The State of Transportation, Logistics and Distribution in Maine

2025

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PREPARED BY:

camoin associates

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January 2025

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Introduction

Domestic trade, like foreign trade, is built upon market conditions and opportunities. The ability to capitalize on those opportunities for economic growth requires a solid foundation of infrastructure for the efficient movement of goods, including inputs and outputs, along the entire supply chain. This report aims to enhance support for businesses and industries engaged in domestic trade by providing key baseline statistics surrounding the transportation, warehousing, and logistics sectors in Maine.[1] It is meant to help policymakers, state and local government, industry groups, and economic development entities understand trends and gaps to guide policy and prioritize investments for economic opportunity.

This report covers the following:

Economic Overview

The report begins with an economic overview integrating key indicators from these sectors to establish a comprehensive baseline.

QUESTIONS ANSWERED:

- **How does the Transportation, Logistics, and Distribution Sector support Maine's economy?**
- **How has the sector performed nationally and in Maine in the last five years?**

Infrastructure Profiles and Needs

The infrastructure needs section identifies existing challenges and future requirements for transportation and trade infrastructure, analyzing key metrics for warehousing, port capacities, road conditions, and freight inventory by county. This section also features an infrastructure requirements matrix that matches sector needs with infrastructure elements that are needed to support local businesses.

QUESTIONS ANSWERED:

- **What existing infrastructure is in place for transporting freight?**
- **What condition is the existing infrastructure in?**
- **What infrastructure is required by businesses in Maine's Target Industries?**

Freight Analysis

The freight analysis delves into Maine's current freight flows, using data from the Oak Ridge National Laboratory Freight Analysis Framework (ORNL FAF5) to profile various freight transport modes such as truck, rail, and air. It includes detailed breakdowns of commodity movements by destination and origin, visualized through maps and charts, and examines trends from 2018 to 2022.

QUESTIONS ANSWERED:

- **How do products move throughout both within and outside of Maine?**
- **Where are products going (exports)?**
- **What products are coming into Maine (imports)?**

Appendix

The appendix includes comprehensive content such as data tables for detailed information, a glossary for key terms, and data sources to reference the origin of the data presented.

[1] *This project is commissioned by the Office of Business Development and is funded by the Maine Jobs & Recovery Plan.*

Existing Transportation Plans and Strategies

This report is informed by research and strategies from Maine's Department of Transportation (MaineDOT) as well as select industry initiatives. The following summary highlights key reports our project team referenced when planning and creating this report.

MaineDOT

Maine State Rail Plan (2022)

This plan identifies the performance measures for tracking and evaluating the state's freight rail system. Several improvement opportunities were also outlined in the report, including multimodal connectivity and terminal improvements, rolling stock, grade crossing safety, and infrastructure upgrades. Finally, this plan includes a list of the 33 freight projects that were either planned or underway as of 2022. This list is significant because freight railroad projects do not typically receive public funding, and therefore, project details are not shared with MaineDOT. As a result, the list compiled in the State Rail Plan was collected through stakeholder engagement.

Maine's Integrated Freight Strategy (2024)

Maine's Integrated Freight Strategy (MIFS) is a comprehensive plan aimed at supporting freight transportation through proper planning and investment. The 2024 MIFS concluded that Maine's highway freight system is performing well and is expected to continue providing "a high level of service to motor carriers." As a whole, however, the freight system will require significant investment to maintain infrastructure and improve connectivity. Maine will also need to address its climate change vulnerability to ensure the future success of the state's freight system.

Long-Range Transportation Plan (2023)

The Long-Range Transportation Plan (LRTP) is a high-level plan for addressing the needs of Maine's multimodal transportation system over the next 20+ years. This plan is informed by MaineDOT's set of specific transportation plans, e.g., the rail and freight strategies. The current plan includes 15 implementation strategies to help Maine reach its transportation goals.

Industry Led Initiatives

Forest Opportunity Roadmap/Maine: Vision and Roadmap for Maine's Forest Products Sector (2016-2020)

This FOR/Maine report's industry-specific transportation analysis recommended enhancing efficiency and reducing costs associated with forest products transportation infrastructure. To achieve these goals, the report recommended using targeted investments, developing innovative strategies, and improving operational policies.

Forest Opportunity Roadmap/Maine: Forest Products Best Practices (2020)

This study focuses on improving the forest product sector's supply chain through improving the transportation system. Transportation-related recommendations include moving to standardized unloading equipment across facilities, improving yard design, and offering incentives for truckers to replace old equipment. Additionally, the report suggests conducting complete analyses of potential infrastructure improvements to avoid investing in expensive projects that will not result in positive returns.

Marine Living Resource Needs and Opportunities in Transportation and Logistics

The report acknowledges that Maine's smaller seafood and aquaculture producers struggle to bring fresh seafood to market in a competitive timeline. Large producers in the state use privately owned refrigerated trucking services, but commercial carriers remain limited. The report recommends SEA Maine investigate creating a trucking cooperative for smaller harvesters and dealers and supporting community cold storage sites for small harvesters.

Executive Summary

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Economic Overview

Transportation, Logistics, and Distribution Sector

- **The Transportation, Logistics, and Distribution sector has room to improve to meet demand in-state.** In 2022, out-of-state sources met 58% of total demand for the Transportation, Logistics, and Distribution Sector. This ranks Maine 42nd in the nation for in-region demand, indicating a lack of logistics capacity that could negatively impact the B2B sales environment.
- Jobs in this sector have fallen slightly over the last five years since 2018. These industries have been slow to recover in Maine at a time when the sector is rapidly growing nationwide. The industry **lost 261** jobs in Maine from 2018-2023, driven by critical logistics industries such as warehousing and freight trucking. This represents a 2% decline over five years, while at the same time, the sector's employment grew by +17% nationwide.
- **Industry concentration is below the US average.** In 2022, this concentration was 0.60. During the Transportation, Distribution, and Logistics boom, large industry players (e.g., Amazon) invested in key hubs in the Mid-Atlantic, Texas, and other regions.
- Given Maine's location in the northeast corner of the country and its rural/non-densely populated regions, it should not be expected that Maine's Transportation, Logistics, and Distribution sectors will be top performers compared to states in the Midwest and with proximity to multiple major metro centers. However, there is room for increased capacity and economic performance to ensure the sectors enable and support the expansion of domestic trade.

Subsectors included in this Report

- **TRANSPORTATION**
  Activity includes industries providing transportation of passengers and cargo, and sightseeing transportation, and support activities related to modes of transportation. Establishments in these industries use transportation equipment or transportation-related facilities as a productive asset. The type of equipment depends on the mode of transportation. The modes of transportation are air, rail, water, road, and pipeline.
- **WAREHOUSING & STORAGE**
  These primarily operate warehousing and storage facilities for general merchandise, refrigerated goods, and other warehouse products. These establishments provide facilities to store goods. They do not sell the goods they handle. These establishments take responsibility for storing the goods and keeping them secure. They may also provide a range of services, often referred to as logistics services, related to the distribution of goods.
- **PROCESS, PHYSICAL DISTRIBUTION, AND LOGISTICS CONSULTING SERVICES**
  These are engaged in providing operating advice and assistance to businesses and other organizations in manufacturing operations, productivity improvement, production planning and control, quality assurance and quality control, inventory management, distribution networks, warehouse use, operations and utilization, transportation and shipment of goods and materials, and materials management and handling.
- **PACKAGING AND LABELING SERVICES**
  Activity is primarily engaged in packaging client-owned materials. The services may include labeling and/or imprinting on the package.

Infrastructure Profile and Needs

1. ROADWAYS AND BRIDGES

Maine's 6,300-mile roadway network is crucial for freight transport. However, 19% of the state's roadways and 15% of its bridges are in deficient condition, posing challenges for businesses and potentially influencing modal shifts. Continuous maintenance and targeted upgrades are essential for a safe and efficient transportation network.[2]

2. AIR FREIGHT

Air freight specializes in transporting low-weight, high-value products like pharmaceuticals, electronics, and seafood. Maine's three main airports—Portland's Jetport, Bangor, and Presque Isle—handled significant freight volumes in 2022, with Portland's Jetport accounting for 76% of the state's air freight. Expanding warehouse and distribution space near these airports can further enhance air freight efficiency.

3. MARITIME SHIPPING

Maine's extensive coastline supports maritime trade, with primary ports in Portland, Searsport, and Eastport. Portland handles 95% of the state's maritime cargo, with facilities offering intermodal connectivity. Enhancing port facilities and infrastructure can support increased maritime traffic, especially with developments like the new offshore wind farm at Searsport.

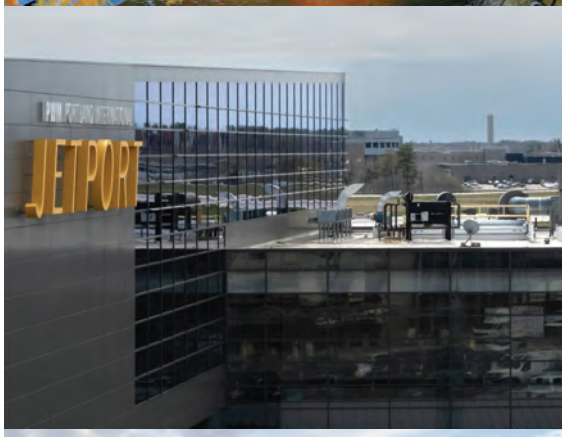
4. RAIL TRANSPORT

In 2022, Maine's 1,457 miles of railways transported 4.7 million tons of freight valued at $1.9 billion. However, the system faces efficiency challenges due to height, speed, and weight restrictions, with many lines limited to 25 mph and large sections restricted to just 10 mph. While recent rail improvement efforts have begun addressing these speed limitations, freight is still often diverted to trucking, increasing reliance on road transport. Continuing and increasing investment in rail infrastructure and connectivity could greatly enhance freight transport efficiency across the state.

5. PIPELINE

Maine is served by three major interstate natural gas pipelines, which are crucial in transporting natural gas and crude oil. It moved over 7.7 million tons of products worth $1.7B in 2022. While usage declined steadily through 2019, recent years have seen a steady resurgence, with shipments exceeding 6 million barrels per day in 2023.

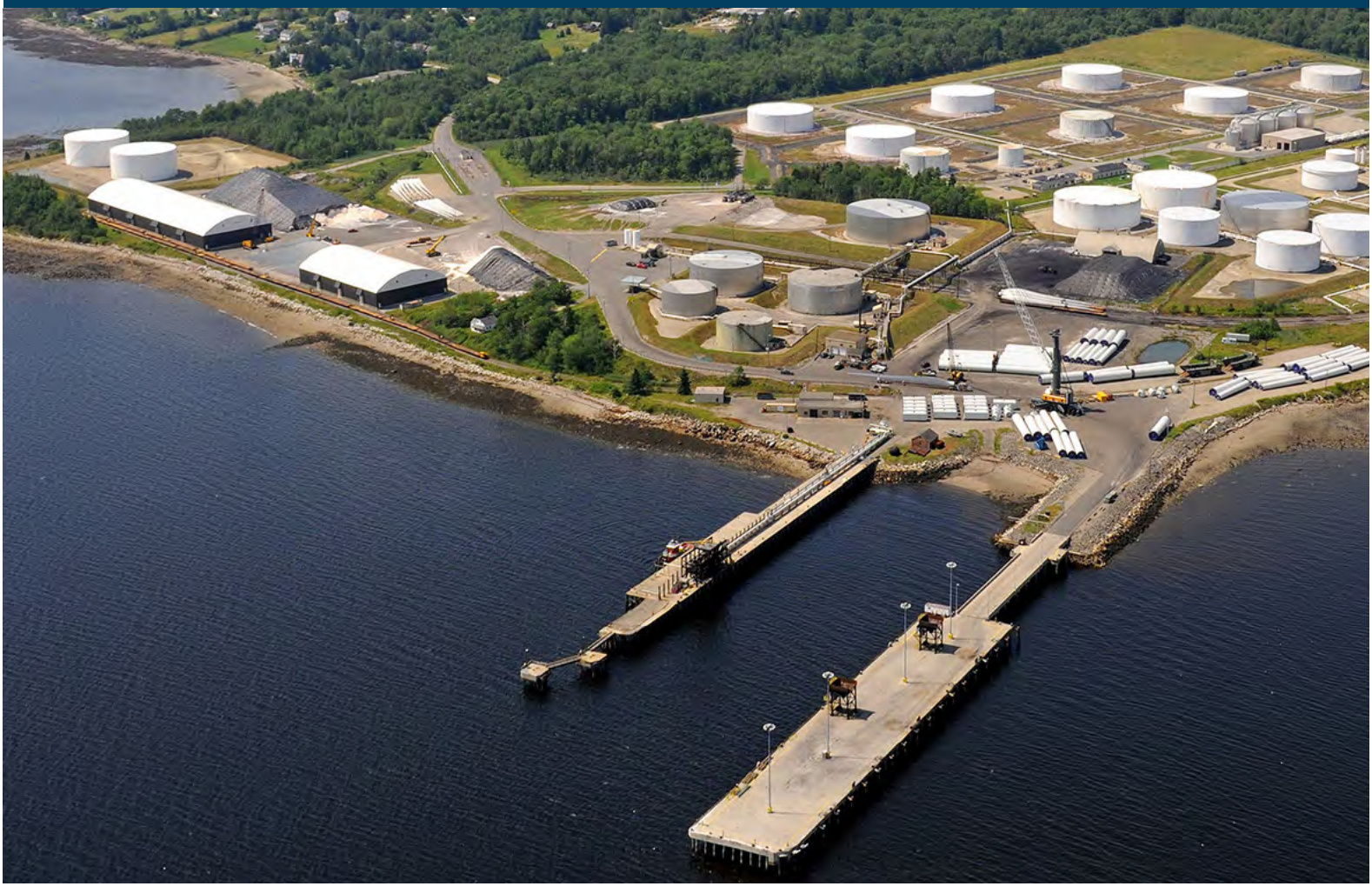
[2] *American Road and Transportation Builders Association (ARTBR) and Federal Highway Administration (FHA)*



Constraints and Opportunities

Investment in transportation infrastructure ensures a resilient and efficient network, benefiting Maine's food, manufacturing, retail, and distribution sectors with improved efficiencies and competitive pricing.

- Maine's **economic vitality hinges on its transportation infrastructure,** which supports business and industrial activity. The state's competitiveness relies on the efficiency and adaptability of its transportation network.
- While congestion is modest on Maine's highway system, compared to neighboring states, maintaining primary trucking routes is critical due to wear caused by heavy truck traffic. According to the National Transportation Research Group (TRIP), over 44% of highways are in poor to mediocre condition, and the American Road and Transportation Builders Association (ARTBR) determined that 15% of bridges are structurally deficient. Investment in maintenance and modernization is essential to remain competitive.
- The **ports at Portland, Searsport, and Eastport present various expansion opportunities**, including the addition of new intermodal rail facilities, improved highway access, and additional intermodal rail capacity to **attract international shippers.**
- Maine's rail network requires maintenance and modernization to reach its full potential. Short-term and long-term projects aim to bring rail lines up to a state of good repair and improve services. **Upgrading rail infrastructure, increasing carrying capacity, and enabling double-stacking of containers would enhance efficiency and competitiveness**. Expanding multimodal facilities and geographic reach would further enhance rail's value to manufacturers and distributors.



Infrastructure Needs by Target Industries

Using the COVID-19-impacted industries identified in the Maine Jobs & Recovery Plan, Camoin Associates evaluated and rated each industry on its reliance on differing aspects of the transportation sector. The table below matches business needs with infrastructure elements that are critical to support key industries. Through the research and analysis process, we found:

- The majority of these sectors remain highly reliant on highway access.
- Air transport shipping is only cost-effective for manufactured goods with high-value relative weight.
- Rail and waterway access ratings are important and advantageous for several of the manufacturing sectors, especially to the extent that heavy equipment is shipped long distances. The importance of rail and port access might become more prominent if the current rail lines and port facilities undergo upgrades to improve travel speed and increase the multimodal options within the state.

Importance of Transportation Modes to Target Industry Sectors

Sector	Highway Accessibility	Accessibility to Airport for Air Freight	Accessibility to Major Airport for Business Travel	Railroad Service	Waterway or Oceanport Accessibility	Pipeline Accessibility	Accessibility to Public Transit - Workforce
Clean Energy	■	x	○	●	●	x	○
Forestry & Forest Products	■	x	○	■	●	x	○
Agriculture, Seafood & Food Mfg	■	○	○	●	●	x	○
Biomedical Manufacturing	■	●	●	○	○	x	○
Logistics, Transportation & Warehousing	■	●	○	■	■	x	○
Advanced Machinery & Metals Mfg	■	x	○	●	●	x	○
Durable and Nondurable Mfg	■	○	○	●	●	x	○
Construction	●	x	x	○	x	x	x
Retail Trade	●	○	x	○	○	x	○
Information Technology	○	○	○	x	x	x	○

Source: Camoin Associates

■ **Essential** ● **Important** ○ **Advantageous** x **Less Relevant**

Map of Major Commercial Infrastructure in Maine

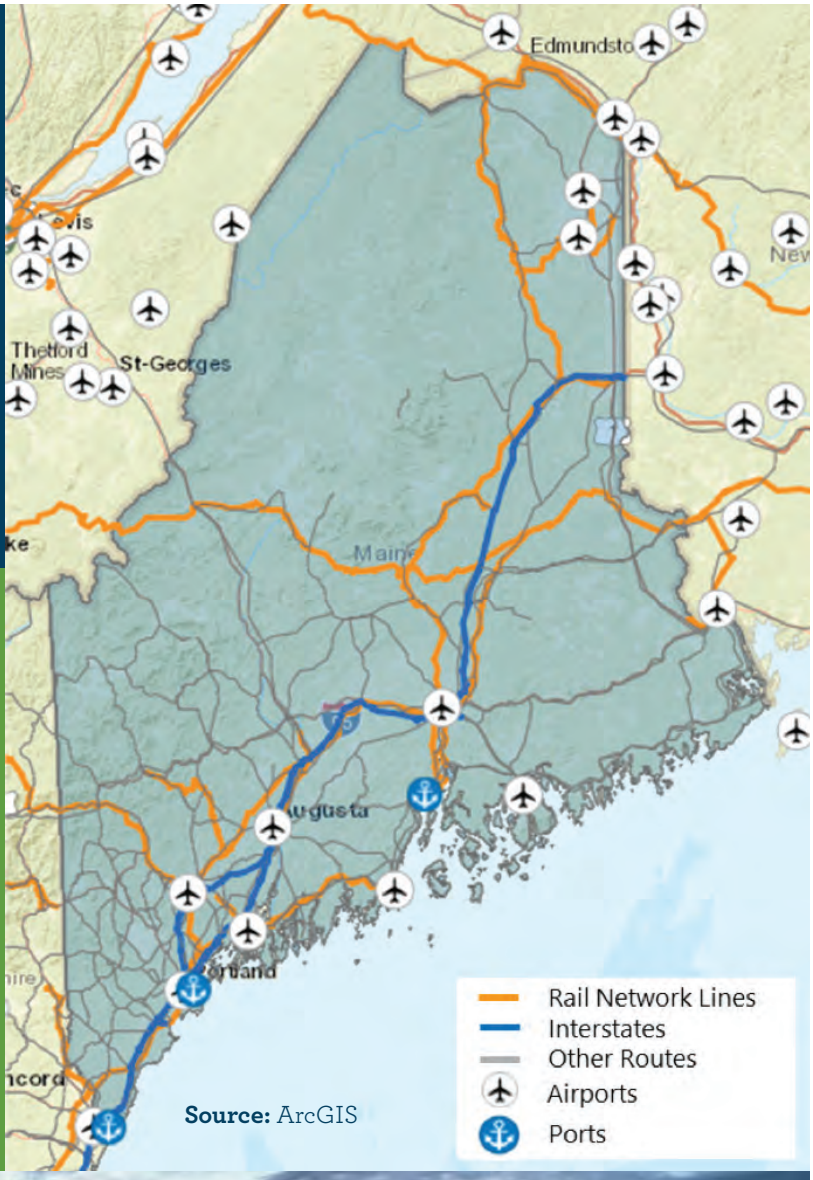
Warehouse and Distribution Facilities within a 2 mile radius

Airports

- Bangor Airport: **58 Facilities**
- Portland Airport: **75 Facilities**
- Northern Maine Regional Airport: **2 Facilities**

Ports

- Port of Portland: **64 Facilities**
- Port of Searsport: **1 Facility**
- Port of Eastport: **2 Facilities**



Source: ArcGIS

Freight Analysis

The state is highly reliant on its transportation infrastructure to support business and industrial activity. Maintaining and expanding this infrastructure is central to a vibrant and diverse economy. Maine's economic competitiveness is directly tied to the versatility and efficiencies of its transportation network.

A balanced and integrated transportation infrastructure is essential for economic stability. Each mode of transportation supports different aspects of Maine's economy. Trucking dominates Maine's local and regional distribution, while rail provides long-distance and bulk transport. Pipelines are crucial for energy commodities but are utilized less for other goods, and multiple modes and mail offer flexibility for complex logistics. These transportation modes facilitate strong trade relationships in the Northeast and across the country. Maintaining and enhancing these connections through investments in infrastructure, industry diversification, and strategic planning for future trends (such as shifts to renewable energy) will promote economic resilience and growth.

Truck Freight

Trucking is indispensable to Maine's economy and is responsible for the vast majority of commodity transport within the state and across state lines. Trucks carried 84% of export tonnage, 61% of import tonnage, and 98% of all intra-state flows in 2022, amounting to over $50 billion worth of goods. The primary goods transported include pulp, paper, and wood products, though trucking offers the most diversity in goods transported. Efficient and reliable trucking services are critical to supporting local businesses and ensuring consumer access to products.

Rail Freight

Rail transport supports key industrial sectors by providing a cost-effective means of transporting bulk goods over long distances, thus reducing highway congestion and emissions. Rail carried 3% of export tonnage and 1% of import tonnage in 2022, with an overall value of $306 million. The primary goods transported are newsprint/paper and wood products. Rail's geographical reach connects Maine to distant markets, particularly the Midwest and West, enhancing trade diversity and economic resilience.

Pipeline Freight

Pipelines are vital for energy commodities, carrying 7% of export tonnage and 28% of import tonnage in 2022, translating to over $1.3 billion worth of goods. The primary goods transported are natural gas, fossil products, and basic chemicals. Maintaining pipeline infrastructure is essential for energy security, especially given the potential shifts toward renewable energy sources.

Multiple Modes and Mail Freight

This mode integrates various transportation methods, offering flexibility and efficiency in logistics. It carried 7% of export tonnage and 10% of import tonnage in 2022, with an overall value of $15.3 billion. The primary goods transported are newsprint/paper, wood products, pharmaceuticals, and textiles. The versatility of multiple modes and mail is critical for handling diverse logistics needs and ensuring goods reach their destinations efficiently.

What We Heard

Stakeholder engagement was a critical component to this study and contributed heavily to the strategies developed for this report. Multiple elements of engagement were conducted by the project team:

1-on-1 Virtual Interviews

Interviews were conducted with a variety of subject matter experts, including:

- Government officials
- Business & industry leaders
- Transportation entities
- Logistics providers

In-Person Business Round table

A full-day event was held in Augusta, ME, in October 2024. The agenda included a keynote speaker, a panel of Maine-based transportation and logistics experts, and a small-group breakout work session focused on identifying challenges, solutions, and priorities. A total of 35 people attended the event, representing municipal economic development officials, transportation and logistics providers, businesses, nonprofits, university researchers, and state government officials.

Key Themes

1: Cooperative Models are Needed to Improve Volume & Aggregation Challenges
Whether shipping by truck, rail, or air, significant volume is needed to remain cost-effective. Collaborative models and aggregators can help to create volume among multiple small producers. Among round table participants, co-ops, aggregation, and improvements along these lines were noted as the greatest priority during the afternoon small group work session.

2: Small- to Mid-Size Shovel-Ready Sites are Needed
Stakeholders in Maine identified that a lack of both buildings and suitable sites to build new infrastructure create a major barrier to development of warehouses and cold storage facilities. Based on this constraint, participants at the round table identified that the development of more small- to mid-size shovel-ready sites (between 10-50 acres) is a major priority to overcome this challenge.

3: Cold Storage and Cold Chain Investment is Critically Needed
A diverse set of stakeholders consistently noted a critical lack of cold storage infrastructure in both one-on-one interviews and the round table event. The brand-new 106,000 SF Maine International Cold Storage Facility in Portland (opening January 2025) will be a major asset in Maine. Still, more facilities are needed throughout the state as demand outpaces supply. Meanwhile, stakeholders identified barriers to development such as access to capital funding, slow permitting process, and lack of available sites.

4: Rural Parts of Maine Have Unique Needs, and Could Benefit From Stronger Cooperation
While transportation, logistics, and distribution face challenges both state-wide and nationally, the rural parts of Maine face heightened barriers such as reduced access to major highways, distance from major markets, and low volume of goods for back-hauling. Some proposed solutions from stakeholders include establishing a council or a cooperative that brings together rural government officials and industry professionals to collaboratively solve problems and pool resources.

Strategic Priority Areas

Strategic priority areas are intended to highlight data insights and stakeholder perspectives. These priority areas are intended to assist Maine Department of Economic and Community Development in exploring opportunities that will support business growth and domestic trade efforts. The table below presents challenges, strategic priorities, and potential solutions to address each challenge.

Challenge	Strategic Priority	Potential Solutions
Rural and small businesses face costly and limited transportation/ warehousing options due to smaller shipment volumes and geographic distance to hubs.	**Promote regional collaboration and co-operatives.**	Establish cooperative networks for logistics and transportation, aggregation, and cold storage among rural producers and small businesses.
		Incentivize regional distribution initiatives and enhance intrastate connectivity by linking rural areas to freight hubs.
		Support cooperative solutions to transportation and warehousing for low-volume, widely dispersed producers. Assist in understanding market and financial feasibility for investments in TWL facilities that are appropriately scaled for rural communities.
There are cold storage, warehousing, and affordable logistics needs across the state.	**Expand supply chain infrastructure, including facilities for cold storage and warehousing.**	Support market and financial feasibility analysis for the development of shovel-ready sites (10-50 acres). Create partnerships with local economic development organizations and municipalities for the development and marketing of sites.
		Upgrade existing storage facilities to cold or climate-controlled storage and establish mobile storage solutions for small and medium businesses.
		Expedite permitting processes for cold storage facilities, especially near vacant mill sites, to improve accessibility and reduce project timelines.

Challenge	Strategic Priority	Potential Solutions
There are infrastructure investment needs in the state.	**Support additional investment in Rural and Regional Transportation Networks.**	Establish freight hubs as business attraction sites in key locations to support efficient shipment delivery and attract investment.
		Encourage regional collaboration to utilize rail services for large-scale rural transportation needs.
		Improve rural infrastructure maintenance by exploring various funding mechanisms.
There are workforce shortages in the Transportation, Warehousing, and Logistics industry.	**Enhance workforce development and automation solutions.**	Develop targeted incentive programs for workforce training, including apprenticeships and certificates, focused on the transportation, warehousing, and logistics industry.
		Encourage increased workforce participation by working with immigrant communities to provide training programs that improve workforce eligibility and retention.
		Collaborate with local manufacturers and retailers to strengthen partnerships and create opportunities for shared logistical planning and centralized hubs to maximize the available workforce.

