



Freight Facts & Figures

Moving Goods in the United States

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Freight Movement

The American economy stretches across a continent with links to the world, drawing on natural resources and manufactured products from many locations to serve markets at home and abroad. More freight is moving greater distances as part of far-flung supply chains among distant trading partners.

In 2021 the U.S. transportation system moved a daily average of about 53.6 million tons of freight valued at more than \$54 billion.

Weight of shipments by transportation mode

The Freight Analysis Framework estimates tonnage will increase at about 1.6 percent per year between 2023 and 2050.

Year(s)

(Multiple values) ▼

Weight of Shipments by Transportation Mode

Mode Name	Tons (millions)							
	2017				2023			
	Total	Domestic	Export	Import	Total	Domestic	Export	Import
Grand Total	19,786	17,478	1,115	1,193	20,302	17,786	1,295	1,221
Truck	12,800	11,848	509	443	13,139	12,122	517	499
Rail	1,616	1,202	248	165	1,489	1,058	248	183
Water	915	662	160	93	914	646	165	103
Air (includes truck-air)	6	2	2	2	7	2	2	3
Multiple Dms Modes and Mail	688	536	89	63	719	557	94	68
Pipeline	3,451	3,133	100	218	3,808	3,326	262	220
Other and Unknown	102	94	8	1	83	74	8	1
No Domestic Dms Mode	209			209	144			144

Notes: Data do not include imports and exports that pass through the United States from a foreign origin to a foreign destination by any mode. Number version are not comparable to similar data in previous years because of updates to the Freight Analysis Framework. All truck, rail, water, and pipeline movements and exports and imports that change mode at international gateways, are included in multiple modes & mail to avoid double counting. As a consequence, rail tonnage is published sources.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 1.0

Value of shipments by transportation mode

The value of freight is forecast to increase faster than tonnage, rising from \$1,001 per ton in 2023 to \$1,256 per ton in 2050, when controlling for inflation. This increase is due to high-value, low weight commodities growing at a faster rate than low-value, high-weight commodities. Exports at \$1,280 per ton and imports at \$1,983 per ton were higher than domestic shipments of \$914 per ton in 2023. Exports and imports accounted for 12.4 percent of the tons and 20.1 percent of the value of freight shipments in 2023 and are forecast to make up an even greater share of freight moving throughout the United States, reaching 13.8 percent of the tonnage and 21.7 percent of the value by 2050.

Year

(Multiple values)

Value of Shipments by Transportation Mode

Mode	Value (billions of 2017 \$)							
	2017				2023			
	Total	Domestic	Export	Import	Total	Domestic	Export	Import
Grand Total	18,907	15,082	1,555	2,270	20,328	16,250	1,658	2,420
Truck	12,017	11,297	368	353	12,906	12,157	374	375
Rail	404	227	64	113	403	233	62	108
Water	360	184	55	121	348	182	59	107
Air (includes truck-air)	1,226	159	496	571	1,288	169	512	607
Multiple Dms Modes and Mail	3,926	2,362	527	1,037	4,363	2,623	589	1,151
Pipeline	928	851	14	63	976	884	29	63
Other and Unknown	45	2	31	12	45	2	31	12

Notes: Data do not include imports and exports that pass through the United States from a foreign origin to a foreign destination by any mode. Number version are not comparable to similar data in previous years because of updates to the Freight Analysis Framework. All truck, rail, water, and pipeline movements and imports that change mode at international gateways, are included in multiple modes & mail to avoid double counting. As a consequence, rail published sources.

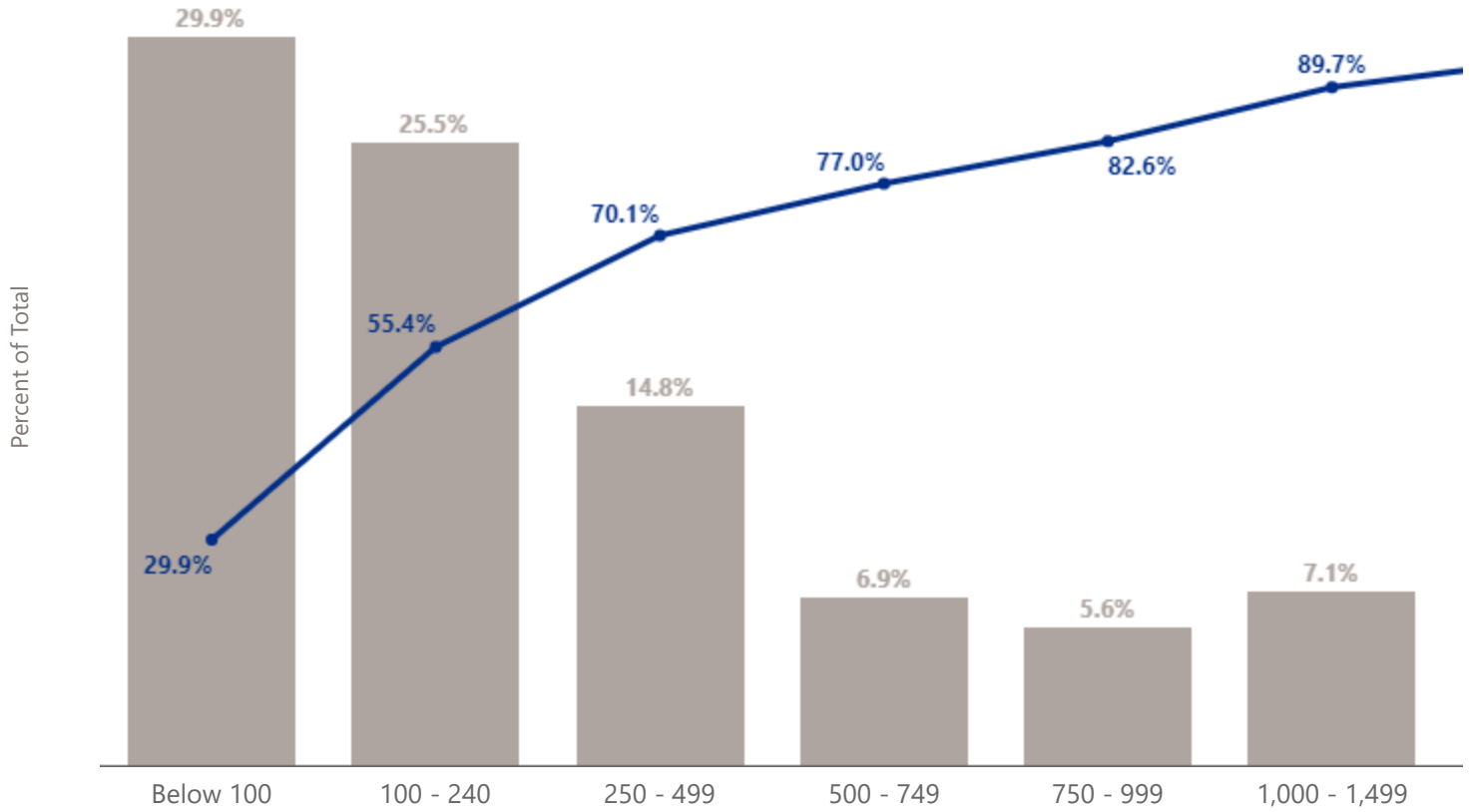
Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 1.0

Total freight moved by distance

The largest percentage of goods, by weight and value, move relatively short distances (less than 250 miles). Approximately 73.7 percent of the weight and 55.4 percent of the value of goods moved less than 250 miles between origin and destination in 2023. In contrast, about 6.6 percent of the weight and 17.4 percent of the value of goods moved 1,000 miles or more in 2023.

