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TL, LTL, & INTERMODAL || FORECAST

FREIGHT FORECAST: RATE AND VOLUME OUTLOOK

US, CANADA, AND CROSS-BORDER RATE & VOLUME FORECASTS
REPORT VERSION PUBLISHED 2023

2019 LAWRENCE R. KLEIN BLUE CHIP AWARD WINNER

Contributor to Blue Chip Economic Indicators and WSJ Economic Forecast Panel

ACT Freight Forecast: Rate and Volume OUTLOOK is published monthly by Americas Commercial Transportation Research Company (ACT). 4440 Middle Road, Columbus, IN 47203. Phone: 812.379.2085, email: trucks@actresearch.net. Questions and subscription requests should be directed to K.W. Vieth, Publisher.

SAMPLE REPORT OVERVIEW:

Thank you for your interest in ACT Research. The objective of this sample report is to share an understanding of the market, economy, and insight for analysis at the time of publication. *We share this report from December 2023 for market context, an assessment of our historical and current data recordings, and a look into the market indicators we gather from various data sources*. In this sample report, you will see the quality of our work and recognize that *we called the following three events for the Spring of 2022:*

1) The drop in Spot Rates
2) Driver availability would also increase and the driver shortage would end.
3) Pricing Pendulum would swing back to shippers

Freight Forecast: Rate & Volume OUTLOOK

This monthly report provides quarterly forecasts for the direction of volumes and contract rates through 2024 and annual forecasts through 2026 for the truckload, less-than-truckload, and intermodal segments of the transportation industry. For the truckload spot market, the report provides forecasts for the next twelve months. The ACT Research ***Freight Forecast*** provides an unprecedented look at the future of freight rates to help businesses in transportation and logistics management plan for the future with confidence.

Subscribers to this report gain knowledge of the patterns of supply, demand, and rates, thereby increasing market transparency and facilitating decision-making. Using ACT's analysis and forecasting, businesses on all sides of the freight rate equation can plan and prepare for the next 18 months to understand swings in the supply-demand balance. Our models saw the capacity crunch of 2017, and accurately predicted the rollover in spot truckload rates which started in the middle of 2018 (as published in our N.A. Commercial Vehicle Outlook report), and they can help you to better understand where freight rates are headed.

LATEST UPDATE TO THE REPORT INCLUDES:

- Forecast of DAT Canada rate and volume data

Click the button below to access Freight Forecast Tables and Graph Packs.

FORECAST TABLES   GRAPH PACKS

COMPLIMENTARY SAMPLE REPORTS:

Below are recommendations of complimentary reports and databases for analysis and understanding of the transportation and commercial vehicle markets. These reports provide additional data and insights to better understand the commercial vehicle supply to the market, as well as historical freight data. Utilizing these together can provide additional value.

Freight Database
Publicly Traded Truckload Carriers Database
Publicly Traded Less-Than-Truckload Carriers Database
N.A. Commercial Vehicle OUTLOOK

CONTACT US:

ACT Research is excited about the opportunity to meet new clients. Have a question? Send us an email or give us a call. We take pride in our dependability, accessibility, and reliability, so reach out and allow us to provide you with our best.

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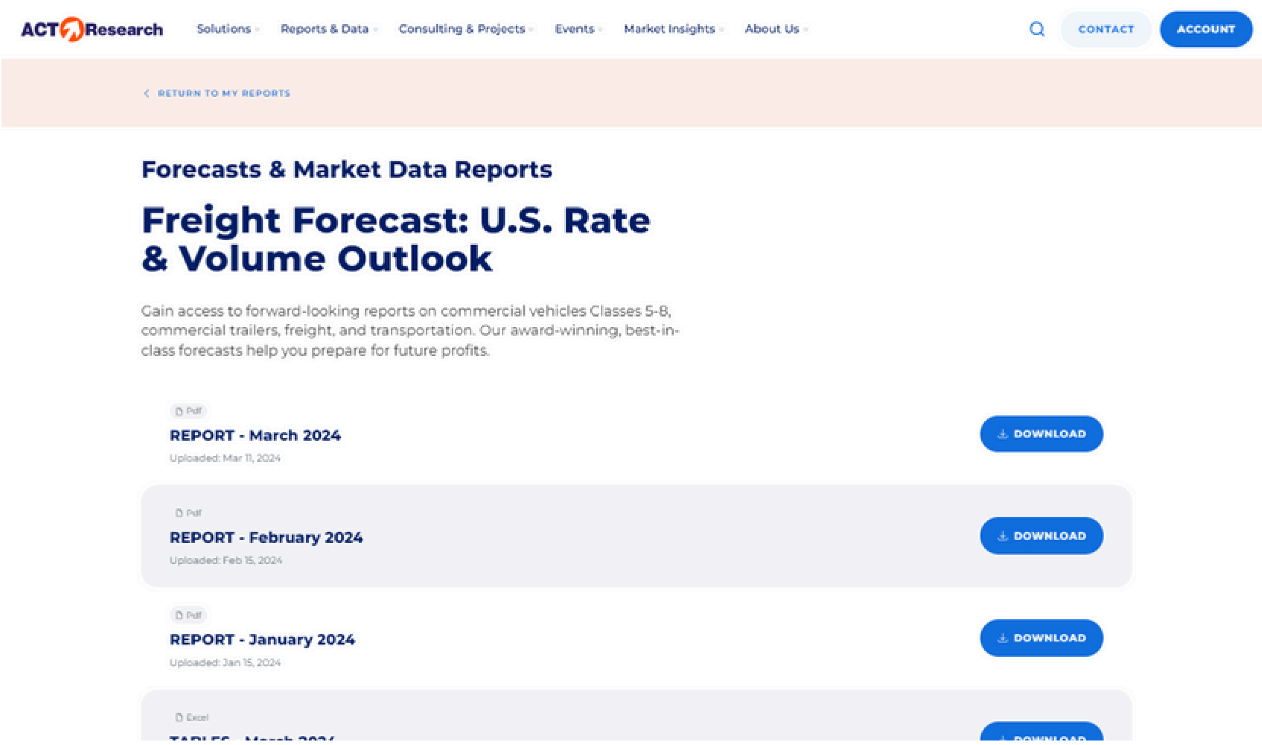
Report Dashboard Overview:

With your subscription to the ***Freight Forecast: Rate & Volume OUTLOOK***, you will gain access to our report dashboard. Below is a listing, as well as a screenshot, of this dashboard and the support material you will receive with your report.

1. PDFs of the previous two months' report
2. Excel tables with Forecast data
3. Freight Forecast Report Items of note
    - ACT Class 8 Tractor Sales Forecasts
    - Cass Shipments Index Forecasts
    - Cass Truckload Linehaul Index® Forecasts
    - DAT Contract Rate (Dry Van, Reefer, Flatbed) Forecasts
    - DAT US Dry Van Spot Rate Forecasts
    - DAT US Refrigerated Spot Rate Forecasts
    - DAT US Flatbed Spot Rate Forecasts
    - DAT CAN Dry Van Spot Forecasts
    - LTL Tonnage and Yield Forecasts
    - LTL Producer Price Index Forecasts
    - Intermodal Load and Rate Forecasts
    - Intermodal Producer Price Index Forecasts
    - Diesel Fuel Price and Fuel Surcharge Forecasts
    - US Economic Forecasts
    - CAN Economic Forecasts



ACT Freight Forecast: Rate & Volume OUTOOK - Sample Report Overview

Report Distribution & FAQs

When is the report published?
The *Freight Forecast: Rate & Volume OUTLOOK* is published near the 12th of each month.

How many individuals in my company may access the report?
ACT Research allows for maximum distribution of 4 users per report. Additional access may be purchased at $60 per person, per report.

Can the individuals with report access be changed?
Yes, we understand that change in staff may occur. Simply call or email our team and we'll help you manage this process. There is no charge for changing users.

How do I become aware of the release of the latest publication?
A notice, via email, will be sent to those users on your distribution list upon the publication and availability of the *Freight Forecast: Rate & Volume OUTLOOK*. Users can then access the report via dashboard login.

Are ACT Research analysts available if questions arise?
Yes, we highly encourage our subscribers to call or email our staff with questions or concerns. Our analysts take great pride in being accessible and are willing to answer questions as needed.

May I utilize aspects of the report within my organization?
Yes, but we do request that all tables, graphs, charts, or analyses cite ACT Research as the source.

May I utilize aspects of the report for external presentations? (conferences, trade organizations, etc.)
Yes. ACT's copyright policy requires that any external presentations utilizing ACT data be sourced and cited appropriately. Furthermore, we request that external sourcing be limited to charts and/or graphs. If you are uncertain if your presentation meets our copyright requirements, contact us at 812.379.2085 or trucks@actresearch.net to inquire.

"I would recommend ACT Research to anyone that's looking for in-depth insight into what's happening in the commercial vehicle markets. The expertise and knowledge that goes into the service they provide, there's not a better solution, in my opinion, for commercial vehicle data than ACT Research."
- Jeff Trent, Mahle

ACT Freight Forecast

Rate and Volume OUTLOOK

Contents

*US data is a sample from December 2022 and CA data is from September 2024 with redacted data

Long Bottom; 2024 a Transition Year

VOLUME OUTLOOK

- Goods demand fundamentals improving with help from disinflation
- Slow for-hire trajectory, but rising west coast intermodal demand

TRUCKLOAD CONCLUSIONS

- Spot market dynamics still stuck in neutral
- Slow transition to early cycle with industry reticent to reduce capacity

INTERMODAL CONCLUSIONS

- Demand recovery starting to gain momentum as global ocean risks mount
- Rates tied to TL, but recovery could be earlier than usual

LTL CONCLUSIONS

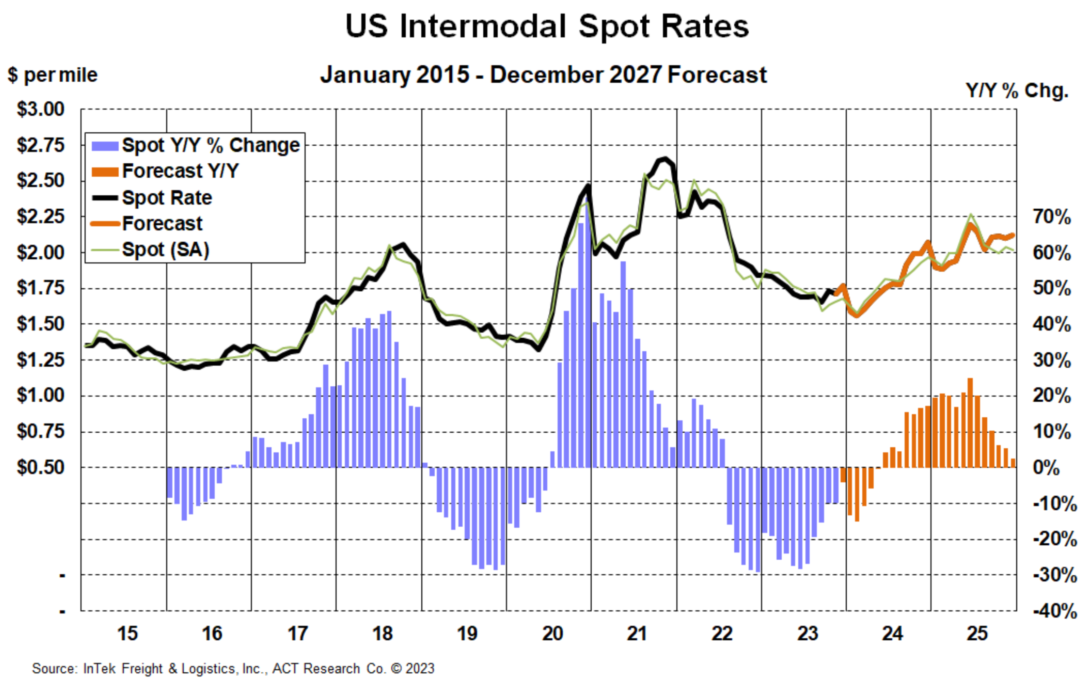
- Loose TL market moving LTL freight and limiting LTL rate increases somewhat
- Rates slowly, steadily moving higher

Chart of the Month

We're pleased to introduce an intermodal spot rate forecast at this key market juncture. So far, capacity is plentiful and the impact from the Panama Canal on rates limited, but we expect things to change in 2024.

