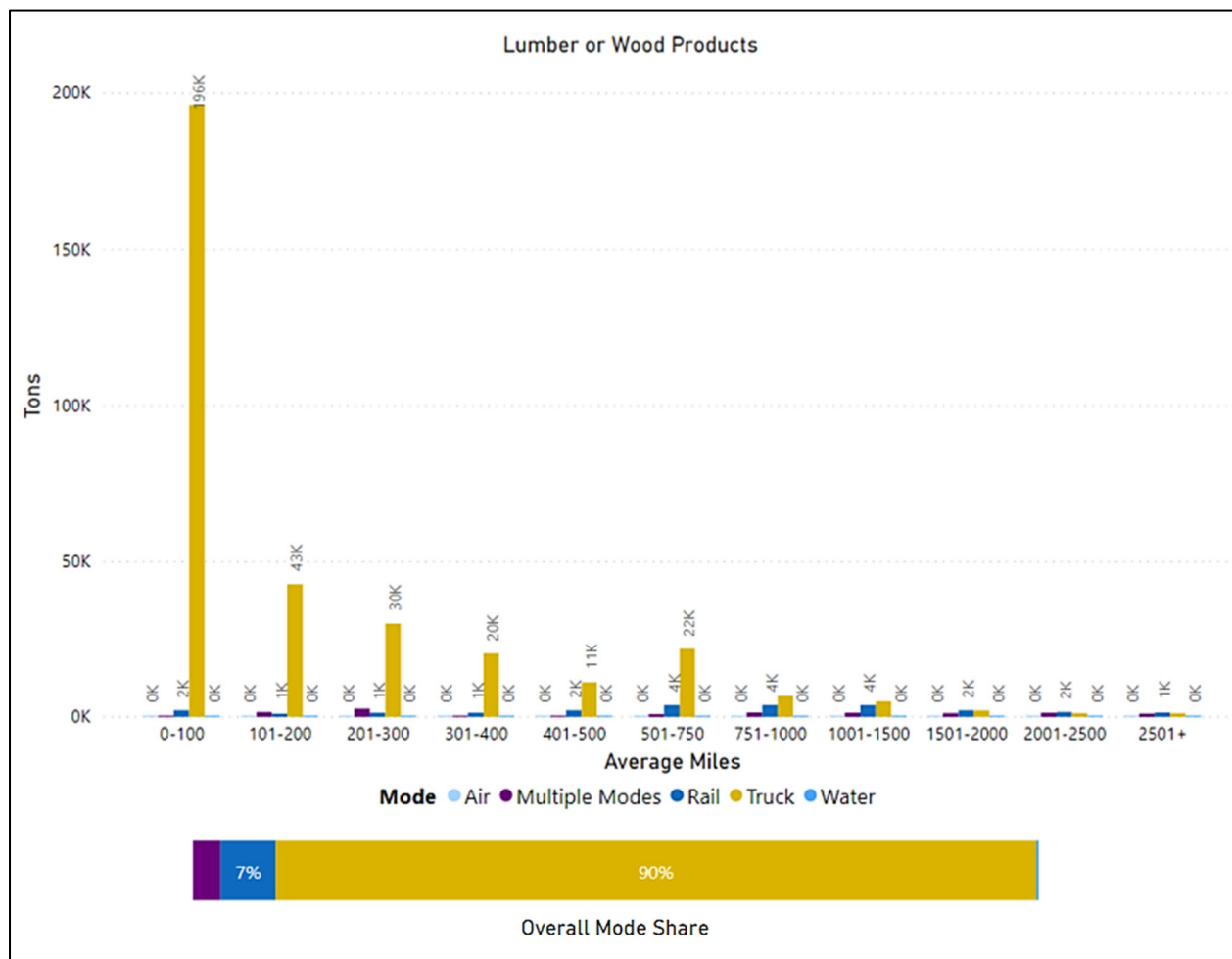
Table 3 Modal Share by Ton and Ton-Mile for Wood Products (SCTG 26)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	89.9%	63.9%
Rail	6.5%	23.0%
Water	0.3%	0.3%
Air (include truck-air)	0.0%	0.0%
Multiple modes & mail	3.3%	12.7%
Other and unknown	0.0%	0.0%
Total	100.0%	100.0%

21. Figure 3 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 300 miles comprised 74% of the transport of Wood Products.¹¹ Truck dominates the transport of Wood Products, carrying the largest volumes of this commodity by ton for all bands of lengths of haul under 1,500 miles.

¹¹ *See id.*

Figure 3 Tons by Length of Haul by Mode for Wood Products (SCTG 26)



C. Paper Products (5-digit STCCs 26 217, 26 311)

22. To analyze movements of paper products, we reviewed FAF records for data within 2-digit SCTG code 27, which represents Pulp, Newsprint, Paper and Paperboard. We took this SCTG code, along with SCTG code 28, to most closely correspond to Paper Products STCC codes.¹²
23. Table 4 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Pulp, Newsprint, Paper and Paperboard, carrying approximately 73% of the commodity by tonnage and 57% of the commodity by ton-miles. Rail, on the other hand, carried 20% of Pulp, Newsprint, Paper and Paperboard by tonnage and 31% by ton-miles.

¹² See *infra* at ¶¶ 25-27.