Year
2023

Select a measure
Value



Note: Percents may not add to 100 due to rounding.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 1

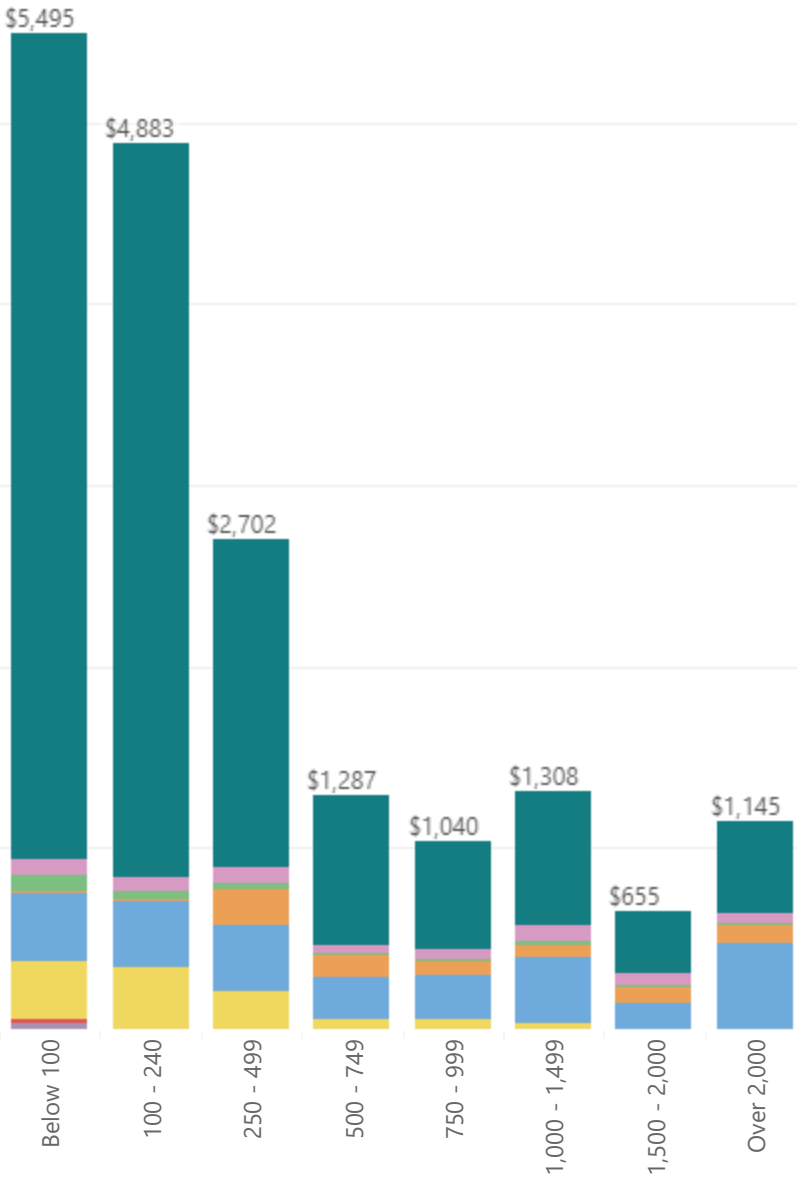
Value of freight by mode and distance

Modal shares of freight vary by distance. Trucks carry the largest shares by value in both current and constant dollars for shipments moved less than 2,000 miles, while rail is the dominant mode by weight and ton-miles for shipments moved 1,000 to 2,000 miles in 2020. Air, multiple modes and mail, water, and rail accounted for over half of the value of shipments moved more than 2,000 miles.

Year: 2021 | Select a measure: Current dollars (billions)

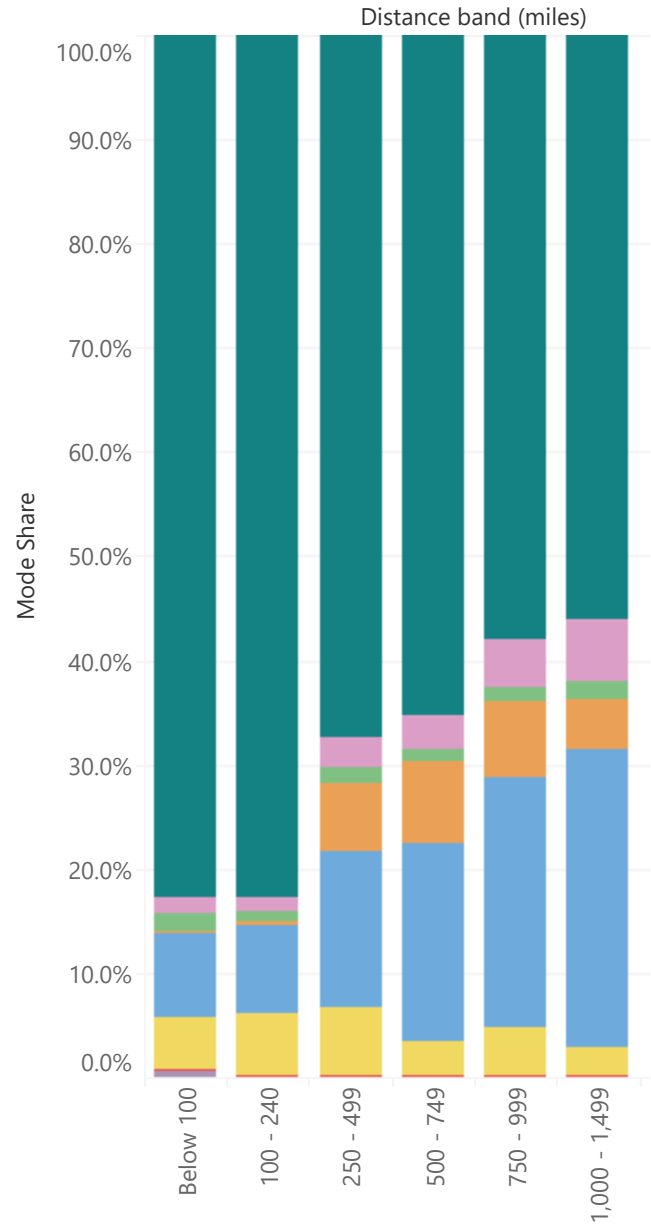
Total value

Current dollars (billions)