This is the 40th forecast series in this report, since 39 was clearly not enough. Seriously, we have requests for others, and we're working on them.

Also, by popular demand, we added MONTHLY forecasts for 23 of these data series in the accompanying Excel file, including this one.



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HIGHLIGHTS

Click paragraphs to zoom to more details

FREIGHT EXPECTATIONS

- Rate outlook essentially unchanged.
- Long bottom: conditions unseasonably loose.
- Upside holiday rate volatility likely limited by loose market.
- Industry truck build to remain near max thru Q1'24, setting up loose conditions next 4-5 months.
- Class 8 tractor orders jumped in November to seasonal highs, but backlog still short for this time of year.
- For-hire freight remains soft as owner-operators add miles and private fleets add equipment.
- Containerized imports and intermodal freight volumes returned to growth are gaining momentum.
- Panama Canal constraints driving east to west shift in imports.
- New intermodal spot rate forecast!
- Real US retail sales returned to growth in November.
- More insourcing remains a downside risk for rates, but pent-up demand is mostly sated.

TRUCKLOAD

- DAT equipment postings were down 20% y/y in early December after falling 18% y/y in November.
- Total DAT postings of dry van, reefer, and flatbed loads fell back to cyclical lows in mid-December, down ~42% y/y at a 1.0 million load per week rate.
- US dry van TL spot rates, net fuel, continued to bump along the bottom, down 4¢ per mile m/m in November at $1.58 per mile, and up 2¢ m/m SA.
- Aggregate DAT contract rates—combining dry van, reefer, and flatbed—were $2.18 per mile in November, down 12% y/y but up 1¢ from October and 2¢ above the seasonal pattern.
- The spot / contract rate spread was unchanged m/m at 49¢ SA in November, as both spot and contract rates rose about 1¢ in SA terms.
- The industry ordered a preliminary net 22,000 US Class 8 tractors in November, after 16,300 in October, down 12% y/y.
- US dealers sold 16,451 new Class 8 tractors in October, down 10% y/y.
- The preliminary US Class 8 tractor backlog/build (BL/BU) ratio was 5.7 months in November, unchanged from 5.7 months in October.
- Trailer orders rose to 30,700 units in October, from 27,900 in September, as 2024 order season began.
- The shipments component of the Cass Freight Index® fell 1.2% m/m and 8.9% y/y in November, after a 9.5% decline in October.
- The rates embedded in the two components of the Cass Freight Index® declined 18% y/y in November, after falling 15% in October.
- The Supply-Demand Balance remained positive for the third month in a row in October, but declined to 52.4 (SA), from 52.8 in September.
- The Driver Availability Index retreated 6.8 points from the all-time high last month with a reading of 55.2 in October.
- The Capacity Index fell for the fourth month in a row by 1.2 points m/m to 45.4 in October, signaling for-hire fleets are reducing supply.

INTERMODAL, RAIL & OCEAN

- Rail volumes finally turned the corner in November, with total volumes inflecting to 2% y/y growth as Panama Canal constraints pressed freight west.
- NA intermodal volumes (SA) were up 0.9% m/m in November after the largest monthly move of the year, up 4.4% in October.
- After jumping in September and October, intermodal spot rates leveled off and gave back some of the gains in November.
- NA container imports rose 1.6% y/y in October, after a 0.7% y/y decline in September, in the first y/y increase in fourteen months.

LESS-THAN-TRUCKLOAD

- The long-distance LTL PPI rose 0.6% m/m in October and is now up 5.9% since Yellow's exit.
- The local LTL PPI was flat m/m in October, after a 0.6% m/m increase in September.

US ECONOMY

- The consumer remains the bulwark of economic growth.
- Q3 GDP robust, but slowdown likely in Q4.
- US GDP forecasts consistent at 2.2% for 2023 and trimmed to 1.8% for 2024.

FREIGHT FORECAST SUMMARY

U.S. TRANSPORTATION CAPACITY, VOLUMES & RATES

		2023					2024					
CAPACITY	2022	Q1	Q2	Q3	Q4	2023F	Q1	Q2	Q3	Q4	2024F	2025F
CLASS 8 TRACTOR RETAIL SALES	199,283	51,045	56,269	52,574	52,612	212,500	40,699	38,180	34,662	33,959	147,500	183,000
Y/Y	18%	32%	15%	-1%	-10%	7%	-20%	-32%	-34%	-35%	-31%	24%
CLASS 8 TRACTOR POPULATION, U11, 000s	1,423	1,435	1,450	1,463	1,477	1,477	1,481	1,482	1,478	1,472	1,472	1,481
Y/Y	4.1%	3.9%	4.0%	3.8%	3.7%	3.7%	3.2%	2.2%	1.0%	-0.3%	-0.3%	0.6%
TL NET INCOME MARGIN	7.8%	6.0%	5.3%	4.4%	4.3%	5.0%	4.5%	4.6%	5.1%	5.8%	5.0%	6.6%
Y/Y	(24bp)	(250bp)	(272bp)	(324bp)	(287bp)	(283bp)	(146bp)	(66bp)	65bp	153bp	1bp	162bp
VOLUMES												
Cass Freight Index® - Shipments	1.200	1.149	1.152	1.143	1.091	1.134	1.097	1.166	1.206	1.170	1.160	1.207
Y/Y	1%	0%	-4%	-9%	-9%	-6%	-4%	1%	6%	7%	2%	4%
ACT FREIGHT COMPOSITE INDEX	164.3	162.8	162.8	165.1	166.5	164.3	166.8	167.4	167.9	169.1	167.8	173.4
Y/Y	2%	-2%	-2%	1%	2%	0%	2%	3%	2%	2%	2%	3%
TRUCKLOAD RATES												
DAT CONTRACT RATE / MILE, NET FUEL	2.59	2.42	2.27	2.19	2.17	2.26	2.13	2.15	2.18	2.25	2.18	2.39
Y/Y	6%	-9%	-14%	-15%	-13%	-13%	-12%	-5%	0%	4%	-4%	10%
DAT CONTRACT RATE / MILE, INCL FUEL	3.24	2.96	2.74	2.71	2.68	2.77	2.58	2.64	2.67	2.73	2.66	2.87
Y/Y	16%	-7%	-19%	-17%	-15%	-14%	-13%	-3%	-2%	2%	-4%	8%
DAT SPOT RATE / MILE, NET FUEL	2.19	1.87	1.76	1.71	1.72	1.76	1.67	1.82	1.89	2.07	1.86	2.17
Y/Y	-12%	-31%	-18%	-15%	-9%	-19%	-10%	3%	11%	20%	6%	17%
DAT SPOT RATE / MILE, INCL FUEL	2.84	2.41	2.23	2.23	2.24	2.28	2.12	2.31	2.38	2.55	2.34	2.65
Y/Y	0%	-25%	-22%	-17%	-12%	-20%	-12%	4%	7%	14%	3%	13%
Cass Truckload Linehaul Index®	159.7	148.5	143.9	141.8	140.5	143.7	139.2	138.5	138.9	140.9	139.4	149.8
Y/Y	9%	-7%	-14%	-11%	-8%	-10%	-6%	-4%	-2%	0%	-3%	7%
LARGE FLEET RATE PER MILE, NET FUEL	3.03	2.91	2.79	2.75	2.71	2.79	2.72	2.70	2.77	2.80	2.75	2.98
Y/Y	10%	-4%	-9%	-10%	-9%	-8%	-7%	-3%	1%	3%	-2%	8%
LARGE FLEET RATE PER MILE, INCL FUEL	3.65	3.42	3.24	3.26	3.22	3.28	3.16	3.18	3.24	3.27	3.21	3.44
Y/Y	17%	-4%	-13%	-12%	-10%	-10%	-8%	-2%	0%	2%	-2%	7%
LESS THAN TRUCKLOAD												
LTL PRODUCER PRICE INDEX - AGGREGATE	152.6	150.4	150.3	153.3	156.3	152.6	160.8	162.5	168.8	168.8	165.2	176.0
Y/Y	14%	3%	-4%	-1%	2%	0%	7%	8%	10%	8%	8%	7%
LTL RATE / CWT, NET FUEL ($)	23.15	23.76	23.93	24.36	24.77	24.20	25.36	25.74	26.15	26.49	25.93	27.72
Y/Y	10%	6%	5%	3%	5%	5%	7%	8%	7%	7%	7%	7%
LTL TONNAGE (000s)	62,403	14,107	14,449	12,962	12,543	54,060	12,913	13,689	13,438	13,357	53,397	55,779
Y/Y	-4%	-11%	-13%	-18%	-11%	-13%	-8%	-5%	4%	6%	-1%	4%
INTERMODAL												
INTEK INTERMODAL SPOT RATE / MILE	2.17	1.83	1.72	1.68	1.74	1.74	1.59	1.71	1.83	2.02	1.79	2.05
Y/Y	-5%	-21%	-27%	-21%	-8%	-20%	-13%	-1%	9%	16%	3%	15%
INTERMODAL RATE / LOAD ($)	3,314	3,089	2,916	2,896	2,786	2,922	2,740	2,742	2,854	2,841	2,794	3,056
Y/Y	21%	-2%	-12%	-16%	-17%	-12%	-11%	-6%	-1%	2%	-4%	9%
NA CLASS I INTERMODAL LOADS (MM)	17.8	4.0	4.2	4.2	4.3	16.7	4.1	4.4	4.5	4.6	17.5	18.2
Y/Y	-4%	-10%	-10%	-7%	2%	-6%	3%	5%	5%	7%	5%	4%

FORECAST CHANGE SUMMARY
(CHANGE FROM LAST MONTH)

	2022	Q1	Q2	Q3	Q4	2023F	Q1	Q2	Q3	Q4	2024F	2025F
ACT CLASS 8 TRACTOR RETAIL SALES					0pp	(0pp)	(3pp)	(3pp)	(1pp)	(3pp)	(2pp)	3pp
CASS FREIGHT INDEX - SHIPMENTS					(2pp)	(1pp)	(3pp)	(4pp)	(0pp)	3pp	(1pp)	2pp
CASS TRUCKLOAD LINEHAUL INDEX					0pp	0pp	1pp	0pp	(1pp)	(1pp)	(0pp)	0pp
ACT FREIGHT COMPOSITE					0pp	0pp	0pp	0pp	0pp	0pp	0pp	1pp
DAT TL SPOT RATE, NET FUEL					(0pp)	(0pp)	(1pp)	(2pp)	(2pp)	4pp	(0pp)	2pp
DAT TL CONTRACT RATE, NET FUEL					0pp	(0pp)	0pp	0pp	(0pp)	(1pp)	(0pp)	1pp
LTL RATE, NET FUEL					(0pp)	(0pp)	(0pp)	0pp	1pp	1pp	0pp	1pp
LTL VOLUME					(1pp)	(0pp)	(2pp)	(2pp)	(0pp)	1pp	(1pp)	2pp
INTERMODAL RATE					(2pp)	(0pp)	(1pp)	(0pp)	(1pp)	(1pp)	(1pp)	0pp
INTERMODAL VOLUME					0pp	0pp	(1pp)	(1pp)	(0pp)	1pp	(0pp)	1pp

Notes/Sources: TL spot and contract data sourced from DAT Freight & Analytics. The total DAT TL Spot Rate is aggregated using ACT Research trailer population data.
TL Large Fleet Rate, LTL and Intermodal data are sourced from quarterly company reports and lag ~1 month on financial reporting timelines.
The under 11 (U11) year-old tractor population is an end of period point in time estimate based on ACT Research Class 8 tractor retail sales data.
TL net income margin sourced from the ACT Research Publicly Traded Truckload Carrier Database and based on core carriers.
TL contract rate data sourced from the ACT Research Publicly Traded Truckload Carrier Database, and include a small fraction of spot business.
LTL tonnage and yield data sourced from the ACT Research Publicly Traded Less-Than-Truckload Carrier Database.
CWT is an acronym for centweight, equal to one hundred pounds.
Intermodal volume and rate data sourced from AAR and the ACT Research Publicly Traded Truckload Carrier Database.
LTL and intermodal Producer Price Indexes (PPIs) sourced from US Bureau of Labor Statistics.
Y/Y % changes are current quarter vs. same quarter one year ago.
Diesel price data sourced from US Energy Information Administration.