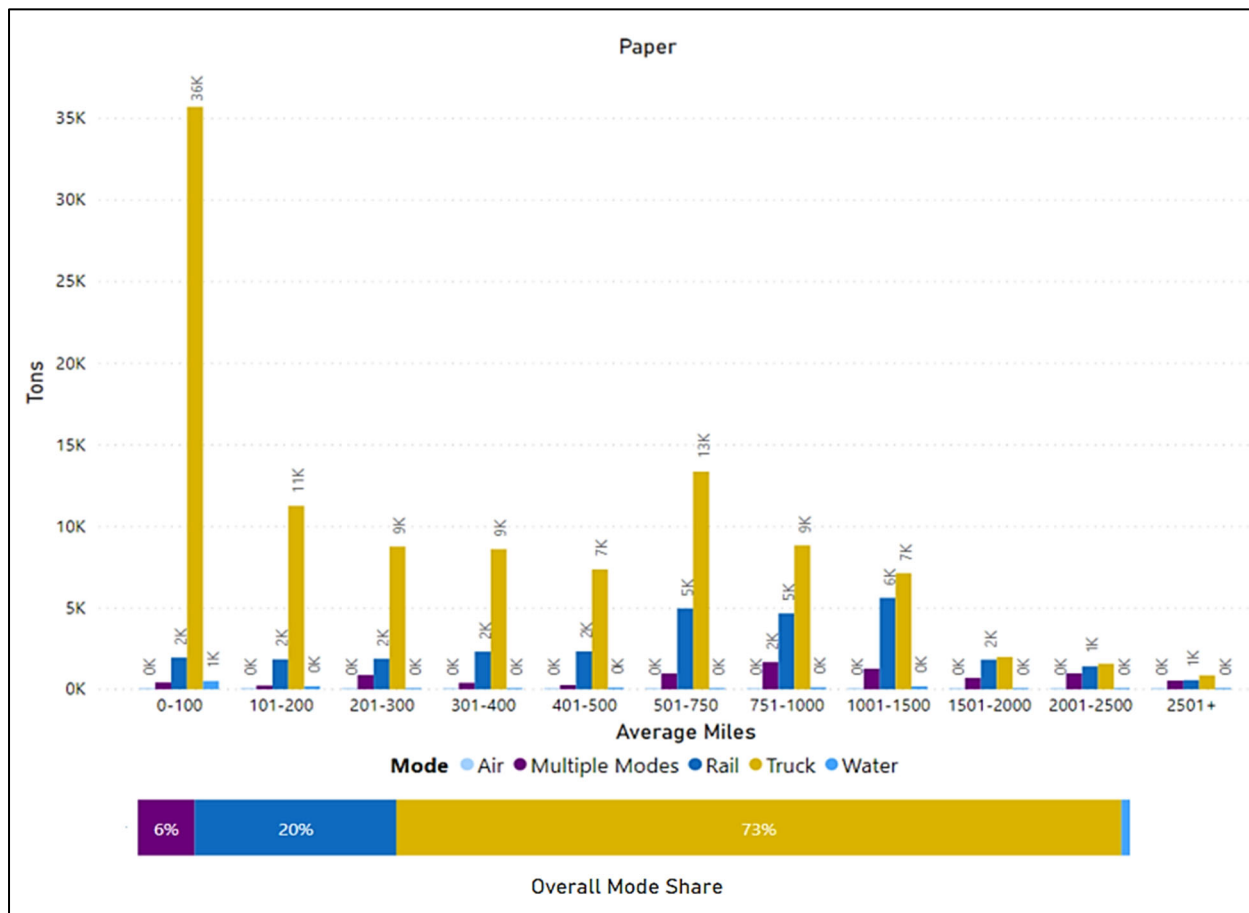
Table 4 Modal Share by Ton and Ton-Mile for Pulp, Newsprint, Paper and Paperboard (SCTG 27)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	73.1%	56.8%
Rail	20.3%	31.1%
Water	0.9%	0.7%
Air (include truck-air)	0.0%	0.0%
Multiple modes & mail	5.7%	11.3%
Other and unknown	0.0%	0.0%
Total	100.0%	100.0%

24. Figure 4 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 100 miles comprised 27% of the transport of Pulp, Newsprint, Paper and Paperboard, which is the band that encompasses the largest proportion of hauls.¹³ Truck dominates the transport of Pulp, Newsprint, Paper and Paperboard, carrying 73% of the commodity over all distances, 94% of hauls less than 100 miles, 84% of hauls between 101 and 200 miles, and 75% of hauls between 201 and 300 miles. Truck carries the largest volumes of this commodity by ton for all bands of lengths of haul under 1,500 miles.

¹³ *See id.*

Figure 4 Tons by Length of Haul by Mode for Pulp, Newsprint, Paper and Paperboard (SCTG 27)



25. To analyze movements of paper products, we also reviewed FAF records for data within 2-digit SCTG code 28, which represents Paper or Paperboard Articles. We took this SCTG code, along with SCTG code 27, to most closely correspond to Paper Products STCC codes.¹⁴

26. Table 5 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Paper or Paperboard Articles, carrying approximately 94% of the commodity by tonnage and 81% of the commodity by ton-miles. Rail, on the other hand, carried only 4% of Paper or Paperboard Articles by tonnage and 12% by ton-miles.