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ECONOMIC OVERVIEW

ECONOMIC OVERVIEW

National Trends

In 2023, Transportation, Logistics, and Distribution employment totaled 6,442,903 jobs across 317,189 establishments in the United States. From 2018-2023, jobs in the sector grew by 17% (+919,382 jobs) and **are projected to grow by an additional 10%** (+624,302) **by 2028**. The sector contributed over $709 billion to the nation's Gross Regional Product (GRP), and its total domestic demand nationwide was over $1.3 trillion.

Annual Growth

Recent growth in the revenue and value-added of the transportation, logistics, distribution, warehousing, and wholesale trade cluster is projected to continue over the next five years. From 2018-2023, the cluster's revenue grew at an annual rate of 1.9%, with value-added growth of an annual 1.6%.

Compound Annual Growth Rate of Key Indicators

Years	Revenue	Value Added
2018-2023	1.9%	1.6%
2023-2028	1.3%	1.6%

Source: IBISWorld

Top 10 Companies

Referring to the adjacent table, Delta Air Lines, Inc. is the largest transportation, logistics, and company in the US, with a market share of 11.1% in 2023. The next largest market shares are American Airlines Group, Ince, and United Airlines Holdings, Inc., with a 10.3% and 8.9% market share, respectively.

Top 20 Products and Services of the Transportation, Logistics, Distribution, Warehousing, and Wholesale Trade Cluster ($ Millions)

Product/Service	2023 Revenue
Truckload carriers	$191,217
Corporate strategy	$166,289
Organizational design	$155,307
Mainline passenger transportation	$121,494
Ground deliveries	$101,216
Other	$90,728
Less-than-truckload carriers	$80,350
Air transit services	$64,852
Domestic freight transportation arrangement services	$60,341
Bulk freight	$56,643
Intermodal services	$44,869
International freight forwarding and customs	$40,499
Financial advisory	$35,689
Heavy rail	$34,793
Bus	$33,899
Cargo transportation	$33,288
Intermodal transportation	$29,657
Other transportation	$28,521
Natural gas from shale gas wells	$27,893
Truckload transportation	$27,539

Source: IBISWorld

Top 10 Companies in the Transportation, Logistics, Distribution, Warehousing, and Wholesale Trade Cluster in the US, 2023

Company	Approximate Market Share
Delta Air Lines, Inc.	11.1%
American Airlines Group Inc.	10.3%
United Airlines Holdings, Inc.	8.9%
Xpo Logistics, Inc.	5.8%
Knight-Swift Transportation Holdings	5.4%
Burlington Northern Santa Fe, Llc	5.4%
Southwest Airlines Co.	5.3%
Union Pacific Corp	4.5%
C.H. Robinson Worldwide, Inc.	4.0%
Csx Corporation	2.9%

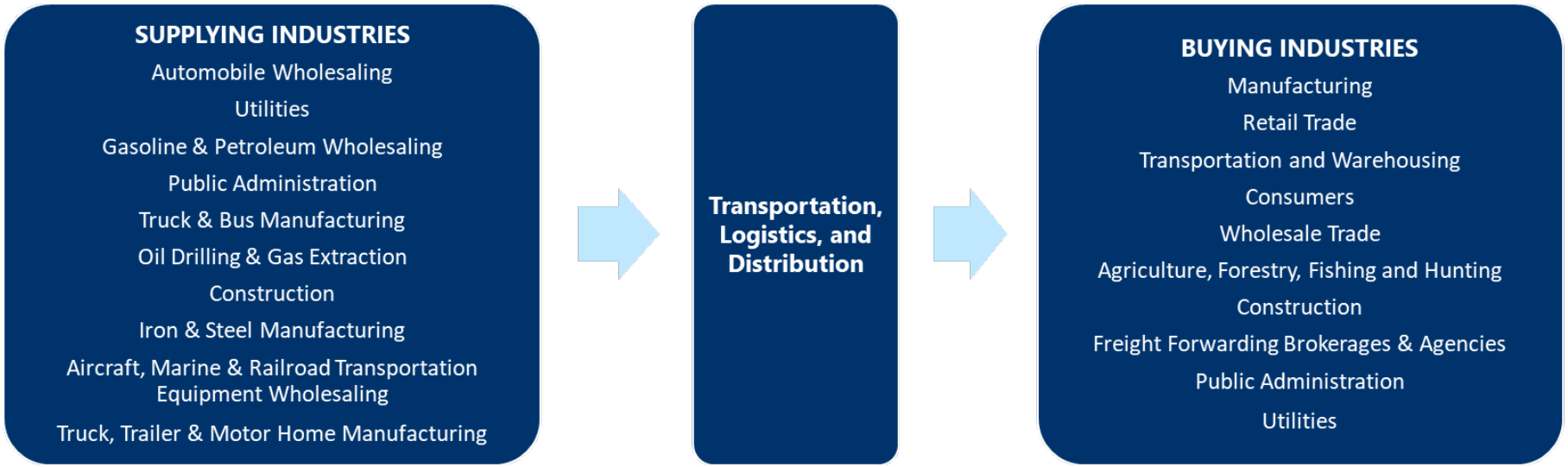
Source: IBISWorld, Camoin Associates

Top 20 Products and Services

The industry group's five largest products and services by revenue are truckload carriers ($191.2 billion), corporate strategy ($166.2 billion), fabricated organizational design ($155.3 billion), mainline passenger transportation ($121.5 billion), and ground deliveries ($101.2 billion).

National Supply Chain Insights

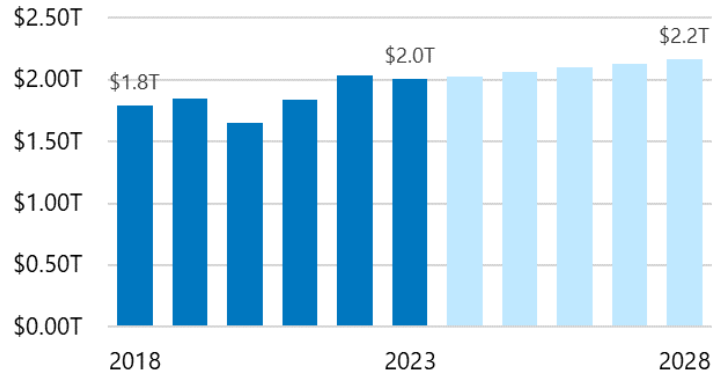
The following illustration shows typical suppliers and customers of the transportation, logistics, distribution, warehousing, and industry groups. Nationally, the critical suppliers to the sector include industries such as truck and bus, train, ship, and other transportation manufacturing, along with industries related to wholesale these products. Key buyers of transportation and logistics services extend throughout the economy and are critical for industries such as manufacturing, construction, retail trade, wholesale trade, agriculture, forestry, fishing, and hunting.



Key National Growth Indicators

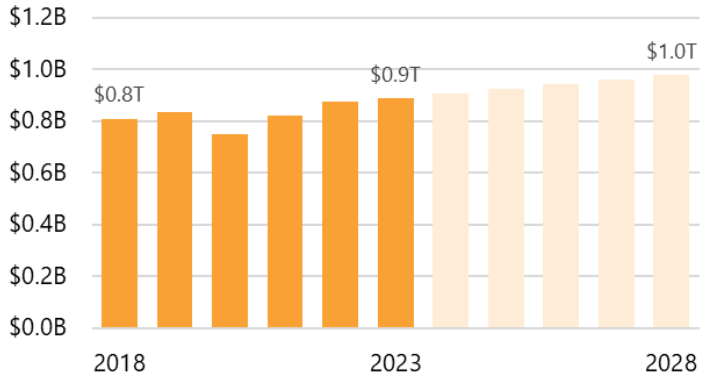
The charts depict key transportation, logistics, and distribution growth indicators from 2018 to 2028. Cluster revenue has steadily increased, starting at $1.8 trillion in 2018, reaching $2.0 trillion in 2023, and is projected to grow to $2.2 trillion by 2028. Cluster value added has slightly increased from $0.8 trillion in 2018 to $0.9 in 2023 and a slight projected increase to $1.0 trillion by 2028. The value-added revenue share has slightly declined from 45.2% in 2018 to 44.4% in 2023, with an expected recovery to 45.3% by 2028. These trends suggest consistent growth and stability in the sector, with a gradual increase in total revenue and value-added over the next few years.

Cluster Revenue



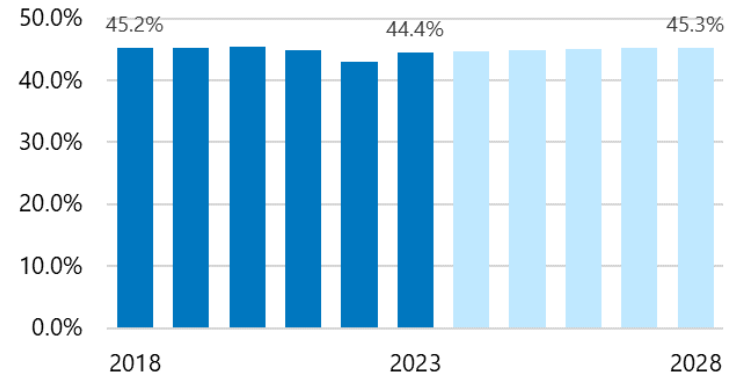
Source: IBISWorld

Cluster Value Added



Source: IBISWorld

Value Added Share of Revenue



Source: IBISWorld

Trends in Maine's Transportation, Logistics, and Distribution Sector

Key Indicators for Maine's Transportation, Logistics, and Distribution Sector

Jobs: 16,357
- Data for 2023
- 2.2% of the state's total employment

Job Growth: -261
- Data compares 2018-2023
- The sectors job loss was in contradiction of the statewide gain of +3% across all sectors

Job Growth Rate: -2%
- Data compares 2018-2023
- Sector growth in Maine is lower than the U.S. (+17%)

Concentration: 0.60
- Data for 2023
- Maine has a low employment concentration compared to the national average

Establishments: 1,429
- Data for 2023
- The average establishment size of 11.4 jobs per establishment is 44% lower than US average for the sector (20.3 jobs)

Average Earnings: $71,786
- Data for 2023
- Higher than the State's Average earnings for all sectors ($63,668) but lower than the U.S. average for this sector ($79,262)

Competitive Effect: -3,399
- Data compares 2018-2023
- The sector had 3,400 fewer jobs during this period than would be expected given national economic and industry conditions

Gross Regional Product: $1.47 Billion
- Data for 2022
- 1.9% of Maine's total GRP (greater than U.S. where this sector only makes up 3.8% of the total)

GRP per Job: $90,246
- Data for 2023
- Lags the U.S. rate of $110,118 GRP per job

Total Sales: $3.2 Billion
- Data for 2022
- 38% of sales exported out of state
- Accounts for 1.8% of All Maine sales, underperforming the U.S. (3.0% of total sales)

Demand: $4.7 Billion
- Data for 2022
- 42% of the demand for the sector is met in-region, while the remaining 58% is imported

Leakage: $2.7 Billion
- Data for 2022
- An estimated $2.7 billion of demand is met by firms outside of Maine

Source: Lightcast

Key Subsectors In Maine

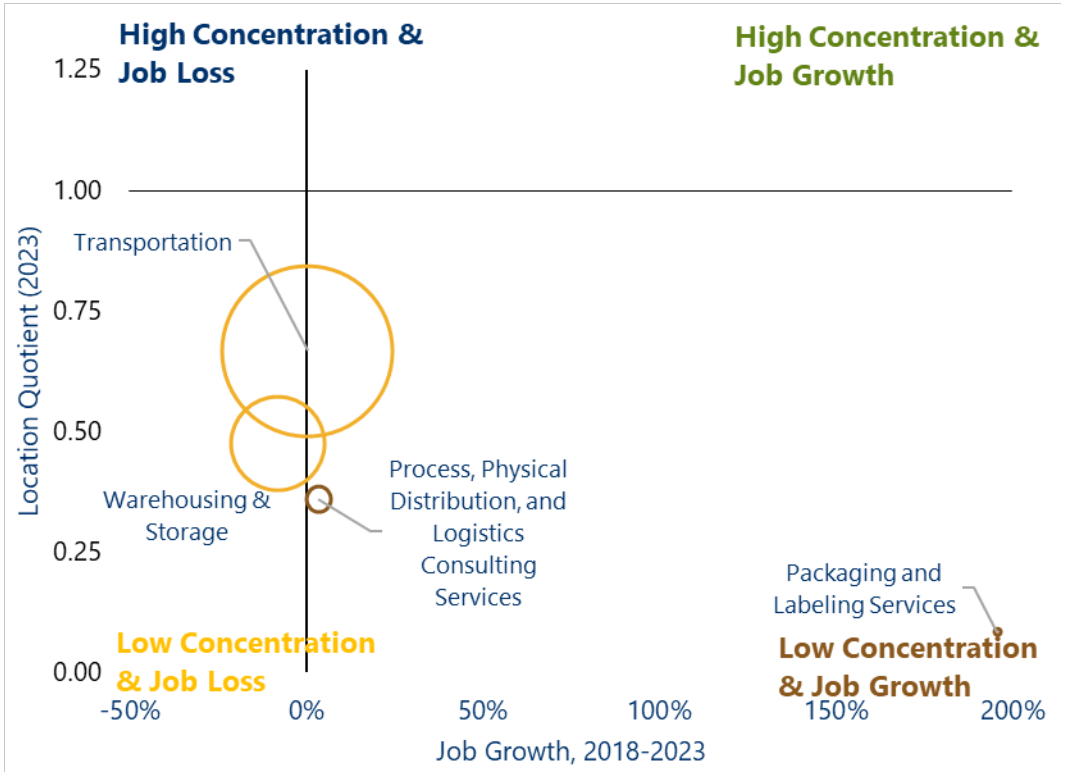
The entire sector of Transportation, Logistics, and Distribution is underrepresented in Maine relative to the economy as a whole. The location quotient of 0.60 indicates that employment in the sector is about 0.6x as concentrated as it is in the US on average. Maine has a lower-than-average number of businesses and employment and lower concentration in the industry. This is mainly due to its location in the nation's upper northeastern corner and not being located at the crossroads of major markets or within major consumer and production markets. Additionally, the state is highly rural. Therefore, Maine's transportation, logistics, and distribution is critically tied to the demand and connection with its core industries. This is what drives demand, rather than serving as a pass-through or transportation hub.

The Transportation subsector is the largest group, with 12,252 jobs in 2023. It still has a location quotient well below the US average (0.67 vs 1.00) but gained 43 jobs since 2018. This subsector contains industries such as air, rail, marine cargo, and freight transportation as well as passenger transportation systems.

Warehousing and Storage has seen strong growth at the national level. However, that has not translated to job growth in Maine. In 2023, jobs totaled 3,806 in Maine for the subsector. The subsector also has a location quotient of less than half the national average (0.47), as well as a large negative competitive effect, indicating local factors preventing additional growth in Maine for this type of activity. Since 2018, Warehousing and Storage had the greatest job decline within the Transportation, Logistics, and Distribution: 334 jobs or -8%.

Process, Physical Distribution, and Logistics Consulting Services is a key professional service supporting Transportation, Logistics, and Distribution and a complementary activity for any major logistics hub. In 2023, Maine had only 276 jobs in this subsector. However, growth has been moving in the right direction, with +6% growth since 2018.

The Packaging and Labeling Services subsector has more than doubled in size since 2018. Going from less than 10 to 24 jobs in 2023. It has a location quotient of 0.08, less than one-tenth of the US average.



Key Industry Performance In Maine

Transportation has the highest location quotient of the subsectors at 0.67, though still very low relative to the nation. Job gain of +43 jobs compared to 2018 indicates that while Transportation is less concentrated, the industry is marginally expanding. The negative competitive effect of -235 relates to the fact that the same activity is growing more quickly at the national level than it is in Maine.

Transportation is also the largest subsector, with 12,252 jobs in 2023. The sector's different types of activity (Freight, Trucking, Air, Rail) all rely on transportation specialists. Individual transporters may specialize in residential rather than commercial (as an example). Still, the intermediary arrangement where transportation companies hire outside transportation specialists ensures that Transportation jobs will always be the largest component of the sector.

Maine does not have concentrations in Transportation, Logistics, and Distribution; the overall sector is also shrinking faster than the national average (-2% vs. +17%). Maine Transportation, Logistics, and Distribution workers earn less than the average US worker ($71,789 per year vs $79,262) and are less productive regarding GRP per job ($90,246 per job vs $110,118 per job). **This data suggests major gaps in Maine's critical logistics and supply chain industries.** However, this suggests that infrastructure and logistical improvements geared towards domestic trade efforts could provide a significant benefit to both business-to-business and business-to-consumer trade activity and make Maine businesses more competitive nationally and regionally.

Key Industry Groups: Summary

Description	Jobs 2018	Jobs 2023	Jobs Change 2018-2023	Jobs Change % 2018-2023	Avg. Earnings Per Job 2023	Location Quotient 2023	Competitive Effect 2018-2023	Payrolled Business Locations 2023
Transportation	12,210	12,252	43	+0%	$73,366	0.67	(235)	1,230
Warehousing & Storage	4,140	3,806	(334)	- 8%	$64,884	0.47	(3,131)	71
Process, Physical Distribution, and Logistics Consulting Services	261	276	15	+6%	$98,451	0.36	(48)	121
Packaging and Labeling Services	< 10	24	Insf. Data	Insf. Data	$53,326	0.08	15	8
Total for Maine	**16,618**	**16,357**	**-261**	**- 2%**	**$71,786**	**0.60**	**-3,399**	**1,429**
Total for United States	**5,523,520**	**6,442,903**	**919,382**	**+17%**	**$79,262**		**0.00**	**317,189**

Source: Lightcast

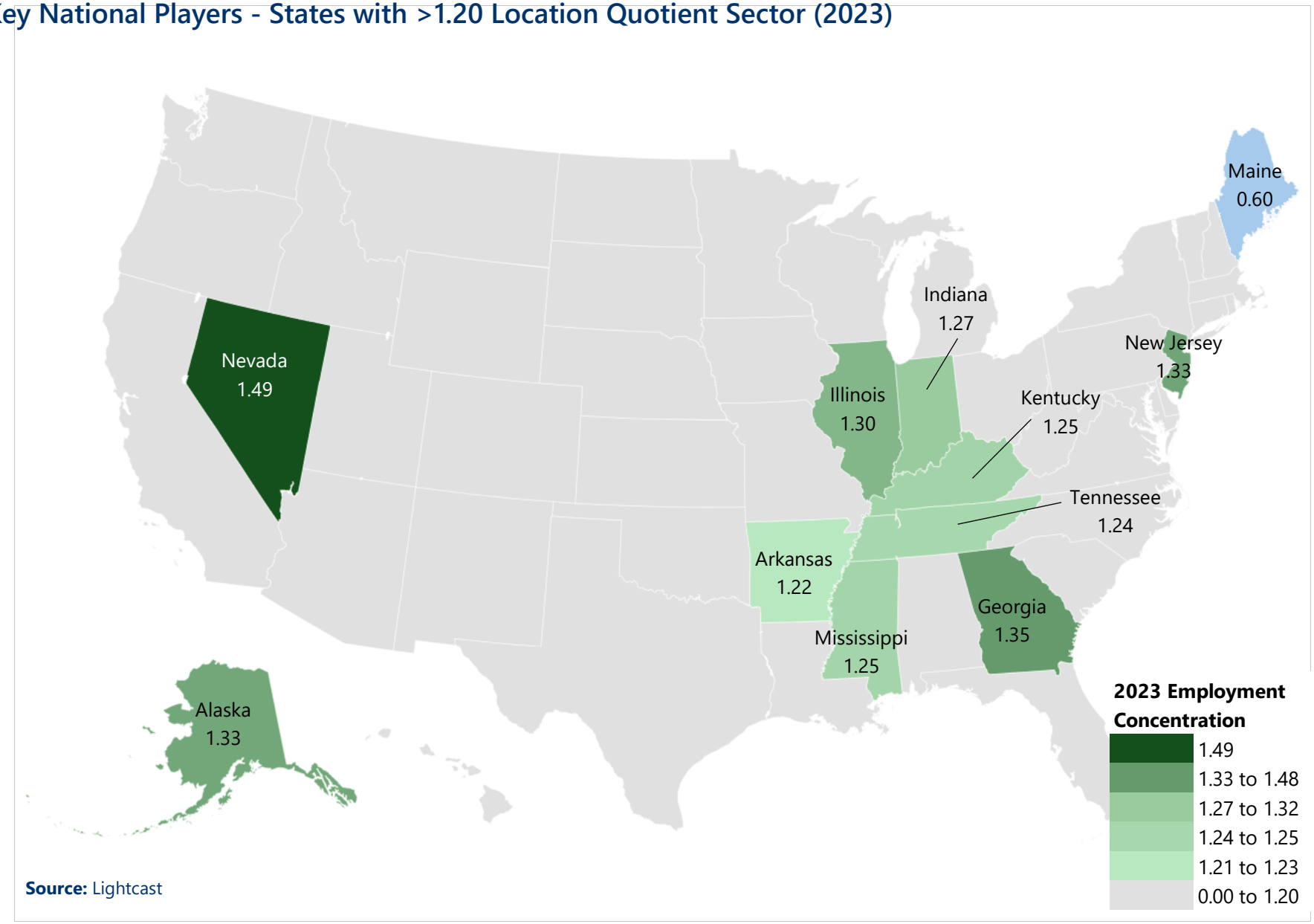
Continued: Key Industry Groups

Description	Total Demand 2022	Demand met by Imports 2022	Total Sales 2022	GRP 2022	GRP per Job
Transportation	$3,708,694,026	$2,161,938,889	$2,628,754,553	$1,180,940,666	$96,384
Warehousing & Storage	$897,861,037	$517,944,883	$493,451,358	$266,679,566	$70,072
Process, Physical Distribution, and Logistics Consulting Services	$80,169,763	$45,663,697	$43,801,744	$27,107,966	$98,380
Packaging and Labeling Services	$38,692,207	$35,584,266	$3,257,121	$1,459,529	$61,670
Total for Maine	**$4,725,417,033**	**$2,761,131,736**	**$3,169,264,776**	**$1,476,187,727**	**$90,246**
Total for United States	**$1,361,384,421,490**	**$0**	**$1,503,437,634,170**	**$709,479,118,782**	**$110,118**

Source: Lightcast

.

Key National Players - States with >1.20 Location Quotient Sector (2023)



Source: Lightcast

Industry Demand and Purchases

Purchasing Industries

The top 25 industries from which the Transportation, Logistics, and Distribution Sector purchases represent 55% of total demand. This indicates that the sector's purchases are largely captured in these top industries, though still broadly spread across a wide range of industries. Six industries supply a combined nearly $320 million in purchases to the sector and are within this sector.[3], indicating strong intra-industry supply links.

Energy and fuel are key inputs to this sector. Petroleum Refineries are the third largest category of purchases and are 100% imported from outside of Maine. Wholesale petroleum products are the ninth-largest purchase category. Electric Power Distribution is also in the top 25.

Transportation, Logistics, and Distribution require significant land and real estate. Besides leasing industrial machinery, there are four subsectors in the top 25 related to real estate. These activities involve handling and moving large volumes of goods and/or facilities for large transportation infrastructure systems to move people and goods.

Top 25 Sectors the Transportation, Logistics, and Distribution Industry Purchases From (2022)

NAICS	Purchases from	In-region Purchases	% In-region Purchases	Imported Purchases	% Imported Purchases	Total Purchases
493110	General Warehousing and Storage	$49,840,144	51.3%	$47,224,230	48.7%	$97,064,374
492110	Couriers and Express Delivery Services	$62,894,029	72.4%	$23,954,492	27.6%	$86,848,521
324110	Petroleum Refineries	$0	0.0%	$81,310,332	100.0%	$81,310,332
551114	Corporate, Subsidiary, and Regional Managing Offices	$52,447,543	72.9%	$19,504,236	27.1%	$71,951,779
488510	Freight Transportation Arrangement	$18,576,187	27.0%	$50,241,199	73.0%	$68,817,386
561320	Temporary Help Services	$55,193,232	88.5%	$7,180,039	11.5%	$62,373,271
522110	Commercial Banking	$14,331,864	41.1%	$20,514,819	58.9%	$34,846,684
457110	Gasoline Stations with Convenience Stores	$29,094,585	90.5%	$3,050,604	9.5%	$32,145,189
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	$18,018,470	56.2%	$14,038,409	43.8%	$32,056,879
901149	US Postal Service	$30,355,842	100.0%	$1,951	0.0%	$30,357,794
488190	Other Support Activities for Air Transportation	$12,149,313	44.6%	$15,077,585	55.4%	$27,226,898
531110	Lessors of Residential Buildings and Dwellings	$20,960,573	89.4%	$2,480,782	10.6%	$23,441,355
492210	Local Messengers and Local Delivery	$6,572,559	32.0%	$13,967,274	68.0%	$20,539,832
531210	Offices of Real Estate Agents and Brokers	$14,984,770	73.1%	$5,511,577	26.9%	$20,496,347
523150	Investment Banking and Securities Intermediation	$7,042,851	36.2%	$12,430,045	63.8%	$19,472,896
221122	Electric Power Distribution	$18,358,128	94.5%	$1,072,301	5.5%	$19,430,428
523940	Portfolio Management and Investment Advice	$9,582,876	50.5%	$9,380,353	49.5%	$18,963,228
517111	Wired Telecommunications Carriers	$14,985,537	79.3%	$3,915,280	20.7%	$18,900,818
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	$16,623,967	92.5%	$1,343,216	7.5%	$17,967,183
488320	Marine Cargo Handling	$2,301,416	13.0%	$15,360,073	87.0%	$17,661,489
524126	Direct Property and Casualty Insurance Carriers	$9,143,735	52.4%	$8,297,070	47.6%	$17,440,805
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	$9,858,933	56.7%	$7,526,530	43.3%	$17,385,462
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	$9,253,754	57.6%	$6,816,129	42.4%	$16,069,883
533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	$1,844,849	11.5%	$14,152,740	88.5%	$15,997,589
811111	General Automotive Repair	$15,685,228	98.5%	$232,288	1.5%	$15,917,516

Source: Lightcast

[3]These industries include General Warehousing and Storage, Couriers and Express Delivery Services, Freight Transportation Arrangement, Other Support Activities for Air Transportation, Local Messengers and Local Delivery, and Marine Cargo Handling

Demand Comparison

California has the greatest demand at over $176.0 billion in 2022, followed by Texas ($131.9 billion), and Florida ($74.6 billion). Maine ranks 42nd among all states for total demand ($4.7 billion).

The largest importer of the Transportation, Logistics, and Distribution Sector is the District of Columbia, with 85.0% of total demand being met by imports in 2023. Maine has a comparatively low share of Transportation, Logistics, and Distribution demand met in Maine. As a result, the state ranks 9th overall by the percentage of demand met by imports (58%).