Mode share of value

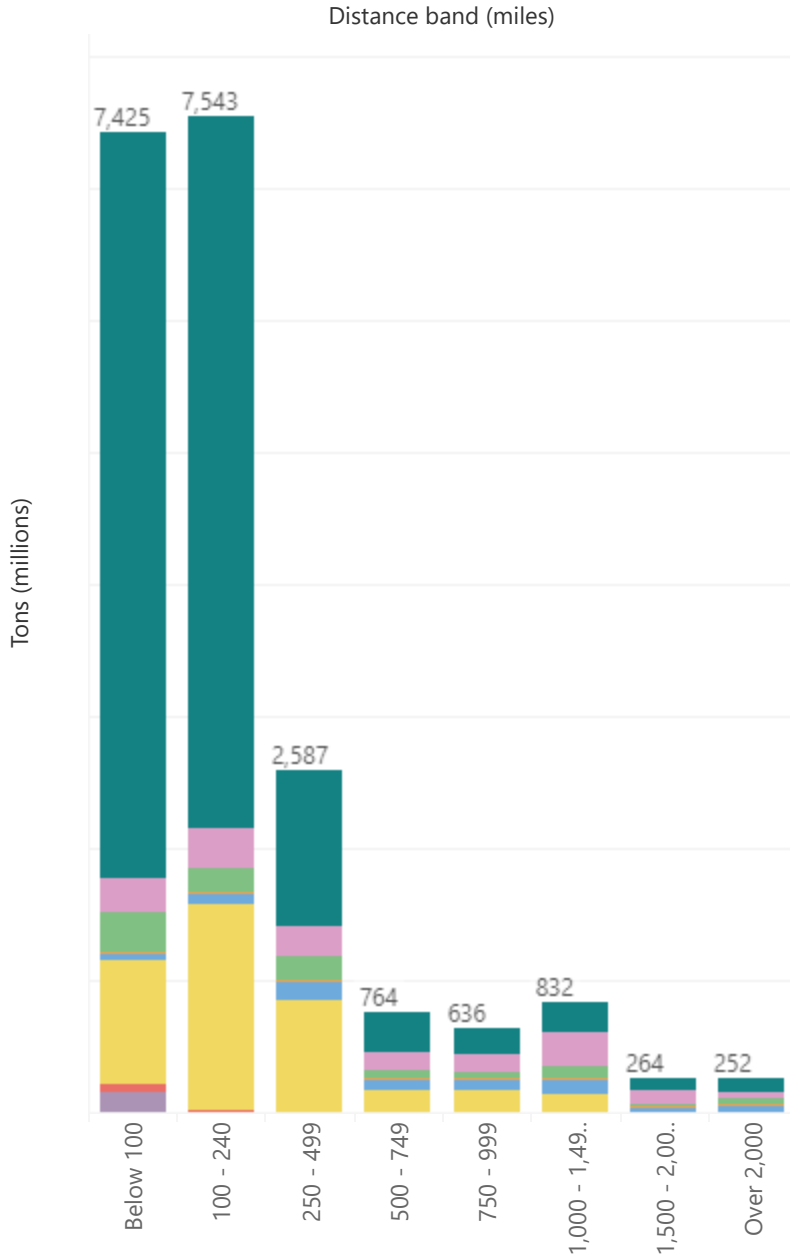
Current dollars (billions)