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DAT TRUCKLOAD RATE FORECAST SUMMARY

CONTRACT RATES ($)	2022	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023F	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2024F	2025F
DAT DRY VAN RATE / MILE, NET FUEL	2.50	2.32	2.15	2.05	2.03	2.14	2.00	2.02	2.04	2.12	2.05	2.26
Y/Y	5%	-11%	-16%	-17%	-15%	-15%	-14%	-6%	0%	5%	-4%	10%
DAT REEFER RATE / MILE, NET FUEL	2.70	2.54	2.44	2.39	2.38	2.44	2.33	2.35	2.37	2.44	2.37	2.59
Y/Y	8%	-6%	-11%	-11%	-10%	-10%	-9%	-4%	-1%	3%	-3%	9%
DAT FLATBED RATE / MILE, NET FUEL	2.89	2.71	2.65	2.53	2.49	2.60	2.45	2.49	2.53	2.59	2.52	2.80
Y/Y	8%	-7%	-12%	-12%	-10%	-10%	-9%	-6%	0%	4%	-3%	11%
AGGREGATE TL RATE / MILE, NET FUEL	2.59	2.42	2.27	2.19	2.17	2.26	2.13	2.15	2.18	2.25	2.18	2.39
Y/Y	6%	-9%	-14%	-15%	-13%	-13%	-12%	-5%	0%	4%	-4%	10%
DAT DRY VAN RATE / MILE , INCL FUEL	3.13	2.85	2.60	2.55	2.53	2.63	2.43	2.49	2.52	2.58	2.51	2.71
Y/Y	15%	-8%	-21%	-18%	-16%	-16%	-15%	-4%	-1%	2%	-5%	8%
DAT REEFER RATE / MILE, INCL FUEL	3.39	3.12	2.93	2.94	2.92	2.98	2.80	2.86	2.88	2.94	2.87	3.08
Y/Y	18%	-5%	-17%	-14%	-12%	-12%	-10%	-2%	-2%	1%	-4%	7%
DAT FLATBED RATE / MILE, INCL FUEL	3.63	3.34	3.19	3.14	3.08	3.19	2.97	3.05	3.10	3.14	3.07	3.35
Y/Y	18%	-5%	-17%	-14%	-13%	-12%	-11%	-4%	-1%	2%	-4%	9%
AGGREGATE TL RATE / MILE, INCL FUEL	3.24	2.96	2.74	2.71	2.68	2.77	2.58	2.64	2.67	2.73	2.66	2.87
Y/Y	16%	-7%	-19%	-17%	-15%	-14%	-13%	-3%	-2%	2%	-4%	8%

SPOT RATES ($)	2022	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023F	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2024F	2025F
DAT DRY VAN RATE / MILE, NET FUEL	2.06	1.75	1.62	1.58	1.61	1.64	1.56	1.70	1.78	1.95	1.75	2.04
Y/Y	-13%	-32%	-19%	-16%	-9%	-20%	-11%	5%	12%	21%	7%	17%
DAT REEFER RATE / MILE, NET FUEL	2.40	2.06	1.97	1.93	1.93	1.97	1.87	2.02	2.10	2.29	2.07	2.40
Y/Y	-12%	-31%	-15%	-12%	-9%	-18%	-9%	3%	9%	19%	5%	16%
DAT FLATBED RATE / MILE, NET FUEL	2.39	2.10	2.10	1.90	1.84	1.98	1.85	1.97	2.05	2.19	2.02	2.38
Y/Y	-6%	-21%	-18%	-16%	-10%	-17%	-12%	-6%	8%	19%	2%	18%
AGGREGATE TL RATE / MILE, NET FUEL	2.19	1.87	1.76	1.71	1.72	1.76	1.67	1.82	1.89	2.07	1.86	2.17
Y/Y	-12%	-31%	-18%	-15%	-9%	-19%	-10%	3%	11%	20%	6%	17%
DAT DRY VAN RATE / MILE , INCL FUEL	2.68	2.27	2.07	2.08	2.10	2.13	1.99	2.17	2.25	2.41	2.20	2.49
Y/Y	-1%	-26%	-24%	-18%	-13%	-21%	-12%	5%	8%	15%	3%	13%
DAT REEFER RATE / MILE, INCL FUEL	3.08	2.63	2.45	2.48	2.47	2.51	2.34	2.53	2.62	2.79	2.57	2.89
Y/Y	0%	-25%	-20%	-15%	-12%	-19%	-11%	3%	5%	13%	2%	12%
DAT FLATBED RATE / MILE, INCL FUEL	3.13	2.73	2.64	2.51	2.43	2.58	2.37	2.54	2.62	2.75	2.57	2.92
Y/Y	6%	-16%	-22%	-18%	-14%	-18%	-13%	-4%	4%	13%	0%	14%
AGGREGATE TL RATE / MILE, INCL FUEL	2.84	2.41	2.23	2.23	2.24	2.28	2.12	2.31	2.38	2.55	2.34	2.65
Y/Y	0%	-25%	-22%	-17%	-12%	-20%	-12%	4%	7%	14%	3%	13%

FUEL	2022	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023F	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2024F	2025F
DRY VAN FUEL SURCHARGE / MILE	0.63	0.52	0.45	0.50	0.49	0.49	0.43	0.47	0.47	0.46	0.46	0.45
Y/Y	84%	4%	-37%	-23%	-22%	-21%	-18%	5%	-6%	-7%	-7%	-1%
REEFER FUEL SURCHARGE / MILE	0.68	0.57	0.49	0.55	0.54	0.54	0.47	0.51	0.51	0.50	0.50	0.50
Y/Y	85%	4%	-37%	-23%	-22%	-21%	-18%	5%	-7%	-7%	-7%	-1%
FLATBED FUEL SURCHARGE / MILE	0.75	0.63	0.54	0.60	0.59	0.59	0.52	0.56	0.57	0.55	0.55	0.54
Y/Y	84%	4%	-36%	-23%	-22%	-21%	-18%	5%	-6%	-7%	-7%	-1%
AGGREGATE FUEL SURCHARGE / MILE	0.65	0.55	0.46	0.52	0.51	0.51	0.45	0.49	0.49	0.48	0.48	0.47
Y/Y	84%	4%	-37%	-23%	-22%	-21%	-18%	5%	-6%	-7%	-7%	-1%
DIESEL PRICE / GALLON	4.96	4.42	3.94	4.27	4.22	4.21	3.84	4.07	4.08	4.01	4.00	3.97
Y/Y	51%	5%	-28%	-17%	-17%	-15%	-13%	3%	-5%	-5%	-5%	-1%

FORECAST CHANGE SUMMARY

(CHANGE FROM LAST MONTH)	2022	Q1	Q2	Q3	Q4	2023F	Q1	Q2	Q3	Q4	2024F	2025F
DAT SPOT RATE, NET FUEL		0pp	0pp	(0pp)	(0pp)	0pp	(1pp)	(2pp)	(2pp)	4pp	(0pp)	2pp
DAT SPOT RATE, INCL FUEL		0pp	0pp	(0pp)	(1pp)	(0pp)	(4pp)	(3pp)	(3pp)	3pp	(2pp)	2pp
DAT CONTRACT RATE, NET FUEL		0pp	(0pp)	(0pp)	0pp	(0pp)	0pp	0pp	(0pp)	(1pp)	(0pp)	1pp
DAT CONTRACT RATE, INCL FUEL		0pp	(0pp)	(0pp)	(1pp)	(0pp)	(2pp)	(1pp)	(2pp)	(1pp)	(2pp)	1pp
DIESEL PRICE ¢ / GALLON		$0.00	$0.00	$0.00	($0.20)	($0.05)	($0.42)	($0.25)	($0.25)	($0.25)	($0.29)	($0.25)

Sources: DAT Freight & Analytics rates, EIA fuel prices, ACT Research forecasts.

ACT Research

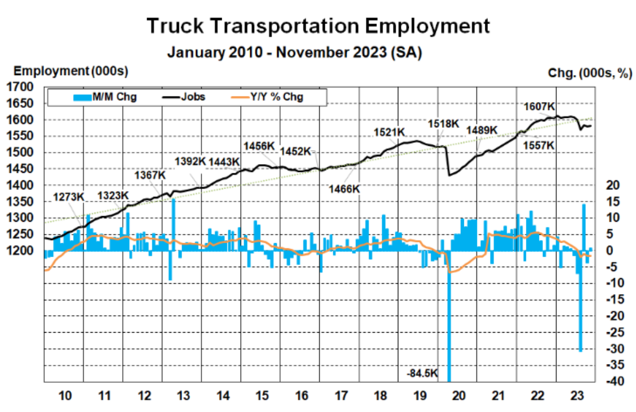
FREIGHT FORECAST SUMMARY

Harsh Winter, Then A Dig Out. Spot load postings remain incredibly soft, and while equipment posts have declined, the rebalancing of capacity is making little net progress. Lower Class 8 tractor sales are slowing the pace of new capacity additions, and sales are expected to slow rapidly in 2024. Meanwhile, the pace of operating authority revocations remains historically elevated, so excess capacity is being removed, and the net pace of rebalancing should pick up in 2024. As freight volumes remain broadly soft, despite a few signs of recovery, the spot market remains loose.

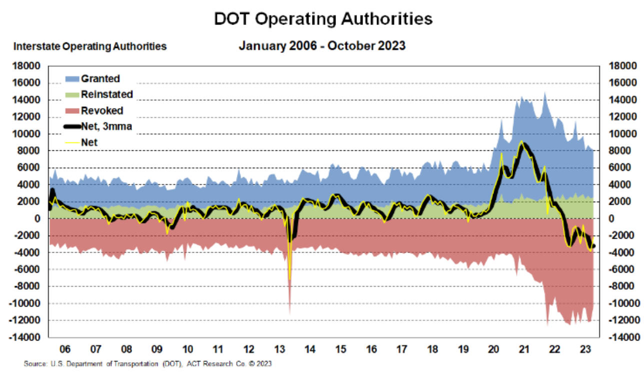
As drivers took off for the holidays and some didn't return, spot rates have risen since Thanksgiving. Despite a robust economy, spot dynamics remain soft as many of those who returned are running maximum miles and private fleets keep adding equipment. As capacity rebalancing and a freight volume recovery gain momentum in 2024, spot dynamics should turn, but not before at least a few more months of rough sledding.

Overall, our forecasts are little changed this month, but we make a number of small adjustments as we continue to adjust for-hire demand and rate estimates a little lower for longer. With the US Class 8 tractor backlog still under six months and 38% shorter in unit terms than a year ago, we continue to expect lower demand to turn the current equipment supply additions to subtractions by Q2'24. Though we trim near-term Cass Freight Index® shipment forecasts, we still expect demand to return to growth in Q2'24 as well, which should turn the trajectory of spot rates higher.

The loose truckload (TL) spot environment has a number of cross currents. With fluid capacity, shippers are under less pressure to ship partial loads than the constrained pandemic years. This is offset, at least in part, as private fleet additions are less productive than for-hire tractors, typically running at least 30% fewer loaded miles. At the same time, owner-operators are running more miles to survive at lower rates, but hours worked in the for-hire sector are down as employers prioritize retention. The decline in BLS trucking jobs in 2023 is now smaller than the Yellow takeout. Net of all this is slower-than-normal capacity rebalancing.



Net revocations of DOT operating authorities, which include for-hire, private fleets, owner-operators, and even hot shots, show 28,750 net fleet exits since October 2022, 3.9% of the FMCSA total, with a 3MMA of 3,200 monthly net revocations. Much of this tightening is offset by elevated new tractor sales as the industry reconsolidates after the historic fragmentation that occurred during the pandemic. However, as tractor sales normalize in 2024, the effects of these revocations will have more impact on spot rates.



As capacity rebalancing gains momentum in 2024, spot dynamics should tighten, but the prolonged bottoming process seems likely to drag on through Q1'24 as elevated equipment demand persists. Some of the large shift away from spot and into private fleets in 2023 was just timing of equipment deliveries as pent-up demand was met. With that rat through the snake, if you will, the large cost advantage of low rates in the for-hire market should attract freight back in 2024.

Class 8 tractor orders jumped in November to seasonal highs, but the backlog is short for this time of year. Industry build plans are being revised down, and we see softening equipment demand and lower production in 1H'24 helping to build the floor under the rate cycle.