Top 10 States by Total Demand for Transportation, Logistics, and Distribution Industry Sector (2022)

	Payrolled Business Locations	Demand met in-region	% Demand met in-region	Demand met by imports	% Demand met by imports	Total Demand
California	38,947	$138,593,714,529	78.7%	$37,501,035,427	21.3%	$176,094,749,956
Texas	27,001	$109,664,366,126	83.1%	$22,230,938,560	16.9%	$131,895,304,686
Florida	23,018	$61,585,474,355	82.5%	$13,054,219,233	17.5%	$74,639,693,588
Illinois	21,298	$43,882,087,569	74.6%	$14,949,000,175	25.4%	$58,831,087,744
New York	12,064	$44,676,245,703	53.6%	$38,618,758,874	46.4%	$83,295,004,577
Pennsylvania	11,381	$31,966,658,584	63.2%	$18,592,089,253	36.8%	$50,558,747,837
North Carolina	10,758	$24,136,309,829	62.8%	$14,274,879,596	37.2%	$38,411,189,425
Ohio	10,520	$30,289,213,696	62.7%	$18,028,669,829	37.3%	$48,317,883,525
Georgia	9,677	$33,006,417,543	76.5%	$10,159,668,560	23.5%	$43,166,086,103
New Jersey	9,198	$27,183,585,878	65.9%	$14,087,652,191	34.1%	$41,271,238,068
Maine	**1,429**	**$1,964,285,297**	**41.6%**	**$2,761,131,736**	**58.4%**	**$4,725,417,033**

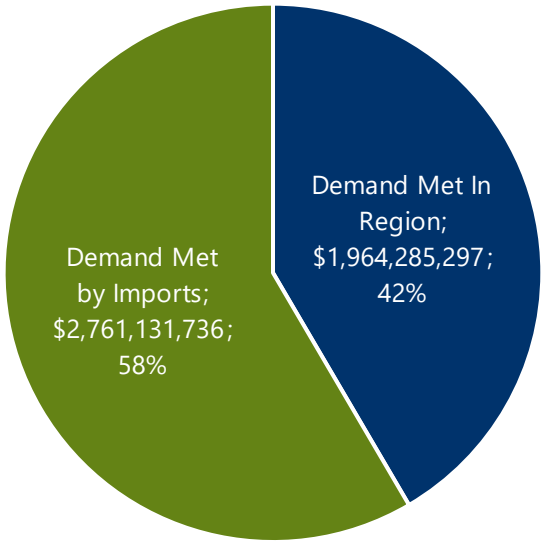
Source: Lightcast

Demand and Imports

In 2022, **total demand for the sector in Maine was $4.7 billion** compared to $1.3 trillion for the nation as a whole. Demand met by imports in the state totaled $2.7 billion.

Existing international trade data does not include the subsectors that comprise the Transportation, Logistics, and Distribution Sector. Existing international trade data focuses on commodities themselves (actual goods) and not the act of transportation or warehousing of these goods. As a result, the industries included in this subsector do not capture any international activity to avoid double counting with production or manufacturing NAICS.

Total Demand for Transportation, Logistics, and Distribution in Maine (2022)



Source: Lightcast

Industry Sales and Exports

Sales Industries

The top 25 sectors Transportation, Logistics, and Distribution sells to represent 38% of all in-region sales. This indicates that Transportation, Logistics, and Distribution sales and demand are broadly spread throughout the Maine economy.

Trucking Freight in Maine is the largest in-state buyer of the Transportation, Logistics, and Distribution Sector's products, with $40.7 million of in-region sales in 2022. This represents 3.1% of the sector's in-region sales to other industries.

Manufacturing industries, including Paper Mills, Sawmills, Pulp Mills, and Asphalt Paving Mixture and Block Manufacturing, account for 6.4% of the in-region sales.

There is a significant volume of intra-sector trade, with activities like general and specialized freight trucking, warehousing and storage, and couriers being among the top industries the overall sector sells to in Maine.

Gas stations with convenience stores and supermarkets are in the top five sales destinations for Transportation, Warehousing, and Logistics. Together, these make up 5% of total sales in Maine.

Top 25 Sectors the Transportation, Logistics, and Distribution Industry Sells To, 2022

NAICS	Sales to	In-Region Sales	Percent of In-Region Sales
484121	General Freight Trucking, Long-Distance, Truckload	$40,752,287	3.1%
322120	Paper Mills	$35,450,686	2.7%
445110	Supermarkets and Other Grocery (except Convenience) Stores	$33,588,745	2.6%
457110	Gasoline Stations with Convenience Stores	$31,956,773	2.4%
221122	Electric Power Distribution	$30,338,765	2.3%
902999	State Government, Excluding Education and Hospitals	$25,846,222	2.0%
493110	General Warehousing and Storage	$25,494,708	1.9%
321113	Sawmills	$21,563,290	1.6%
424210	Drugs and Druggists' Sundries Merchant Wholesalers	$21,541,102	1.6%
622110	General Medical and Surgical Hospitals	$20,855,985	1.6%
492110	Couriers and Express Delivery Services	$20,089,471	1.5%
441110	New Car Dealers	$17,402,156	1.3%
111000	Crop Production	$17,383,562	1.3%
484110	General Freight Trucking, Local	$16,410,795	1.2%
455211	Warehouse Clubs and Supercenters	$15,940,863	1.2%
484220	Specialized Freight (except Used Goods) Trucking, Local	$15,595,871	1.2%
322110	Pulp Mills	$14,726,431	1.1%
238220	Plumbing, Heating, and Air-Conditioning Contractors	$14,074,112	1.1%
113310	Logging	$13,955,625	1.1%
238910	Site Preparation Contractors	$13,612,779	1.0%
312120	Breweries	$12,995,243	1.0%
903999	Local Government, Excluding Education and Hospitals	$11,872,505	0.9%
324121	Asphalt Paving Mixture and Block Manufacturing	$11,772,388	0.9%
444110	Home Centers	$10,993,127	0.8%
238210	Electrical Contractors and Other Wiring Installation Contractors	$10,829,740	0.8%

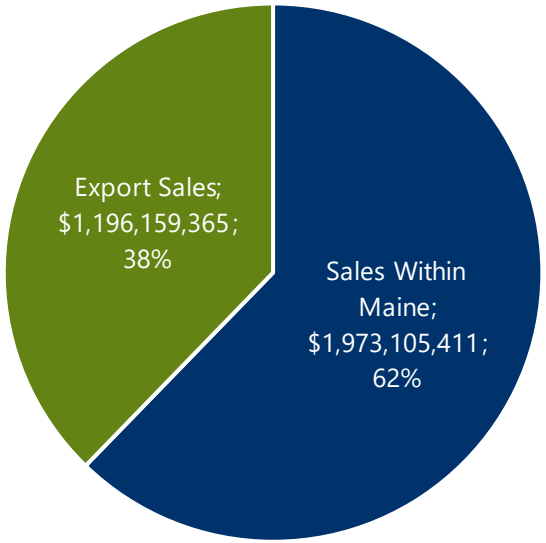
Source: Lightcast

Sales and Exports

In 2022, **total sales for the sector in Maine were $3.2 billion** compared to $1.5 trillion for the nation as a whole. Sales met by exports in the state totaled $1.2 billion.

The subsectors that comprise the Transportation, Logistics, and Distribution Sector do not have trade relationships with countries outside the US.

Total Sales for Transportation, Logistics, and Distribution in Maine (2022)



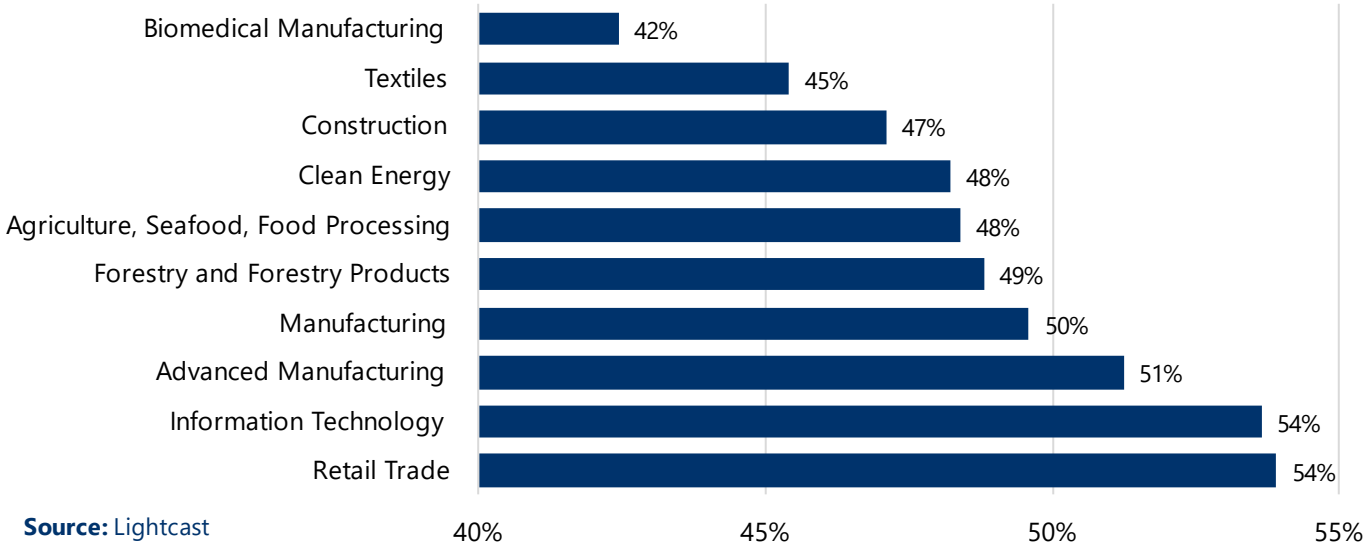
Source: Lightcast

INDUSTRY PURCHASES

The table below shows the **share of business-to-business purchases of transportation, logistics, and distribution that are met by out-of-state sources** in each of the targeted domestic trade sectors. Biomedical Manufacturing has the lowest share of imported purchases, indicating that the sector has a majority of its transportation and logistics needs met by providers in Maine. Conversely, Information Technology and Retail Trade have the highest share of imported purchases, representing an opportunity to improve supply chains in those sectors to supply logistics and transportation with in-state providers.

Generally, most of the targeted domestic trade sectors import roughly half of business-to-business purchases from out-of-state sources.

Industry Purchases of Transportation & Warehousing Met by Imports (2022)



Source: Lightcast

MAINE.
ECONOMIC & COMMUNITY DEVELOPMENT

INFRASTRUCTURE PROFILES & NEEDS

INFRASTRUCTURE PROFILES AND NEEDS

Freight travels to, through, and from Maine via multiple channels, including sea, air, roadway, rail, and pipelines. Each mode presents unique opportunities and challenges within the state, and domestic trade can be promoted through specific strategic efforts. In this section, we analyzed transportation channels to understand existing infrastructure, future needs, and barriers that need to be overcome to support business growth. We also identified key infrastructure requirements for each of Maine's COVID-Impacted target industries to better understand the transportation and distribution needs that businesses have.

KEY FINDINGS

Roadways and Bridges

- Maine's roadway network spans 6,300 miles and is crucial for freight transport. Many stretches of the highway system allow trucks to haul loads up to 100,000 lbs. While this supports industry, specifically forestry, it also leads to a more rapid decline in roadway services. Maine has the second-most highway miles among the New England states, second only to Connecticut.
- A Federal Highway Administration (FHA) evaluation finds 19% of the state's roadway surfaces falling short of "acceptable". Separately, the National Transportation Research Group (TRIP) finds 44% of the state's pavement to be in poor or mediocre condition.
- The American Road and Transportation Builders Association (ARTBR) finds 15% of the state's bridges are in deficient condition. This is consistent with the US and DOT figures which identify 325 bridges (13% of total) to be in poor condition.
- Poor road and bridge conditions pose challenges for businesses and may influence modal shifts.
- Continuous maintenance and targeted upgrades are essential for a safe and efficient transportation network.

Air Freight

- Air freight specializes in low-weight, high-value products such as pharmaceuticals, electronics, precision instruments, and, in the case of Maine, seafood.
- There are three airports providing air freight services within the state. These include Portland's Jetport (76% of Maine's air freight), Bangor (21%), and Presque Isle (3%). Notably, air freight moving through Bangor has nearly quadrupled since 2018.
- Significant amounts of warehouse and distribution space can be found within two miles of Portland's Jetport (2.1msf) and Bangor International (1.7msf), though the bulk is largely occupied with only modest square footage available to lease.

Maritime Shipping

- Its extensive coastline makes Maine well suited for maritime trade, with three primary ports found in Portland, Searsport, and Eastport.
- Facilities in Portland, the state's largest port, handle 95% of Maine's maritime cargo, offering versatile facilities, including the International Marine Terminal (IMT) with rail and roadway intermodal connectivity.

- Ports at Searsport and Eastport also play significant roles in freight transportation, facilitating the movement of various types of cargo, including containers, bulk, and project cargo. Activity at Searsport is slated to become more prominent with the anticipated development of a new offshore wind farm.
- Opportunities exist to enhance port facilities and infrastructure to support increased maritime traffic

Rail Transport

- Transport over Maine's 1,457 miles of railways reached 4.7 million tons valued at $1.9B in 2022.
- Height, speed, and weight restrictions hobble the state's rail system's potential efficiencies. Extended stretches of rail lines are limited to 25 mph, and large portions allow a top speed of only 10 mph. This forces freight towards trucking, heightening Maine's reliance on its roadway system.
- Improving rail infrastructure and connectivity can enhance freight transportation efficiency within Maine.

Pipelines

- Maine is served by three major interstate natural gas pipelines, crucial in transporting natural gas and crude oil. It moved over 7.7 million tons of products worth $1.7B in 2022.
- While usage declined steadily through 2019, recent years have seen a steady resurgence, with shipments exceeding 6 million barrels per day in 2023.

Importance of Transportation Modes for Maine's COVID-Impacted Target Industries

Using the COVID-19-impacted industries identified in the Maine Jobs and Recovery Plan,[4] Camoin Associates evaluated and rated each industry on its reliance on differing aspects of the transportation sector. The tables below match sector needs with infrastructure elements that are needed to support local businesses. Through the research and analysis process, we found:

- The **majority of these industry clusters remain highly reliant on highway access**. In the case of the manufacturing clusters, this is to facilitate shipments of manufacturing inputs or to distribute finished goods. The clean energy sector requires power generation equipment shipped primarily by truck, while forestry products, logs, cut wood, and pulp are also trucked within the state and exported.
- Only for manufactured goods of **high value relative to weight is it cost-effective to ship by air transport**. This is true of some Drugs or Other Medical Devices and for Package and Document delivery services. The nationwide distribution of lobsters boosts the importance of airport access, which is advantageous for the Agricultural, Seafood, and Food sector.
- Rail and waterway access ratings are important and advantageous for several of the manufacturing clusters, especially to the extent that heavy equipment is shipped long distances. A significant amount of forestry products are also transported via rail, with terminal access as an essential criterion for business expansion and attraction efforts. Note that for some sectors, the **importance of rail and port access might become more prominent if the current rail lines and port facilities underwent needed upgrades** to speed up travel and increase the multimodel options within the state.
- **In the presented search criteria, pipeline access rates are less relevant** across the board based on the industry clusters reviewed. Pipelines do serve a crucial role in distributing natural gas to homes and power plants, but these do not fall into the identified clusters. Power generation from gas is not renewable, and while builders may prefer to construct new homes along existing gas lines, multiple alternatives exist, and the availability of buildable land remains a more pressing constraint.

Methodology

Camoin Associates analyzed the relative importance of each infrastructure mode based on generalized common facility types based on each industry cluster. The relative importance of each infrastructure mode and various requirements within each category can vary substantially across industries and even between businesses operating in the same industry. A general review of industry needs provides a foundation for potential specialized facility research and helps identify business needs.

The relative importance of these requirements is shown in the tables below, with an importance rating given to 7 transportation infrastructure modes across the targeted industries.

For each industry and criterion combination, one of the following ratings are given:

- **Essential** – a critical infrastructure factor for the industry to consider; if not in place, the industry cannot operate
- **Important** – while the industry could operate without it would be difficult, therefore the factor should still be given high consideration but not essential
- **Advantageous** – helpful to have but not a necessity for industry operations
- **Less Relevant** – typically not considered

Importance of Transportation Modes to Target Industry Sectors

Sector	Highway accessibility	Accessibility to airport for air freight	Accessibility to major airport for business travel	Railroad service	Waterway or Oceanport accessibility	Pipeline accessibility	Accessibility to public transit - workforce
Clean Energy	■	×	○	●	●	×	○
Forestry & Forest Products	■	×	○	■	●	×	○
Agriculture, Seafood & Food Mfg	■	○	○	●	●	×	○
Biomedical Manufacturing	■	●	●	○	○	×	○
Logistics, Transportation & Warehousing	■	●	○	■	■	×	○
Advanced Machinery & Metals Mfg	■	×	○	●	●	×	○
Durable and Nondurable Mfg	■	○	○	●	●	×	○
Construction	●	×	×	○	×	×	×
Retail Trade	●	○	×	○	○	×	○
InformationTechnology	○	○	○	×	×	×	○

Source: Camoin Associates

■	Essential
●	Important
○	Advantageous
×	Less relevant

[4] https://www.maine.gov/decd/domestic-trade/target-industries

MODAL PROFILES: ROADWAYS AND BRIDGES

Pavement and Surface Conditions

Truck transportation via Maine's roadways accounts for the vast majority of freight transport throughout the state, making maintenance of this infrastructure key to supporting the existing distribution sectors and, by extension, the manufacturers, distributors, and retailers. Extending 6,300 miles, this network is extensive, representing one-quarter (26%) of all highway miles in all of New England in a state that maintains less than one-tenth (9.2% in 2023) of the region's population.

Total Highway Miles - 2002 to 2022 Growth

	Miles			2002 to	2012 to
	2002	2012	2022	2012	2022
Maine	**6,414**	**6,308**	**6,297**	**-1.7%**	**-0.2%**
Connecticut	3,843	6,157	6,343	60.2%	3.0%
Massachusetts	4,975	4,781	5,328	-3.9%	11.4%
New Hampshire	3,256	3,407	3,552	4.6%	4.3%
Rhode Island	930	1,161	1,183	24.8%	1.9%
Vermont	3,584	1,514	1,529	-57.8%	1.0%
New York	19,982	27,190	26,998	36.1%	-0.7%

Note: Roadway milage measured for Interstate, Major and Minor Collector, Minor Arterial, Other freeways and expressways, and Other principal arterials.

Source: US Department of Transportation - Federal Highway Administration

With the importance of the forestry industry, the maximum load for tractor-trailers was raised from the national standard of 80,000 lbs. to 100,000 lbs. in 2012 throughout much of the state's highway on three-axle tractors in combination with tri-axle semitrailers. This increased carrying capacity for many carriers throughout the state but has, in turn, accelerated wear on the state's roadways.

Nevertheless, a significant proportion of highway miles in Maine (81%) are rated as acceptable by the US Department of Transportation – well above the New England rate of 76%. This is based on the FHA data representing measures of the International Roughness Index (IRI). Conversely, by this measure, nearly one-fifth (19%) of all roadways can be considered unacceptable.

Highway Miles and Percent Acceptable in New England plus New York - 2022

	Miles				Percent
	Rural	Urban	Total	Acceptable	Acceptable
Maine	**5,257**	**1,040**	**6,297**	**5,105**	**81.1%**
Connecticut	1,265	5,078	6,343	4,240	66.9%
Massachusetts	887	4,441	5,328	3,940	73.9%
New Hampshire	2,140	1,412	3,552	2,985	84.0%
Rhode Island	347	836	1,183	742	62.8%
Vermont	1,317	213	1,529	1,400	91.5%
New York	11,503	15,496	26,998	20,132	74.6%

Note: Roadway milage measured for Interstate, Major and Minor Collector, Minor Arterial, Other freeways and expressways, and Other principal arterials. "Acceptable" roadways are those that measure an International Roughness Index (IRI) of < 95.

Source: US Department of Transportation - Federal Highway Administration

Separately, the National Transportation Safety Research Group (TRIP) rates 44% of Maine's highways and principal arterial roadways as being in poor or mediocre condition and attributes this shortfall in quality to insufficient maintenance and a lack of upgrades. Moreover, for urban roadways, the share of poor and mediocre mileage jumps to 51%.

Pavement Conditions on Maine's Major Roadways - 2021

	Poor	Mediocre	Fair	Good
Rural Pavement	22%	20%	14%	44%
Urban Pavement	26%	25%	16%	33%
Statewide Pavement	23%	21%	14%	42%

Source: National Transportation Research Group (TRIP)

Bridges

Similarly, a significant number of the state's bridges require repair. Analysis by the American Road & Transportation Builders Associate (ARTBA) identified 372 roadway bridges as structurally deficient, 15% of the state's total. This means that one or more of their key elements, the deck, superstructure, substructure, or culverts, are rated in poor or worse condition.

Notably, as of 2023, the number of structurally deficient bridges stands 19% above the level reported in 2019 of 314 deficient bridges.

Structurally Deficient Roadway Bridges in Maine - 2023

	Number of Bridges			Daily Crossings		
	All Bridges	Structurally Deficient	Share Deficient	All Bridges	Structurally Deficient	Share Deficient
Interstate	304	24	7.9%	4,014,718	297,867	7.4%
Freeway/expressway/Arterial	493	65	13.2%	4,023,358	517,348	12.9%
Collector	860	122	14.2%	2,126,515	269,564	12.7%
Local	864	161	18.6%	488,000	64,733	13.3%
Total	**2,521**	**372**	**14.8%**	**10,652,591**	**1,149,512**	**10.8%**

Source: ARTBA-American Road & Transportation Builders Association

The number and share of bridges within each county categorized as being in poor condition by the US DOT varies widely. Several counties, Androscoggin, Aroostook, and York, see less than 10% of their bridges rated as poor. Meanwhile, many counties, including Franklin, Hancock, and Knox counties, see twice that proportion. Nearly one-quarter (24%) of Washington County's bridges are rated as being in poor condition. Oxford County shows the greatest number of bridges needing attention, with a total of 45 – 14% of the state's total. Notably, the county represents only 10% of all bridges in the state.

Interstate Highway crossings in Cumberland County are rated as some of the most high-profile bridges based on the number of daily crossings. Also showing a great deal of daily use are several bridges in Penobscot County – all for I-95 and all built in 1960.

Top Most Traveled Structurally Deficient Roadway Bridges in Maine

County	Year Built	Daily Crossings	Type of Bridge	Location
Cumberland	1959	27,320	Urban Interstate	I-295 NB over Route 88 (Lafayette St)
Cumberland	1959	27,080	Urban Interstate	I-295 SB over Route 88 (Lafayette St)
Penobscot	1960	25,340	Urban Interstate	I-95 over Route 15 (Broadway)
Penobscot	1960	25,150	Urban Interstate	I-95 SB over Stillwater Avenue
Penobscot	1960	25,120	Urban Interstate	I-95 NB over Stillwater Avenue
Cumberland	1959	24,130	Urban Interstate	I-295 NB over Route US 1 NB &SB
Cumberland	1989	24,013	Urban Arterial	Congress St over Stroudwater River
Cumberland	1959	23,700	Urban Interstate	I-295 SB over Route US 1 NB & SB
Androscoggin	1975	19,242	Urban Arterial	Main St over pedestrian walkway
Sagadahoc	1933	18,940	Rural Arterial	Main St over M C RR & A Marsh

Source: ARTBA-American Road & Transportation Builders Association

Roadway Bridges in Poor Condition for Maine by County - 2020

County	Total Bridges	Poor Condition	Percent Poor Condition
Androscoggin	132	10	7.6%
Aroostook	223	17	7.6%
Cumberland	336	27	8.0%
Franklin	129	26	20.2%
Hancock	70	14	20.0%
Kennebec	186	22	11.8%
Knox	49	10	20.4%
Lincoln	60	7	11.7%
Oxford	250	45	18.0%
Penobscot	294	38	12.9%
Piscataquis	77	12	15.6%
Sagadahoc	65	9	13.8%
Somerset	169	30	17.8%
Waldo	92	12	13.0%
Washington	106	26	24.5%
York	235	20	8.5%
Total	**2,473**	**325**	**13.1%**

Note: "Poor Condition" as defined by the Federal Highway Administration, Dept. of Transportation

Source: US Department of Transportation - Bureau of Transportation Statistics

MODAL PROFILES: AIR FREIGHT

Air transportation best serves cargo that is low-weight, low-volume, and high-value, such as pharmaceuticals, electronics, precision instruments, and, specific to Maine, some seafood items. This type of transport also lends itself to cargo that is especially time-sensitive, again, seafood. While air transport is the most expensive method of moving goods, this rapid delivery over long distances also provides the greatest likelihood that shipments will arrive as quickly as possible and in the freshest possible condition.

Airports in Maine with Cargo Facilities

There are three airports identified as providing freight services within the state. These are:

- Bangor International Airport (BGR)
- Portland International Jetport (PWM)
- Presque Isle Northern Maine Airport in (PQI)

Far and away, Portland International Jetport rates as the largest of these three, handling roughly three-quarters (76%) of the state's 15,000 tons of air cargo as of 2023. That is down sharply from just five years prior, however, when Portland processed a full 89% of all air freight. This notable shift stems from the sharp jump in air freight processed at Bangor International. Total tonnage at BGR leaped nearly four-fold in just five years, reaching well over 3,000 tons in 2023.

Tonnage of Total Air Freight in Maine

	2018	2023	5 Yr
Bangor International Airport (BGR)	830	3,232	289.5%
Presque Isle Northern Maine Airport (PQI)	488	419	-14.1%
Portland International Jetport (PWM)	10,435	11,773	12.8%
Total	**11,752**	**15,425**	**31.2%**

Source: USDOT Bureau of Transportation Statistics T-100 Series

Available Storage Space near Airports

Warehouse and distribution space is plentiful near both the Bangor and Portland airports.

At **Bangor International Airport**, the 58 buildings found within two miles include a total of 1.7 million square feet (msf). Demand is strong for this space; however, vacancies register at a vacancy rate of just 2%. This may, in fact, indicate potential demand for additional space to be constructed near the facility, which enjoys easy access to both I-95 and I-395.

An even greater amount of warehouse and distribution space is found within a two-mile radius of Portland **International Jetport**, totaling over 2.1 msf. Storage in this market does not seem as tight in supply, with vacancies approaching 7%. Representing 143,000 sf of available space, this measure does not signal the same degree of current demand as seen in Bangor.

Operating at a much more reduced scale, the **Presque Isle Northern Maine Airport** may need only a modest amount of nearby storage, but the total 30,000 sf is currently entirely leased out. Nevertheless, This facility handled around 600 tons of freight in 2016, so additional space may be needed.