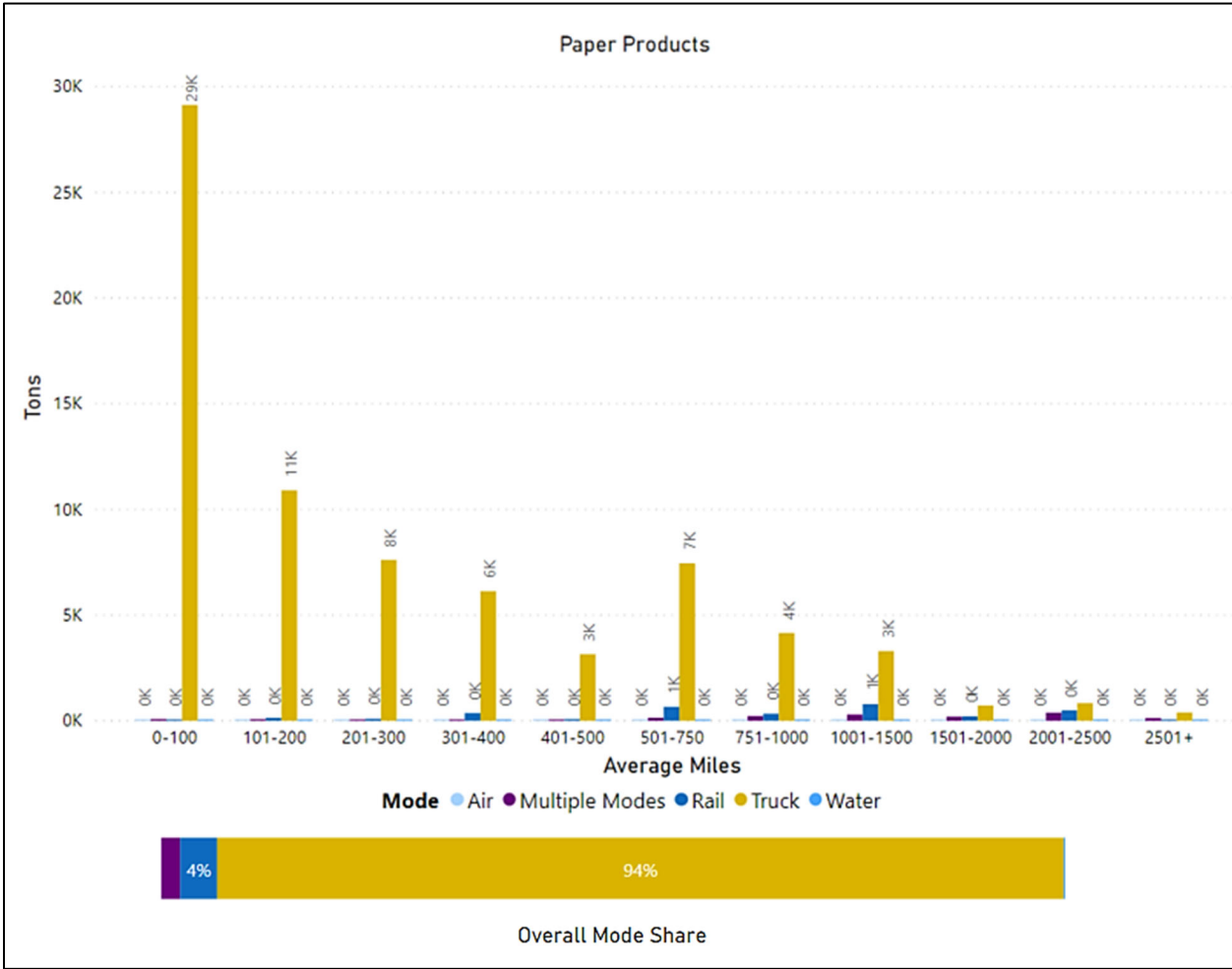
¹⁴ See *supra* at ¶¶ 22-24.

Table 5 Modal Share by Ton and Ton-Mile for Paper or Paperboard Articles (SCTG 28)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	93.6%	80.6%
Rail	4.1%	11.6%
Water	0.2%	0.3%
Air (include truck-air)	0.0%	0.1%
Multiple modes & mail	2.1%	7.4%
Other and unknown	0.0%	0.0%
Total	100.0%	100.0%

27. Figure 5 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 100 miles comprised 37% of the transport of Paper or Paperboard Articles, which is the band that encompasses the largest proportion of hauls. Truck dominates the transport of Paper or Paperboard Articles, carrying 94% of the commodity over all distances, and carries the largest volumes of this commodity by ton for all bands of lengths of haul.

Figure 5 Tons by Length of Haul by Mode for Paper or Paperboard Articles (SCTG 28)



D. Coke Produced from Coal (5-digit STCC 29 914)

28. To analyze movements of coke produced from coal, we reviewed FAF records for data within 2-digit SCTG code 19, which represents Other Coal and Petroleum Products, not elsewhere classified. We took this SCTG code to most closely correspond to coke produced from coal STCC codes.
29. Table 6 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Other Coal and Petroleum Products, carrying 77% of the commodity by tonnage and 58% of the commodity by ton-miles. Rail, on the other hand, carried 10% of Other Coal and Petroleum Products by tonnage and 27% by ton-miles.

Table 6 Modal Share by Ton and Ton-Mile for Other Coal and Petroleum Products (SCTG 19) (excluding Pipeline)¹⁵