The US economy's resilience in 2023, while a good thing, does not coil the spring much for 2024 on the demand side. However, consumer purchasing power is improving with significant disinflation and solid wage growth, and the reduction in supply as the industry right-sizes should still start to push TL spot rates higher in Q2'24. In an early sign of better cyclical demand in 2024, Panama Canal constraints are driving growth in container imports and intermodal volumes.

TRUCKLOAD

- Spot forecasts trimmed for '24, not for '25
- The cure for low prices *is* low prices

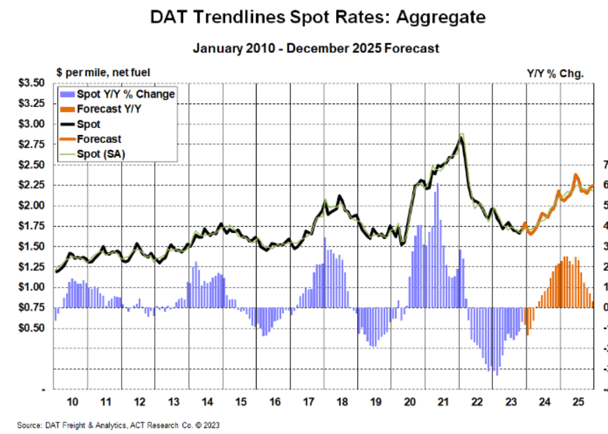
TRUCKLOAD SPOT RATE FORECAST

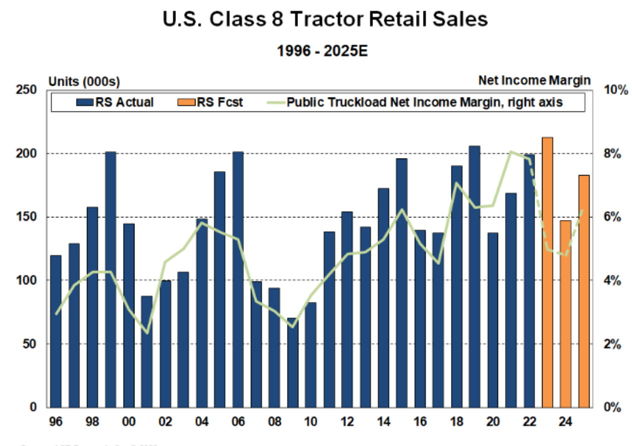
After rising to 3.4 briefly after Thanksgiving, the aggregate DAT load/truck ratio fell all the way back to 2.6 in mid-December (SA). This tested the theory of increased holiday price sensitivity, which held up as rates rose. But this is partly due to lower fuel, and the spot market will remain loose until better freight demand and lower equipment supply shift these dynamics. Spot rates are likely to move still higher in late December on seasonal price sensitivity, but capacity additions will continue into a loose market that seasonally softens after the holidays. So, we expect rates to pull back in Q1'24, before starting to gain traction in Q2'24.

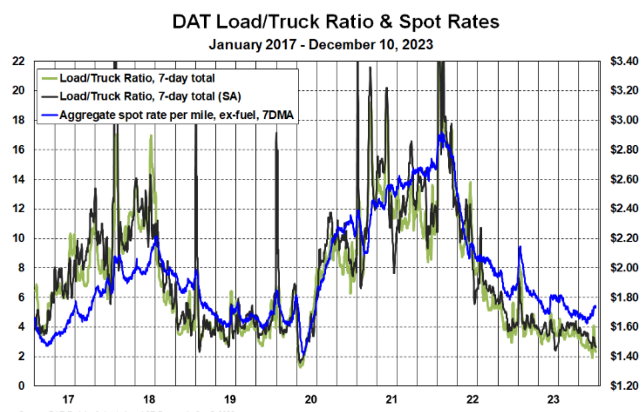
Spot rates were in line with last month's forecasts, ex-fuel, but a considerable drop in oil prices did result in lower rate forecasts, including fuel, in Q4'23, and we do not expect fleets to hold onto the savings for long. Historically, fuel savings passes through to shippers in a few weeks due to the highly competitive nature of the spot market. In addition, ongoing softness in for-hire freight demand, even with the intermodal recovery starting to gain some momentum, suggests ongoing downward pressure in early 2024.

The historically wide gap between for-hire and private fleet costs, likely above $1 per mile currently, should lead to a reduction in private fleet investment and a shift back to the for-hire market, likely starting in Q2'24. This reduction is part of the decline we expect in Class 8 tractor retail sales for 2024. With TL margins forecast to drop more in 2023 than any other year, and then to fall again next year, softer tractor sales are warranted. However, prebuying ahead of upcoming emissions regulations is likely, as margins still aren't too bad. But the immediate Advanced Clean Truck rules affect just CA in 2024 and five other coastal states in 2025, so new equipment demand is still likely to decline considerably in 2024. Fear of the transition to new power sources could lead to higher tractor purchasing in 2024, presenting a nagging risk to spot rate recovery timing.

And for-hire freight demand will likely recover, which should put spot rates on an upward trajectory by mid-2024. If our forecast for lower tractor sales in 2024 is too low, risk remains for the timing of the upturn being pushed further out. However, even with large November Class 8 tractor orders, the backlog supports our view of lower demand in 2024.







The inherent cyclicality of the industry is due to the fact that long-term investment decisions differ from short-term market fluctuations, so as shippers migrate back to those low for-hire rates, marginal capacity will continue to contract, and rates will move up.

While we lower spot rate forecasts for 2024, we also lower Class 8 tractor sales forecasts, which raise our 2025 spot rate forecasts slightly.

MEDIUM-TERM TL CONTRACT RATE FORECASTS

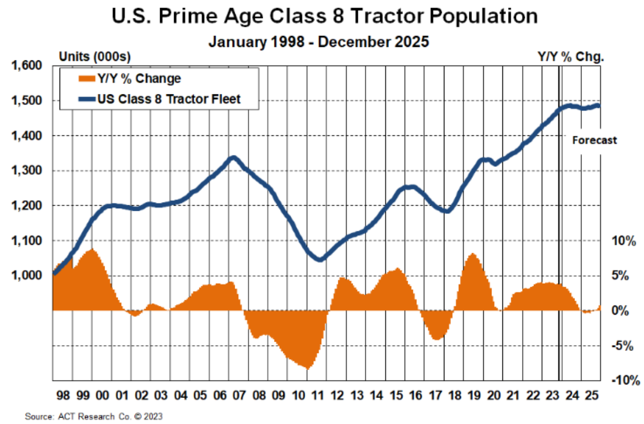
Our Truckload Rate Gauge has started to tighten in recent months due to the cumulative effects of lower employment and slower growth in the tractor fleet. We think these trends will continue in 2024, and with some help from better freight demand by 2H'24, the balance should turn toward rate increases into 2025.

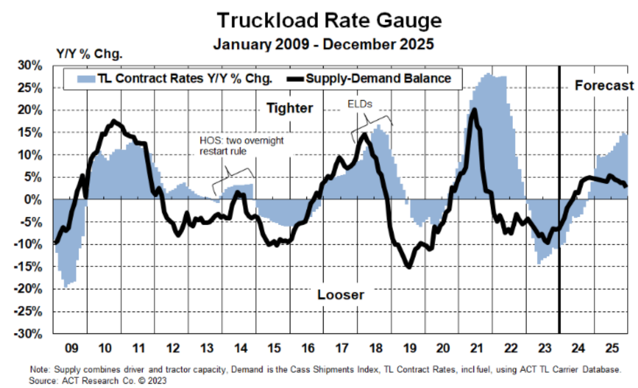
Our contract rate forecasts move in line with our spot rate forecasts with normal lags and lower sensitivities. And with small spot rate changes, the changes in our contract rate forecasts are tough to make out on the chart. As spot rates have been steady for several months, contract rates should soon stabilize at modestly lower levels, but we expect a moderate trajectory of increase in 2024. Our forecasts also reflect the risk that the wide spread between spot and contract will keep pressure on contract rates well into 2024, and we see a relatively modest cycle with rates starting to move higher in mid-2024.

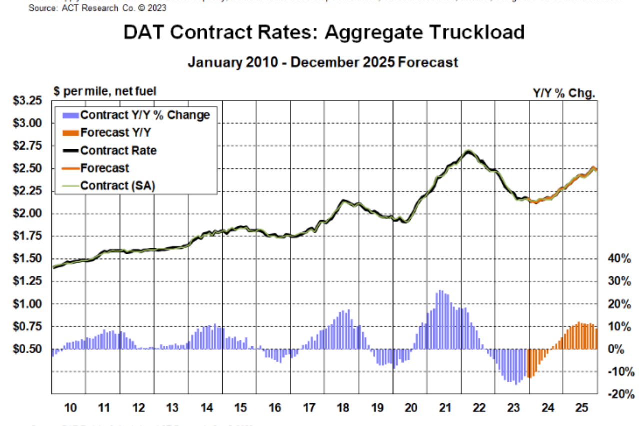
We think the prioritization of private and dedicated capacity underpins this wide spread for the time being. Interestingly, our large fleet rate per mile, which reflects the public fleets in our TL Carrier Database, exceeded our expectations in Q3 and widened its premium over DAT contract rates. Though we exclude JB Hunt's large and unique dedicated operation, roughly one-third of the freight in our large fleet rate is dedicated, and the proportion is growing.

Contract rates should follow the long bottoming process in the spot market over the next couple quarters, with modest downside into 2024 but an improvement in 2H'24 as the market balance turns. The bottom of the contract rate cycle looks close, and we have heard anecdotes of contract rate increases in reefer and intermodal, but the still-wide spread between spot and contract rates suggests limited upside potential in the near term, with y/y declines continuing into Q2'24. There's more analysis of the Cass Truckload Linehaul Index® later in this report, but our forecasts for this index are similarly little changed.

We expect dedicated truckload demand to remain a relative bright spot for the same fundamental reasons private fleets are still adding considerable capacity: resilience and risk reduction. But as the costs add up, we think competitive for-hire contract rates will favor less private fleet investment. If Class 8 tractor and trailer build rates decline as expected in 2024, it would help demand return to the for-hire market, setting up higher rates later in 2024 and 2025.







Our three TL contract rate forecast sets—DAT, Cass, and ACT—are based on the same fundamental economic premise of the supply-demand balance shown in the Truckload Rate Gauge. The gauge is loose presently because of soft freight demand, coupled with significant equipment capacity growth. However, slowing labor trends are beginning to rebalance driver supply from its loose state, and we are in the late stages of the downturn in freight demand and capacity growth.

We expect a tighter market in late 2024 and into 2025 as capacity tightens, before a looser market in late 2025 and 2026 due to a national EPA emissions prebuy ahead of regulations taking effect in 2027.

FREIGHT VOLUME FORECAST

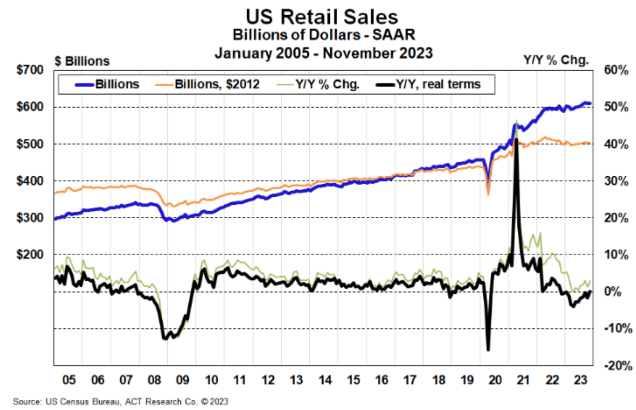
Containerized imports and intermodal freight volumes recently returned to growth and appear to be gaining momentum, yet for-hire freight demand remains broadly soft. Whereas we maintain our overall US freight demand forecasts, with the ACT Freight Composite essentially unchanged this month, we lower our Cass Freight Index® forecast modestly as we continue to adjust for more private fleet growth.