Warehouse and Distribution Facilities within Two Miles of Air Freight Airports - 2024

	Structures	Total Area (sf)	Total Vacant (sf)	Vacancy Rate	Median Age	Accessable Highways within One Mile
Bangor International Airport	58	1,703,307	36,620	2.1%	40	I-95 and I-395
Portland International Jetport	75	2,116,024	143,494	6.8%	43	I-95 and I-295
Northern Maine Regional Airport	2	30,157	0	0.0%	30	US Route 1

Source: CoStar

MODAL PROFILES: MARITIME SHIPPING

With well over 200 miles of Atlantic coastline and positioned as the country's most northeastern state, Maine is especially well-suited to receive maritime shipments, especially those destined for inland locations via truck or rail. There are three primary ports in Maine available for freight handling.

The Port of Portland:

- Second largest seaport in New England in terms of tonnage and also one of the biggest oil ports on the East Coast with nine terminals. This is far and away the largest marine port in the state, accounting for approximately 95% of all marine cargo tonnage.
- In total, there are 15 berths and 11 piers with a maximum draft of 48 feet, with warehouse storage on site.
- The port handled 22,325 container units in 2019.
- The major cargo terminal is the 88-acre International Marine Terminal (IMT), a multipurpose facility with 7 berths and drafts up to 45 feet for handling containers, bulk, breakbulk, and roll-on/roll-off cargo. It also offers on-dock rail connections.
- The International Marine Terminal (IMT) specializes in containerized freight and project cargo and offers nearby connections to the highway system, the Portland International Jetport, and Pan Am Railways via a rail spur.

Port of Portland Terminals

Terminal	Primary Services
Merrill	Bulk, break bulk, project
Sprague Energy	Petroleum
Irving/Buckeye	Petroleum
Global	Petroleum
Citgo/Turner's Island	Petroleum, bulk, break bulk
International Marine Terminal (IMT)	Containerized, project
Portland Pipeline Pier #1	Petroleum
Gulf Oil	Petroleum
Portland Pipe Line Pier #2	Petroleum

Source: Maine Port Authority

- The port serves as the American base for Icelandic shipping company Eimskip, driving container service between Portland and Europe.

The Port of Searsport:

- The port includes facilities for dry and liquid cargo, storage, and intermodal rail.
- The port offers nearby highway access to US Route 1. Rail connections to the Central Maine and Quebec Railway allow access to US and Canadian markets.
    - Notably, the port's rail facilities do not accommodate double-stacked cars.
- Dry cargo tonnage saw little or no effect from the pandemic, rising from 428,716 (2017) to 542,921 (2020) before dipping to 440,000 (2022).
- Recently, Sears Island was announced as a future floating offshore wind power site. This project is expected to impact the scale of operations at Searsport.

The Port of Eastport:

- The port comprises two terminals and features the deepest natural harbor in the continental US (65ft draft).
- The Estes Head Pier accepts bulk cargo and containers.
- Storage solutions include 133,000 square feet of dry warehousing and 7 acres of open storage with a 1,000-ton-per-hour conveyor system.
- Tonnage at Eastport Port has fallen below 100,000 tons in 2020 after exceeding 300,000 tons prior to the pandemic.
- Cargo movement currently relies solely on freight trucks traveling along the Route 190 causeway.
- The addition of rail access would significantly enhance the port's potential in the regional shipping landscape.

Marine Freight Ports of Maine

Location	Tonnage	Notes
Portland	9,495,000 (2022)	Nine terminals including the International Marine Terminal (IMT) with intermodal connections to trucking, rail, air freight, and pipelines.
Searsport	440,000 (2022)	Dry and liquid cargo piers plus direct intermodal access to rail, roadways, and pipelines.
Eastport	<100,000 (2020)	Two terminals w three berths. Deepest natural seaport in the continental United States (mlw draft of 65 feet).

Sources: Port of Portland, Cambridge Systematics, marineinsight.com, HDR, Inc.

Regarding available storage, more than 1.3 msf of warehouse and distribution space is found within two miles of the Port of Portland (note that some of this space overlaps with properties within two miles of the Portland International Jetway). Demand is strong, and a mere 1% of this space is currently vacant.

Separately, near the ports at Searsport and Eastport, only the most modest amount of commercial storage is available. Only one property (1,800 sf) is found in Searsport, while the two properties near Eastport total less than 40,000 sf. At the same time, all of these properties are currently fully occupied, so there is a possibility that any newly developed space would quickly become occupied as well.

Warehouse and Distribution Facilities within Two Miles of Marine Freight Ports - 2024

	Structures	Total Area (sf)	Total Vacant (sf)	Vacancy Rate	Median Age	Accessable Highways within One Mile
Port of Portland	64	1,333,868	16,932	1.3%	62	I-95 and I295
Port of Searsport	1	1,800	0	0.0%	64	US Route 1
Port of Eastport	2	37,260	0	0.0%	16	-

Source: CoStar

MODAL PROFILES: RAILWAYS

Rail

Maine's rail network carried more than 4.7 million tons of freight valued at more than $1.9 billion as recently as 2022. The state's rail system spans 1,457 miles, with 965 miles (66%) owned and maintained by 7 private freight providers. The two Class I railroads operating in Maine are Canadian Pacific (CP) and CSX Transportation, which acquired Pan Am Railways in 2022.

There is also one privately held terminal and switching operation at Turners Island in South Portland. Turners Island operates a 14-acre marine-rail cargo terminal in South Portland. It provides a roll-on/roll-off ramp for marine-marine or marine-rail transfers, 14 acres of open storage at the terminal, 84 acres of open storage accessible by rail and located in Scarborough, and 9,000 square feet of dry warehouse space.

The largest intermodal facility, inclusive of rail, is found in Portland, specifically at the International Marine Terminal, but additional facilities are found in Searsport and Waterville (used exclusively by Poland Springs).

While the rail service in Maine provides high levels of service to existing customers, it remains considerably constrained due to structural limitations. Based on criteria set by the Federal Railroad Administration classifying rail lines from 1 to 9, Maine's top rating is 4, allowing freight hauling at speeds of up to 60 mph. The majority of the network, however, is rated much lower, including a great number of Class 1 lines, limiting freight trains to a top speed of just 10 mph due to inadequate rail bed conditions.

Freight Railroads In Maine

Railroad	Reporting Mark	Parent Company/ Ownership	Operated Miles	Owned Miles
Class I Railroads			762	732
Canadian Pacific	CP		205	201
CSX	CSX		557	531
Class III (Local) Railroads			556	231
Maine Northern Railway	MNR	Irving/NBM Railways	223	0
Eastern Maine Railway	EMRY	Irving/NBM Railways	176	173
St. Lawrence and Atlantic Railroad	SLR	Genesee & Wyoming	93	63
Midcoast Railservice, Inc	Midcoast	Finger Lakes Railway	59	0
New Hampshire North Coast Railroad	NHN	Boston Sand and Gravel	0.3	0.3
Terminal & Switching			1.6	1.6
Turner's Island LLC	TI	Turner's Island, LLC	1.6	1.6

Source: Maine DOT

Infrastructure Investment Highlight

Rail improvement efforts, particularly by CSX Transportation, over the last few years have started to address some of the limitations associated with freight speed. Since its 2022 acquisition of Pan Am Railways, CSX Transportation has been working to improve rail lines across the state, upgrading several miles of track from Class 1 to Class 2 and Class 3. According to the Surface Transportation Board, during 2024, CSX Transportation made improvements to more than 100 miles of track with increased speeds on select lines scheduled to start in February and March 2025. These upgrades have been funded through public and private entities (CSX's Fifth Biannual Report, Surface Transportation Board, November 27, 2024).

Maine Rail Lines by Class, Maximum Allowed Speed, and Ownership

Track Classification	Freight	Passenger	
Class 4 Track	60 mph	80 mph	CSX line hosting Amtrak Downeaster service
Class 3 Track	40 mph	60 mph	CP main lines, SLR, Rockland Branch
Class 2 Track	25 mph	30 mph	Portions of CSX, EMRY, MNR
Class 1 Track	10 mph	15 mph	Remainder of network

Source: MaineDOT

In addition, the weight standard for rail carloads generally stands at 286,000 lbs. nationally, but extensive portions of Maine's rail network remain capped at 263,000 lbs. including routes serving Augusta, Searsport intermodal facilities, Madison, and lines north of Bangor that service the region's timber industry. Notably, many segments of the national rail network now allow carloads of up to 315,000 lbs.

Yet another challenge faced by Maine's rail providers is the current height limitations throughout most of the network. Stacking two shipping containers on a flatbed provides great cost efficiencies, but only a small portion of the state's lines provide clearances sufficient to allow this double stacking. Service providers within Maine must conform to more limited clearances, thus reducing their competitiveness in the New England market.

Due to these multiple limitations of the rail service in Maine, businesses across many sectors within the state frequently ship their products by truck to intermodal facilities outside the state, such as Albany, Ayer, Springfield, Worcester, and Stockbridge, to take advantage of their more up-to-date infrastructure.

Rail customer access can be improved, and opportunities for railroad companies can be raised by a variety of infrastructure improvements. Additional new customers would also be attracted by expanding or improving connections to commercial and industrial locations, ports, and other facilities.

Multimodal connectivity and terminal services can be improved by enhancing capacity to handle more overall traffic, specifically by adding or improving trans-load sites, building or upgrading terminal trackage, and improving the amenities at the facilities.

Freight rail improvement opportunities are abundant. There is an ongoing need to ensure rails and beds remain in a State of Good Repair (SOGR). In addition, many opportunities for infrastructure and capacity upgrades are possible that would foster a much more thriving rail system and, through multimodal connections, a more dynamic transportation network.

MODAL PROFILES: PIPELINES

Maine's system of pipelines transported more than 7.7 million tons of products in 2022, valued at $1.7 billion. This included both natural gas and crude oil.

Natural Gas Pipelines in Maine

Providing natural gas for residential, commercial/industrial, and power-generating customers in Maine, other New England states, and Canada. Three major interstate natural gas pipelines service the state. These are:

- Portland Natural Gas Transmission System (PNGTS) – 107 miles of pipeline that connects the Canadian border to Maine, New Hampshire, and Massachusetts
- Maritimes & Northeast Pipeline – 684-mile system connecting offshore developments in the Canadian Maritimes to Maine, New Hampshire, and Massachusetts, connecting to the existing pipeline grid in Dracut, MA.
- Granite State Gas Transmission Company – 85 miles connecting Maine, Massachusetts, and New Hampshire

Summary of Maine Freight Flows by Pipeline, 2022

	Tons (Thousands)	Value (Millions)	Million Ton-Miles
Domestic	**5,160**	**$1,323**	**578**
Within Maine	568	$109.3	44
Exports	1,001	$284.2	92
Imports	3,591	$929.7	441
Foreign	**2,532**	**$387.7**	**331**
Exports	2,018	$277.7	247
Imports	513	$110.1	83

Source: Oak Ridge National Laboratory FAF5 Framework

Crude Oil Pipeline in Maine

There is an additional pipeline that crosses Maine carrying crude oil. This is:

- The Portland-Montreal Pipeline is a major crude oil pipeline stretching 236 miles. The primary pipe measures 24 inches in diameter while two additional pipes of 12- and 18-inches are no longer in service.

Maine imports crude oil and other refined petroleum products for fuel and heating purposes, and chemicals are widely used for industrial purposes. After drawing down usage to a trickle in 2019, the pipeline has more recently found renewed use, though at a historically modest pace. Shipments registered just over 6 million barrels per day in 2023.

Portland-Montreal Pipeline Annual Petroleum Throughput

Year	Mb/d	Annual Change
2016	32.2	
2017	11.4	-65%
2018	2.4	-79%
2019	0.2	-92%
2020	4.9	2350%
2021	8.7	78%
2022	8.3	-5%
2023	6.2	-25%

Source: Canada Energy Regulator

CONSTRAINTS AND FUTURE NEEDS

Maine's competitiveness is tied to the versatility and efficiencies of its transportation network. Like all regions, Maine is highly reliant on its transportation infrastructure to support business and industrial activity. Maintaining and expanding this infrastructure is central to a vibrant and diverse economy.

Roadways and Bridges

Freight transportation in Maine remains highly dependent on its highway system. Fortunately, the degree of highway congestion in Maine is modest compared to neighboring New England states. However, with its high reliance on trucking, maintaining a state of good repair here is paramount, especially on primary trucking routes. Trucks cause a great deal more wear on road roadways than passenger vehicles, and this is especially the case in Maine, where logging trucks are allowed to carry up to 100,000 lbs. along some stretches of roadways.

The expansion of economic opportunities will require Maine to maintain and modernize roadways, highways, and bridges. Shoring up existing assets is a priority in the state's efforts to remain economically competitive. Going forward, meeting the needs of companies and consumers calls for further upgrading, improving, and expanding this infrastructure to meet the needs of workers, businesses, and households.

Figures provided by the Federal Highway Administration identify nearly 400 of Maine's bridges in need of repair, with all but a few requiring rehabilitation. In this survey, five were singled out as needing to be fully replaced. Estimated costs of this maintenance, repair, and replacement sum to well over $400 million. While required to maintain the state's roadways in a State of Good Repair (SOGR), the cost of this work will be substantial.

Specific to international trade, consideration needs to be given to improving US Route 1 from Eastport to the international border crossing at Calais. This important crossing serves as a gateway for US goods on their journey to Saint John and beyond and also as a route for products entering from Canada's Maritime Provinces.

Needed Roadway Bridge Work in Maine - 2023

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	5	$4.30	1,911	1,019
Widening & rehabilitation	1	$1.40	799	480
Rehabilitation	383	$431.90	1,226,073	135,026
Deck rehabilitation/replacement	1	$0.10	5	40
Other work	2	$0.70	255	253
Total	**392**	**$438.50**	**1,229,043**	**136,818**

Note: Need as determined by the Federal Highway Administration's National Bridge Inventory (NBI)

Source: ARTBA-American Road & Transportation Builders Association

The great reliance that Maine places on shipping goods by truck reflects the underutilization of both maritime and rail transport. There are notable opportunities for these modes to increase in usage, bringing down costs and making Maine's overall transportation network more competitive. These are

both hampered, however, due to constraints such as limited intermodal transfer facilities and infrastructure that does not accommodate more modern types of transport seen in neighboring states.

Maritime Ports

The growth of container cargo shipping has been facilitated largely by the Eimskip service, based at the IMT terminal between Portland and Europe. The shipment of containers is projected to continue at a strong rate of growth. In order to meet the growing requirements of shippers, further expansion at the port of Portland may well include the development of additional storage space, additional rail facilities, and improved highway access, which can further expand the attractiveness of the port to international shippers.

In Eastport, cargo is offloaded from ships and transferred to trucks that run along Route 190. With the deepest natural harbor in the continental US, the site can accommodate ships up to 900 feet in length. Extending rail service to this port would hugely enhance the facility's abilities as an intermodal node.

Expanded rail offerings would also promote intermodal trans-loading at the harbor in Searsport. More pressing, however, is the need for channel dredging. This is highly overdue as the port area has not been dredged since the 1960s, and shallow spots are limiting the maneuvering of some ships. Meanwhile, other freighters can only approach the port during high tides.

Rail

Maintaining Current Infrastructure

Maine DOT has identified the need to spend on dozens of rail programs throughout the state. These include 17 "Short-Range" projects (through 2026) totaling $200M and 16 " Long-Range" projects extending out to 2042, totaling an additional $150M. A great deal of these initiatives simply involve bringing rail lines and bridges up to a State of Good Repair (SOGR). Ensuring that rail beds, ties, grade crossings, and bridges are simply maintained is fundamental to continuing the level of service currently found within the state.

Beyond general maintenance, opportunities include improving services and expanding to broader markets, acquiring updated locomotives, and improving terminals to facilitate multimodal connectivity.

Improving and Expanding Services

Upgrades and expansion of services call for bringing the state's rail system closer to its potential. Substantial portions of Maine's rail system are rated as Class 1 track, allowing freight to be transported at a maximum speed of 10 mph. **Upgrading these, along with the extensive segments rated as Class 2 with speeds capped at 25 mph**, would significantly speed up travel between Bangor and Augusta and then on to Lewiston, and also the corridors running east of Brownville Junction and north from Millinocket. Recent rail improvement efforts have started addressing some of these tracks; however, sustained investment in rail infrastructure is still required to bring Maine's system in line with New England.

Upgrading these sections of rail would also provide the opportunity to increase their carrying capacity. Many stretches of the state's rail system still limit freight cars to a maximum weight of 263,000 lbs. Shoring up these lines to allow for the newer standard of 286,000 lbs. would boost Maine's system to being on par with most rail lines throughout New England and beyond. Due to the significant weight involved in the state's wood products, there could be merit in building up to the even higher weight capacity of 315,000 lbs. allowed over some segments of New England railways.

Railways throughout Maine are not just constrained by the weight of their cargo but also by the physical dimensions. Transferring shipping containers directly from ships to trains yields a highly efficient intermodal transport system. Even greater efficiencies are achieved when two containers can be stacked. The lowest double-stacked rail cars require a minimum clearance of 18 feet two inches, while other configurations require over 20 feet of clearance. While portions of Maine's rail system do allow for limited double-stacking, there is no capacity for double-stacked cars to pass through the southern portion of the state.

Due to these height and weight constraints, a significant amount of cargo destined for southern New England and points south and west are transported via trucks to intermodal terminals in Massachusetts, specifically Ayer, Springfield, and Worcester. **Raising the permitted railways to allow for double-stacking and increasing load capacity would significantly increase the attraction of shipping through the port of Portland** as goods could be directly loaded at the IMT onto rail cars and head directly to their end markets to the south and west without the need to intermediate transport via the interstate highway system. This, in turn, would reduce congestion and wear on local roadways in and around Portland.

Expanded Multimodal Facilities

Expanding Maine's rail system's geographic reach can present further opportunities to transportation providers and customers. Specifically, reopening closed lines and building out or reopening spurs to industrial areas will greatly enhance the value of those locations to manufacturers and distributors. Expansion of terminals, including enhanced trans-loading facilities and adding sidings, greatly increases multimodal capacity. In addition, the re-establishment of the intermodal site in Auburn would provide added capacity to nearby industrial and commercial operations.

There is no shortage of opportunities to enhance and expand Maine's rail system. **An intentional commitment to secure a State of Good Repair combined with strategic investment in rail and terminal capacity presents the likelihood of a greatly enhanced and reliable network.** This, in turn, presents a resilient and consistent option to the state's manufacturing, retail, and distribution sectors with notable efficiencies and highly competitive pricing.

MAINE.
ECONOMIC & COMMUNITY DEVELOPMENT

FREIGHT ANALYSIS

PROFILES OF MAINE'S FREIGHT MODES

The flow of goods leaving and entering the state relies on an intricate distribution system. While some types of commodities rely heavily on trucks and highways to reach their destination, others are loaded onto trains or as cargo on airplanes. Many goods also rely on multiple modes of transport. Together, these distribution modes provide a system for businesses and consumers in the state to access the goods that they need and for Maine businesses to deliver products to consumers.

The following section provides an in-depth analysis of the modes of transport that are utilized to import or export goods in Maine: Trucks, Rail, Pipeline, and Multi-Mode/Mail. The data in this section is derived from Oak Ridge National Laboratory's Freight Analysis Framework 5 (FAF5), which details the state-to-state flow of commodities throughout the United States. This analysis provides a detailed view of where and how commodities are transported into and out of the state. *The data provided in this section excludes foreign and intra-state trade flows unless otherwise noted.*

Key Findings

Each mode of transportation supports different aspects of Maine's economy. Trucking dominates Maine's local and regional distribution, while rail provides long-distance and bulk transport. Pipelines are crucial for energy commodities but are utilized less for other goods, and multiple modes and mail offer flexibility for complex logistics. A balanced and integrated transportation infrastructure is essential for economic stability. Investment in infrastructure, industry diversification, and strategic planning for future trends (such as shifts to renewable energy) are critical. **These transportation modes facilitate strong trade relationships in the Northeast and across the country.** Maintaining and enhancing these connections through robust infrastructure will promote economic resilience and growth.

Truck

- **Trucks are indispensable to Maine's economy,** responsible for the vast majority of commodity transport within the state and across state lines. This makes trucking the backbone of Maine's distribution network. As a result, efficient and reliable trucking services are crucial for maintaining the flow of goods, supporting local businesses, and ensuring consumer access to products. Disruptions in trucking could have widespread economic consequences.
- Regarding the goods themselves, **trucking activity most dominantly transports pulp, paper, and wood products**; however, compared to the other modes of transportation, **trucking offers the most diversity in the goods** transported.
- Trucks carry 84% of commodity export tonnage leaving the state, 61% of import tonnage entering the state, and 98% of all flows occurring within Maine.
- Overall, **trucks were responsible for transporting over $50 billion worth of domestic flows** of goods into, out of, and within the state in 2022, with almost $14 billion coming from domestic exports.

- Trucks carried goods to and from Maine with all 47 continental states and Washington, DC, in 2022; however, states in **the Northeast account for the largest share of domestic export and domestic import value.**

Rail

- Despite its smaller scale than trucking, rail transport supports key industrial sectors and offers an alternative transportation mode that can be more efficient for certain goods. Further, rail provides a cost-effective and efficient means of transporting bulk goods over long distances, reducing highway congestion and emissions.
- Rail carries 3% of commodity export tonnage leaving the state and 1% of import tonnage entering the state.
- Overall, rail was responsible for transporting over **$306 million worth of domestic flows of goods** into, out of, and within the state in 2022, with over $263 million coming from domestic exports.
- Rail carried goods **to and from Maine to 17 total continental states** in 2022, with the **Midwest and West accounting for the largest share of domestic export value** and the Midwest and South states accounting for the largest share of domestic import value. This geographical spread indicates rail's role in connecting Maine to distant markets, enhancing trade diversity, and providing resilience against regional economic fluctuations.
- Rail relies heavily on paper, wood, and textiles/leather. If these industries decline, the rail transportation infrastructure can be at risk.

Pipeline

- Pipeline carries 7% of commodity export tonnage leaving the state and 28% of import tonnage entering the state. The high percentage of imports via pipeline highlights its importance in energy supply and the necessity of maintaining pipeline infrastructure for energy security.
- Overall, pipeline was responsible for transporting over **$1.3 billion worth of domestic flows of goods** into, out of, and within the state in 2022, with over $284 million coming from domestic exports and over $929 million coming from domestic imports.
- **Pipeline carried goods to New Hampshire, Wisconsin, and Michigan** in 2022, with these three states accounting for all the domestic export value and New Hampshire accounting for all the domestic import value. This indicates critical inter-state energy connections, especially with New Hampshire, necessitating cooperative policies and infrastructure maintenance.
- The goods traveling via pipeline are natural gas and other fossil products and basic chemicals.

Multiple Modes and Mail

- This mode integrates various transportation methods for efficiency and flexibility. **This versatility is crucial for handling diverse and complex logistics needs, ensuring that goods can reach their destinations efficiently.**
- Multiple Modes and Mail carry 7% of commodity export tonnage leaving the state and 10% of import tonnage entering the state.

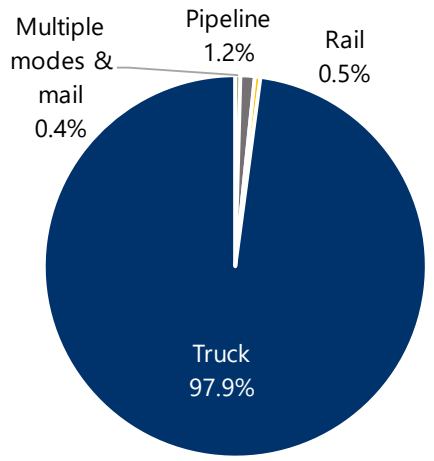
- Overall, Multiple Modes and Mail was responsible for transporting over $15.3 billion worth of domestic flows of goods into, out of, and within the state in 2022, with over $4.2 billion coming from domestic exports and over $10.3 billion in domestic imports. The significant economic contribution highlights the importance of having a flexible logistics network that can adapt to various transportation demands.
- **Multiple Modes and Mail carried goods to and from Maine to all 47 continental states** in 2022, with the Northeast accounting for the largest share of domestic export and import values.
- Multiple Modes and Mail relies heavily on paper, wood, and plastics/rubber. If these industries decline, the multiple modes and mail transportation infrastructure can be at risk.

OVERVIEW OF MAINE'S FREIGHT MODES

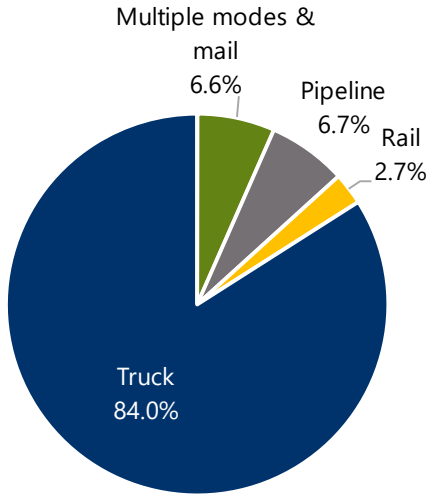
By tonnage of freight, trucks are the primary method of moving commodities to, from, and within Maine. In 2022, 84% of domestic exports of commodities from Maine left the state on Trucks, while 61% of domestically imported commodities entered the state on Trucks. For goods circulating within the state, trucks were essentially the only mode of transport, with marginal shipments via pipeline, rail, and multi-mode freight.

In addition to trucks, Maine's goods are moved via pipeline, rail, and multi-mode freight. The following profiles provide greater detail about the sources and destinations of these goods, average shipment distance, top commodities, and historical freight trends for each of these four major freight modes used throughout the state.[5]

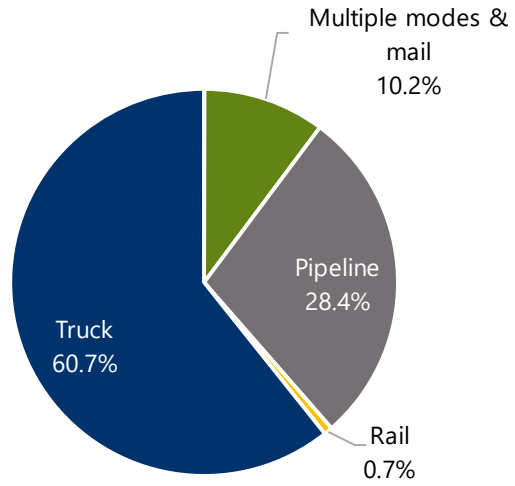
Distribution of Modes for Intrastate Trade in Maine, 2022 (Tons)



Distribution of Modes for Domestic Exports from Maine, 2022 (Tons)



Distribution of Modes for Domestic Imports into Maine, 2022 (Tons)



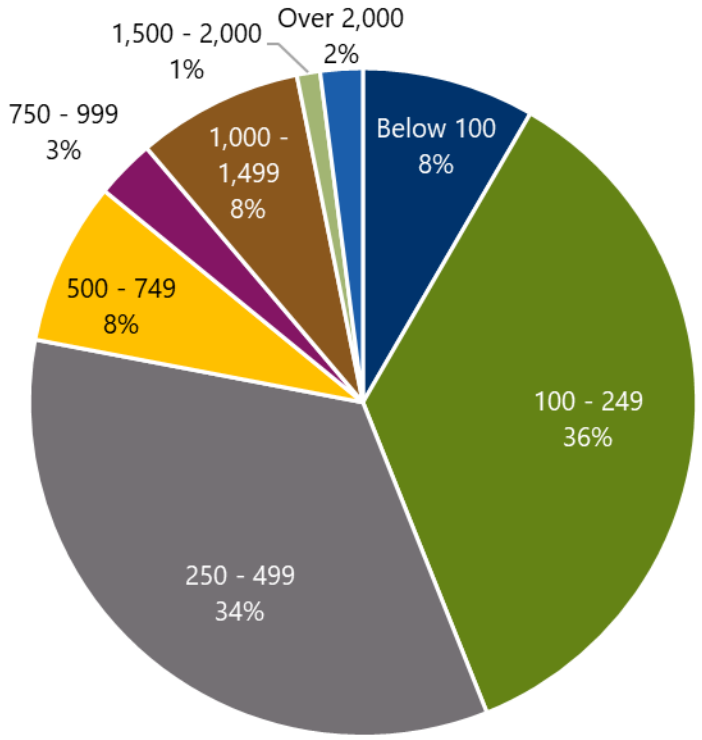
Source: Oak Ridge National Laboratory (ORNL) FAF5 Framework

[5] Air accounts for less than 0.1% of the total tonnage of domestic imports and exports for Maine and approximately 1% of the value of the state's domestic imports and exports.