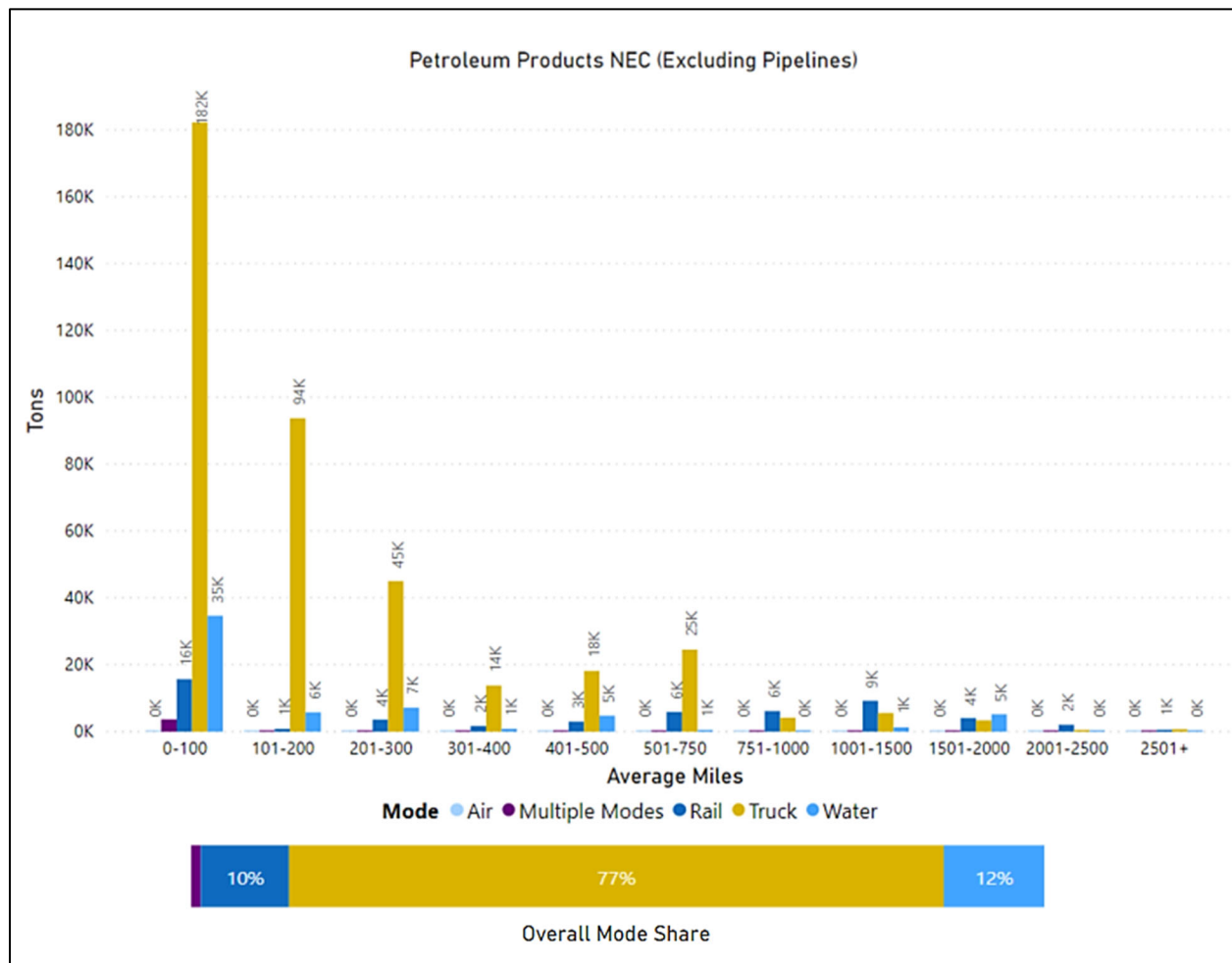
Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	76.6%	58.4%
Rail	10.3%	27.1%
Water	11.8%	12.5%
Air (include truck-air)	0.0%	0.0%
Multiple modes & mail	1.1%	1.8%
Other and unknown	0.1%	0.2%
Total	100.0%	100.0%

30. Figure 6 presents the tonnage by length of haul and by mode for the movements of this commodity we included in our analysis. Hauls less than 100 miles comprised 46% of the transport of Other Coal and Petroleum Products, which is the band that encompasses the largest proportion of hauls.¹⁶ Truck dominates the transport of Other Coal and Petroleum Products, carrying the largest volumes of this commodity by ton for all bands of lengths of haul under 750 miles.

¹⁵ SCTG code 19 primarily consists of natural gas traveling by pipeline. We excluded these pipeline movements from our analysis to more closely track and review movements of coke, rather than movements of natural gas.

¹⁶ See *infra* Figure 12.

Figure 6 Tons by Length of Haul by Mode for Other Coal and Petroleum Products (SCTG 19) (excluding Pipeline)



E. Hydraulic cement (5-digit STCCs 32 411, 32 412)

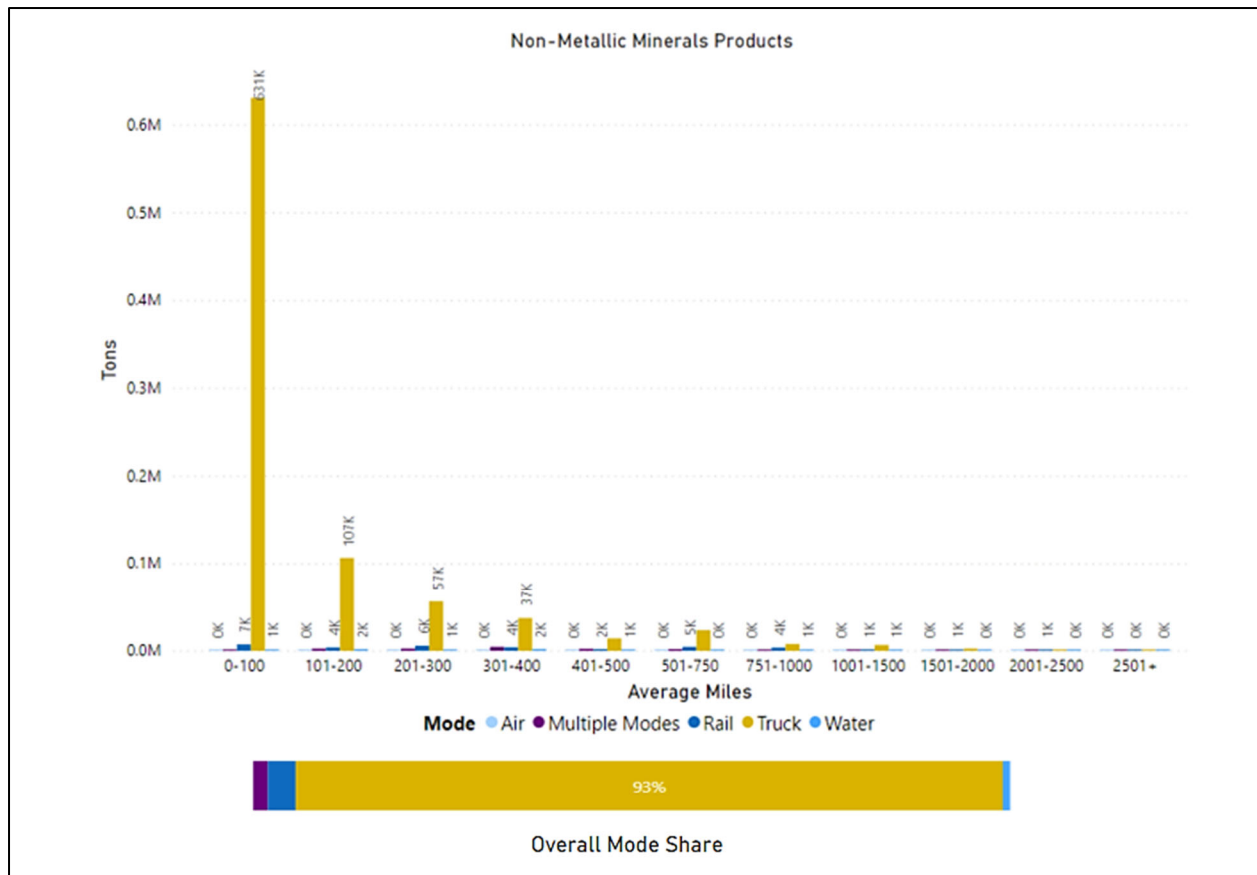
31. To analyze movements of hydraulic cement, we reviewed FAF records for data within 2-digit SCTG code 31, which represents Non-Metallic Mineral Products. We took this SCTG code to most closely correspond to hydraulic cement STCC codes.
32. Table 7 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Non-Metallic Mineral Products, carrying approximately 93% of the commodity by tonnage and 77% of the commodity by ton-miles. Rail, on the other hand, carried 4% of Non-Metallic Mineral Products by tonnage and 12% by ton-miles.