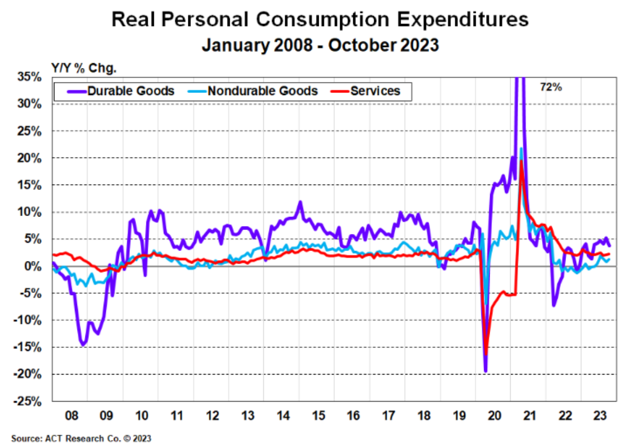
Demand remains tepid, but real retail sales returned to slight 0.1% growth in November after a full year of declines (-1.7%). Fading pandemic effects and moderating inflation are improving consumer purchasing power. This should return real retail sales to growth in the coming months, with low single-digit growth likely in 2024 after a 2% y/y decline in 2023.

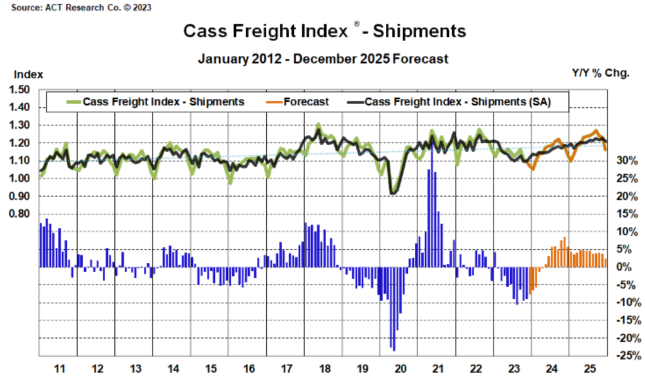
The effects of tighter Fed policy remain a risk, but we continue to believe rising real incomes and strong consumer balance sheets support a return to retail freight demand growth. Durable goods demand could decline after about 4% growth in 2023, but the nondurable goods sector is 64% larger than durables, and it is set to grow <1% in 2023, though exiting the year closer to 2% y/y growth. And nondurables are less interest rate sensitive, so an acceleration in this sector, even just back to its long-term average growth rates of 2.5%-3%, could absorb downside risk in durable goods.

The US consumer balance sheet remains strong, with interest up but manageable, and critically, real income on pace to grow 4% in 2023. Debt service, though likely to increase, remains historically low. We think the $1 trillion of credit card debt and $16 trillion of housing debt should be considered in the context of record US household net worth of $146 trillion. Longer-term inflation fundamentals have shifted with globalization fracturing, but US inflation has cooled materially, China has returned to deflation, and oil prices have fallen significantly. Further disinflation should support continued growth in real US wages and improvement in goods demand.

The effects of tighter monetary policy will still work to slow the economy in 1H'24, but we think the strong economy is demonstrating consumers' ability to cope with higher debt service. As discussed repeatedly this past year, the insourcing of freight by private fleets is the real culprit behind soft for-hire demand. Strong US GDP growth drove the ACT Freight Composite, our freight-weighted GDP metric, up 1.1% y/y in Q3, and it's on track for acceleration to 2.4% in Q4, even as the Cass Freight Index® is set to fall 9% y/y.







Fundamentals have improved with incomes up and real inventories down. Even just the absence of destocking would put 2024 freight volumes above 2023 volumes, and with continued economic growth and an eventual restock, 2025 should be better still.

We think part of the key to higher for-hire volumes is slowing private fleet growth, likely by Q2'24. Private fleet capacity growth is slowing, which should reduce the amount of freight private fleets pull from the for-hire market. We estimate growth in the overall Class 8 tractor fleet will effectively stop in Q2'24, while revocations continue, which should bring incremental freight into the for-hire market.

INTERMODAL

- Above-market volume forecasts on Panama Canal
- Introducing spot rate forecast

INTERMODAL RATE FORECAST

This month we introduce an intermodal spot rate forecast, using InTek's national average per mile rate. While we're optimistic that the Panama Canal constraints will add to surface freight volume, which is ultimately positive for rates, we don't think the initial increase in west coast import volumes and spot rates will turn the market at the national level for a while.

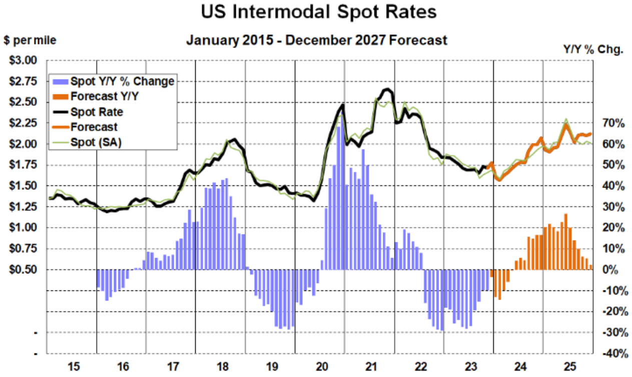
After the seasonal winter drop in imports, we think intermodal spot rates will lead a broader recovery. The increase in intermodal spot rates from SoCal suggests potential for intermodal market conditions to move ahead of the TL market. But similar to the premise in our other intermodal rate forecasts, our spot forecast is also linked to TL due to their adjacency.

Market pressure continues from the loose TL sector, though intermodal demand continues to improve, and growing Panama Canal constraints are driving freight to west coast ports, supporting transcontinental intermodal demand. While this has the potential to press intermodal rates up, we continue to see intermodal rates following TL lower in the near term, then higher through 2024.

Our intermodal rate forecasts would normally fall slightly this month with our TL contract and fuel price forecasts, but we raise them slightly this month as global ocean risks mount and west coast imports accelerate.

We estimate a 2%-3% full-year impact in 2023 from lower fuel prices. So, the 11% decline in intermodal rates we forecast is more like -9%, net fuel. This is above our expectation for a 10% decline in TL fleet rates, net fuel, but the difference is mainly timing, as intermodal contracts tend to be longer. This outperformance reverses in the 2024 forecast as intermodal rates take longer to bounce back.

US Intermodal Spot Rates



INTERMODAL VOLUME FORECAST

The Panama Canal administration will reduce ship transits to 22 in December and tighten further to 18 in February 2024, versus 38-40 per day at normal water levels. We don't expect the situation to ease until rainy season begins in May at best. This is driving freight to the West Coast, starting to reverse a major two-year shift that saw about 6pps of NA imports shift from west to east coast ports.

Rerouting to the US East Coast through the Suez Canal may increase as imports increasingly shift from North to South Asia, but this route is at risk from war in the Middle East. In early December, Iran-backed Houthi rebels repeatedly attacked commercial vessels in the Red Sea, prompting a response from the US Navy.

We maintain our view that intermodal volume should grow faster than other modes in 2024, and we hold our 5% intermodal volume growth forecast despite lowering our Cass Freight Index® forecast. We also see upside potential if global ocean constraints worsen. In the near term, momentum continues to build as imports have picked up and intermodal cost competitiveness is attractive. We estimate Q4 intermodal volumes will grow 1% y/y, which would be *the first positive quarter in ten*—a forecast we've had in place since last December.

Stabilizing retail sales, the end of destocking, and a rebound in west coast imports seem to have finally put a floor under intermodal volumes. While it's never a straight line, ocean disruptions seem likely to remain elevated in 1H'24, and economic fundamentals should support volume growth thereafter.

We see recoveries in goods spending, inventories, and industrial demand, particularly cross-border Mexico, generating more volume in 2024. And since intermodal volumes are coming off a longer downturn, and fuel prices are likely to remain elevated, growth potential seems greater in 2024 than in TL.

Major investments are under way, and long-term constraints on TL capacity from driver demographics and emissions regulations should provide demand, but it remains to be seen which railroads can scale.

Weekly North American Intermodal Volumes by Railroad

y/y % change

Week ending:	10/14/23	10/21/23	10/28/23	11/4/23	11/11/23	11/18/23	11/25/23	12/2/23	12/9/23
BNSF	4%	4%	-1%	0%	4%	4%	6%	9%	
UP	2%	1%	2%	5%	1%	4%	6%	11%	8%
West	**3%**	**2%**	**1%**	**2%**	**3%**	**4%**	**6%**	**10%**	**8%**
CSX	-7%	-2%	-3%	-2%	-1%	-3%	2%	3%	-1%
NS	4%	2%	4%	5%	5%	10%	4%	8%	2%
East	**-1%**	**0%**	**1%**	**1%**	**2%**	**3%**	**3%**	**6%**	**1%**
CN	-15%	-9%	-13%	-19%	-9%	-12%	-2%	-1%	1%
CPKS	-4%	1%	0%	-1%	-6%	-2%	1%	-8%	1%
Canadian	**-10%**	**-4%**	**-6%**	**-10%**	**-7%**	**-7%**	**-1%**	**-5%**	**1%**
Total	**-1%**	**0%**	**-1%**	**-1%**	**1%**	**1%**	**3%**	**5%**	**4%**

Source: Company reports; ACT Research Co. © 2023

LTL

- Yellow auctions unlikely to change momentum
- But TL looseness might

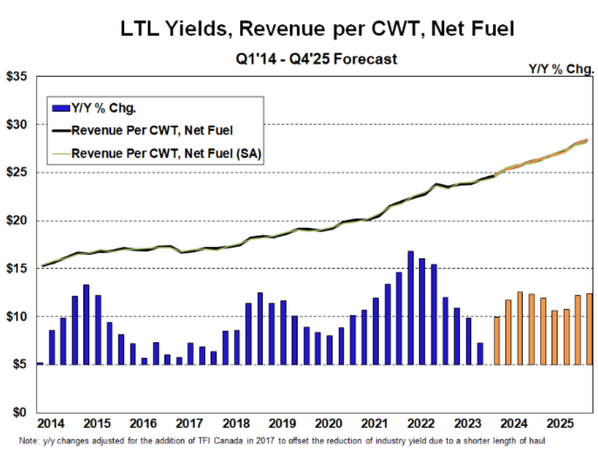
LTL RATE FORECAST

LTL rates rose 3% y/y in Q3 and appear to be accelerating in Q4 as the effects of Yellow's unraveling continue and weight per shipment declines. Incremental data points and announcements of early and increased general rate increases (GRIs) suggest LTL rates are continuing to march higher, with larger increases on long-haul LTL shipments and smaller increases on regional rates.

Auctions of Yellow terminals have started, but seem unlikely to be redeployed quickly or aggressively. While some terminals have already been bought by non-LTL firms, there will likely be a few waves of trades, with more terminals ending up outside the sector over time. Excess TL capacity is more likely to slow the ascent of LTL rates in the near term, as TL capacity can compete for a few LTL loads at a time and appears to be doing so quite effectively.

Rates from our LTL Carrier Database may be volatile in the next few quarters with Yellow no longer in the picture. Some LTL fleets implemented GRIs in August, and the redistribution of Yellow's freight is pushing LTL rates up, but particularly given the softness in TL, we expect rate actions to unfold relatively gradually and mostly on normal annual cycles. And until the TL market tightens, LTL bids will remain competitive, if less so than before Yellow closed.

LTL fleets are making large investments in future capacity, which are natural to fund with higher rates and warranted for those with quality service. As Class 8 equipment supply slows and the TL market rebalances in 2024, we expect LTL rates to accelerate.



LTL VOLUME FORECAST

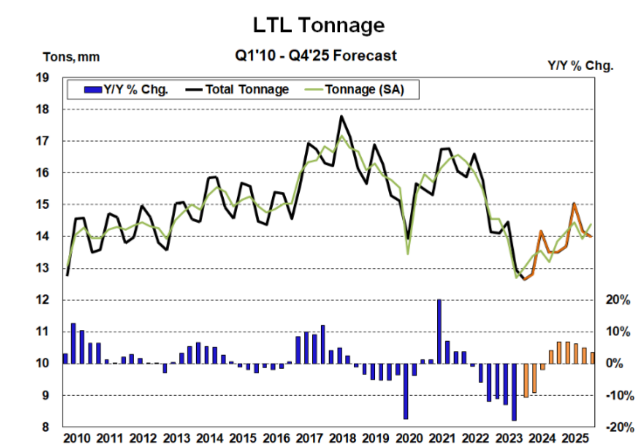
Incoming data suggest the nine fleets remaining in our LTL database are gaining surprisingly little of Yellow's freight. Our checks suggest brokered multi-stop TL, private LTLs, and other modes gained the most. Again, our LTL data will be noisy as we work through this period with Yellow falling out of the data set.