Across all freight modes, 78% of all goods leaving Maine for other states traveled less than 500 miles in 2022, while 11% traveled more than 1,000 miles.

Illustrated on the map below, cities within 500 miles of Maine include Boston, Providence, New York, Philadelphia, Rochester, Buffalo, and Washington, DC. This area covers a population of 65.9 million people (not including Maine).

Distribution of Tons Shipped on All Freight Modes, by Distance of Shipment (Miles), 2022



Source: ORNL FAF5 Framework, Camoin Associates

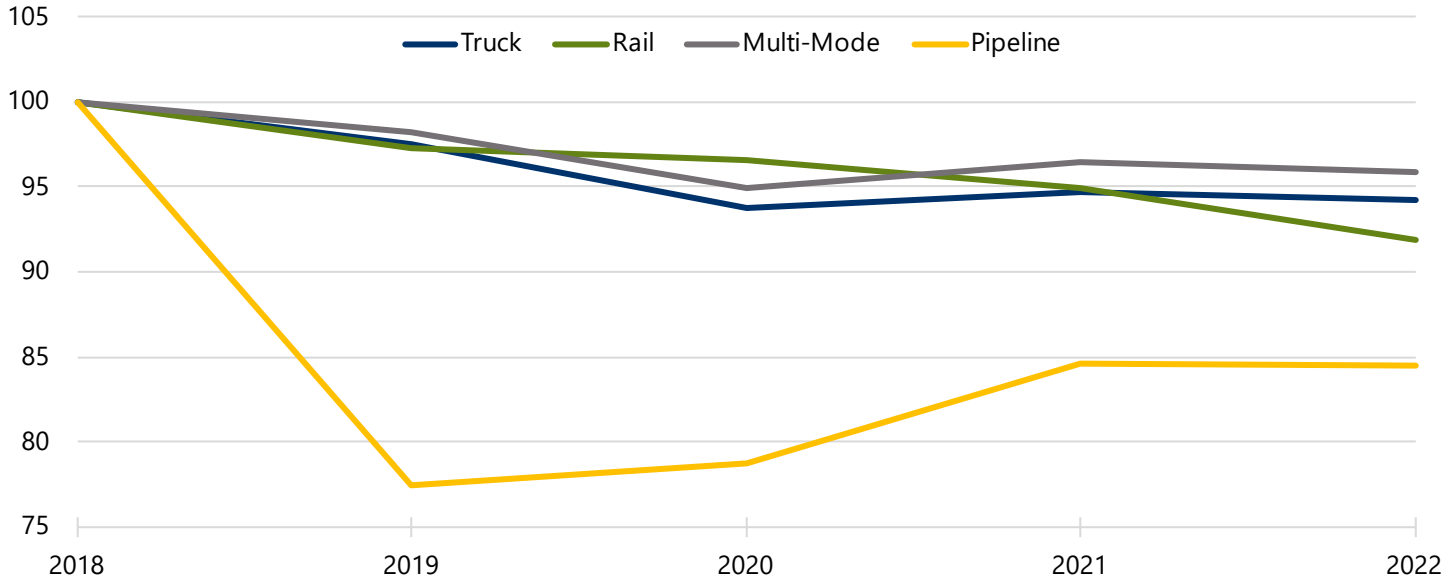
Distance from Maine

Most of the freight modes detailed below have followed a similar trajectory for domestic exports over the five years from 2018-2022. Generally, domestic exports shipped on truck, rail, and multi-mode were on a slight decline in the years preceding the COVID-19 pandemic. Exports shipped via truck and multi-mode/mail saw a slight rebound in 2021 and 2022, though not reaching previous levels. Exports shipped via rail continued to decline following the COVID-19 pandemic. The value of domestic exports shipped on these three modes ranged from about 4%-8% lower in 2022 compared to 2018.

Meanwhile, pipeline exports declined significantly in 2019 and began recovering in the following years despite the COVID-19 pandemic. Overall, the value of domestic exports on pipelines was about 15% lower in 2022 compared to 2018.

Total Domestic Exports Shipped from Maine by Freight Mode, 20182022

Index: 2018 = 100.0



Source: ORNL FAF5 Framework, Camoin Associates

TRUCK FREIGHT

Summary of Truck Freight Flows

Summary of Maine Freight Flows by Truck, 2022

	Tons (Thousands)	Value (Millions)	Million Ton-Miles
Domestic	**66,411**	**$50,410**	**13,191**
Within Maine	46,134	$18,429.8	4,372
Exports	12,596	$13,855.9	5,419
Imports	7,681	$18,124.3	3,401
Foreign	**4,528**	**$4,736.4**	**765**
Exports	1,631	$2,430.8	358
Imports	2,897	$2,305.6	406

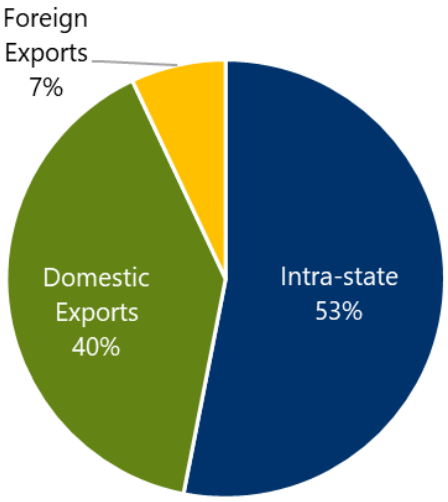
Source: Oak Ridge National Laboratory FAF5 Framework

Trucks play the most critical role in Maine's freight and logistics network, carrying 84% of all domestic export's total tonnage to other states in 2022. Trucks carried 66.4 million tons of goods into, out of, and within the state, valued at over $50.4 billion of total trade.

Trucks also played an important role in Maine's international trade in 2022, carrying 2.9 million tons of internationally imported goods and 1.6 million tons of goods destined for international markets.

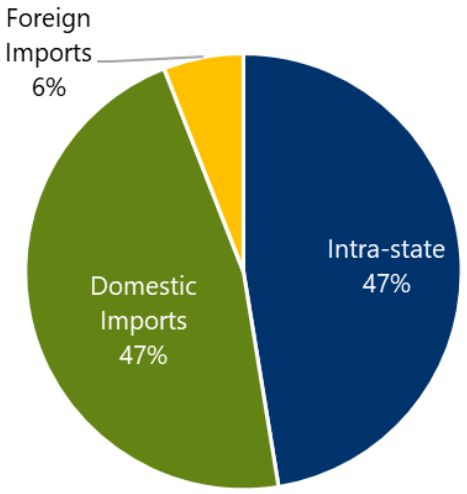
Overall, domestic imports and intra-state trade account for 47% of the total value of goods moving into the state on trucks, while foreign imports account for 6%. Meanwhile, domestic exports account for 40% of the total value of goods moving out of the state on trucks, while 53% are intra-state shipments and 7% are destined for foreign markets.

Destinations of Products Shipped From Maine by Truck - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

Destinations of Products Shipped Into Maine by Truck - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

State-to-State Export Relationships

Maine exported goods on trucks to 47 continental states and Washington, DC in 2022. Trucks carried over $1 billion of goods from Maine to Massachusetts, New Hampshire, and Pennsylvania in 2022 and over 1 million tons of goods to New Hampshire, Massachusetts, New York, New Jersey, and Pennsylvania.

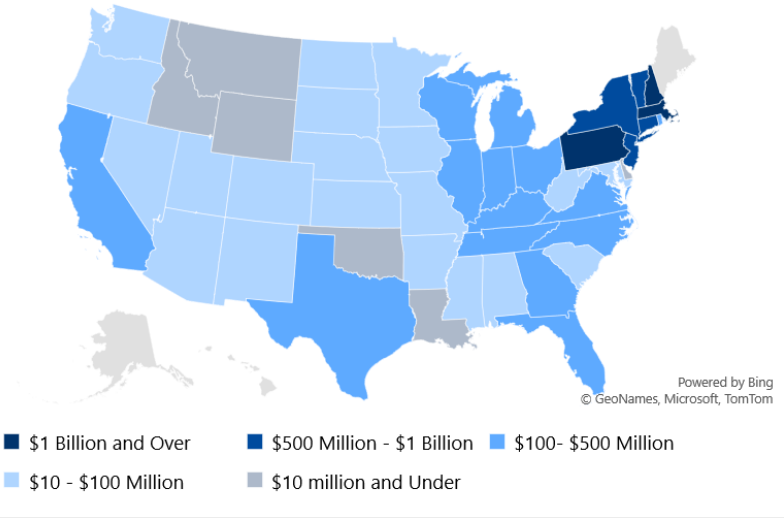
Overall, states in the Northeast account for the greatest value of shipments from Maine on trucks. All Northeast states (CT, MA, NH, VT, RI, PA, NY, NJ) appear in the top 10 states for Maine's truck exports. The Northeast is joined by California and Michigan in the top 10 by total value of shipments.

Top 10 Export Destinations by Total Value - Truck (2022)

State	Value of Shipments ($M)
Massachusetts	$2,915.1
New Hampshire	$2,429.2
Pennsylvania	$1,119.3
New York	$938.0
Connecticut	$856.1
New Jersey	$852.7
Vermont	$503.5
California	$372.9
Rhode Island	$354.4
Michigan	$301.6

Source: ORNL FAF5 Framework

Top Domestic Export Destinations - Truck (2022)



Key truck freight commodities in top export states:[6]

1. **Massachusetts |** Mixed Freight[7], Wood Products*
2. **New Hampshire |** Mixed Freight, Transportation Equipment, Other Foodstuffs, Gasoline
3. **Pennsylvania |** Paper Articles, Wood Products, Other Foodstuffs
4. **New York |** Plastics/rubber, Other Foodstuffs, Mixed Freight, Meat/Seafood
5. **Connecticut |** Mixed Freight, Machinery, Transportation Equipment
6. **New Jersey |** Precision Instruments, Chemical Products, Other Foodstuffs
7. **Vermont |** Mixed Freight, Other Foodstuffs, Wood Products*
8. **California |** Chemical Products, Misc. Manufacturing Products, Machinery, Plastics/Rubber, Meat/Seafood
9. **Rhode Island |** Mixed Freight, Transportation Equipment
10. **Michigan |** Transportation Equipment, Newsprint/paper

[6] Key commodities are identified as those that account for at least 10% of a state's trucked exports from Maine. Commodities marked with an * indicate that they fell slightly below 10% of the total trucked value but are included to provide context on the wood products industry.

[7] The "Mixed Freight" category includes items (including food) for grocery and convenience stores, supplies and food for restaurants and fast-food chains, hardware or plumbing supplies, office supplies, and miscellaneous. For more information see: https://faf.ornl.gov/faf5/Documentation.aspx

State-to-State Import Relationships

Maine imported goods from 47 continental states and Washington, DC in 2022. Trucks carried over $1 billion of goods into Maine from five states in 2022, all in the Northeast, while only Massachusetts and New Hampshire shipped over 1 million tons of trucks into Maine (both had 2.2 million tons).

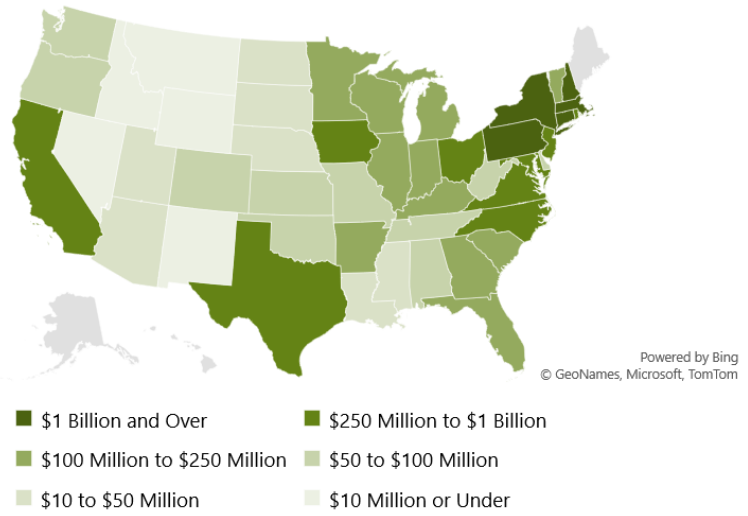
As was found for exports, states in the Northeast also play a major role in truck-based imports into Maine. Other states, such as Ohio, North Carolina, and Virginia, join Northeastern states in the top 10 for 2022.

Top 10 Sources of Imports by Total Value - Truck (2022)

State	Value of Shipments ($M)
Massachusetts	$4,010.0
New Hampshire	$2,220.7
New York	$1,596.9
Pennsylvania	$1,587.1
Connecticut	$1,324.4
New Jersey	$901.5
Ohio	$634.4
North Carolina	$500.3
Rhode Island	$493.5
Virginia	$471.2

Source: ORNL FAF5 Framework

Top Sources of Domestic Imports - Truck (2022)



Key truck freight commodities in top import states:

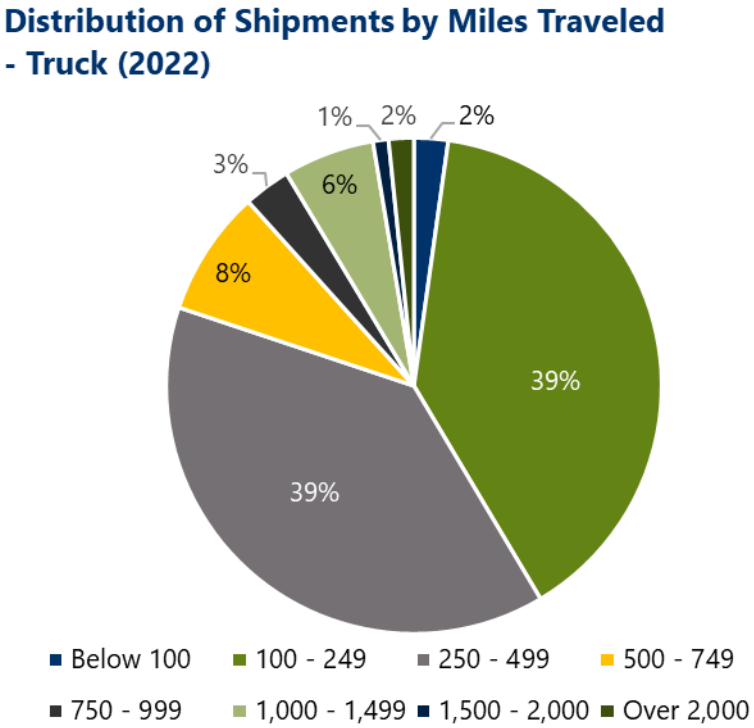
1. **Massachusetts |** Mixed Freight[8], Pharmaceuticals, Other Foodstuffs
2. **New Hampshire |** Mixed Freight, Fuel Oils
3. **New York |** Mixed Freight, Textiles/Leather, Plastics/Rubber, Other Foodstuffs, Meat/Seafood
4. **Pennsylvania |** Misc. Manufacturing Products, Electronics, Milled Grain Products, Motorized Vehicles, Machinery
5. **Connecticut |** Mixed Freight, Motorized Vehicles, Base Metals
6. **New Jersey |** Motorized Vehicles
7. **Vermont |** Other Foodstuffs, Mixed Freight, Wood Products
8. **California |** Machinery, Electronics, Mixed Freight
9. **Rhode Island |** Motorized Vehicles, Mixed Freight, Other Foodstuffs, Machinery
10. **Michigan |** Machinery, Motorized Vehicles, Misc. Manufacturing Products

[8] The "Mixed Freight" category includes items (including food) for grocery and convenience stores, supplies and food for restaurants and fast-food chains, hardware or plumbing supplies, office supplies, and miscellaneous. For more information see: https://faf.ornl.gov/faf5/Documentation.aspx

Distance of Shipments

In 2022, 78% of Maine's total tonnage of domestic exports shipped via trucks traveled less than 500 miles.

39% of domestic exports on trucks traveled between 100-250 miles, with another 39% traveling between 250-500 miles. Conversely, 10% of total exports traveled long-distance, 1,000+ miles in 2022.



Source: ORNL FAF5 Framework, Camoin Associates

Short-Distance Commodities

Top Commodities for Domestic Truck-Based Exports of Under 250 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped Under 250 Miles	% Under 250 Miles
Fuel oils	65,617	100%
Natural gas and other fossil products	2,175	100%
Gasoline	468,732	100%
Gravel	376,686	100%
Cereal grains	47,229	100%
Animal feed	125,542	99%
Building stone	153,757	98%
Nonmetal min. prods.	326,501	95%
Waste/scrap	91,725	89%
Other ag prods.	11,060	87%
Articles-base metal	71,870	81%
Mixed freight	1,062,763	79%
Misc. mfg. prods.	64,237	76%
Base metals	12,478	74%
Live animals/fish	8,793	69%
Total, All Commodities	**5,222,177**	**41%**

Source: ORNL FAF5 Framework, Camoin Associates

- Overall, 41% of all Maine's tonnage shipped on trucks is driven to destinations outside the state less than 250 miles away. This represents 5.2 tons of domestic exports.
- Energy-related commodities of fuel oils, natural gas/fossil fuels, and gasoline are exclusively distributed outside of the state on trucks.
- Other food and agriculture-related products, such as grains, animal feed, and live animals/fish are shipped mostly on trucks.

Medium-Distance Commodities

Top Commodities for Domestic Truck-Based Exports of 250-999 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped 250-999 Miles	% 250-999 Miles
Fertilizers	644	100%
Logs	1,714	100%
Precision instruments	3,511	92%
Paper articles	288,671	88%
Other foodstuffs	4,428,222	75%
Pharmaceuticals	54,787	63%
Motorized vehicles	38,095	53%
Milled grain prods.	10,599	52%
Wood prods.	449,989	46%
Newsprint/paper	417,631	43%
Printed prods.	52,519	43%
Alcoholic beverages	10,854	42%
Electronics	3,941	41%
Nonmetallic minerals	91,220	36%
Textiles/leather	17,754	34%
Total, All Commodities	**6,289,682**	**50%**

Source: ORNL FAF5 Framework, Camoin Associates

- Medium-distance trucking, including shipments between 250-999 miles, accounts for 50% of all truck-based domestic exports from Maine in 2022.
- Several Forest Products commodities fall into the category of having high shares of truck-based exports sent medium distances. This includes logs, paper articles, wood products, and printed products.
- 75% of Other Foodstuffs, or 4.4 million tons, is shipped at this medium distance. This includes dairy products, processed fruits and vegetables, confectioneries, and other misc. food products.

Long-Distance Commodities

Top Commodities for Domestic Truck-Based Exports of 1,000+ Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped 1,000+ Miles	% 1,000+ Miles
Transport equip.	5,167	62%
Basic chemicals	26,201	54%
Machinery	9,012	50%
Textiles/leather	23,483	45%
Chemical prods.	70,935	43%
Motorized vehicles	30,616	43%
Plastics/rubber	86,792	42%
Newsprint/paper	399,003	41%
Electronics	3,521	37%
Pharmaceuticals	32,124	37%
Furniture	7,941	31%
Milled grain prods.	5,993	30%
Meat/seafood	8,622	20%
Articles-base metal	14,920	17%
Printed prods.	20,465	17%
Total, All Commodities	**1,084,187**	**9%**

Source: ORNL FAF5 Framework, Camoin Associates

- Only 9% of Maine's domestic exports shipped on trucks travel more than 1,000 miles.
- Despite an overall low share of goods being moved long distances, a handful have strong long-distance markets for truck shipments. Transportation equipment, basic chemicals, and machinery all have at least half of truck shipments moving more than 1,000 miles.
- Other key target industry commodities like pharmaceuticals, paper, milled grain products, and meat/seafood have notable shares of products trucked over 1,000 miles in 2022.

Top Exports Shipped on Trucks

Mixed freight and other foodstuffs are Maine's largest commodities exported on trucks. In 2022, these two categories accounted for a combined 33% of the total value of truck shipments and 58% of the total tons of truck shipments.

Top Export Commodities Shipped by Truck by Total Value, 2022

Commodity	Value of Truck Exports (Millions)	% of Total Truck Shipments
Mixed freight	$3,440.8	25%
Other foodstuffs	$1,066.8	8%
Wood prods.	$1,045.7	8%
Transport equip.	$737.1	5%
Newsprint/paper	$719.5	5%
Misc. mfg. prods.	$669.8	5%
Paper articles	$637.4	5%
Plastics/rubber	$606.4	4%
Textiles/leather	$603.3	4%
Machinery	$539.9	4%
Meat/seafood	$454.3	3%
Total Truck Exports	**$13,855.9**	**100%**

Source: ORNL FAF5 Framework

Top Export Commodities Shipped by Truck by Total Tonnage, 2022

Commodity	Tons Truck Exports (Thousands)	% of Total Truck Shipments
Other foodstuffs	5,909,899	47%
Mixed freight	1,339,308	11%
Wood prods.	982,999	8%
Newsprint/paper	961,535	8%
Gasoline	468,732	4%
Gravel	376,719	3%
Nonmetal min. prods.	342,680	3%
Paper articles	327,866	3%
Nonmetallic minerals	255,977	2%
Plastics/rubber	208,855	2%
Total Truck Exports	**12,596,047**	**100%**

Source: ORNL FAF5 Framework

Other key commodities exported on trucks include wood products, paper, paper articles, and plastics/rubber, which appear as top commodities both in terms of the value of goods as well as by tons of goods shipped.

Data Note:

- **Mixed freight** includes items for grocery and convenience stores, supplies and food for restaurants and fast-food chains, hardware or plumbing supplies, office supplies, and miscellaneous goods.
- **Paper articles** include sanitary paper such as toilet paper or tampons, paper bags and paperboard, paperboard containers, and other paper products not elsewhere classified.

Top Imports Entering on Trucks

By total tonnage, energy products, including natural gas and fuel oils, are the two largest commodities entering the state on trucks, accounting for 28% of the total tonnage. By total value of shipments, mixed freight and motorized vehicles are the most imported commodities. Other foodstuffs, mixed freight, milled grain products, plastics/rubber, and meat/seafood are products that appear as top imported commodities in terms of both weight and value.

Top Commodities Imported by Truck by Total Value, 2022

Commodity	Value of Truck Imports (Millions)	% of Total Truck Imports
Mixed freight	$3,254.1	18%
Motorized vehicles	$2,042.4	11%
Machinery	$1,528.1	8%
Other foodstuffs	$1,465.3	8%
Meat/seafood	$968.3	5%
Plastics/rubber	$958.3	5%
Electronics	$728.2	4%
Misc. mfg. prods.	$702.3	4%
Pharmaceuticals	$687.0	4%
Textiles/leather	$582.8	3%
Milled grain prods.	$559.3	3%
Total Truck Imports	**$18,124.3**	**100%**

Source: ORNL FAF5 Framework

Top Commodities Imported by Truck by Total Tonnage, 2022

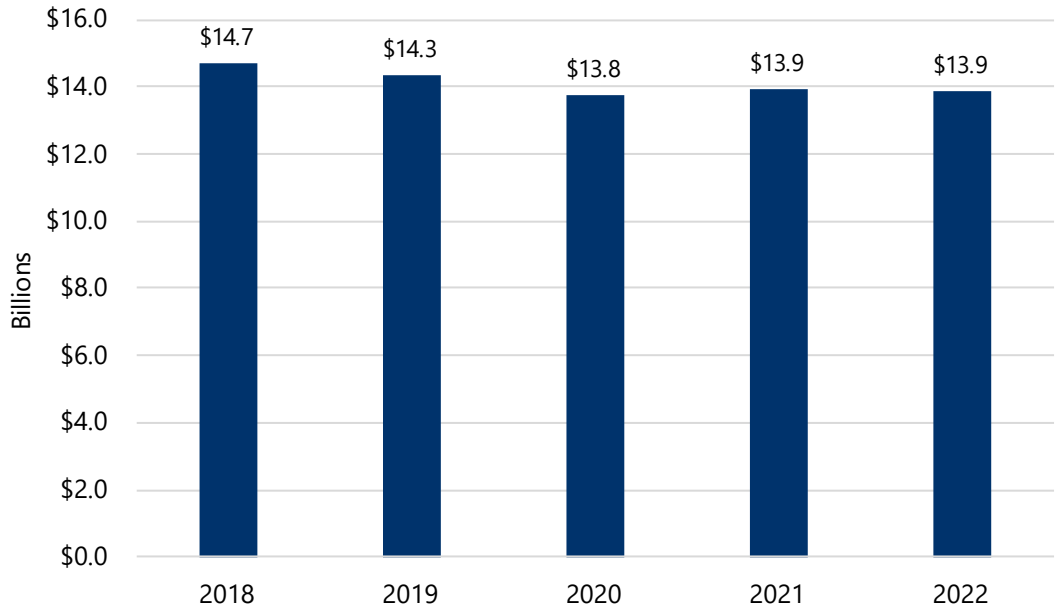
Commodity	Tons Truck Imports (Thousands)	% of Total Truck Imports
Natural gas and other fossil products	1,210,605	16%
Fuel oils	913,667	12%
Other foodstuffs	830,827	11%
Mixed freight	816,634	11%
Nonmetal min. prods.	362,032	5%
Milled grain prods.	326,498	4%
Plastics/rubber	320,646	4%
Base metals	285,494	4%
Other ag prods.	255,674	3%
Nonmetallic minerals	211,502	3%
Wood prods.	211,119	3%
Meat/seafood	200,323	3%
Total Truck Imports	**7,680,883**	**100%**

Source: ORNL FAF5 Framework

Historical Domestic Exports on Trucks

Since 2018, the total domestic exports shipped on trucks have declined by approximately 6%, from $14.7 billion in 2018 to $13.9 billion in 2022.