Table 7 Modal Share by Ton and Ton-Mile for Non-Metallic Mineral Products (SCTG 31)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	93.4%	76.7%
Rail	3.7%	11.7%
Water	1.0%	3.4%
Air (include truck-air)	0.0%	0.1%
Multiple modes & mail	1.9%	8.1%
Other and unknown	0.0%	0.0%
Total	100.0%	100.0%

33. Figure 7 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 300 miles comprised 86% of the transport of Non-Metallic Mineral Products.¹⁷ Truck dominates the transport of Non-Metallic Mineral Products, carrying the largest volumes of this commodity by ton for all bands of lengths of haul under 1,500 miles.

Figure 7 Tons by Length of Haul by Mode for Non-Metallic Mineral Products (SCTG 31)



¹⁷ See *id.*

F. Primary Iron or Steel Products (5-digit STCCs 33 121 through 129)

34. To analyze movements of primary iron or steel products, we reviewed FAF records for data within 2-digit SCTG code 32, which represents Base Metal in Primary or Semi-Finished Forms and in Finished Basic Shapes (“Base Metal”). We took this SCTG code to most closely correspond to primary iron or steel product STCC codes.
35. Table 8 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Base Metal, carrying 81% of the commodity by tonnage and 68% of the commodity by ton-miles. Rail, on the other hand, carried 13% of Base Metal by tonnage and 20% by ton-miles.

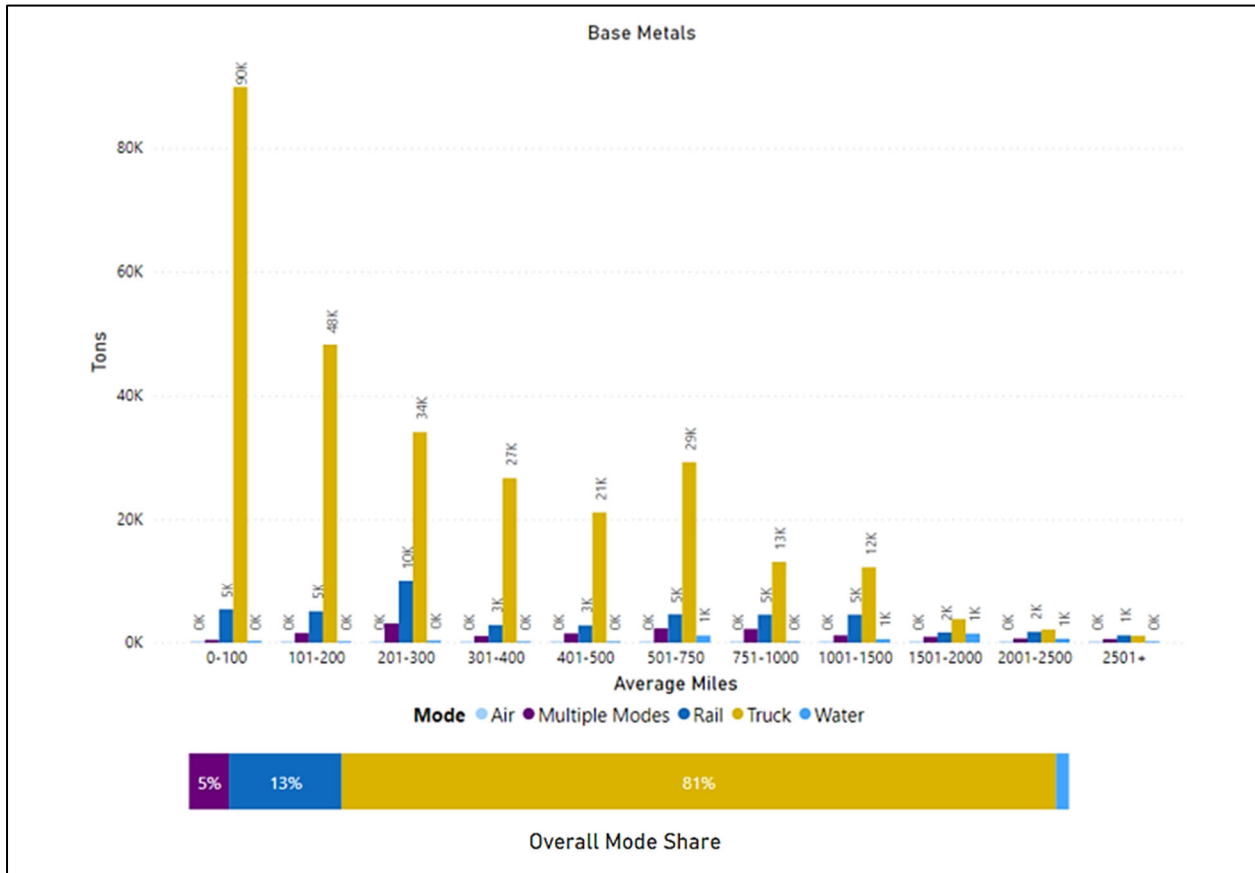
Table 8 Modal Share by Ton and Ton-Mile for Base Metal (SCTG 32)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	81.1%	68.0%
Rail	12.8%	19.5%
Water	1.5%	4.1%
Air (include truck-air)	0.0%	0.1%
Multiple modes & mail	4.5%	8.3%
Other and unknown	0.0%	0.0%
Total	100.0%	100.0%

36. Figure 8 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 500 miles comprised 74% of the transport of Base Metal.¹⁸ Truck dominates the transport of Base Metal, carrying the largest volumes of this commodity by ton for all bands of lengths of haul except movements over 2,501 miles.