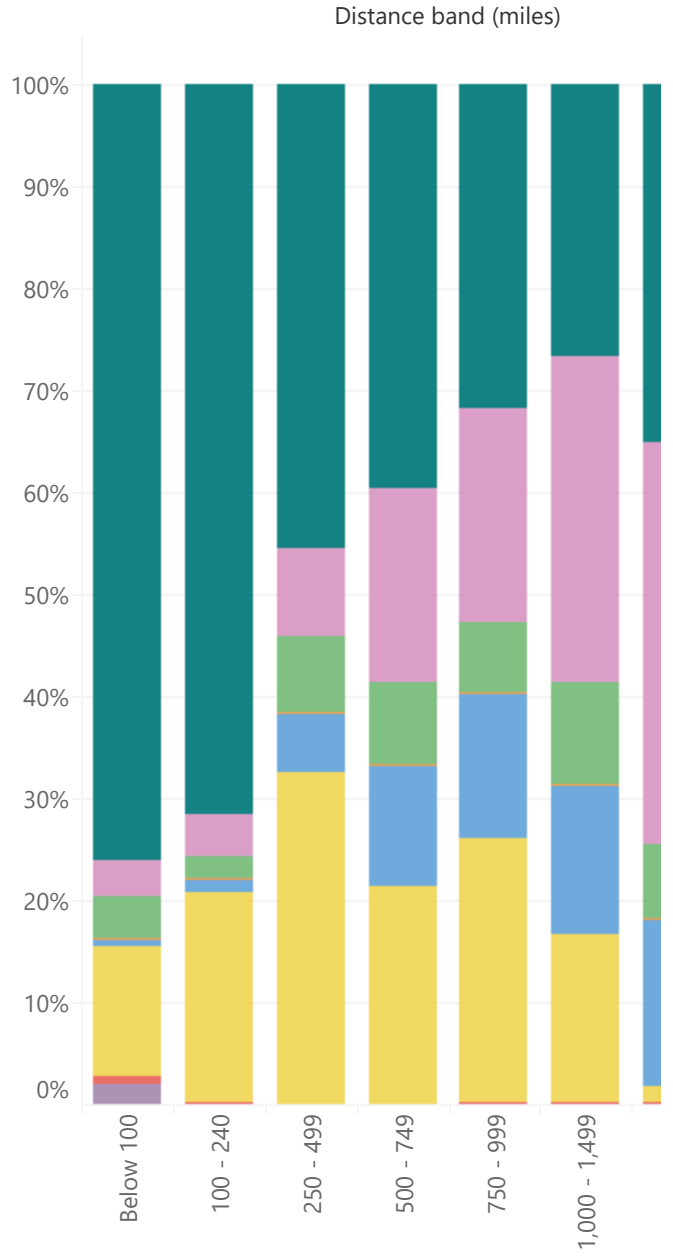
Weight of freight by mode and distance

Year
2023

Total weight



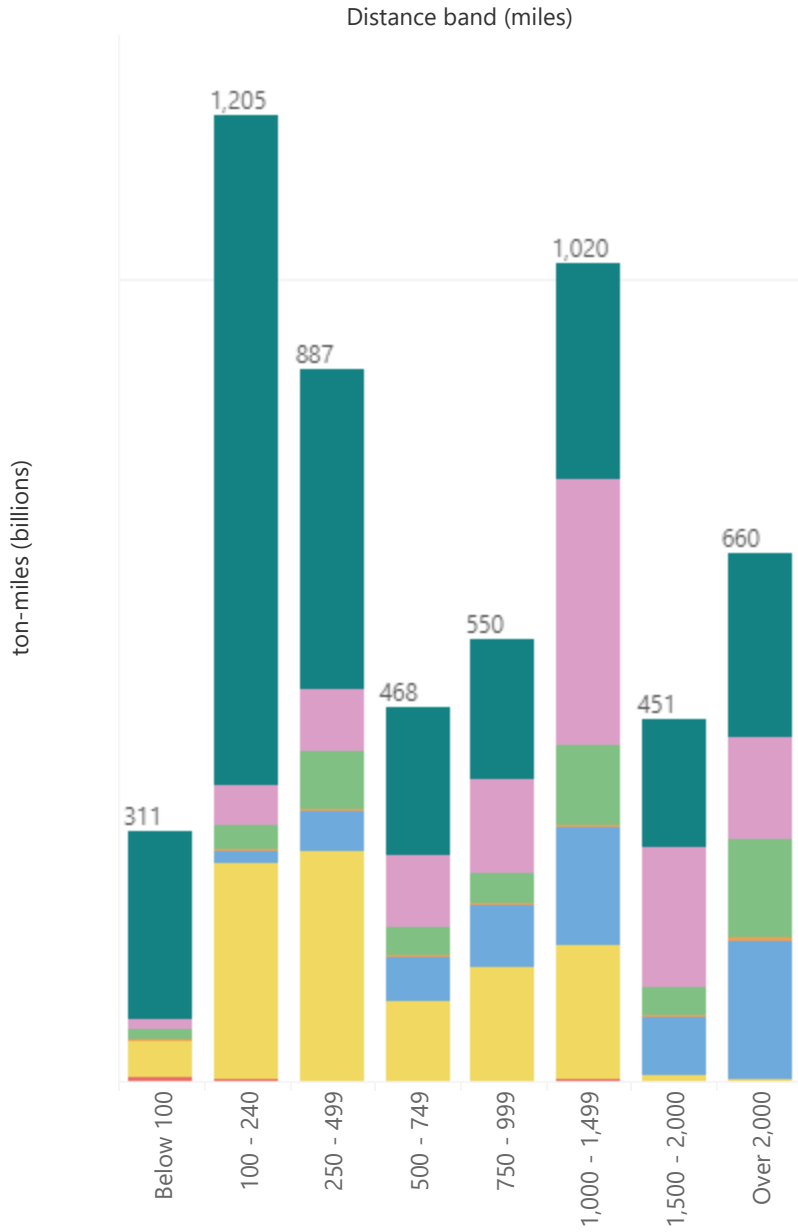
Mode share of weight



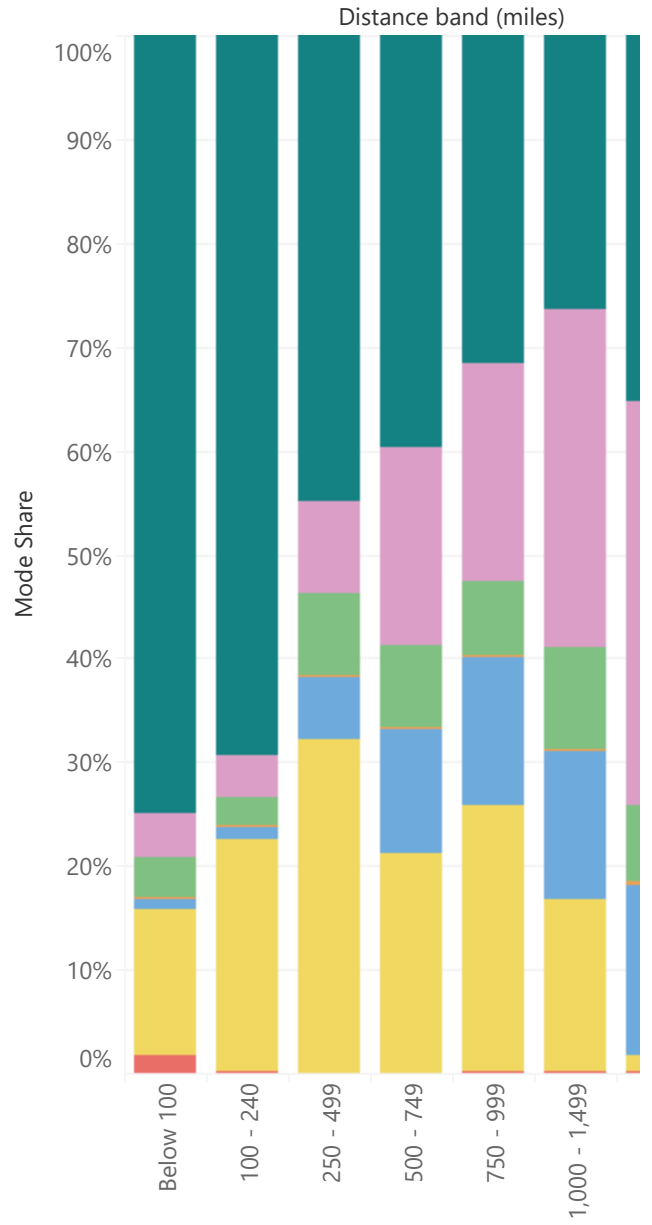
Ton-miles of freight by mode and distance

Year
2023

Total ton-miles



Mode share of ton-miles



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Commodities



Top commodities by weight and value

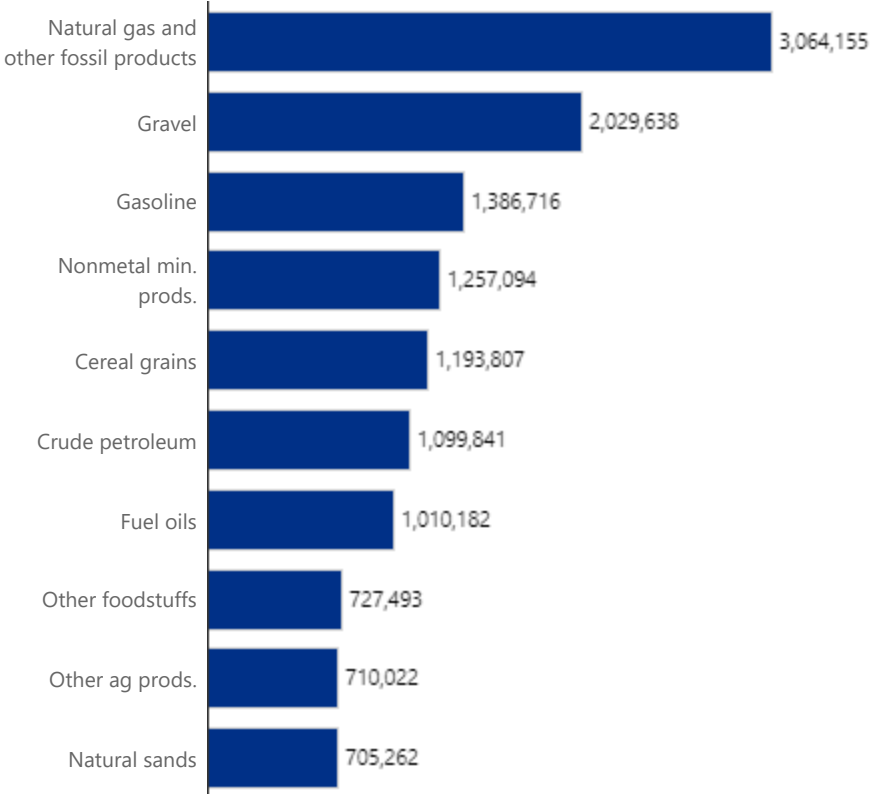
The top 10 commodities by weight accounted for 64.9 percent of total tonnage, while the top 10 commodities by value accounted for 59.7 percent of total value of goods moved in 2023. The leading commodities by weight are natural gas and other fossil fuel products; gravel; gasoline; and nonmetallic mineral products. The leading commodities by value are high value-per-ton goods, such as electronics; motorized vehicles; mixed freight (principally food); and pharmaceuticals.