Total Domestic Exports Shipped on Trucks - Maine



Source: ORNL FAF5 Framework, Camoin Associates

RAIL FREIGHT

Summary of Rail Freight Flows

Summary of Maine Freight Flows by Rail, 2022

	Tons (Thousands)	Value (Millions)	Million Ton-Miles
Domestic	**718**	**$306**	**691**
Within Maine	223	$1.9	25
Exports	405	$263.5	521
Imports	90	$40.4	145
Foreign	**4,043**	**$1,622.9**	**857**
Exports	398	$151.8	157
Imports	3,644	$1,471.1	701

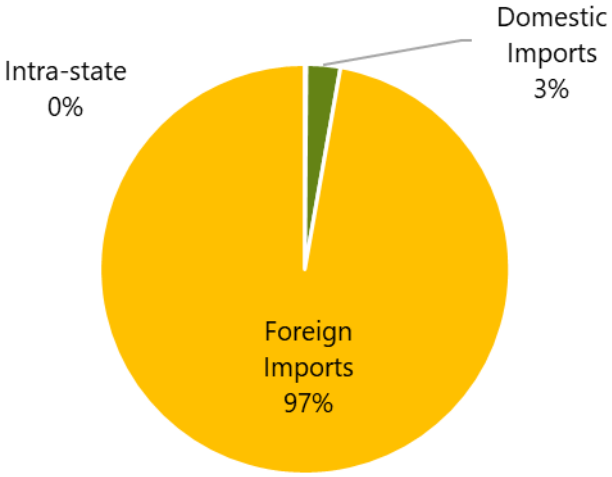
Source: Oak Ridge National Laboratory FAF5 Framework

Rail carried 3% of all domestic exports of goods to other states in 2022. It carried 718 thousand tons of goods into, out of, and within the state, valued at over $306 million.

Rail also played an important role in Maine's international trade in 2022, carrying 3.6 million tons of internationally imported goods and 398 thousand tons destined for international markets. In this context, international trade primarily indicates trade with Canada.

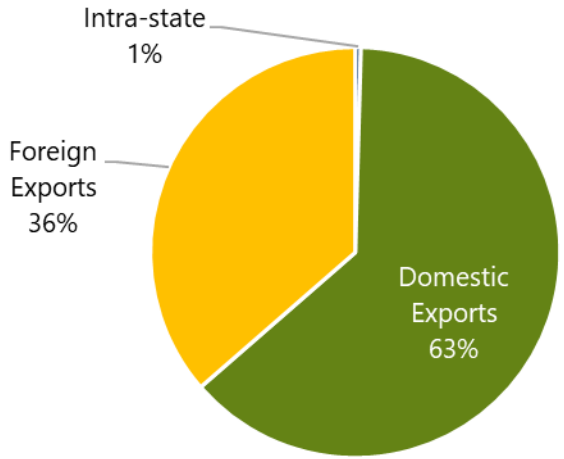
Overall, domestic imports and intra-state trade account for 3% and 0% of goods moving into the state by rail, while foreign imports account for 97%. Meanwhile, domestic exports account for 63% of goods moving out of the state by rail, while 1% are intra-state shipments and 36% are destined for foreign markets.

Destinations of Products Shipped Into Maine by Rail - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

Destinations of Products Shipped From Maine by Rail - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

State-to-State Export Relationships

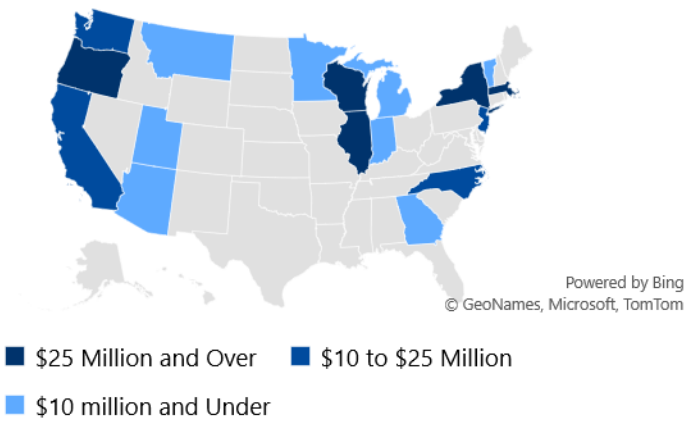
Maine exported goods via rail to 17 continental states in 2022. Rail carried over $25 million of goods from Maine to New York, Wisconsin, Illinois, Massachusetts, and Oregon in 2022, with each of these states receiving over 40 thousand tons of goods via rail.

Overall, while states in the Northeast account for a significant share of the value of rail shipments from Maine, states in the Midwest and West join the Northeast as significant destinations for goods shipped on rail.

Key rail freight commodities in top export states:

1. **New York |** Newsprint/Paper, Wood Products, and Cereal Grains
2. **Wisconsin |** Newsprint/Paper and Wood Products
3. **Illinois |** Newsprint/Paper
4. **Massachusetts |** Newsprint/Paper
5. **Oregon |** Newsprint/Paper and Textiles/Leather
6. **New Jersey |** Newsprint/Paper
7. **North Carolina |** Newsprint/Paper
8. **California |** Wood Products
9. **Washington |** Wood Products
10. **Vermont |** Wood Products

Top Domestic Export Destinations - Rail (2022)



Top 10 Export Destinations by Total Value - Rail (2022)

State	Value of Shipments ($M)
New York	$44.16
Wisconsin	$37.96
Illinois	$29.66
Massachusetts	$28.52
Oregon	$25.49
New Jersey	$24.81
North Carolina	$16.18
California	$13.43
Washington	$11.04
Vermont	$9.52

Source: ORNL FAF5 Framework

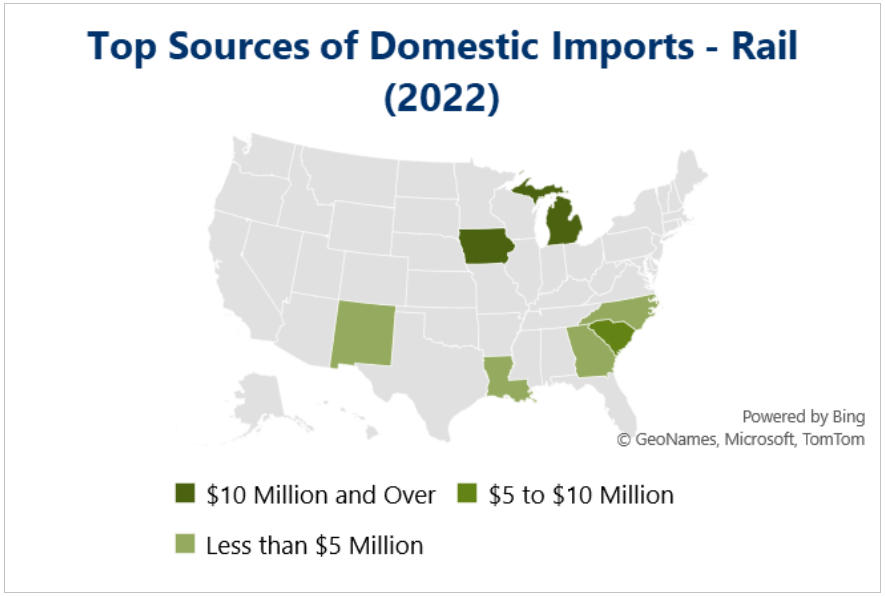
State-to-State Import Relationships

Rail carried a total of about $40 million of goods into Maine from seven states in 2022. Compared to rail exports, the total value of rail-based imports from these states is relatively low, with only two states importing over $10 million of goods into Maine via rail in 2022.

In contrast to what is found for exports, states in the Northeast did not play a role in rail-based imports into Maine. Other states, such as Michigan, Iowa, and South Carolina, were the top import states for 2022.

Key rail freight commodities in top import states:

1. **Michigan |** Plastics/Rubber and Newsprint/Paper
2. **Iowa |** Other foodstuffs
3. **South Carolina |** Newsprint/Paper
4. **Louisiana |** Wood Products
5. **North Carolina |** Wood Products
6. **New Mexico |** Nonmetallic Minerals
7. **Georgia |** Nonmetallic Minerals



Sources of Imports by Total Value - Rail (2022)

State	Value of Shipments ($M)
Michigan	$13.95
Iowa	$11.71
South Carolina	$5.89
Louisiana	$4.48
North Carolina	$4.24
New Mexico	$0.14
Georgia	$0.01

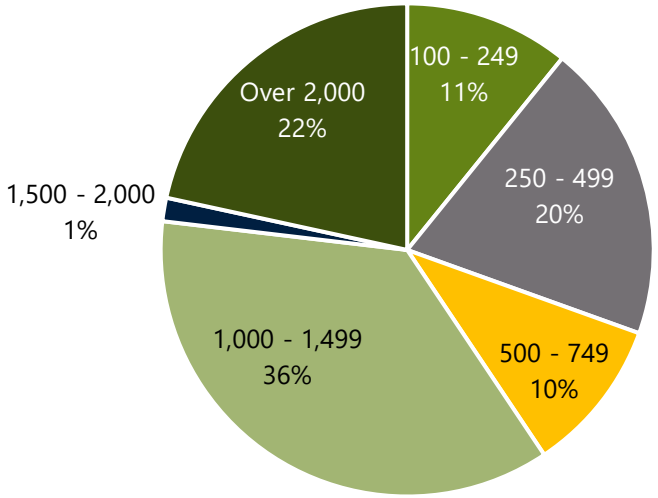
Source: ORNL FAF5 Framework

Distance of Shipments

In 2022, 36% of Maine's total tonnage of domestic exports shipped via rail traveled between 1,000 and 1,499 miles.

11% of domestic exports on rail traveled between 100 and 250 miles, with another 20% traveling between 250 and 500 miles. Conversely, 59% of total exports traveled long-distance, 1,000+ miles, in 2022. In fact, 22% of those traveled over 2,000 miles. This contrasts with trucks, which had only about 10% of long-distance shipments. This speaks to the ability of rail to carry goods, particularly heavy goods, to longer-distance destinations compared to trucks, which require more resources to carry heavy goods long distances.

Distribution of Shipments by Miles Traveled - Rail (2022)



Source: ORNL FAF5 Framework, Camoin Associates

Top Commodities for Domestic Rail-Based Exports of Under 250 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped Under 250 Miles	% Under 250 Miles
Newsprint/paper	42	14%
Wood prods.	0	0%
Cereal grains	0	0%
Textiles/leather	0	0%
Total, All Commodities	**42**	**10%**

Source: ORNL FAF5 Framework, Camoin Associates

Top Commodities for Domestic Rail-Based Exports of 250-999 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped 250-999 Miles	% 250-999 Miles
Newsprint/paper	120	41%
Wood prods.	23	21%
Cereal grains	1	100%
Textiles/leather	0	0%
Total, All Commodities	**143**	**35%**

Source: ORNL FAF5 Framework, Camoin Associates

Note: Rows may not sum to total due to rounding

Top Commodities for Domestic Rail-Based Exports of 1,000+ Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped 1,000+ Miles	% 1,000+ Miles
Newsprint/paper	134	45%
Wood prods.	86	79%
Textiles/leather	1	100%
Cereal grains	0	0%
Total, All Commodities	**220**	**54%**

Source: ORNL FAF5 Framework, Camoin Associates

Note: Rows may not sum to total due to rounding

Short-Distance Commodities

- Overall, 10% of all Maine's tonnage shipped on rail is to destinations outside the state less than 250 miles away. This represents 42 tons of domestic exports.
- 14% of Newsprint/Paper, or 42 thousand tons, is shipped at this short distance. No other commodity is shipped via rail less than 250 miles.

Medium-Distance Commodities

- Medium-distance rail, including shipments between 250-999 miles, accounts for 35% of all rail-based domestic exports from Maine in 2022.
- Forest Products commodities fall into the category. This includes logs, paper articles, wood products, and printed products.
- 41% of Newsprint/Paper, or 120 thousand tons, is shipped at this medium distance followed by 21% of Wood Products (23 thousand tons) and 100% of Cereal Grains (1 thousand tons).

Long-Distance Commodities

- 54% of Maine's domestic exports shipped on rail travel more than 1,000 miles.
- Wood Products and Textiles/Leather both have at least half of rail shipments moving more than 1,000 miles.
- Newsprint/Paper have 45% of rail shipments over 1,000 miles in 2022.

Top Exports Shipped on Rail

Newsprint/Paper and Wood Products are Maine's largest commodities exported by rail. In 2022, these two categories accounted for a combined 99% of the total value of rail shipments and 99% of the total tons of rail shipments. Other key commodities exported by rail include Textiles/Leather and Cereal Grain, which round out the commodities shipped by rail in terms of the value of goods and the tons of goods shipped.

Top Export Commodities Shipped by Rail by Total Tonnage, 2022

Commodity	Tons Rail Exports (Thousands)	% of Total Rail Shipments
Newsprint/paper	295	73%
Wood prods.	109	27%
Textiles/leather	1	0%
Cereal grains	1	0%
Total Rail Exports	**405**	**100%**

Source: ORNL FAF5 Framework

Top Export Commodities Shipped by Rail by Total Value, 2022

Commodity	Value of Rail Exports (Millions)	% of Total Rail Shipments
Newsprint/paper	$190.91	72%
Wood prods.	$69.36	26%
Textiles/leather	$3.20	1%
Cereal grains	$0.03	0%
Total Rail Exports	**$263.5**	**100%**

Source: ORNL FAF5 Framework

Top Imports Entering on Rail

By total tonnage, other foodstuffs and nonmetallic minerals are the two largest commodities entering the state by rail, accounting for 59% of the total tonnage.[9] By total value of shipments, other foodstuffs and plastics/rubber are the most imported commodities. Nonmetallic minerals appear to be the top imported commodity in terms of both weight and value.[10]

Top Commodities Imported by Rail by Total Tonnage, 2022

Commodity	Tons Rail Imports (Thousands)	% of Total Rail Imports
Other foodstuffs	37	41%
Nonmetallic minerals	16	18%
Newsprint/paper	16	17%
Wood prods.	15	16%
Plastics/rubber	7	7%
Total Rail Imports	**90**	**100%**

Source: ORNL FAF5 Framework

Top Commodities Imported by Rail by Total Value, 2022

Commodity	Value of Rail Imports (Millions)	% of Total Rail Imports
Other foodstuffs	$11.7	29%
Plastics/rubber	$11.3	28%
Wood prods.	$8.7	22%
Newsprint/paper	$8.6	21%
Nonmetallic minerals	$0.1	0%
Total Rail Imports	**$40.4**	**100%**

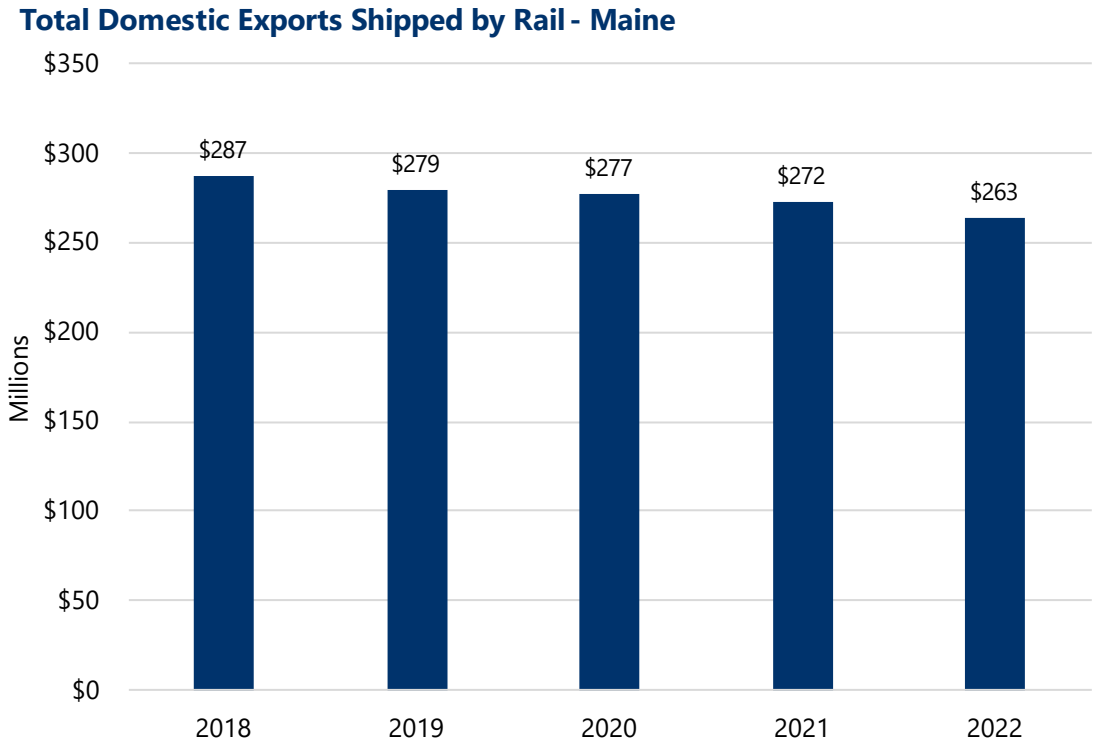
Source: ORNL FAF5 Framework

[9] Other foodstuffs includes many processed food items, including dairy products; processed fruit and vegetables; coffee, tea, and spices; fats and oils; sugars, confectioneries, and cocoa preparations; sauces and soups; non-alcoholic beverages; and all other processed food not elsewhere specified.

[10] Nonmetallic Minerals includes salt and other nonmetallic minerals such as natural graphite, quartz, crude earth, peat, etc.

Historical Domestic Exports on Rail

Since 2018, the total domestic exports shipped by rail have declined by approximately 8%, from $287 million in 2018 to $263 million in 2022.



Source: ORNL FAF5 Framework, Camoin Associates

PIPELINE FREIGHT

Summary of Pipeline Freight Flows

Summary of Maine Freight Flows by Pipeline, 2022

	Tons (Thousands)	Value (Millions)	Million Ton-Miles
Domestic	**5,160**	**$1,323**	**578**
Within Maine	568	$109.3	44
Exports	1,001	$284.2	92
Imports	3,591	$929.7	441
Foreign	**2,532**	**$387.7**	**331**
Exports	2,018	$277.7	247
Imports	513	$110.1	83

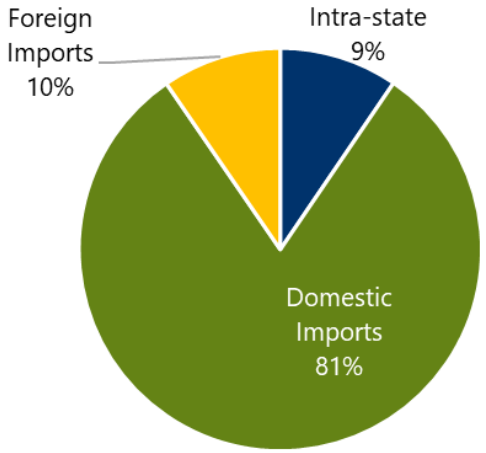
Source: Oak Ridge National Laboratory FAF5 Framework

In 2022, pipelines carried just under 7% of all domestic exports of goods to other states from Maine. Pipelines carried over 5.1 million tons of goods into, out of, and within the state, valued at over $1.3 billion.

Pipelines also played an important role in Maine's international trade in 2022, carrying 513 thousand tons of internationally imported goods and 2.0 million tons of goods destined for international markets.

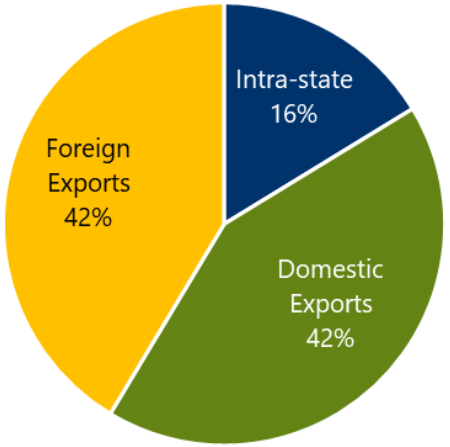
Overall, domestic imports and intra-state trade account for 81% and 9% of goods moving into the state by pipeline, respectively, while foreign imports account for 10%. Meanwhile, domestic exports account for 42% of goods moving out of the state by pipeline, while 16% are intra-state shipments and 42% are destined for foreign markets.

Destinations of Products Shipped Into Maine by Pipeline - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

Destinations of Products Shipped From Maine by Pipeline - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

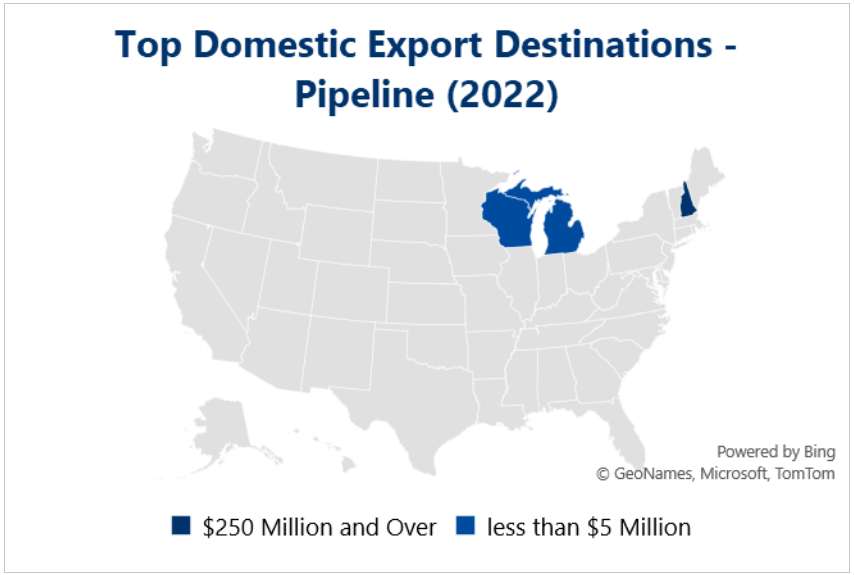
State-to-State Export Relationships

Maine exported goods on pipelines to 3 states in 2022, with over $284 million of goods moving from Maine to New Hampshire, Wisconsin, and Michigan in 2022, accounting for over 92 thousand tons of commodities exported. Natural gas and basic chemicals are the only commodities exported from Maine via pipeline.

Export Destinations by Total Value - Pipeline (2022)

State	Value of Shipments ($M)
New Hampshire	$279.8
Wisconsin	$3.2
Michigan	$1.2

Source: ORNL FAF5 Framework



Key pipeline freight commodities in top export states:

1. **New Hampshire |** Natural Gas and Other Fossil Products
2. **Wisconsin |** Basic Chemicals
3. **Michigan |** Basic Chemicals

Maine's Natural Gas Pipelines

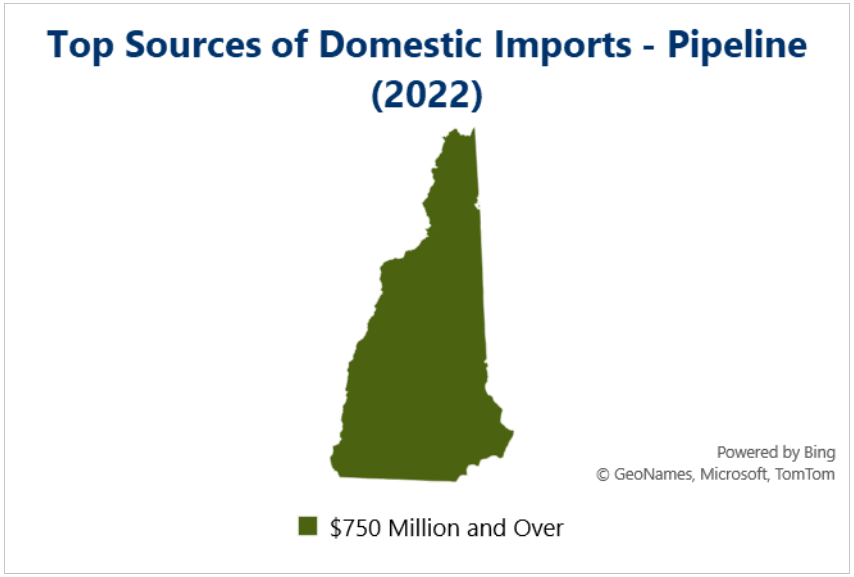
- **Portland Natural Gas Transmission System (PNGTS)** – 107 miles of pipeline that connects the Canadian border to Maine, New Hampshire, and Massachusetts
- **Maritimes & Northeast Pipeline** – 684-mile system connecting offshore developments in the Canadian Maritimes to Maine, New Hampshire, and Massachusetts, connecting to the existing pipeline grid in Dracut, MA.
- **Granite State Gas Transmission Company** – 85 miles connecting Maine, Massachusetts, and New Hampshire

State-to-State Import Relationships

Maine imported goods from 47 continental states and Washington, DC, in 2022. Pipeline carried over $930 million of goods into Maine from one state, New Hampshire, in 2022. New Hampshire shipped over 3.5 million tons into Maine.

Key pipeline commodities in top import states:

1. **New Hampshire |** Natural Gas and Other Fossil Products



Sources of Imports by Total Value - Pipeline (2022)

State	Value of Shipments ($M)
New Hampshire	$929.7

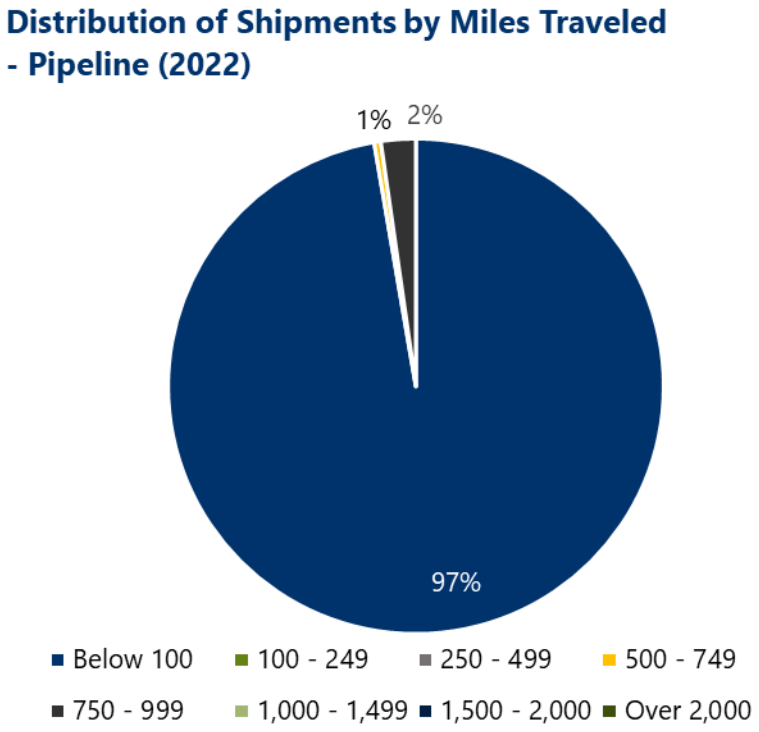
Source: ORNL FAF5 Framework

Distance of Shipments

In 2022, 91% of Maine's total tonnage of domestic exports shipped via pipeline traveled less than 100 miles.