¹⁸ See *id.*

Figure 8 Tons by Length of Haul by Mode for Base Metal (SCTG 32)



G. Iron or Steel Scrap, Wastes, or Tailings (5-digit STCCs 40 211, 40 241)

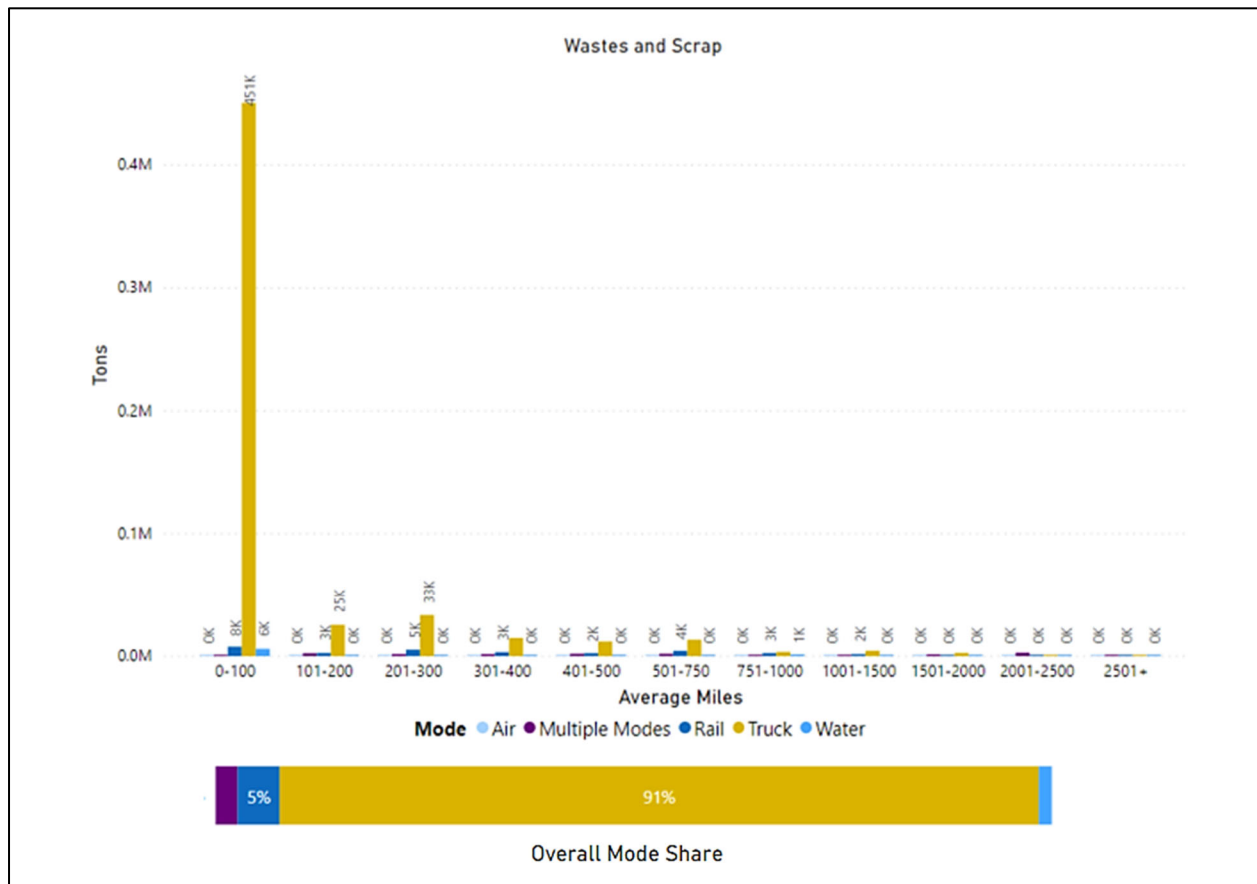
37. To analyze movements of Iron or Steel Scrap, Wastes, or Tailings, we reviewed FAF records for data within 2-digit SCTG code 41, which represents Waste and Scrap. We took this SCTG code to most closely correspond to Iron or Steel Scrap, Wastes, or Tailings STCC codes.
38. Table 9 presents the modal shares by ton and ton-mile for this commodity. Truck was the dominant mode for the transport of Waste and Scrap, carrying 91% of the commodity by tonnage and 64% of the commodity by ton-miles. Rail, on the other hand, carried 5% of Waste and Scrap by tonnage and 16% by ton-miles.

Table 9 Modal Share by Ton and Ton-Mile for Waste and Scrap (SCTG 41)

Supply Chain/Mode	Modal Share	
	Tons	Ton-Miles
Truck	90.7%	64.0%
Rail	5.0%	15.6%
Water	1.6%	4.0%
Air (include truck-air)	0.0%	0.0%
Multiple modes & mail	2.7%	16.4%
Other and unknown	0.0%	0.1%
Total	100.0%	100.0%

39. Figure 9 presents the tonnage by length of haul and by mode for this commodity. Hauls less than 100 miles comprised 75% of the transport of Waste and Scrap.¹⁹ Truck dominates the transport of Waste and Scrap, carrying the largest volumes of this commodity by ton for all bands of lengths of haul except movements over 2,000 miles.