Year

2023

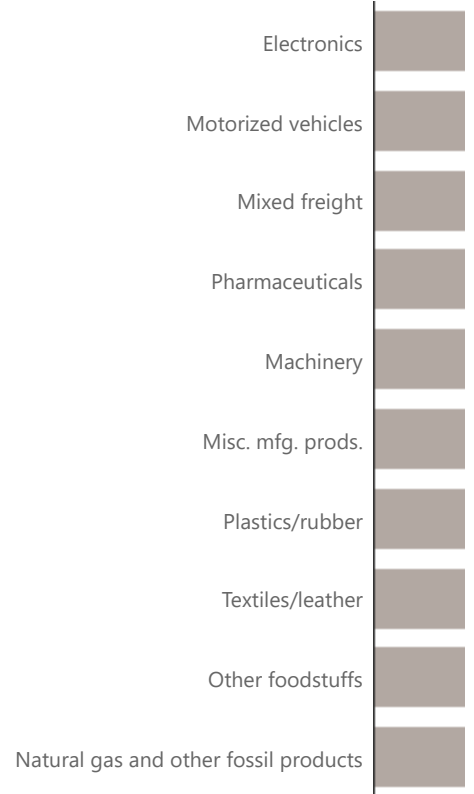
Weight

Thousands of tons



Value

Millions of 2017 dollars



Top commodities moved by mode

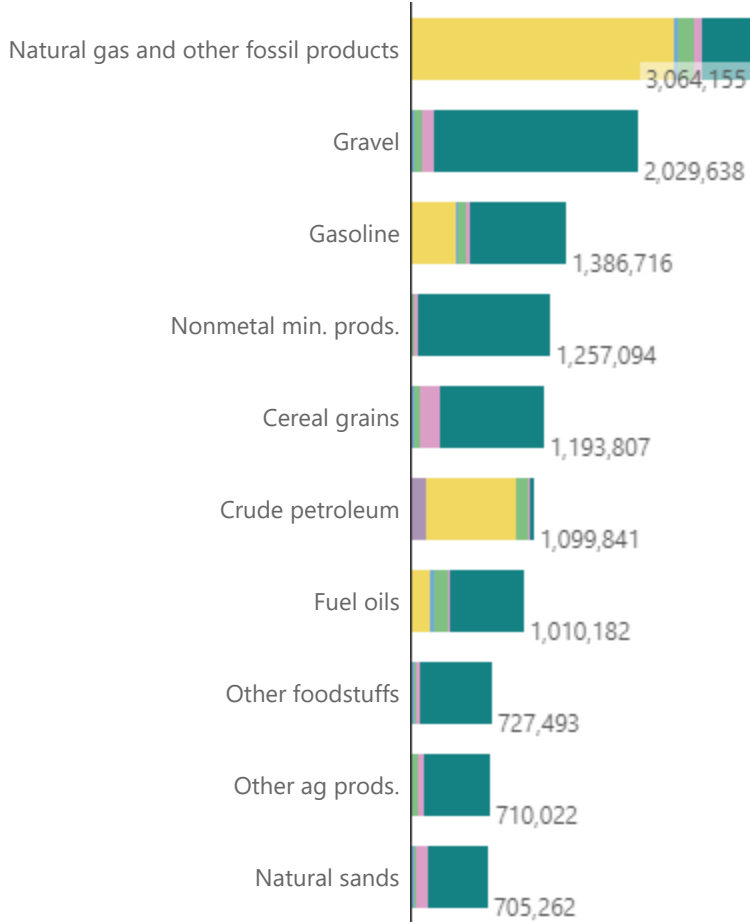
Trucks are involved in the supply chain of all top 10 commodities by tonnage and value. Trucks carry all types of goods, ranging from high-value commodities, such as mixed freight and electronics, to bulk commodities, such as gravel, grains, and gasoline. Mixed freight includes grocery and convenience store goods, office supplies, and hardware and plumbing items. In comparison, rail and water modes primarily move bulk products, while air (including truck-air-transport) moves high-value items, such as electronics and pharmaceuticals. However, trucks moved more high-value, time-sensitive commodities than any other mode in 2023.

Year

2023

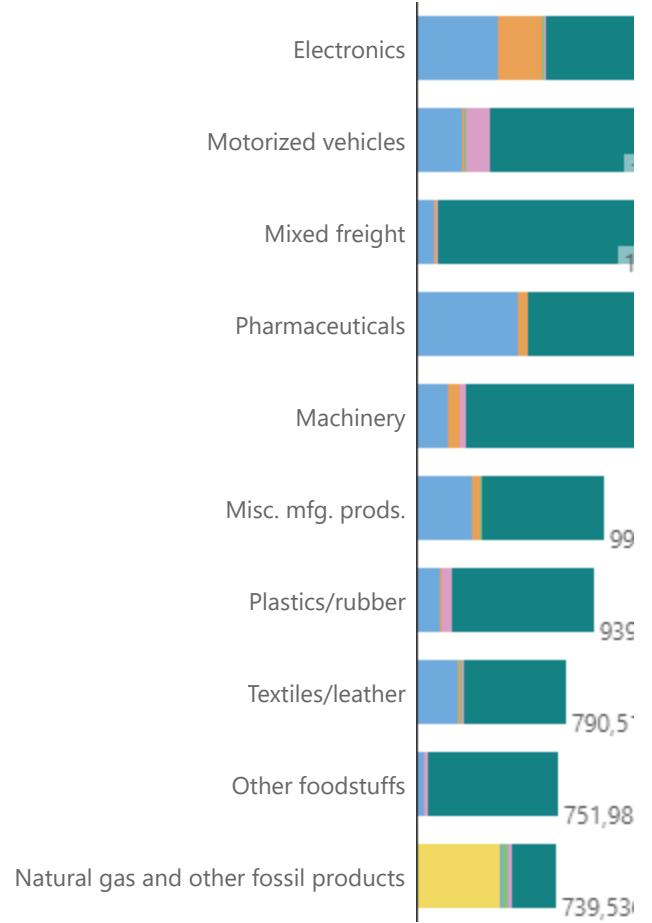
Weight

Thousands of tons



Value

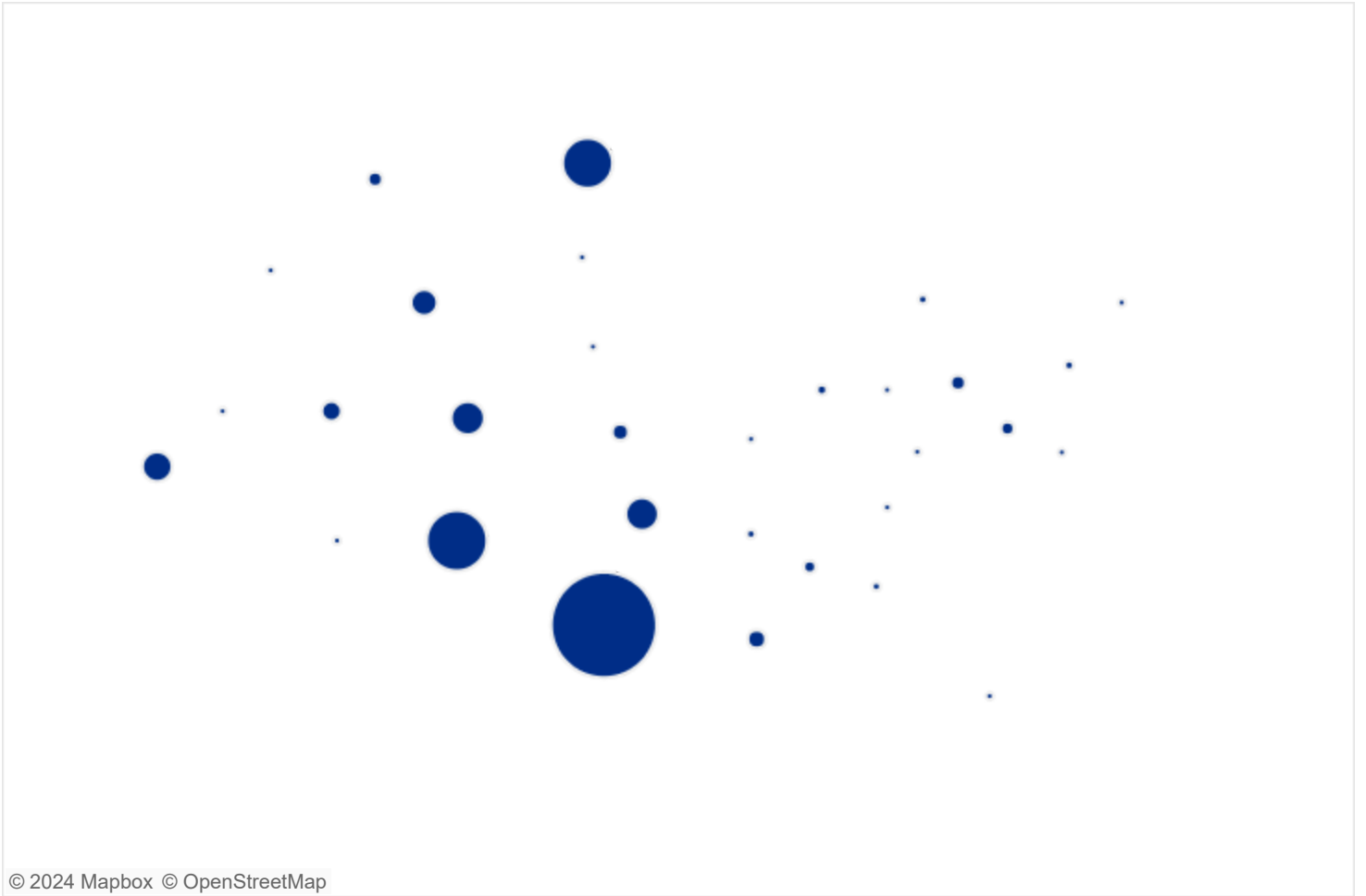
Millions of 2017 dollars



U.S. crude oil production by state (thousands of barrels)

Four states are responsible for 80% of domestic oil production. Texas was the largest oil producing state at 1.84 billion barrels in 2022, accounting for 49.8 percent of total U.S. oil production, while New Mexico was a distance second at 574.2 million barrels (15.5 percent), followed by North Dakota's 385.9 million barrels (10.4 percent) and Alaska's 159.6 million barrels (4.3 percent).