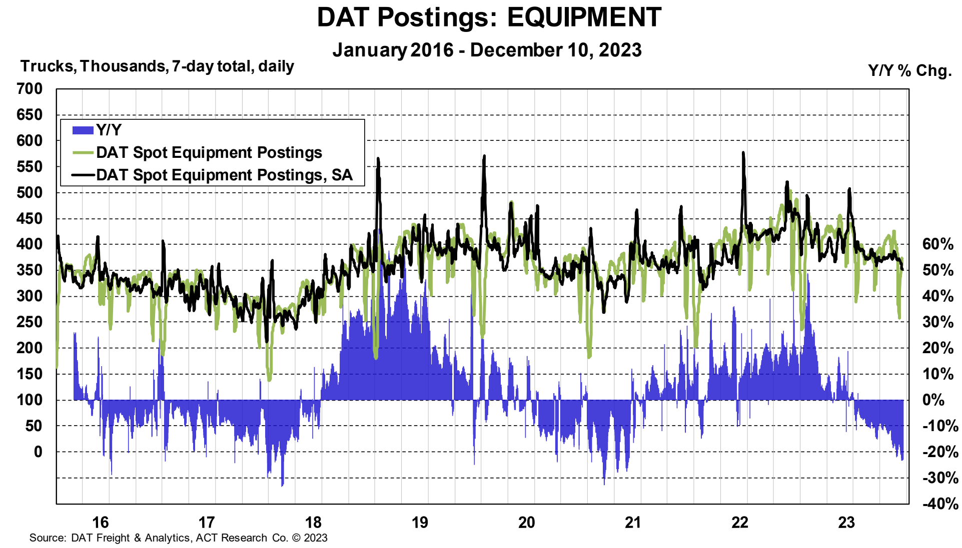
We will keep Yellow's history in our database for continuity, and though the tonnage forecasts now understate the market, they still highlight the major impact its dissolution had on the LTL sector. LTL volume trends should turn positive for most individual fleets in 2024, but Yellow's absence will be reflected in our quarterly industry tonnage data set, with forecasts below historical levels (see pp. 34 for tonnage trends ex-Yellow). We've been surprised at the public fleets' willingness to trade volume for rate, but Yellow was 16% of our data set last year, and thus primarily responsible for the 18% decline in Q3 tonnage.

The overall sector will likely perform considerably better over the next year, including privately owned LTL fleets not in our data set. But we forecast a 13% decline in 2023 and a 1% decline in 2024 (roughly mid-single-digit growth ex-Yellow), followed by 3% growth in 2025.

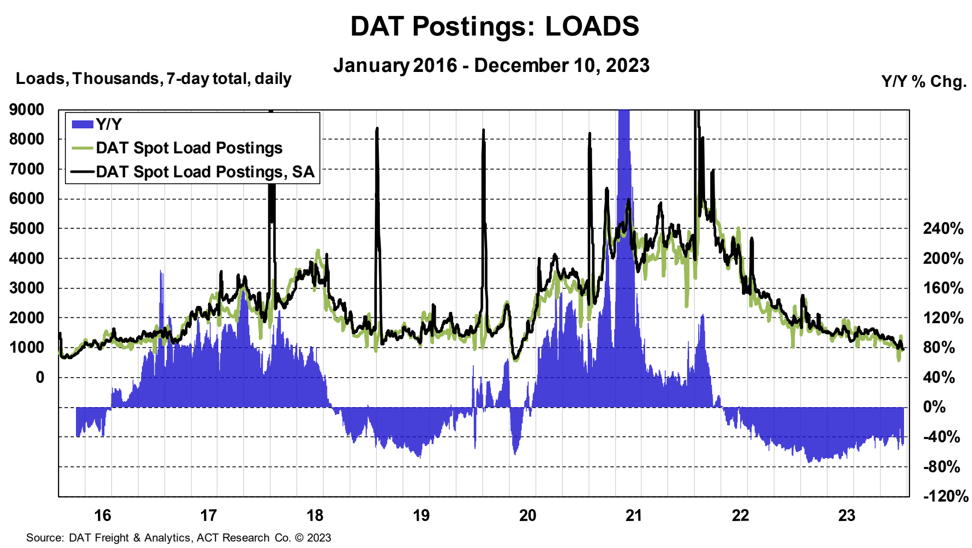
LTL demand fundamentals are improving in both retail and industrial markets, though TL competition remains fierce. Retail headwinds have been more considerable this cycle for LTL, but this may become a tailwind again soon. The excitement at the ports and in intermodal hasn't helped LTL yet, but it suggests the destock is ending and bodes well for better retail demand in 2024.

Nearshoring, infrastructure, and e-commerce drivers will continue in 2024 and beyond, supporting the 4%-5% tonnage growth outlook in 2H'24 and 2025.

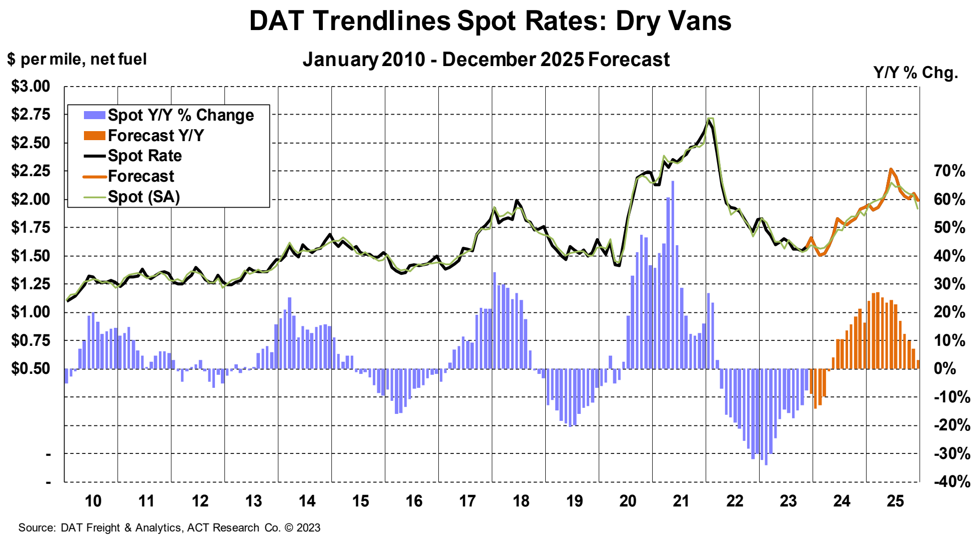




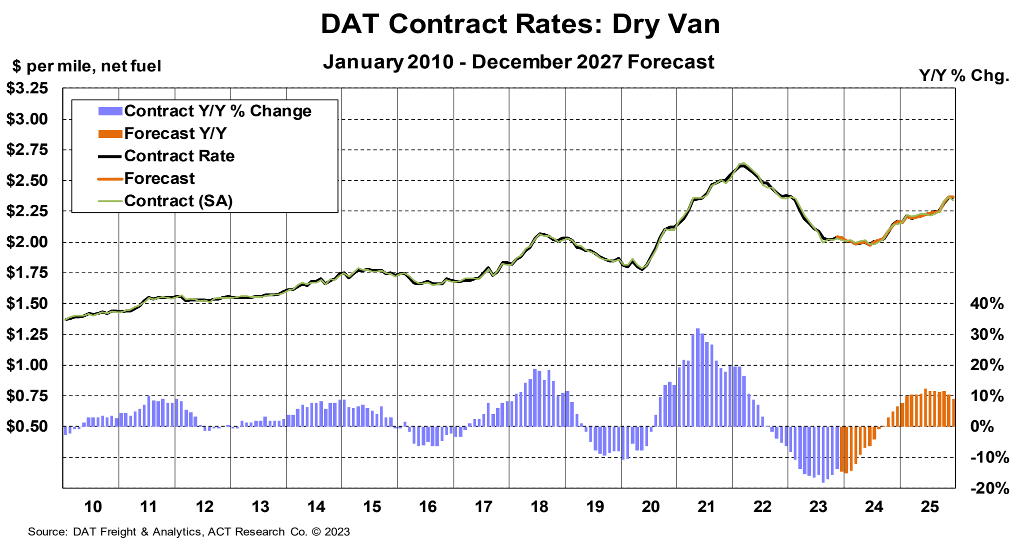
- DAT equipment postings, a great gauge of TL spot market capacity, were down 20% y/y in early December after falling 18% y/y in November. Postings have been grinding slowly lower for about a year.
- In mid-December, truck posts of 353k (SA) were closing in on average levels of the tight markets of late 2020 and 2021, which averaged about 340k per week.
- Spot capacity is contending with new additions as Class 8 tractor sales are above replacement levels, and subtraction as operating authorities are revoked. As the former slow, the effects of the latter should grow, tightening capacity.
- Exiting capacity should eventually begin to exert upward pressure on rates, but trust issues around elevated load theft may require a larger reduction in capacity to restore balance.



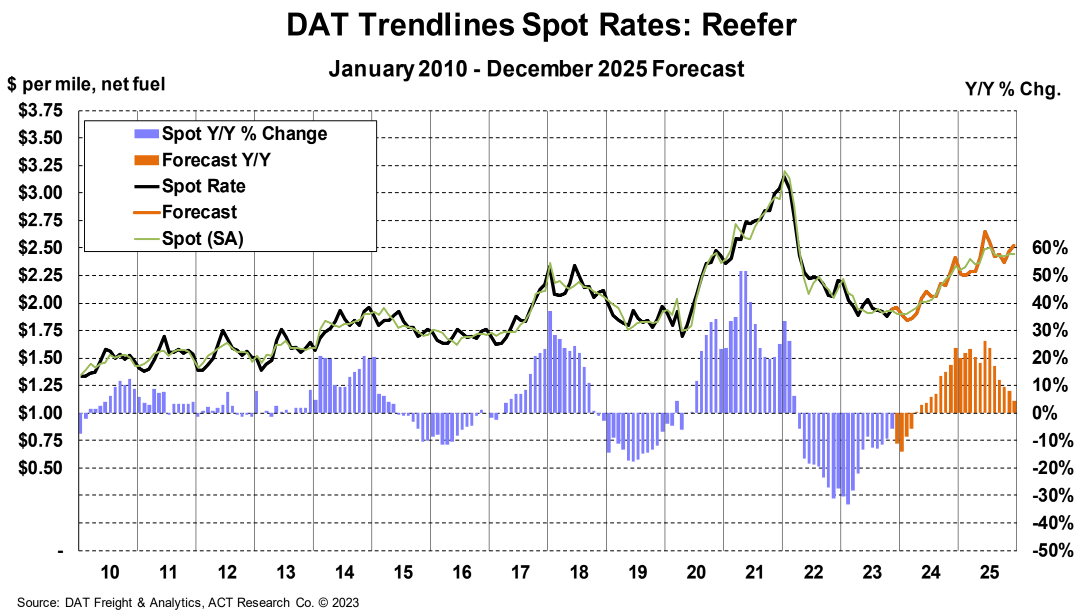
- Total DAT postings of dry van, reefer, and flatbed loads fell back to cyclical lows in mid-December, down about 42% y/y at a 1.0 million load per week rate, after bouncing to 1.2 million in the week after Thanksgiving.
- Dry van load posts softened thereafter, but remained above November levels in SA terms, whereas reefer posts fell to new cycle lows and flatbed loads fell back in line with November levels.
- Despite strong US economic growth, spot postings remain depressed with freight shifting from spot to contract, dedicated, and private fleets. Improving consumption trends and slower retail destocking are supporting freight demand, but we think capacity growth is facilitating this shift.
- As Class 8 sales slow in 2024, freight should return to the spot market. Both major load boards, DAT and Truckstop, fired about 8,000 fraudulent accounts in 2023, and carrier vetting is improving, but trust is easily lost and hard won.