Figure 9 Tons by Length of Haul by Mode for Haul for Waste and Scrap (SCTG 41)

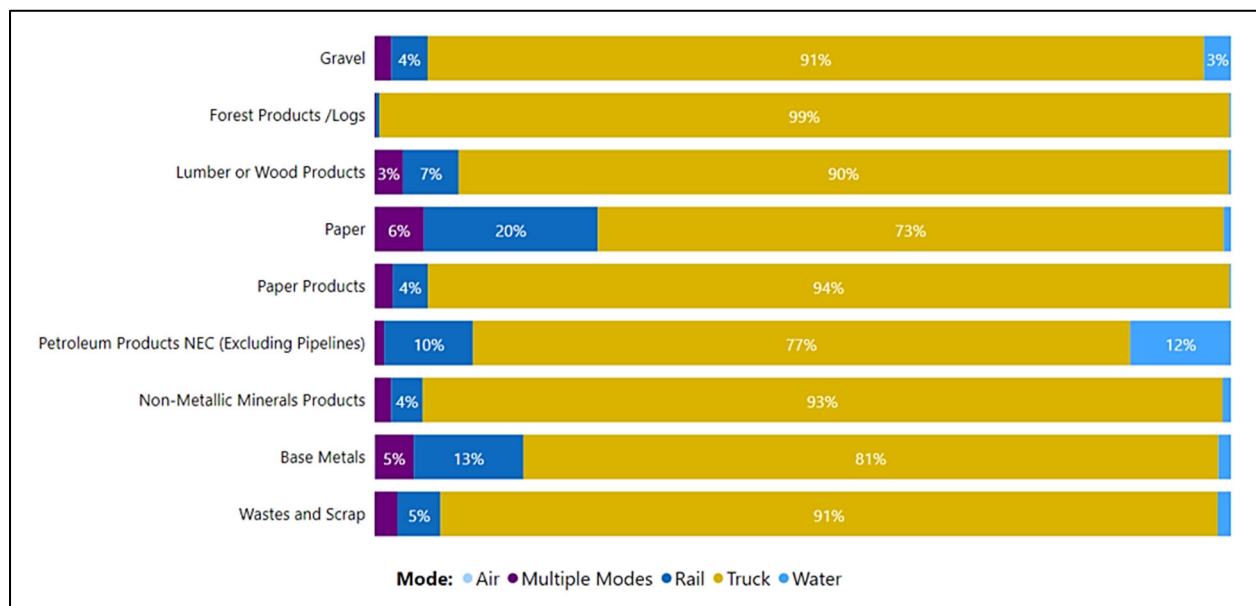


¹⁹ See *id.*

Concluding Comments

40. Figure 10 summarizes modal shares by ton for each of the EP 704 commodity groups. As stated previously, truck was the primary mode of transport for all commodity groups analyzed. The only SCTG commodity groups for which modes **other than truck** handled at least 20% of the traffic volumes are paper and petroleum products.²⁰ Rail did not represent a majority of the market for the transport of any commodity group analyzed, even if one were to conservatively include share attributable to Multiple Modes and Mail, nor did it represent the highest share of the market for the transport of any commodity group analyzed.

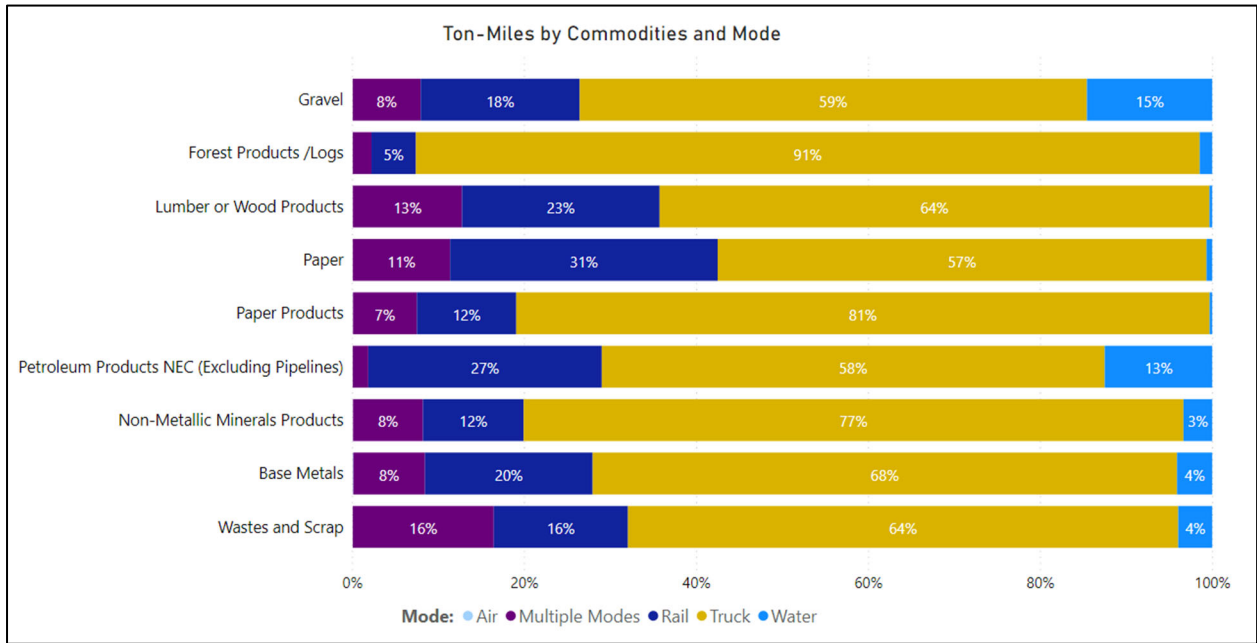
Figure 10 Modal Share by EP 704 Commodity Group (Tonnage Basis)



41. Figure 11 illustrates a summary of share of volume moved by mode on a ton-mile basis for the EP 704 commodity groups. This figure shows the impact of length of haul on mode share, with rail and water generally having a higher mode share for longer trips. Thus, mode share on a ton-mile basis is significantly higher for rail and water on a ton-mile basis (compared to Figure 10), with particularly notable differences for gravel (4% share on a ton basis vs. 18% share on a ton-mile basis), and petroleum products (10% share on a ton basis vs. 27% share on a ton-mile basis).