Year

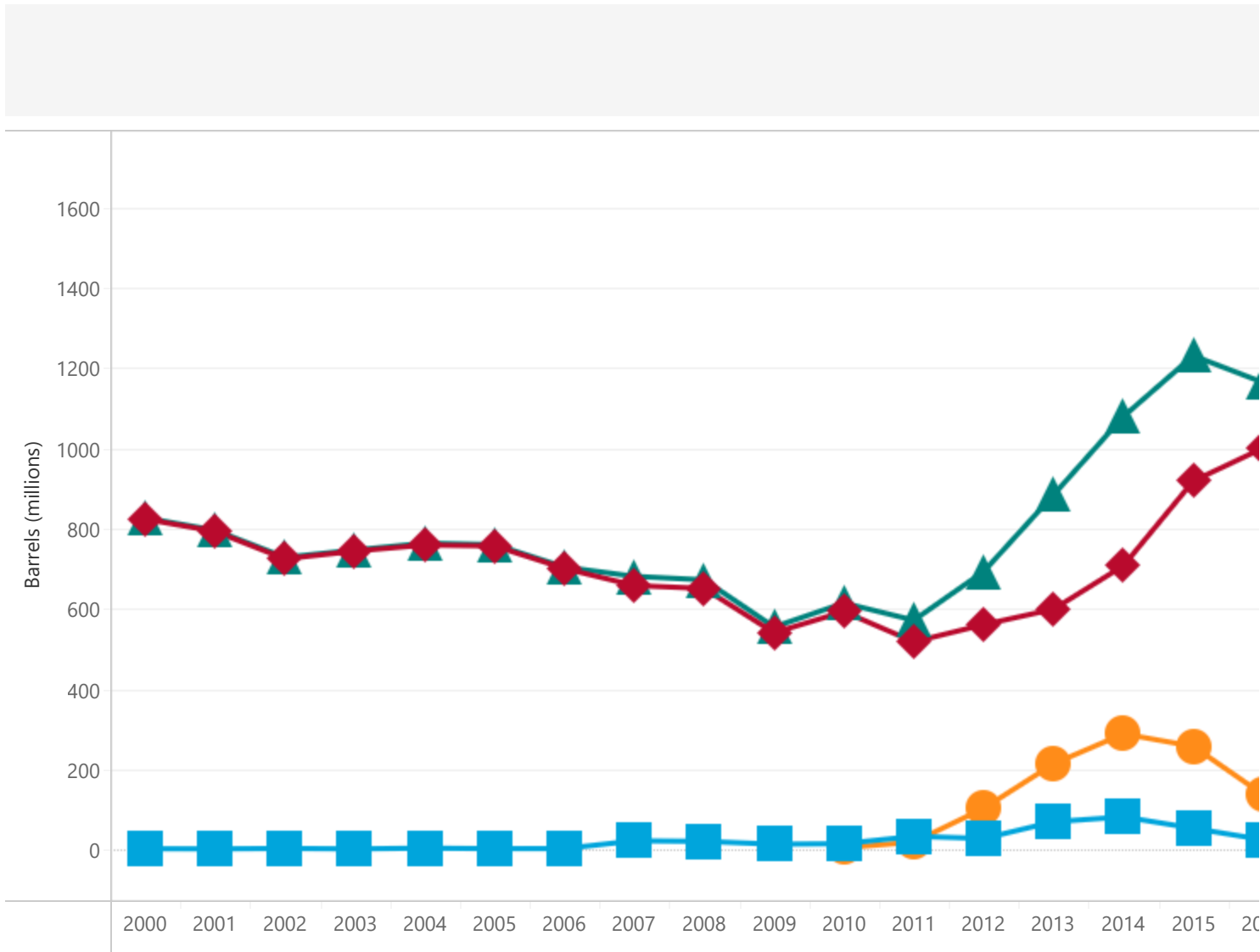


Shipments of U.S. crude oil moved by pipeline, tanker and barge, and rail

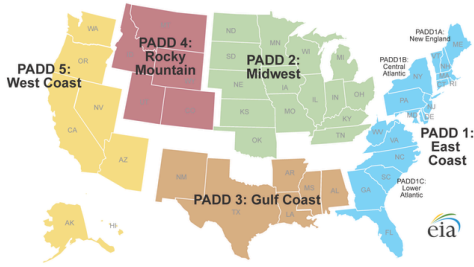
Regional oil shipments by rail increased, on average, from less than 1 percent of all regional shipments in 2010 to about 4 percent in 2022, after peaking at 26.8 percent in 2014. Oil production in the Bakken formation, located in North Dakota, accounted for the majority of new rail shipments, while tankers and barges continued to move crude oil on U.S. inland waterways from port to port along the coast and on the Great Lakes.

Year

(All)



Source: U.S. Department of Energy, Energy Information Administration, Movements between PAD Districts, available at <https://www.eia.gov/petroleum/d>



Establishment of Petroleum Administration for Defense Districts

During World War II, the United States was divided into five districts to organize the rationing of gasoline and other petroleum products. Today those same regions, called Petroleum Administration for Defense Districts (PADDs), are used to analyze patterns of crude oil and petroleum product movements throughout the U.S.

Hazardous materials shipments by transportation mode

The Bureau of Transportation Statistics' Commodity Flow Survey indicates that 3 billion tons of hazardous materials valued at \$1.7 trillion was shipped in the U.S. in 2017, generating a total of 382.5 billion ton-miles. Trucks moved 61.1 percent of the tonnage and 64.9 percent of the value of these shipments. The average shipment by truck was 63 miles compared to an average of 640 miles by rail.

Year

(All)

			Value (\$ billion)	Value (percent)	Tons (millions)	(perc	
Total	All modes	2012	2,334.4	100.0	2,580.2	1	
		2017	1,680.2	100.0	2,968.0	1	
Single mode	Total	2012	2,304.7	98.7	2,552.9		
		2017	1,612.1	95.9	2,889.5		
	Truck ²	Total	2012	1,466.0	62.8	1,531.4	
			2017	1,091.3	64.9	1,814.8	
		For-hire truck	2012	870.9	37.3	882.3	
			2017	567.6	33.8	932.7	
		Company-owned truck	2012	595.1	25.5	649.1	
			2017	523.7	31.2	882.2	
	Rail	2012	79.2	3.4	111.0		
		2017	39.0	2.3	90.4		
	Water	Total	2012	217.8	9.3	283.6	
			2017	137.1	8.2	304.2	
		Deep sea	2012	35.6	1.5	45.0	
			2017	63.1	3.8	128.8	
		Inland water	2012	170.6	7.3	226.3	
			2017	72.2	4.3	171.3	
		Multiple Waterways	2012	11.7	0.5	12.2	
			2017	0.0	0.0	0.0	
		Great Lakes	2012	0.0	0.0	0.0	
			2017	0.0	0.0	0.0	
	Air	2012	4.4	0.2	0.3		
		2017	4.8	0.3	0.3		
	Pipeline ³	2012	537.3	23.0	626.7		

KEY: U = data are not available

¹Ton-miles estimates are based on estimated distances traveled along a modeled transportation network.