2% of domestic exports on pipeline traveled between 750-999 miles, with another 1% traveling between 500-749 miles.

Cities within 500 miles of Maine include Boston, Providence, New York, Philadelphia, Rochester, Buffalo, and Washington, DC. This area covers a population of 65.9 million people (not including Maine).



Source: ORNL FAF5 Framework, Camoin Associates

Short-Distance Commodities

Top Commodities for Domestic Pipeline-Based Exports of Under 250 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped Under 250 Miles	% Under 250 Miles
Natural gas and other fossil products	974	100%
Basic chemicals	0	0%
Total, All Commodities	**974**	**97%**

Source: ORNL FAF5 Framework, Camoin Associates

- Overall, 97% of all Maine's tonnage shipped via pipeline is to destinations outside the state less than 250 miles away. This represents 974 tons of domestic exports.
- 100% of natural gas and other fossil products, or 974 thousand tons, is shipped at this short distance. No other commodity is shipped pipeline rail less than 250 miles.

Medium-Distance Commodities

Top Commodities for Domestic Pipeline-Based Exports of 250-999 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped 250-999 Miles	% 250-999 Miles
Basic chemicals	27	100%
Natural gas and other fossil products	0	0%
Total, All Commodities	**27**	**3%**

Source: ORNL FAF5 Framework, Camoin Associates

- Medium-distance rail, including shipments between 250 and 999 miles, accounted for 3% of all pipeline-based domestic exports from Maine in 2022.
- 100% of basic chemicals, or 27 thousand tons, are shipped at this medium distance. No other commodity is shipped by pipeline between 250 and 999 miles.

Top Exports Shipped by Pipeline

Natural Gas and Other Fossil Products and Basic Chemicals are Maine's only commodities exported by pipeline. Combined, these commodities accounted for $284 million in value and 1.0 million tons of goods.

Top Export Commodities Shipped by Pipeline by Total Tonnage, 2022

Commodity	Tons Pipeline Exports (Thousands)	% of Total Pipeline Exports
Natural gas and other fossil products	974	97%
Basic chemicals	27	3%
Total Pipeline Exports	**1,001**	**100%**

Source: ORNL FAF5 Framework

Top Export Commodities Shipped by Pipeline by Total Value, 2022

Commodity	Value of Pipeline Exports (Millions)	% of Total Pipeline Exports
Natural gas and other fossil products	$279.8	98%
Basic chemicals	$4.4	2%
Total Pipeline Exports	**$284.2**	**100%**

Source: ORNL FAF5 Framework

Top Imports Entering by Pipeline

By total tonnage, energy products, including natural gas, accounted for all commodities entering the state by pipeline, totaling $929 million in value and over 3.5 million tons of goods.

Top Commodities Imported by Pipeline by Total Value, 2022

Commodity	Value of Pipeline Imports (Millions)	% of Total Pipeline Imports
Natural gas and other fossil products	$929.7	100%
Total Pipeline Imports	**$929.7**	**100%**

Source: ORNL FAF5 Framework

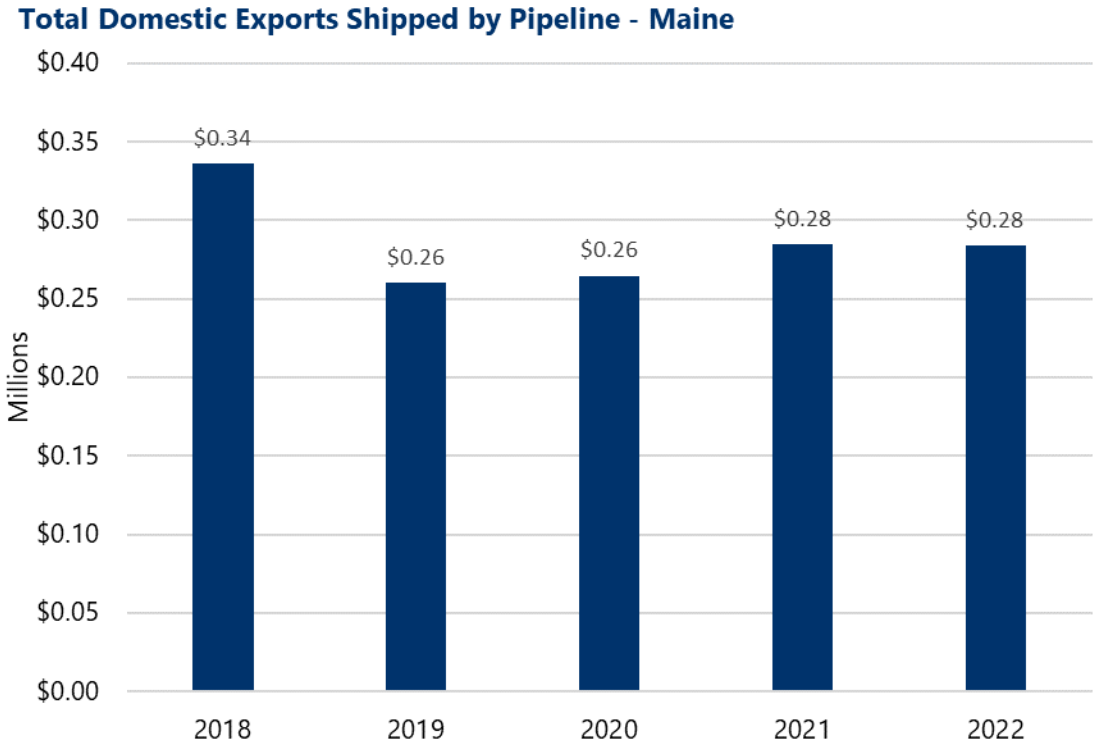
Top Commodities Imported by Pipeline by Total Tonnage, 2022

Commodity	Tons Pipeline Imports (Thousands)	% of Total Pipeline Imports
Natural gas and other fossil products	3,591	100%
Total Pipeline Imports	**3,591**	**100%**

Source: ORNL FAF5 Framework

Historical Domestic Exports by Pipeline

Since 2018, the total domestic exports shipped by pipeline have declined by approximately 16%, from $336,000 in 2018 to $284 thousand in 2022.



Source: ORNL FAF5 Framework, Camoin Associates

MULTIPLE MODES AND MAIL FREIGHT

Summary of Multiple Modes and Mail Freight Flows[11]

Multiple Modes and Mail carried over 6% of all domestic exports of goods to other states in 2022. It carried 2.4 million tons of goods into, out of, and within the state, valued at over $15.3 billion.

Multiple Modes and Mail also played an important role in Maine's international trade in 2022, carrying 3 thousand tons of internationally imported goods and 25 thousand tons destined for international markets.

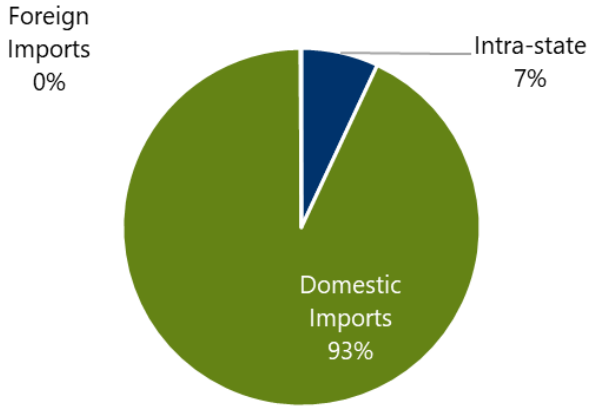
Overall, domestic imports and intra-state trade account for 93% and 7% of goods moving into the state by multiple modes and mail, while foreign imports account for 0%. Meanwhile, domestic exports account for 83% of goods moving out of the state by multiple modes and mail, while 16% are intra-state shipments and 1% are destined for foreign markets.

Summary of Maine Freight Flows by Multiple Modes & Mail, 2022

	Tons (Thousands)	Value (Millions)	Million Ton-Miles
Domestic	**2,471**	**$15,372**	**1,854**
Within Maine	202	$778.1	19
Exports	983	$4,223.8	779
Imports	1,286	$10,369.9	1,056
Foreign	**28**	**$74.0**	**4**
Exports	25	$65.7	3
Imports	3	$8.3	0

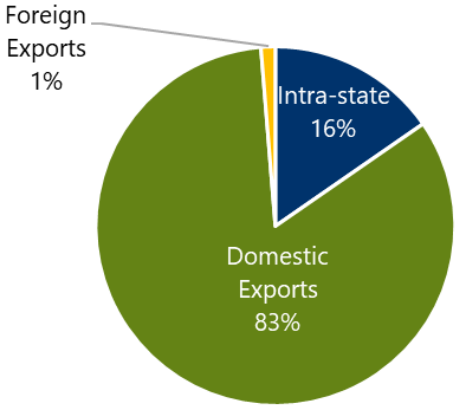
Source: Oak Ridge National Laboratory FAF5 Framework

Destinations of Products Shipped Into Maine by Multiple Modes & Mail - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

Destinations of Products Shipped From Maine by Multiple Modes & Mail - 2022 (Value of Goods)



Source: ORNL FAF5 Framework

[11] Multiple Modes and Mail is shipments by multiple modes and by parcel delivery services, US Postal Service, or couriers, capped at 150 lbs. This category is not limited to containerized or trailer-on-flatcar shipments. This can include anything from containerized cargo to coal moving from mine to railhead by truck and then rail to harbor. The "Mail" component recognizes that shippers who use parcel delivery services typically do not know what modes were involved after the shipment was picked up.

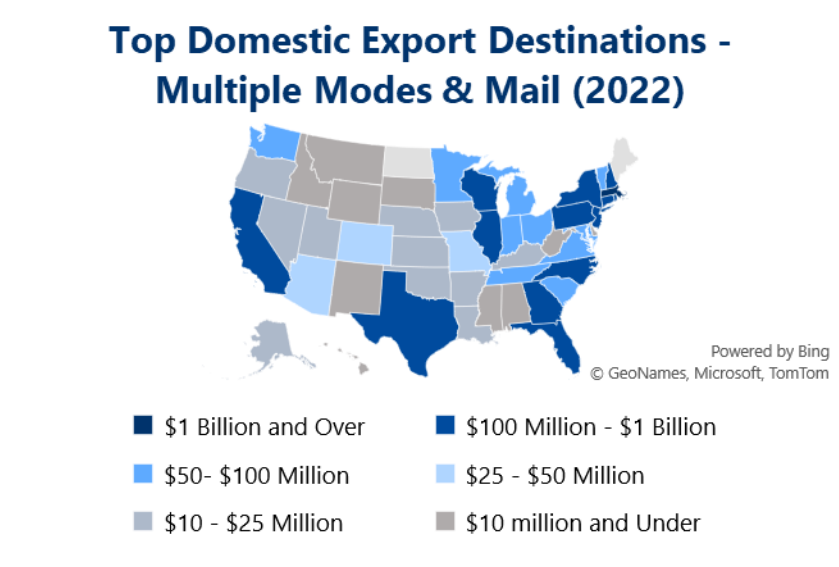
State-to-State Export Relationships

Maine exported goods via multiple modes and mail to 48 states and Washington, DC in 2022. This mode carried over $1 billion of goods to Massachusetts in 2022 and over $200 million each to New Hampshire, California, and Pennsylvania.

Overall, states in the Northeast account for the greatest value of multi-mode and mail shipments from Maine, with five Northeast states (MA, NH, PA, NY, and CT) appearing in the top 10 states. California and Illinois join the Northeast at the top by the total value of shipments.

Key multiple modes and mail freight commodities in top export states:

1. **Massachusetts |** Newsprint/Paper, Wood Products, and Other Foodstuffs
2. **New Hampshire |** Paper Articles, Other Foodstuffs, Newsprint/Paper
3. **California |** Textiles/Leather, Paper Articles, and Wood Products
4. **Pennsylvania |** Newsprint/Paper, Wood Products, and Pharmaceuticals
5. **New York |** Wood Products, Mixed Freight, and Cereal Grains
6. **Connecticut |** Other Foodstuffs, Printed Products, and Textiles/Leather
7. **Illinois |** Newsprint/Paper, Cereal Grains, and Paper Articles
8. **Florida |** Wood Products, Newsprint/Paper, and Textiles/Leather
9. **Texas |** Pharmaceuticals, Textiles/Leather, and Miscellaneous Manufacturing Products
10. **Wisconsin |** Newsprint/Paper, Wood Products, and Chemical Products



Top 10 Export Destinations by Total Value - Multiple Modes & Mail (2022)

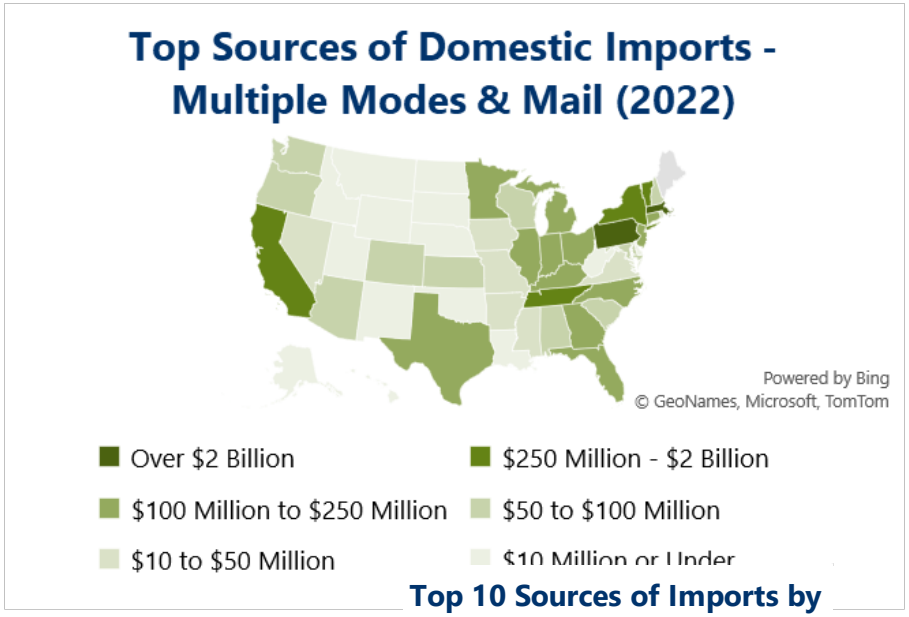
State	Value of Shipments ($M)
Massachusetts	$1,014.4
New Hampshire	$273.0
California	$242.4
Pennsylvania	$219.7
New York	$188.4
Connecticut	$155.6
Illinois	$155.1
Florida	$150.4
Texas	$136.6
Wisconsin	$131.6

Source: ORNL FAF5 Framework

State-to-State Import Relationships

Maine imported goods on multiple modes and mail from 48 continental states and Washington, DC in 2022. Multiple modes and mail carried over $10.3 billion of goods into Maine in 2022. By tonnage, Vermont and New York were the most significant origin states of multi-mode shipments, with over 100,000 tons each in 2022.

States in the Northeast play a major role in multiple modes and mail-based imports into Maine. Five Northeast states, Pennsylvania, Massachusetts, New York, Vermont, and New Jersey, were in the top 10 import states for 2022.



Key multiple modes and mail freight commodities in top import states:

1. **Pennsylvania |** Logs, Plastics/Rubber, and Milled Grain Products
2. **Massachusetts |** Motorized Vehicles, Textiles/Leather, and Pharmaceuticals
3. **California |** Other Foodstuffs, Alcoholic Beverages, and Other Agricultural Products
4. **New York |** Alcoholic Beverages, Basic Chemicals, and Machinery
5. **Vermont |** Gravel, Pharmaceuticals, and Machinery
6. **Tennessee |** Chemical Products, Plastics/rubber, and Precision Instruments
7. **Georgia |** Newsprint/Paper, Motorized Vehicles, and Wood Products
8. **Kentucky |** Motorized Vehicles, Alcoholic Beverages, and Textiles/Leather
9. **Michigan |** Milled Grain Products, Motorized Vehicles, and Machinery
10. **New Jersey |** Miscellaneous Manufacturing Products, Machinery, and Chemical Products Minerals

Top 10 Sources of Imports by Total Value - Multiple Modes & Mail (2022)

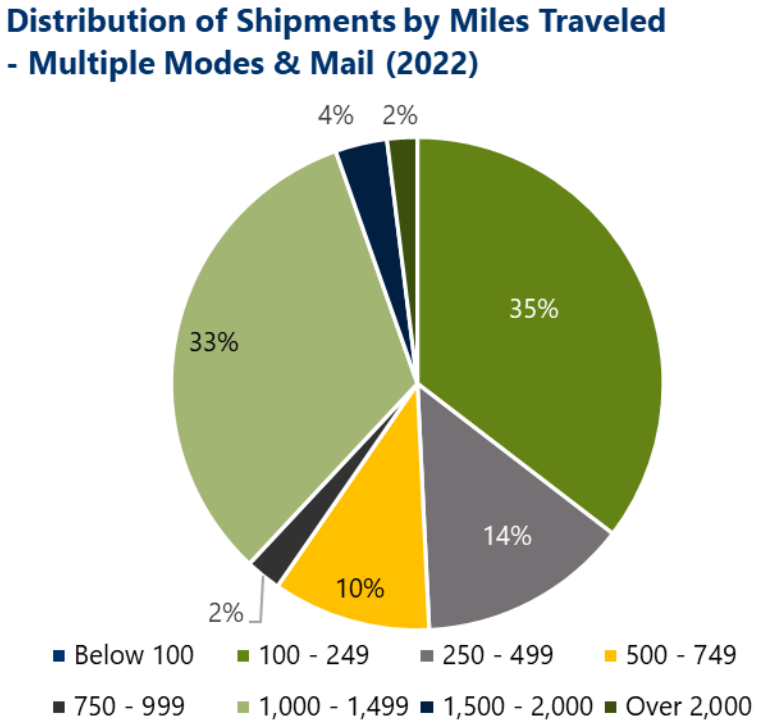
State	Value of Shipments ($M)
Pennsylvania	$2,948.9
Massachusetts	$2,542.7
California	$485.3
New York	$358.2
Vermont	$347.1
Tennessee	$320.2
Georgia	$269.4
Kentucky	$263.6
Michigan	$230.0
New Jersey	$220.2

Source: ORNL FAF5 Framework

Distance of Shipments

In 2022, 35% of Maine's total tonnage of domestic exports shipped via multiple modes and mail traveled between 100 and 249 miles.

Goods exported via multiple modes and mail tend to travel long distances, with 33% of domestic exports by multiple modes and mail rail traveling between 1,000-1,499 miles, and another 8% traveling 1,500+ miles. Conversely, 24% of total exports traveled between 250 and 750 miles in 2022.



Source: ORNL FAF5 Framework, Camoin Associates

Short-Distance Commodities

Top Commodities for Domestic Multiple Modes & Mail-Based Exports of Under 250 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped Under 250 Miles	% Under 250 Miles
Newsprint/paper	285.6	42%
Other foodstuffs	22.6	40%
Paper articles	19.4	65%
Wood prods.	7.5	5%
Plastics/rubber	4.3	52%
Chemical prods.	2.9	31%
Pharmaceuticals	1.2	45%
Textiles/leather	0.9	6%
Electronics	0.8	38%
Furniture	0.4	18%
Printed prods.	0.4	6%
Misc. mfg. prods.	0.4	5%
Logs	0.4	100%
Motorized vehicles	0.3	33%
Machinery	0.2	10%
Total, All Commodities	**348**	**35%**

Source: ORNL FAF5 Framework, Camoin Associates

- Overall, 35% of all Maine's out-of-state tonnage shipped by multiple modes and mail is to destinations less than 250 miles away. This represents 348 thousand tons of domestic exports.
- 42% of Newsprint/Paper shipped via this mode, or 285 thousand tons, is shipped at this short distance.

Medium-Distance Commodities

Top Commodities for Domestic Multiple Modes & Mail-Based Exports of 250-999 Miles - Thousands of Tons, Maine (2022)

Commodity	Total Shipped 250-999 Miles	% 250-999 Miles
Wood prods.	113.4	73%
Newsprint/paper	94.0	14%
Other foodstuffs	32.9	58%
Paper articles	3.9	13%
Textiles/leather	3.5	24%
Plastics/rubber	2.8	34%
Mixed freight	2.2	67%
Printed prods.	2.0	29%
Misc. mfg. prods.	1.2	15%
Furniture	0.8	32%
Cereal grains	0.8	37%
Pharmaceuticals	0.8	30%
Motorized vehicles	0.6	56%
Machinery	0.6	27%
Chemical prods.	0.4	4%
Total, All Commodities	**261**	**27%**

Source: ORNL FAF5 Framework, Camoin Associates

- Medium-distance multiple modes and mail, including shipments between 250-999 miles, accounts for 27% of all multiple modes and mail-based domestic exports from Maine in 2022.
- Wood Products have the most tonnage shipped this distance with 113 thousand tons, 73% of total multi-mode/mail-shipped wood products.

Long-Distance Commodities

Top Commodities for Domestic Multiple Modes & Mail-Based Exports of 1,000+ Miles, Maine (2022)

Commodity	Total Shipped 1,000+ Miles	% 1,000+ Miles
Newsprint/paper	294.2	44%
Wood prods.	34.5	22%
Textiles/leather	9.9	69%
Paper articles	6.8	22%
Misc. mfg. prods.	6.6	80%
Chemical prods.	5.9	65%
Printed prods.	4.3	64%
Cereal grains	1.4	63%
Other foodstuffs	1.3	2%
Machinery	1.3	63%
Furniture	1.3	51%
Plastics/rubber	1.1	14%
Mixed freight	1.0	31%
Electronics	0.9	46%
Pharmaceuticals	0.7	25%
Total, All Commodities	**374**	**38%**

Source: ORNL FAF5 Framework, Camoin Associates

- Shipments of 1,000+ miles account for 38% of all of Maine's multiple modes and mail shipments.
- Multiple modes and mail account for 38% of Maine's domestic exports traveling more than 1,000 miles.
- Newsprint/Paper and Wood Products have the most tonnage shipped via multiple modes and mail over 1,000 miles.
- Meanwhile, 80% of miscellaneous manufacturing products shipped via multiple modes and mail are shipped over 1,000 miles.

Top Exports Shipped by Multiple Modes and Mail

Multiple Modes and Mail notably captures shipments that are sent via courier services, such as UPS and FedEx, among others. These couriers are responsible for carrying significant volumes of parcels for both B2B and B2C purchases, and e-commerce purchases likely represent a significant volume of these trade flows. In the first quarter of 2024, e-commerce accounted for 15.9% of total retail sales in the United States, according to the US Census Bureau's Quarterly Retail E-Commerce Sales Report.[12] Additionally, couriers shipped 21.6 billion parcels in the US in 2023, with the average household shipping 165 parcels each.[13] This underscores the critical infrastructure that these courier services provide for both businesses and consumers that purchase smaller shipments directly from producers.

By tonnage, Newsprint/Paper and Wood Products are Maine's largest commodities exported by multiple modes and mail. In 2022, these two categories accounted for a combined 15% of the total value and 85% of the total tons of multiple modes and mail shipments.

By total value of shipments, key commodities exported by multiple modes and mail include Textiles/Leather and Pharmaceuticals, both over $750 million in value shipped on this mode.

Top Export Commodities Shipped by Multiple Modes & Mail by Total Tonnage, 2022

Commodity	Tons Multiple Modes & Mail Exports (Thousands)	% of Total Multiple Modes & Mail Exports
Newsprint/paper	674	69%
Wood prods.	155	16%
Other foodstuffs	57	6%
Paper articles	30	3%
Textiles/leather	14	1%
Chemical prods.	9	1%
Plastics/rubber	8	1%
Misc. mfg. prods.	8	1%
Printed prods.	7	1%
Mixed freight	3	0%
Total Multiple Modes & Mail Exports	**983**	**100%**

Source: ORNL FAF5 Framework

Top Commodities Imported by Multiple Modes & Mail by Total Value, 2022

Commodity	Value of Multiple Modes & Mail Imports (Millions)	% of Total Multiple Modes & Mail Imports
Pharmaceuticals	$5,219.6	50%
Misc. mfg. prods.	$760.5	7%
Motorized vehicles	$748.8	7%
Electronics	$632.4	6%
Textiles/leather	$496.3	5%
Precision instruments	$476.6	5%
Machinery	$387.1	4%
Chemical prods.	$240.0	2%
Plastics/rubber	$195.0	2%
Printed prods.	$167.9	2%
Total Multiple Modes & Mail Imports	**$10,369.9**	**100%**

Source: ORNL FAF5 Framework

[12] https://www.census.gov/retail/ecommerce.html

[13] https://www.pitneybowes.com/content/dam/pitneybowes/us/en/shipping-index/24-mktc-00818-parcelshippingindex-infographic-rnd1.pdf

Top Imports Entering by Multiple Modes and Mail

By total tonnage, gravel and alcoholic beverages are the two largest commodities entering the state by multiple modes and mail, accounting for 65% of the total tonnage on this mode. By total value of shipments, pharmaceuticals, and miscellaneous manufacturing products are the most imported commodities. Chemical products appear to be the top imported commodity in terms of both weight and value.