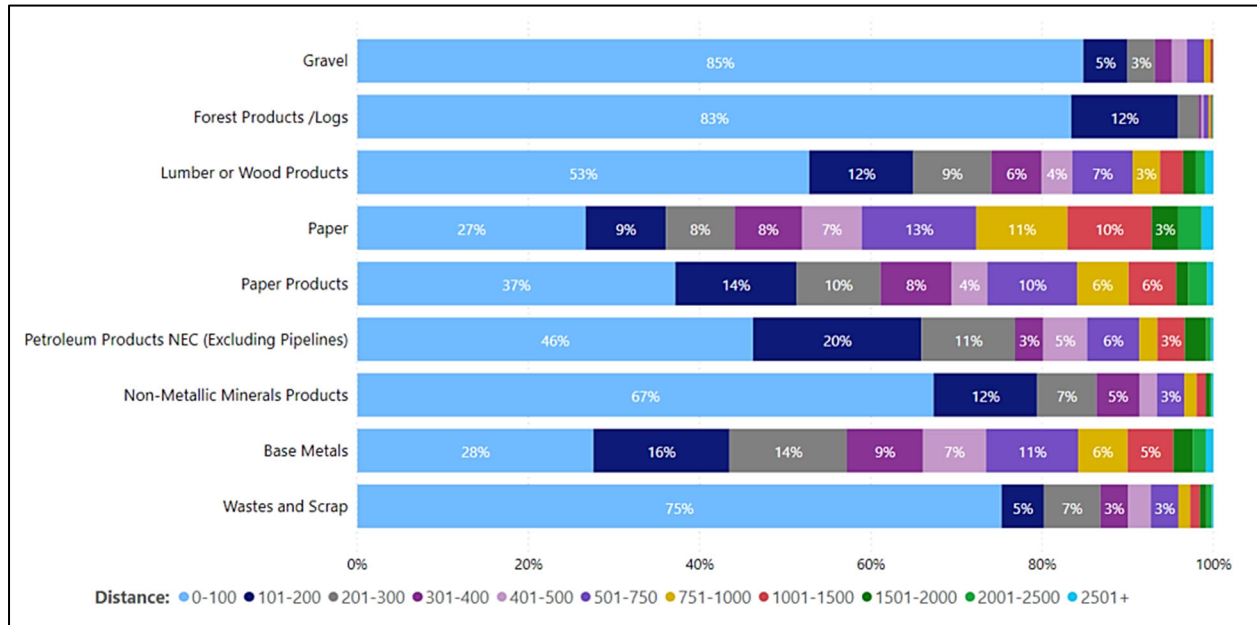
²⁰ Modal share calculations for Petroleum Products excluded transport by pipeline.

Figure 11 Modal Share by EP 704 Commodity Group (Ton-Mile Basis)



42. Figure 12 illustrates a summary of share of volume moved by length of haul and by each of the EP 704 commodity groups on an originated tonnage basis. For all commodity groups except SCTG codes corresponding to paper, paper products, petroleum products, and base metal, at least 50% of the hauls are less than 100 miles, and the vast majority of traffic volumes travels over distances of less than 300 miles.

Figure 12 Share of Volume by Length of Haul by EP 704 Commodity Group (%)



43. The conclusions we reached from our analysis of the FAF data are similar to the conclusions we reached from our analysis of the Transearch database. These similarities in our findings further demonstrate that the use of a database that contains data regarding only a single mode of transportation, such as the CCWS, cannot adequately measure the extent to which other modes are used to transport these commodities.
44. Finally, if the Board were to determine that it requires data regarding commodities (*e.g.*, a 5-digit level of SCTG code) or geographies (*e.g.*, county of origin or destination) at a more granular level than is publicly available in the FAF, the Board may be able to obtain data at a more detailed level directly from the raw data contained in a CFS private use file that the BTS and the U.S. Census Bureau maintains from responses to the CFS.

VERIFICATION

I, Andreas Aeppli, declare under penalty of perjury that the foregoing is true and correct.

Further, I certify that I am qualified and authorized to file this verified statement.

A handwritten signature in dark ink, appearing to read "Andreas Aeppli", is positioned above a horizontal line.

Andreas Aeppli

Executed on March 1, 2021

VERIFICATION

I, Daniel Beagan, declare under penalty of perjury that the foregoing is true and correct.

Further, I certify that I am qualified and authorized to file this verified statement.

A handwritten signature in black ink, appearing to read "Daniel Beagan", is written over a horizontal line. The signature is fluid and cursive.

Daniel Beagan

Executed on March 1, 2021

Appendix

Sample Crosswalk between 2-Digit SCTG Code 26 and 4-Digit STCCs

SCTG2 Code	SCTG2 Name	STCC4 Code	STCC4 Name
26	Wood products	2420	Sawmill or Planing Mill Products
26	Wood products	2421	Lumber or Dimension Stock
26	Wood products	2429	Misc. Sawmill or Planing Mill
26	Wood products	2430	Millwork or Prefab Wood Products
26	Wood products	2431	Millwork or Cabinetwork
26	Wood products	2432	Plywood or Veneer
26	Wood products	2439	Structural Wood Prod, NEC
26	Wood products	2440	Wooden Containers
26	Wood products	2441	Wood Cont. or Box Shooks
26	Wood products	2490	Miscellaneous Wood Products
26	Wood products	2491	Treated Wood Products
26	Wood products	2492	Rattan or Bamboo Ware
26	Wood products	2493	Lasts or Related Products
26	Wood products	2494	Cork Products
26	Wood products	2495	Hand Tool Handles
26	Wood products	2496	Scaffolding Equip or Ladders
26	Wood products	2497	Wooden Ware or Flatware
26	Wood products	2498	Wood Prod, NEC
26	Wood products	2499	Misc. Wood Products
26	Wood products	2660	Paper or Building Board
26	Wood products	2661	Paper or Building Board