²Truck as a single mode includes shipments that went by private truck only or by for-hire truck only.

³Excludes crude petroleum shipments.

Notes: Value-of-shipment estimates have not been adjusted for price changes.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, Census Bureau, Commodity Flow Surveys, <https://www.census.gov/data/tables/2017/econ/cfs/aff-2017.html> as of May 2023.

Hazardous materials shipments by hazard class

Flammable liquids are the predominant hazardous materials transported in the United States, accounting for 81.8 percent by value, 83.1 percent by weight, and 70.5 percent of the ton-miles of all hazardous material shipments in 2017. Flammable liquid shipments traveled 100 miles on average.

Year

2017

Hazard class	Description	Year	Value (billion			
			\$)	Value (percent)	Tons (millions)	Tons (percent)
Class 1	Explosives	2017	14.9	0.9	3.3	0.1
Class 2	Gases	2017	114.8	6.8	227.6	7.7
Class 3	Flammable liquids	2017	1,373.8	81.8	2,466.6	83.1
Class 4	Flammable solids	2017	5.3	0.3	28.2	1.0
Class 5	Oxidizers and organic peroxides	2017	9.8	0.6	15.0	0.5
Class 6	Toxic (poison)	2017	13.3	0.8	6.4	0.2
Class 7	Radioactive materials	2017	6.9	0.4	0.4	0.0
Class 8	Corrosive materials	2017	79.3	4.7	151.0	5.1
Class 9	Miscellaneous dangerous goods	2017	62.0	3.7	69.4	2.3
Total		2017	1,680.2	100.0	2,968.0	100.0

¹Ton-miles estimates are based on estimated distances traveled along a modeled transportation network.

Notes: Value-of-shipments estimates have not been adjusted for price changes. Numbers and percents may not add to totals due to rounding.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, Census Bureau, 2017 Commodity Flow (2021), table CF1700H02, available at <https://www.census.gov/data/tables/2017/econ/cfs/aff-2017.html> as of May 2023.

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Shipments by State



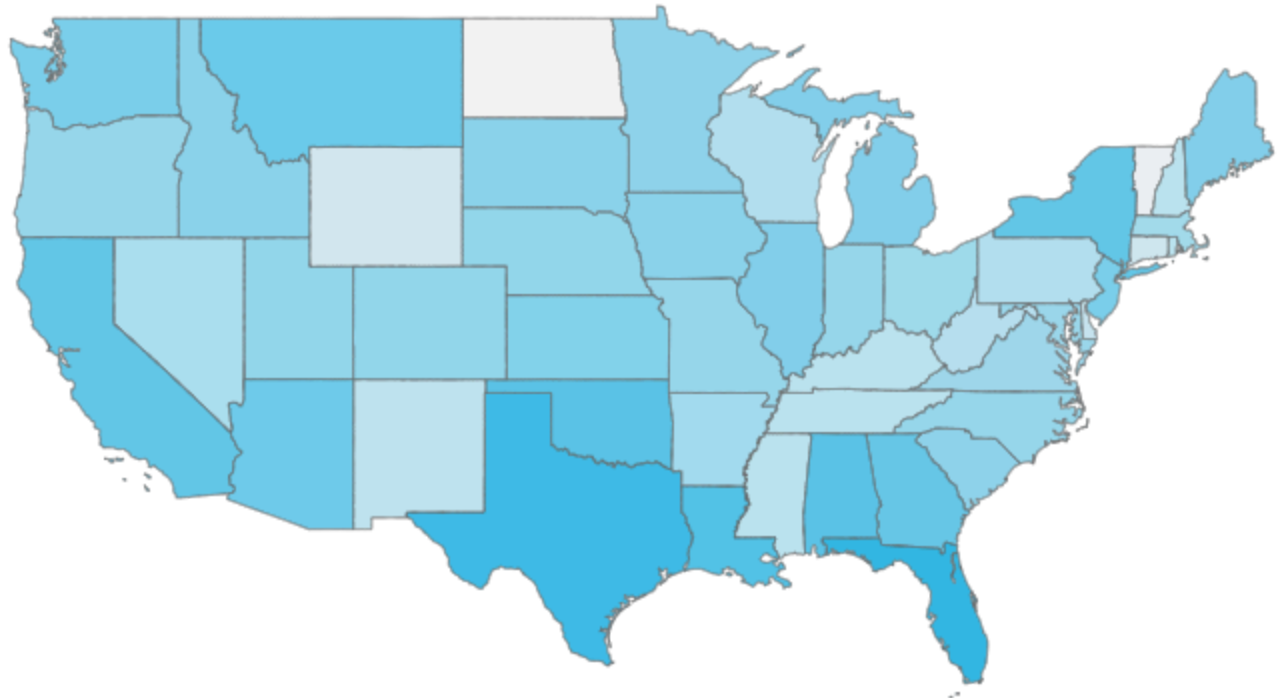
Percent of shipments within a state

Thirty states shipped 50 percent or more of their goods (by value) within their own borders in 2023. States with the highest shares of in-state shipments tended to be either relatively large or geographically isolated from other states. Hawaii had the highest share of intrastate shipments by value, followed by Florida, Texas, and Louisiana. Trucks accounted for 79.6 percent of intrastate shipments. Eleven states shipped less than half of their total intrastate value by truck: Connecticut, Delaware, District of Columbia, Mississippi, New Hampshire, Pennsylvania, Rhode Island, Tennessee, Vermont, West Virginia, and Wisconsin.

Year

2023

27.8%



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Ratio of outbound to inbound domestic shipments by value