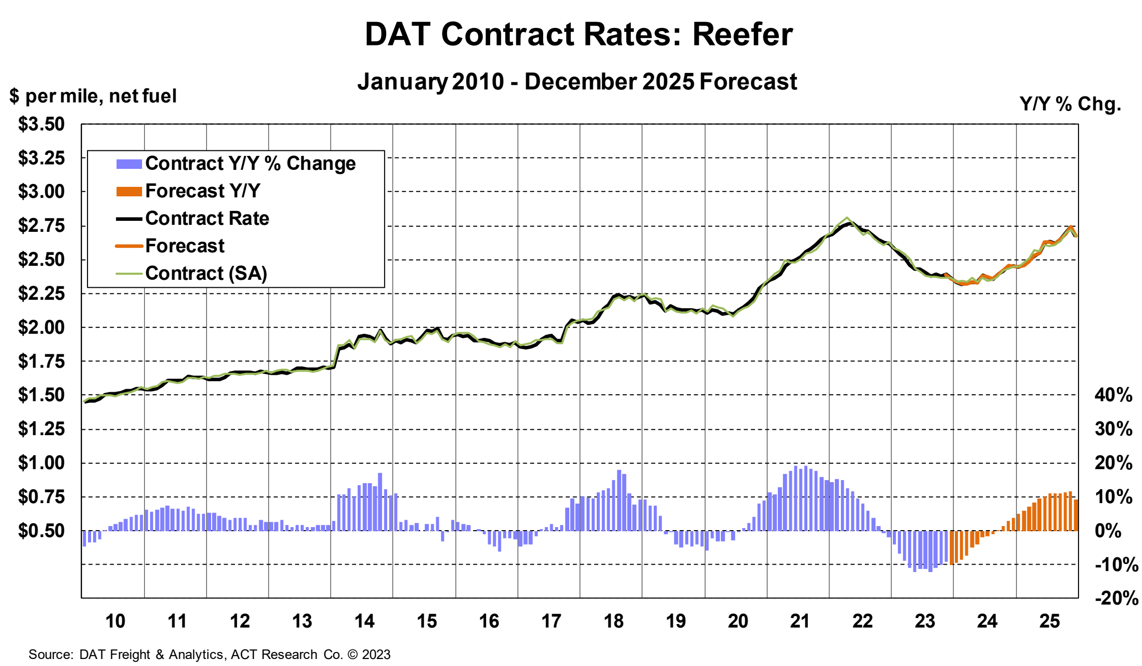
- US dry van TL spot rates, net fuel, continued to bump along the bottom, up 4¢ per mile m/m in November at $1.58 per mile, and up 2¢ m/m in SA terms. In the week after Thanksgiving, rates rose 9¢ sequentially, 4¢ above seasonality, supporting our view that elevated holiday price sensitivity is likely to persist, even through loose markets.
- The van load/truck ratio of 2.1 (SA) in early December was above the 2.0 average in November but below the 2.6 ytd average, suggesting continued near-term softness in spot rate trends, notwithstanding holiday price sensitivity.
- Heading into 2024, freight demand is likely to recover gradually, and equipment sales are starting to fall, so the load/truck ratio should gradually start to move higher. But order intake is still supporting elevated equipment supply, which will push capacity into an oversupplied market at least through Q1'24. The increasing spot rate trend we forecast for 2024 is based on lower equipment supply the next couple of quarters, coupled with recovering freight demand.
- Even as the freight pendulum is starting to shift back toward fleets, shippers are insourcing loads, prolonging the for-hire rebalancing at least through the coming winter, when conditions loosen seasonally.



- Dry van contract rates, net fuel, rose 2¢ m/m in November to $2.04 per mile, up 1¢ m/m (SA), though October was revised down 4¢ since last month.
- Downward pressure on contract rates is lessening following the long period of stabilization in spot rates, but hasn't entirely dissipated. We've heard several instances of increases recently, but using spot rates as a guide, these will be the exception, not the rule, for a couple more quarters.
- Dry van spot rates, net fuel, have bounced on the bottom for months, so contract rates likely have little farther to fall.
- After a record 13% y/y decline in 2023, we expect a 4% decline in 2024, followed by a 10% increase in 2025.



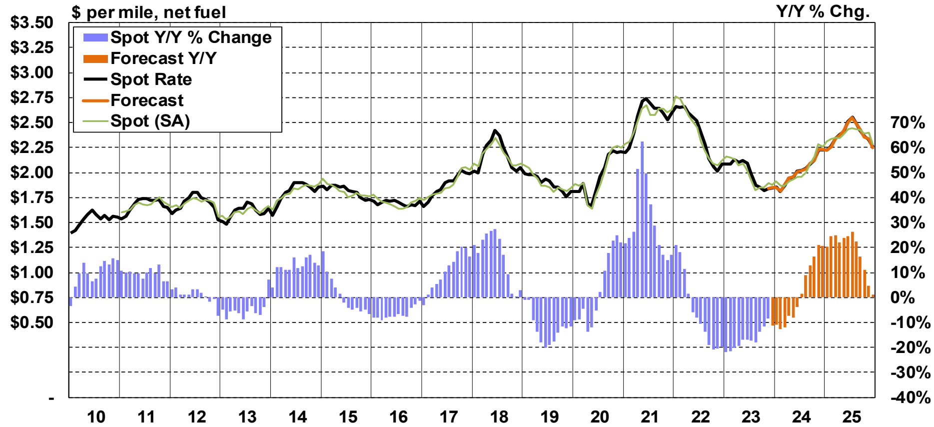
- DAT reefer spot rates, net fuel, rose 5¢ per mile m/m to $1.93 in November, 2¢ below the normal seasonal pattern. In SA terms, these rates have settled into a 4¢ per mile range from $1.91-$1.95 the past eight months.
- The reefer load/truck ratio dropped sharply to 2.7 in mid-December, from 3.6 in November and October as seasonal strength into Thanksgiving ended abruptly.
- In mid-December, reefer spot rates were trending 2¢ per mile below normal seasonality.
- Similar to dry van rates, industry capacity additions will likely keep reefer rates under pressure into 2024.
- We continue to expect lower Class 8 tractor build rates in 2024. Combined with improving freight demand, rates should begin pushing higher in 2024 and through mid-2025.



- DAT reefer contract rates, net fuel, were up 1¢ m/m in November at $2.39, down 9% from a year ago.
- Early December reefer contract rates suggest easing pressure and a similar y/y decline, as augured by flat spot rates.
- We project a 10% decline in reefer contract rates for 2023, then a 3% decline in 2024, and a 9% increase in 2025.

DAT Trendlines Spot Rates: Flatbed

January 2010 - December 2025 Forecast

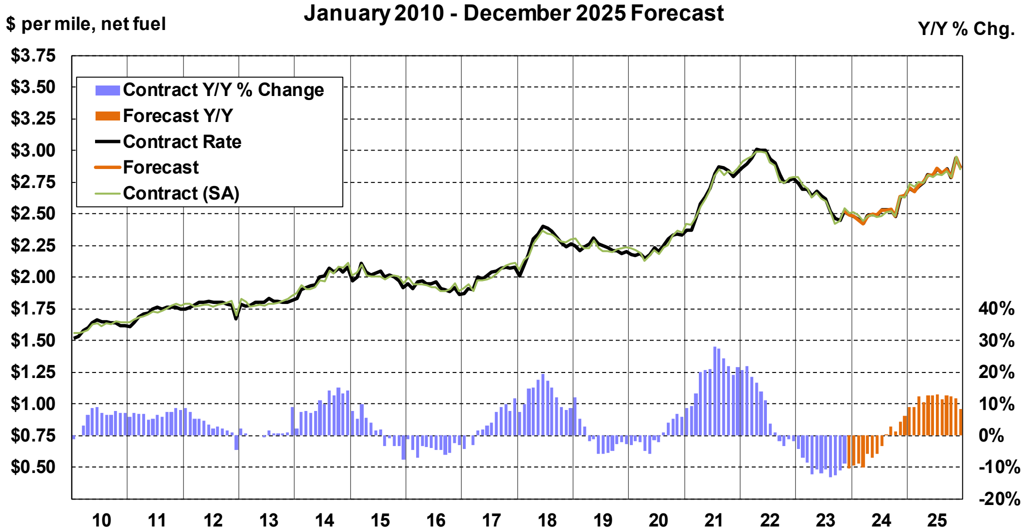


Source: DAT Freight & Analytics, ACT Research Co. © 2023

- Flatbed spot rates rose 2¢ m/m, net fuel, to $1.84 per mile in November, up 4¢ m/m in SA terms and down 8% y/y. In mid-December, flatbed rates were trending a few more cents above seasonality, on track for the highest month since July (June SA).
- Flatbed seasonality is soft for a few more months—October through February—tied to construction season. But flatbed also experienced elevated holiday price sensitivity, with SA rates 6¢ above pre-Thanksgiving levels in early December.
- With interest rates high, the housing outlook remains broadly cautious, but industrial demand has unique tailwinds. So far, US industrial demand has been resilient and large projects are set to accelerate.
- The SA flatbed load/truck ratio rose to 7.5 in mid-December from 7.2 in November, down from 8.3 in October.
- Flatbed rates were 16% above dry van in November, well above the 11% historical average for the month.
- While we remain relatively optimistic about a US industrial recovery supporting higher flatbed rates, higher interest rates likely push this later into 2024.

DAT Contract Rates: Flatbed

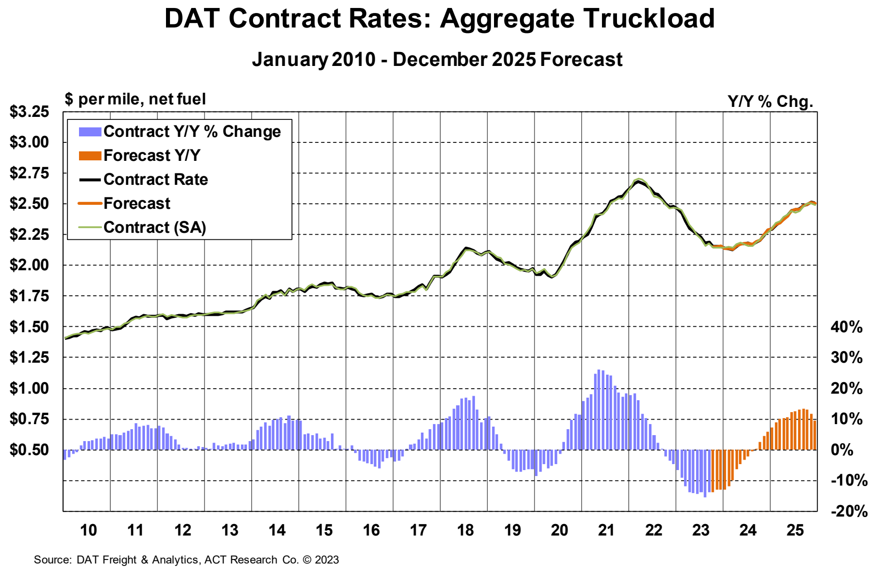
January 2010 - December 2025 Forecast



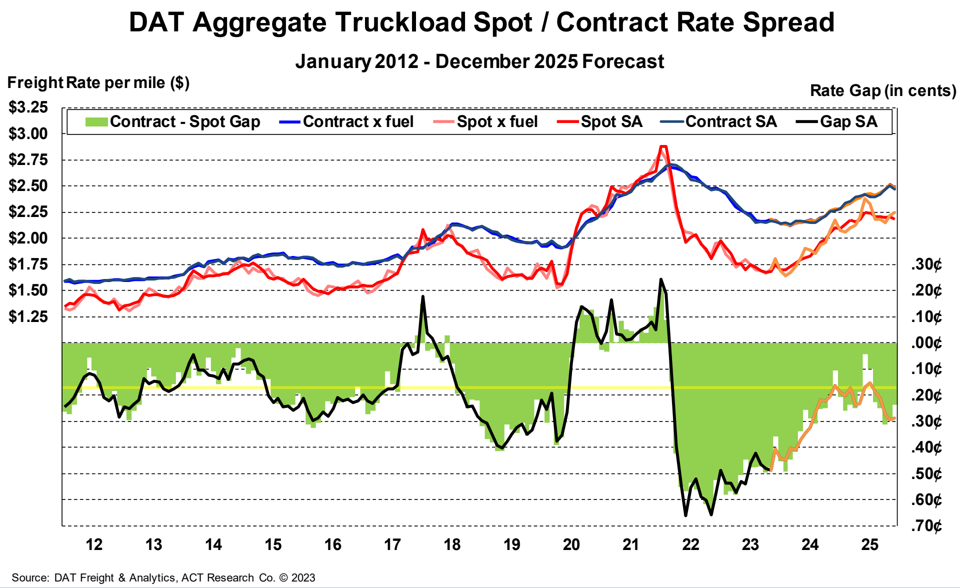
Source: DAT Freight & Analytics, ACT Research Co. © 2023

- Flatbed contract rates, net fuel, rose 7¢ m/m to $2.52 per mile in November (up 9¢ m/m SA), though October was revised down 7¢ since last month. In early December, flatbed contract rates were about flat.
- We estimate a 10% decline in flatbed contract rates in 2023, followed by a 2% decline in 2024, and an 11% increase in 2025.