Top Commodities Imported by Multiple Modes & Mail by Total Tonnage, 2022

Commodity	Tons Multiple Modes & Mail Imports (Thousands)	% of Total Multiple Modes & Mail Imports
Gravel	732	57%
Alcoholic beverages	102	8%
Plastics/rubber	65	5%
Newsprint/paper	63	5%
Motorized vehicles	41	3%
Other foodstuffs	40	3%
Basic chemicals	30	2%
Articles-base metal	21	2%
Misc. mfg. prods.	21	2%
Chemical prods.	20	2%
Total Multiple Modes & Mail Imports	**1,286**	**100%**

Source: ORNL FAF5 Framework

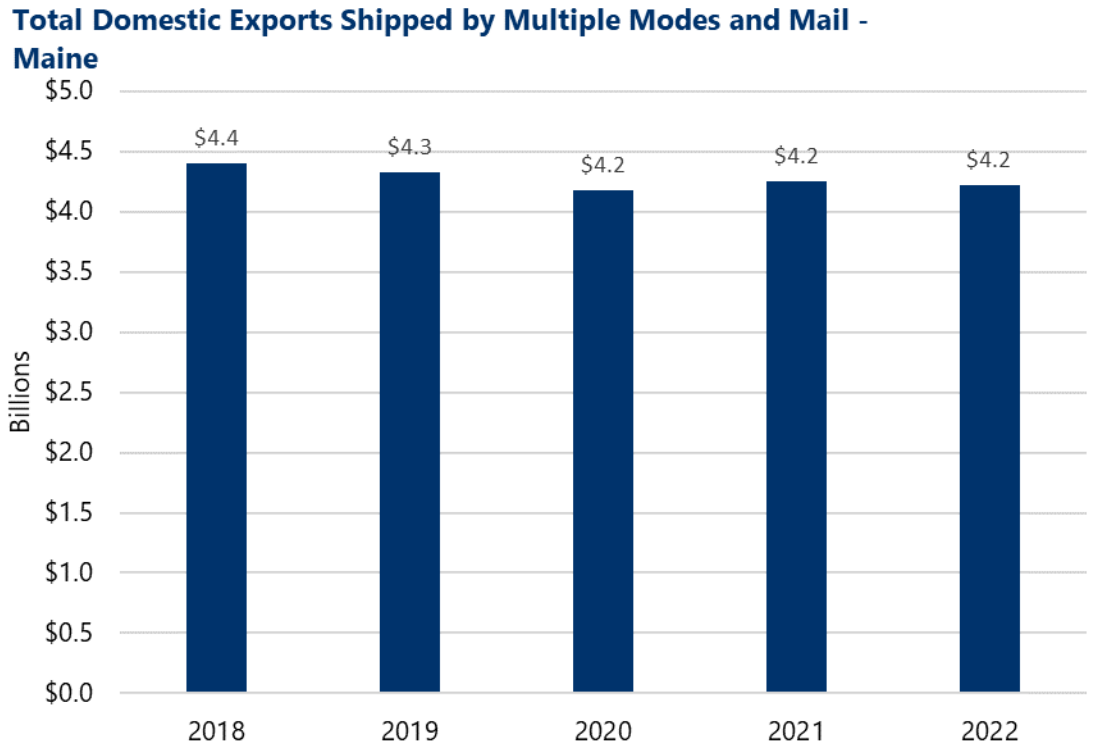
Top Export Commodities Shipped by Multiple Modes & Mail by Total Value, 2022

Commodity	Value of Multiple Modes & Mail Exports (Millions)	% of Total Multiple Modes & Mail Exports
Textiles/leather	$909.5	22%
Pharmaceuticals	$762.7	18%
Misc. mfg. prods.	$620.6	15%
Newsprint/paper	$427.9	10%
Electronics	$293.2	7%
Machinery	$250.1	6%
Wood prods.	$195.1	5%
Printed prods.	$134.5	3%
Plastics/rubber	$97.7	2%
Paper articles	$87.8	2%
Total Multiple Modes & Mail Exports	**$4,223.8**	**100%**

Source: ORNL FAF5 Framework

Historical Domestic Exports by Multiple Modes and Mail

Since 2018, the total domestic exports shipped by multiple modes and mail have declined by approximately 4%, from $4.4 billion in 2018 to $4.2 billion in 2022.



Source: ORNL FAF5 Framework, Camoin Associates

APPENDIX A: DATA TABLES

Summary Metrics for Transportation, Logistics, and Distriubtion

NAICS	Description	Jobs 2018	Jobs 2023	Jobs Change 2018-2023	Jobs Change % 2018-2023	Avg. Earnings Per Job 2023	Location Quotient 2023	Competitive Effect 2018-2023	Payrolled Business Locations 2023	Total Demand 2022	Demand met by Imports 2022	Total Sales 2022	GRP 2022	GRP per Job
Transportation		12,210	12,252	43	+%	$73,366	0.67	(235)	1,230	$3,708,694,026	$2,161,938,889	$2,628,754,553	$1,180,940,666	$96,384
481111	Scheduled Passenger Air Transportation	170	164	(6)	-3%	$56,796	0.08	(13)	7	$675,460,766	$647,391,961	$33,410,550	$14,792,517	$90,282
481112	Scheduled Freight Air Transportation	<10	<10	Insf. Data	Insf. Data	Insf. Data	0.08	3	2	$18,579,296	$17,393,863	$1,457,526	$647,085	Insf. Data
481211	Nonscheduled Chartered Passenger Air Transportation	56	73	17	+30%	$104,097	0.39	2	18	$86,943,407	$65,446,087	$29,738,938	$13,252,953	$181,613
481212	Nonscheduled Chartered Freight Air Transportation	0	0	0	+%	$0	0.00	0	0	$22,371,594	$22,371,594	$0	$0	Insf. Data
481219	Other Nonscheduled Air Transportation	41	<10	Insf. Data	Insf. Data	Insf. Data	0.17	(41)	1	$18,577,056	$12,306,061	$7,757,052	$3,453,365	Insf. Data
482110	Rail transportation	649	669	20	+3%	$97,680	0.72	126	1	$245,013,716	$94,735,321	$248,179,096	$134,590,497	$201,301
483111	Deep Sea Freight Transportation	<10	<10	Insf. Data	Insf. Data	Insf. Data	0.01	(0)	1	$28,794,713	$28,464,519	$433,720	$133,072	Insf. Data
483112	Deep Sea Passenger Transportation	0	0	0	+%	$0	0.00	0	0	$25,133,385	$25,133,385	$0	$0	Insf. Data
483113	Coastal and Great Lakes Freight Transportation	10	13	3	+28%	$72,118	0.33	4	1	$20,748,295	$15,978,561	$6,769,058	$2,079,603	$157,793
483114	Coastal and Great Lakes Passenger Transportation	48	55	6	+13%	$49,585	2.26	22	5	$7,350,286	$2,986,020	$17,319,346	$5,289,136	$96,699
483212	Inland Water Passenger Transportation	67	65	(3)	-4%	$56,265	3.49	2	9	$5,634,205	$2,320,469	$19,532,965	$6,000,336	$92,972
484110	General Freight Trucking, Local	1,083	1,261	178	+16%	$81,349	0.77	11	162	$332,741,819	$137,687,597	$303,168,701	$124,988,336	$99,117
484121	General Freight Trucking, Long-Distance, Truckload	2,420	2,591	170	+7%	$88,915	0.87	(66)	164	$649,595,187	$225,234,792	$699,134,524	$288,719,788	$111,449
484122	General Freight Trucking, Long-Distance, Less Than Truckload	695	565	(130)	-19%	$95,136	0.44	(171)	42	$266,087,281	$151,339,054	$147,422,590	$60,732,613	$107,514
484210	Used Household and Office Goods Moving	486	437	(49)	-10%	$65,681	0.96	(61)	37	$59,688,523	$23,902,057	$81,501,682	$33,098,749	$75,766
484220	Specialized Freight (except Used Goods) Trucking, Local	1,489	1,486	(3)	-%	$75,254	1.44	4	307	$183,092,193	$47,510,580	$308,932,647	$127,094,247	$85,531
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	541	432	(108)	-20%	$86,506	0.72	(101)	74	$120,984,392	$53,470,607	$107,890,812	$44,262,181	$102,363
485111	Mixed Mode Transit Systems	0	0	0	+%	$0	0.00	0	0	$1,993,010	$1,993,010	$0	$0	Insf. Data
485112	Commuter Rail Systems	0	0	0	+%	$0	0.00	0	0	$364,936	$364,936	$0	$0	Insf. Data
485113	Bus and Other Motor Vehicle Transit Systems	19	30	11	+59%	$59,656	0.20	14	1	$15,374,050	$14,400,857	$3,055,238	$1,871,291	$62,551
485119	Other Urban Transit Systems	0	0	0	+%	$0	0.00	0	0	$269,297	$269,297	$0	$0	Insf. Data
485210	Interurban and Rural Bus Transportation	279	209	(69)	-25%	$57,620	3.25	(7)	13	$5,912,009	$744,223	$20,307,333	$11,860,656	$56,626
485310	Taxi Service	434	346	(87)	-20%	$33,223	0.78	(42)	24	$66,107,736	$37,666,474	$28,986,706	$18,343,303	$52,956
485320	Limousine Service	141	149	8	+6%	$36,430	0.22	24	11	$63,371,024	$50,827,025	$12,653,378	$7,988,613	$53,514
485410	School and Employee Bus Transportation	796	642	(154)	-19%	$45,001	0.80	(80)	33	$50,834,010	$18,428,307	$49,176,519	$30,798,742	$47,937
485510	Charter Bus Industry	156	106	(50)	-32%	$56,662	1.10	(11)	4	$8,278,400	$3,406,715	$9,668,659	$5,742,535	$54,366
485991	Special Needs Transportation	275	262	(13)	-5%	$50,306	0.86	12	15	$25,302,710	$13,128,534	$21,771,441	$13,520,119	$51,569
485999	All Other Transit and Ground Passenger Transportation	73	53	(20)	-28%	$91,868	0.32	(20)	6	$19,297,886	$10,231,025	$10,573,638	$6,502,399	$123,731

Summary Metrics for Transportation, Logistics, and Distriubtion

NAICS	Description	Jobs 2018	Jobs 2023	Jobs Change 2018-2023	Jobs Change % 2018-2023	Avg. Earnings Per Job 2023	Location Quotient 2023	Competitive Effect 2018-2023	Payrolled Business Locations 2023	Total Demand 2022	Demand met by Imports 2022	Total Sales 2022	GRP 2022	GRP per Job
Transportation		12,210	12,252	43	+%	$73,366	0.67	(235)	1,230	$3,708,694,026	$2,161,938,889	$2,628,754,553	$1,180,940,666	$96,384
486110	Pipeline Transportation of Crude Oil	25	17	(8)	-32%	$133,875	0.35	(7)	1	$15,211,097	$9,163,545	$14,417,681	$10,346,719	$606,637
486210	Pipeline Transportation of Natural Gas	45	42	(3)	-6%	$179,907	0.31	(6)	8	$51,027,345	$21,197,768	$55,319,117	$39,730,605	$941,943
486910	Pipeline Transportation of Refined Petroleum Products	<10	16	Insf. Data	Insf. Data	$124,446	0.51	11	1	$9,889,810	$5,457,993	$16,004,036	$11,480,676	$713,206
486990	All Other Pipeline Transportation	0	0	0	+%	$0	0.00	0	0	$1,042,650	$1,042,650	$0	$0	Insf. Data
487110	Scenic and Sightseeing Transportation, Land	75	75	0	+%	$52,027	1.56	20	13	$4,560,958	$372,759	$10,316,407	$4,475,898	$59,694
487210	Scenic and Sightseeing Transportation, Water	308	382	75	+24%	$44,554	4.60	80	60	$7,958,060	$689,132	$44,887,660	$19,648,145	$51,388
487990	Scenic and Sightseeing Transportation, Other	30	20	(10)	-34%	$47,575	1.55	(5)	3	$1,535,587	$787,015	$3,159,435	$1,296,154	$66,390
488111	Air Traffic Control	0	0	0	+%	$0	0.00	0	0	$1,521,592	$1,521,592	$0	$0	Insf. Data
488119	Other Airport Operations	401	470	69	+17%	$52,607	0.95	17	12	$39,875,334	$13,085,164	$51,880,452	$23,042,623	$49,043
488190	Other Support Activities for Air Transportation	315	399	84	+27%	$59,561	0.67	40	27	$89,472,674	$52,319,392	$62,938,028	$28,012,048	$70,159
488210	Support Activities for Rail Transportation	15	32	17	+111%	$60,366	0.20	16	3	$21,120,830	$18,522,136	$4,385,272	$1,943,532	$60,547
488310	Port and Harbor Operations	14	14	1	+6%	$51,575	0.40	(3)	2	$5,738,968	$4,304,085	$2,341,793	$1,007,001	$69,626
488320	Marine Cargo Handling	83	45	(38)	-45%	$80,074	0.16	(41)	4	$58,243,424	$50,375,406	$9,874,686	$4,393,141	$96,784
488330	Navigational Services to Shipping	70	68	(2)	-3%	$98,165	0.91	(5)	10	$14,677,125	$7,633,910	$16,719,996	$7,385,386	$108,731
488390	Other Support Activities for Water Transportation	26	33	7	+26%	$53,592	0.85	6	7	$6,901,928	$2,981,899	$4,840,797	$2,111,171	$63,690
488410	Motor Vehicle Towing	302	366	65	+21%	$53,549	0.98	32	50	$45,193,408	$20,301,085	$47,354,836	$21,045,151	$57,454
488490	Other Support Activities for Road Transportation	116	88	(29)	-25%	$49,009	0.46	(38)	23	$23,097,796	$16,551,767	$10,507,300	$4,652,092	$52,965
488510	Freight Transportation Arrangement	315	312	(4)	-1%	$70,070	0.24	(66)	55	$225,815,425	$172,426,289	$58,008,387	$25,843,442	$82,883
488991	Packing and Crating	36	68	32	+91%	$44,911	0.68	29	6	$11,119,068	$6,045,149	$8,598,387	$3,779,783	$55,558
488999	All Other Support Activities for Transportation	90	159	70	+78%	$68,777	2.29	61	6	$10,336,367	$2,513,443	$24,096,080	$10,595,863	$66,436
Warehousing & Storage		4,140	3,806	(334)	-8%	$64,884	0.47	(3,131)	71	$897,861,037	$517,944,883	$493,451,358	$266,679,566	$70,072
493190	Other Warehousing and Storage	64	64	(1)	-1%	$82,345	0.28	(7)	18	$34,535,725	$23,271,174	$12,358,031	$6,635,876	$104,058
493120	Refrigerated Warehousing and Storage	93	67	(26)	-28%	$66,724	0.21	(40)	8	$41,879,068	$34,231,878	$8,096,318	$4,353,807	$65,171
493130	Farm Product Warehousing and Storage	<10	<10	Insf. Data	Insf. Data	Insf. Data	0.03	(7)	2	$6,141,305	$5,595,073	$567,821	$299,352	Insf. Data
493110	General Warehousing and Storage	3,974	3,674	(300)	-8%	$64,539	0.49	(3,077)	43	$815,304,939	$454,846,758	$472,429,189	$255,390,531	$69,513
Process, Physical Distribution, and Logistics Consulting Services		261	276	15	+6%	$98,451	0.36	(48)	121	$80,169,763	$45,663,697	$43,801,744	$27,107,966	$98,380
541614	Process, Physical Distribution, and Logistics Consulting Services	261	276	15	+6%	$98,451	0.36	(48)	121	$80,169,763	$45,663,697	$43,801,744	$27,107,966	$98,380
Packaging and Labeling Services		<10	24	Insf. Data	Insf. Data	$53,326	0.08	15	8	$38,692,207	$35,584,266	$3,257,121	$1,459,529	$61,670
561910	Packaging and Labeling Services	<10	24	Insf. Data	Insf. Data	$53,326	0.08	15	8	$38,692,207	$35,584,266	$3,257,121	$1,459,529	$61,670
	Total for Maine	**16,618**	**16,357**	**(261)**	**-2%**	**$71,786**	**0.60**	**(3,399)**	**1,429**	**$4,725,417,033**	**$2,761,131,736**	**$3,169,264,776**	**$1,476,187,727**	**$90,246**
	Total for United States	**5,523,520**	**6,442,903**	**919,382**	**+17%**	**$79,262**		**0**	**317,189**	**$1,361,384,421,490**	**$0**	**$1,503,437,634,170**	**$709,479,118,782**	**$110,118**

Source: Lightcast

NAICS	Description
Transportation	
481111	Scheduled Passenger Air Transportation
481112	Scheduled Freight Air Transportation
481211	Nonscheduled Chartered Passenger Air Transportation
481212	Nonscheduled Chartered Freight Air Transportation
481219	Other Nonscheduled Air Transportation
482110	Rail transportation
483111	Deep Sea Freight Transportation
483112	Deep Sea Passenger Transportation
483113	Coastal and Great Lakes Freight Transportation
483114	Coastal and Great Lakes Passenger Transportation
483211	Inland Water Freight Transportation
483212	Inland Water Passenger Transportation
484110	General Freight Trucking, Local
484121	General Freight Trucking, Long-Distance, Truckload
484122	General Freight Trucking, Long-Distance, Less Than Truckload
484210	Used Household and Office Goods Moving
484220	Specialized Freight (except Used Goods) Trucking, Local
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance
485111	Mixed Mode Transit Systems
485112	Commuter Rail Systems
485113	Bus and Other Motor Vehicle Transit Systems
485119	Other Urban Transit Systems
485210	Interurban and Rural Bus Transportation
485310	Taxi Service
485320	Limousine Service
485410	School and Employee Bus Transportation
485510	Charter Bus Industry
485991	Special Needs Transportation
485999	All Other Transit and Ground Passenger Transportation

NAICS	Description
Transportation	
486110	Pipeline Transportation of Crude Oil
486210	Pipeline Transportation of Natural Gas
486910	Pipeline Transportation of Refined Petroleum Products
486990	All Other Pipeline Transportation
487110	Scenic and Sightseeing Transportation, Land
487210	Scenic and Sightseeing Transportation, Water
487990	Scenic and Sightseeing Transportation, Other
488111	Air Traffic Control
488119	Other Airport Operations
488190	Other Support Activities for Air Transportation
488210	Support Activities for Rail Transportation
488310	Port and Harbor Operations
488320	Marine Cargo Handling
488330	Navigational Services to Shipping
488390	Other Support Activities for Water Transportation
488410	Motor Vehicle Towing
488490	Other Support Activities for Road Transportation
488510	Freight Transportation Arrangement
488991	Packing and Crating
488999	All Other Support Activities for Transportation
Warehousing & Storage	
493110	General Warehousing and Storage
493120	Refrigerated Warehousing and Storage
493130	Farm Product Warehousing and Storage
493190	Other Warehousing and Storage
Process, Physical Distribution, and Logistics Consulting Services	
541614	Process, Physical Distribution, and Logistics Consulting Services
Packaging and Labeling Services	
561910	Packaging and Labeling Services

APPENDIX B: GLOSSARY

Economic Overview

Competitive Effect: Competitive effect indicates how much of the job changes within a given region is the result of some unique competitive advantage of the region. This is because the competitive effect, by definition, measures the job change that occurs within a regional industry that cannot be explained by broader trends (i.e., the National Growth Effect and the Industrial Mix Effect). It's important to note that this effect can be positive even if regional employment is declining. This would indicate that regional employment is declining *less* than national employment.

Demand: Regional sales demand for sales of Industry

Earnings: Industry earnings are the total industry wages, salaries, supplements, and proprietor income in the region, divided by the number of jobs in the region.

Exports: The amount of money that is spent by industries located outside the region in exchange for goods or services produced by an industry located in the region. Exports can be either foreign or domestic.

Gross Regional Product (GRP): Gross Regional Product (GRP) is simply GDP (Gross Domestic Product) for the region of study. More commonly, GRP is GDP for any region smaller than the United States, such as a state or metro. GRP measures the final market value of all goods and services produced in the region of study. GRP is the sum of total industry earnings, taxes on production & imports, and profits, less subsidies

Jobs: A job is any position in which a worker provides labor in exchange for monetary compensation. This includes those who work as employees for businesses (a.k.a. "wage and salary" employees) and proprietors who work for themselves. Lightcast reports employment as annual averages. Employment averages represent jobs, not workers, since one individual may hold multiple jobs. Due to limitations of source data, both full- and part-time jobs are included and counted equally, i.e., job counts are not adjusted to full-time equivalents. Geographically, payroll jobs are always reported by the place of work rather than the worker's place of residence.

Location quotient: Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region "unique." For example, if the leather products Construction industry accounts for 10% of jobs in your area but 1% of jobs nationally, then the area's leather-producing industry has an LQ of 10. So, in your area, leather Construction accounts for a larger than average "share" of total jobs—the share is ten times larger than normal.

Payrolled Business Locations: Also referred to as a "Establishments", is a single physical location of some type of economic activity (a business), used for reporting purposes in government data sources. A single company may have multiple establishments.

Source: Lightcast Knowledge Base, IBIS World

Freight Profiles

Modes

This analysis primarily covers **domestic modes**, which are the modes used between domestic origins and destinations. This report does not provide an in-depth analysis of foreign imports or exports.

Truck | Includes private and for-hire trucks. It does not include trucks that are part of Multiple Modes and Mail or trucks that move in conjunction with domestic air cargo.

Rail | Includes any common carrier or private railroad. Does not include rail that is part of Multiple Modes and Mail.

Multiple Modes and Mail | Includes shipments by multiple modes and by parcel delivery services, US Postal Service, or couriers, capped at 150 lbs. This category is not limited to containerized or trailer-on-flatcar shipments. This can include anything from containerized cargo to coal moving from mine to railhead by truck and then rail to harbor. The "Mail" component recognizes that shippers who use parcel delivery services typically do not know what modes were involved after the shipment was picked up.

Pipeline | Includes crude petroleum, natural gas, and product pipelines. Note: It also includes pipeline flows from offshore wells to land, which are counted as Water moves by the US Army Corps of Engineers. Does not include pipeline that is part of Multiple Modes and Mail.

Commodity Codes

This report relies on the Standard Classification of Transported Goods (SCTG) system. This is a 5-digit standard classification system that relates to commodities that are transported as freight and used by the US Department of Transportation and the US Census Bureau. The Freight Analysis Framework 5 (FAF5) dataset, which these freight profiles rely on, utilizes the 2-digit commodity codes. A full manual for commodities included in each 2-digit category can be found here: https://www2.census.gov/programs-surveys/cfs/technical-documentation/code-list/2022%20CFS-1200.pdf

Other Foodstuffs | This category describes a wide array of processed food products. Product categories included are:

- Dairy products
- Processed or prepared vegetables, fruit, or nuts
- Coffee, tea, and spices (except unprocessed)
- Animal or vegetable fats and oils and their cleavage products, prepared edible fats, animal or vegetable waxes, and flours and meals of oil seeds
- Sugar confectionery in solid form, sugar syrups not containing added flavoring or coloring matter, and cocoa and cocoa preparations
- Confectionery, cocoa, and cocoa preparations
- Other edible preparations not elsewhere classified, and vinegar (including sauces, soups, yeast, etc.)
- Non-alcoholic beverages and ice

Mixed Freight | This category includes:

- Items (including food) for grocery and convenience stores
- Supplies and food for restaurants and fast-food chains
- Hardware or plumbing supplies
- Office Supplies
- Miscellaneous

ATTACHMENT C: DATA SOURCES

Lightcast (formerly Emsi Burning Glass) is a global leader in labor market analytics, offering a data platform that gives a comprehensive, nuanced, and up-to-date picture of labor markets at all scales, from national to local. Key components of the platform include traditional labor market information, job posting analytics, talent profile data, compensation data, and skills analytics. Lightcast integrates government data with information from online job postings, talent profiles, and resumes to produce timely intelligence on the state of the labor market. Job and compensation data is available by industry, occupation, educational program, and skill type. Click to learn more.

IBISWorld is a leading provider of expert industry research and analysis for broad sectors and niche industries across the economy. Thoroughly researched industry reports from IBISWorld leverage economic, demographic, and market data into forward-looking insight, providing detailed data and narrative on current and historical trends, as well as future outlook and projections. Topics covered include products and services, major markets, upstream and downstream supply chain industries, performance drivers, factors for competitiveness, operating conditions, major players, and key statistics on industry performance. Reports are available by industry at the global, national, and state levels. **Click to learn more.**

ABOUT CAMOIN ASSOCIATES

As the nation's only full-service economic development and lead generation consulting firm, Camoin Associates empowers communities through human connection backed by robust analytics.

Since 1999, Camoin Associates has helped local and state governments, economic development organizations, nonprofit organizations, and private businesses across the country generate economic results marked by resiliency and prosperity.

To learn more about our experience and projects in all of our service lines, please visit our website at www.camoinassociates.com. You can also find us on LinkedIn, Facebook, and YouTube.

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Industry and Workforce Analytics


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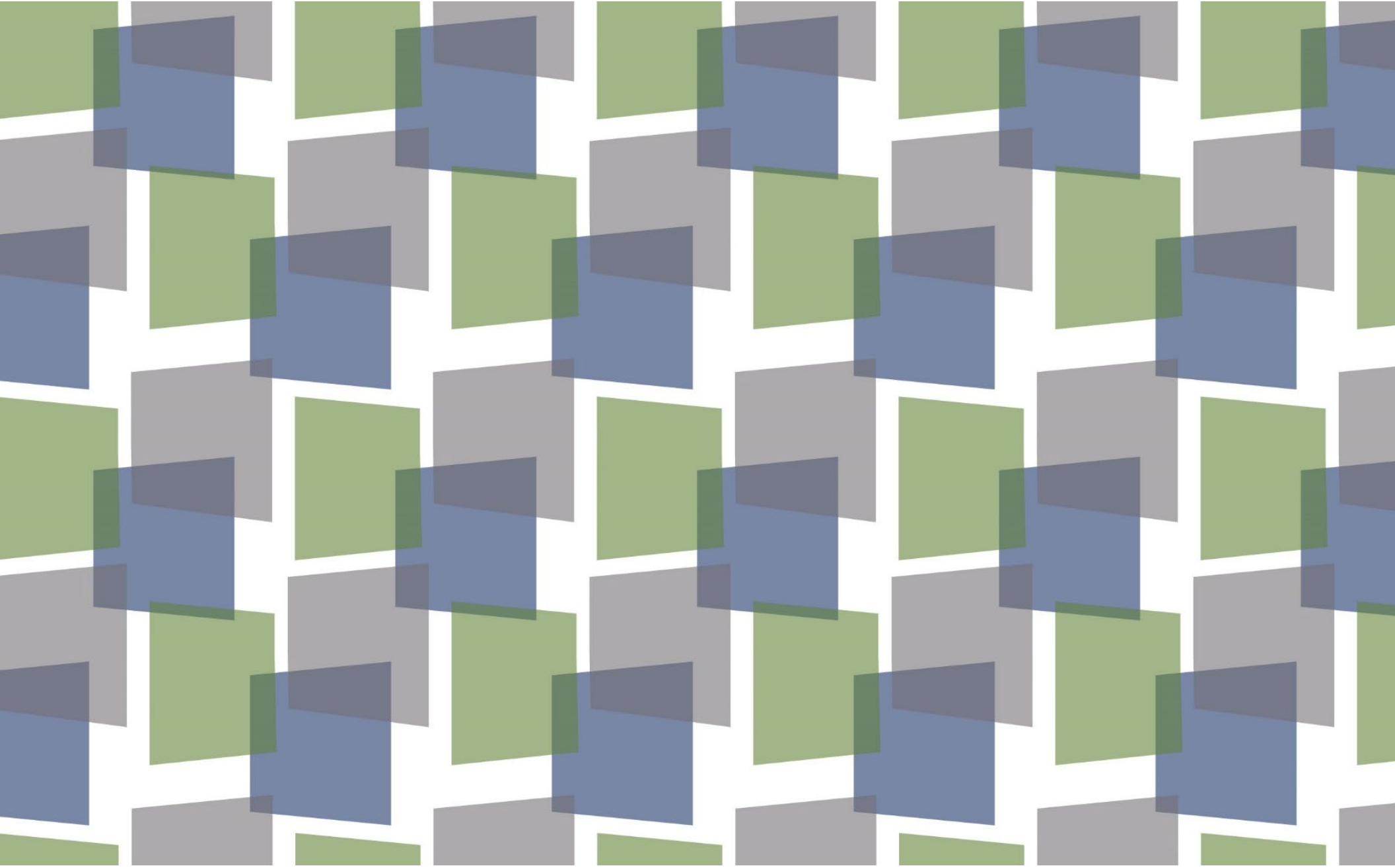

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