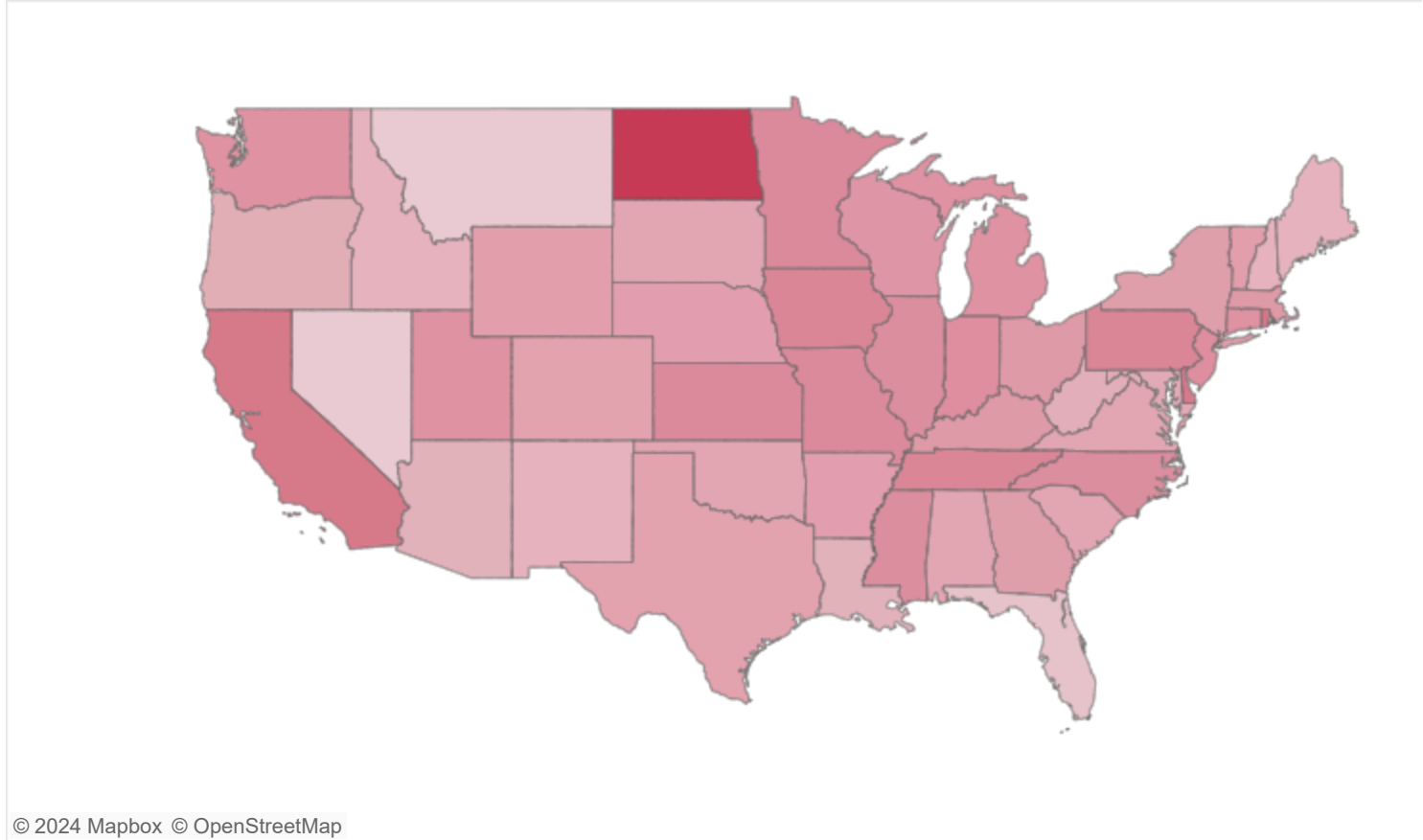
An interconnected freight transportation network contributes to state economic growth by supporting resource development and expanding interstate commerce. A ratio of outbound to inbound shipments greater than 1.0 indicates that a state ships more goods to markets in other states than it receives from other states, whereas a ratio less than 1.0 indicates that a state imports more goods from other states than it exports.

In terms of value, North Dakota has the highest ratios of 2.24, indicating that the value of their goods exported to other states is over double the value of the goods they received from other states. Although North Dakota has a relatively small population, it is a major oil producer. Pipeline and rail are the primary modes for moving oil out of North Dakota.

California also exported more to other states than they imported. Electronics were the top outbound commodity from California, due in part to technology manufacturing in Silicon Valley.

Hawaii had the lowest ratio of interstate outbound-to-inbound shipments by value at 0.05 because of its distance location from the mainland and its resource dependency. DC, Nevada, and Montana also exported far less to other states than they imported, partly due to demographics and other factors.

Year



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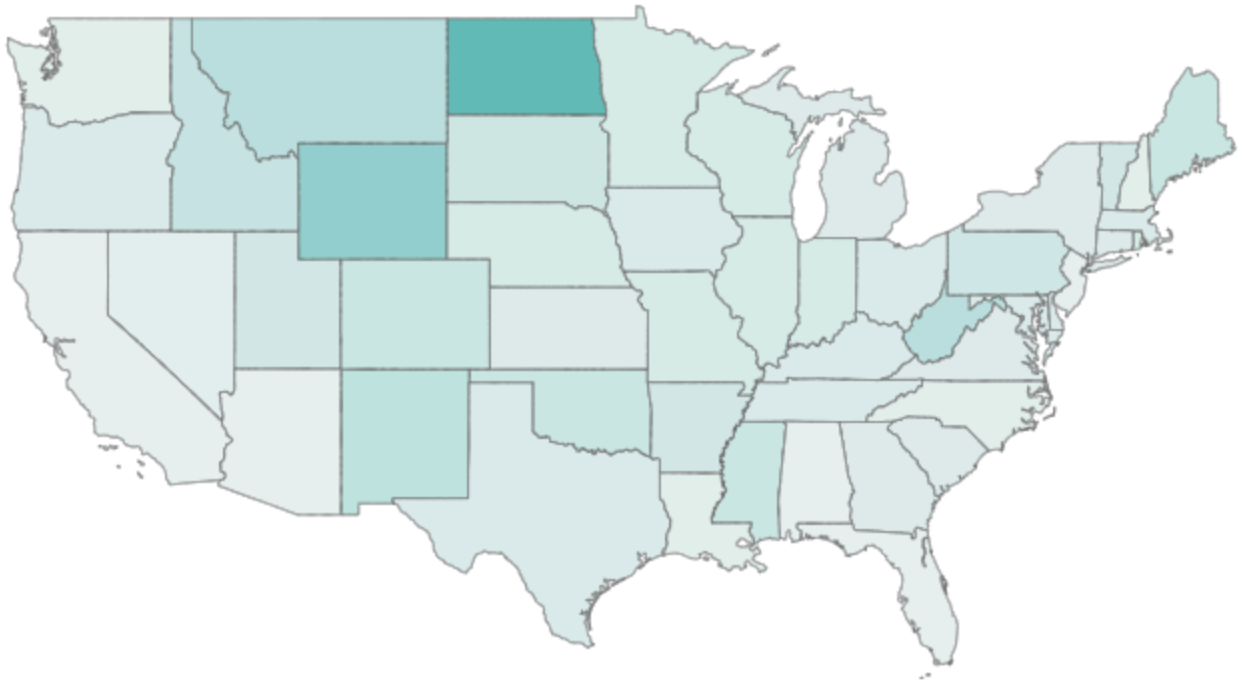
Ratio of outbound to inbound domestic shipments by weight

The top five net interstate exporters by weight are major producers of energy commodities: Alaska, North Dakota, Wyoming, Montana, and West Virginia in 2023. Net domestic exporters are states that ship more freight to other states than they receive from other states. According to the Energy Information Administration in 2021, Wyoming is the largest U.S. coal producer, while Montana is the fifth largest coal producer. For domestic markets, rail and barge are used to transport coal over long distances, primarily to power plants.

Year

2023

0.00



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Recommended citation

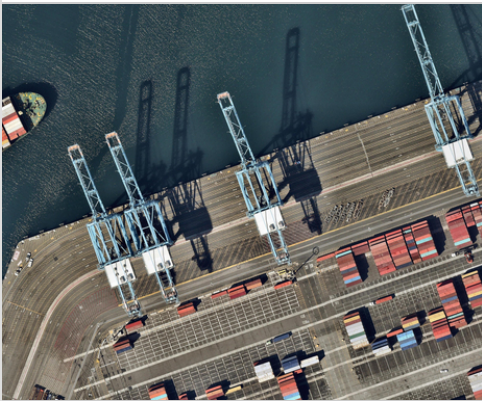
U.S. Department of Transportation, Bureau of Transportation Statistics, *Freight Facts and Figures* (Washington, DC: 2022).



Freight Facts and Figures, developed by the Bureau of Transportation Statistics, is a collection of charts and statistical tables about freight transportation in the United States. These interactive visualizations and tables provide a snapshot of freight movement; the extent, condition, and performance of the freight transportation system; the economic implications of freight movement; and the safety, energy, and environmental impacts of freight transportation.

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International Freight Gateways



Freight Transportation System Extent & Use



Freight Transportation System Condition & Performance