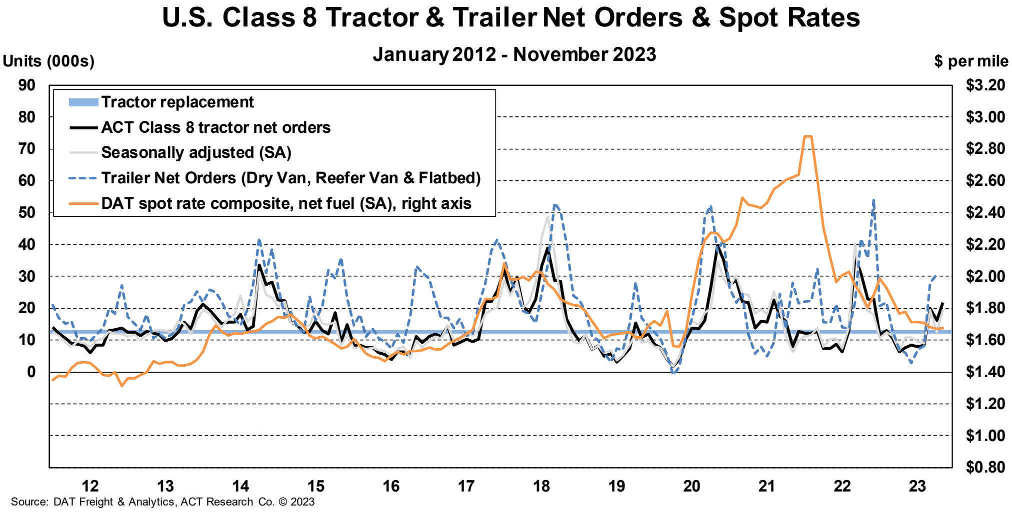
ACT Research



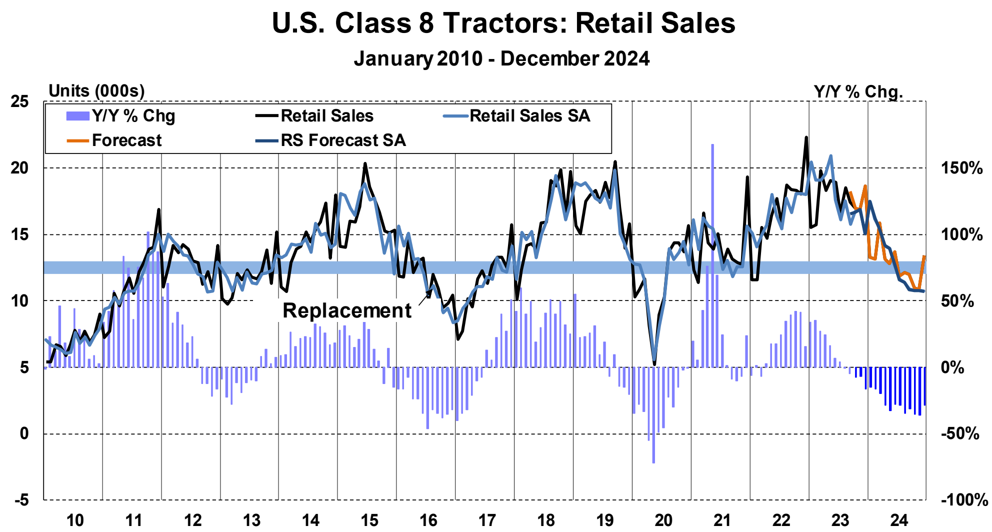
- Aggregate DAT contract rates—combining dry van, reefer, and flatbed—were $2.18 per mile in November, down 12% y/y but up 1¢ from October and 2¢ above the seasonal pattern.
- Aggregate DAT spot rates have been in the $1.65-$1.75 range since June. This suggests modest additional downside for contract rates, but not much.
- For 2023, we estimate a 13% decline in DAT contract rates, net fuel, then a 3% decline in 2024, and a 9% increase in 2025. This series aggregates DAT spot rates into one truckload data set, weighting dry van, reefer, and flatbed by using adjusted ACT trailer populations.



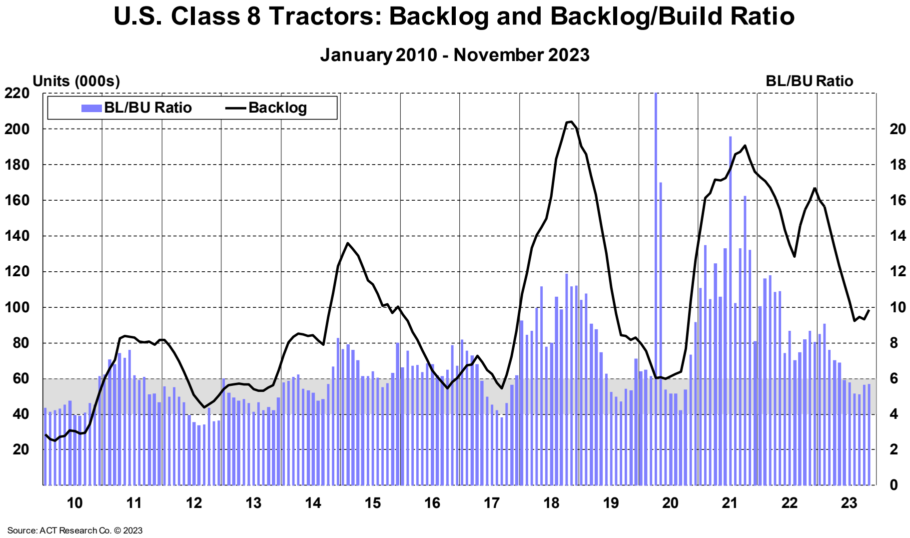
- The spot / contract rate spread was unchanged m/m at 49¢ SA in November, as both spot and contract rates rose about 1¢ in SA terms. Nominally, the increase in spot rates tightened the spread to 47¢ in November from 50¢ October.
- This spread should resume tightening as contract rates typically fall for about five months after spot rates stabilize and start to rise. Low rates are rebalancing the spot market in 2023, and as capacity begins to tighten, the spread will narrow through a combination of lower contract rates and eventually higher spot rates.
- Our forecasts suggest the gap will fall below its 17¢ historic mean in December 2024, signifying a tight market.
- We don't currently see much tightness in the forecast period, but the trajectory of spot rates could be higher in a supply shock. The spot / contract spread may stay wider as the spot market deals with rising load theft.



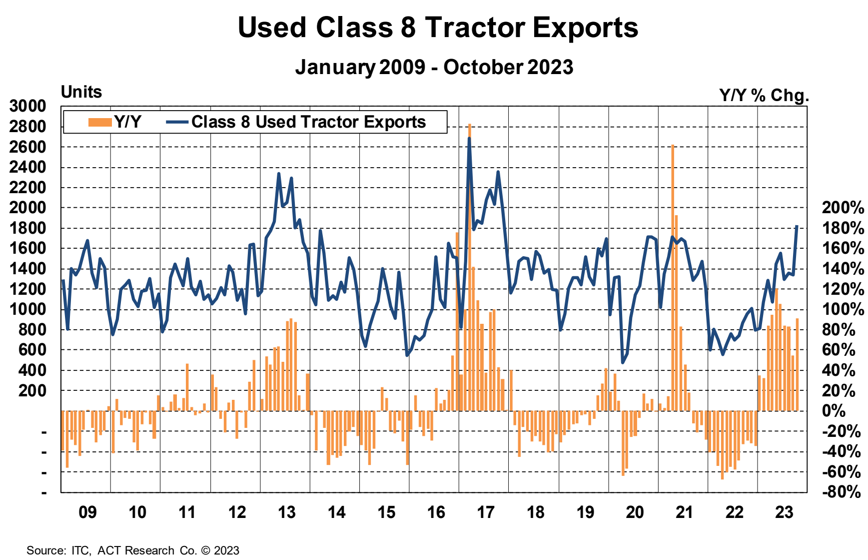
- The industry ordered a preliminary net 22,000 US Class 8 tractors in November, after 16,300 in October. This is down 12% y/y, but at an annualized volume similar to this year's record sales rate. As the industry only opened 1H'24 orderboards initially, we knew another increase was coming, and this was likely it.
- These order levels support elevated build rates through Q1'24, but the next few months will be key for support beyond.
- The seasonally strong period for orders runs through Q1, with December historically the strongest month of the year.
- Trailer orders rose to 30,700 units in October, from 27,900 in September, as 2024 order season began.
- The historically tight correlation of equipment orders and spot rates is reasserting itself after supply-chain crises and pent-up demand broke the link in 2021 and early 2022. Low spot rates should dictate lower order levels in the coming months, but elevated fleet purchasing into an oversupplied market may pressure spot rates longer.



- US dealers sold 16,451 new Class 8 tractors in October, down 10% y/y. September sales rose 3% m/m (SA) but were still 12% below the ytd average selling rate. We expect a normal year-end increase in new tractor sales, but sales trends appear to be softening.
- Our 2023 forecast for a record 213k new Class 8 tractor sales adds 3.8% to the prime age US tractor fleet. Our 148k forecast for 2024 results in a slight full-year decline in the fleet, but we expect additions into Q2 and a little contraction in the fleet thereafter. Fleet additions will continue to pressure rates for several months, along with carrier earnings and orders, but tractor capacity should tighten a little in 2H'24.



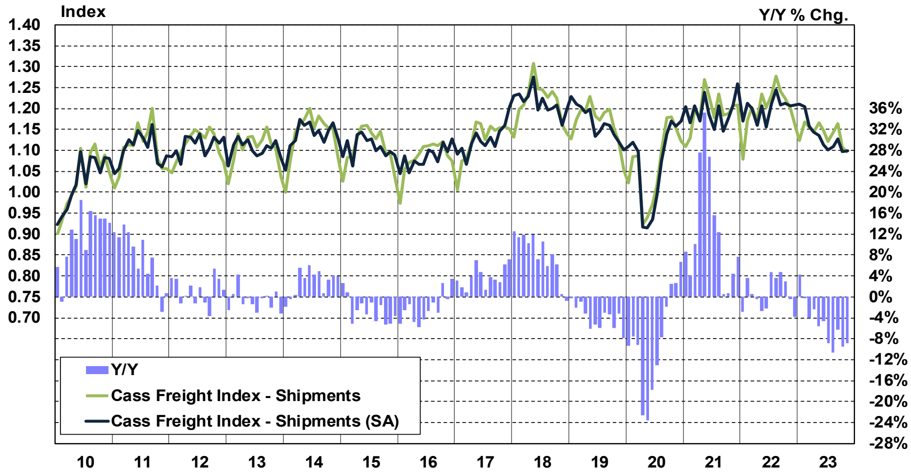
- The preliminary US Class 8 tractor backlog/build (BL/BU) ratio was 5.7 months in November, unchanged from 5.7 months in October, using November build plans. Actual November data will be released after this report.
- After running down all year following a strong 2H'22 order season, the US Class 8 tractor backlog rose by 6,200 units over the past three months, as 2024 order slots gradually opened. In October, the US tractor BL was down 40% y/y.
- The first few months of order season have stopped the decline in backlog, but although current elevated Class 8 tractor production rates are supported through Q1'24, orders have so far been in line with our view that production will decline thereafter.



- US exporters shipped 1,832 used Class 8 tractors abroad in October, up 91% y/y and the highest level since 2017. Exports have improved this year with better availability and lower prices. Panama Canal constraints may be a pull, as heavier containerships now need to unload freight to be moved by highway as the ship transits the canal, and older Yellow equipment may have been a push.
- Ongoing strength in the US dollar may limit the upside somewhat, but most of the increase in exports has been to Mexico, whose currency was one of the only stronger than the dollar until the central bank hinted at rate cuts recently.
- In 2022, the US exported 9,146 used Class 8 tractors, down 47% from 17,400 units in 2021. We expect used tractor export volumes to rise in 2023 to almost 16,000 units, with easy comparisons early in the year against severe shortages last year that have largely been corrected.

Cass Freight Index - Shipments

January 2010 - November 2023 (01'1990=1.00)

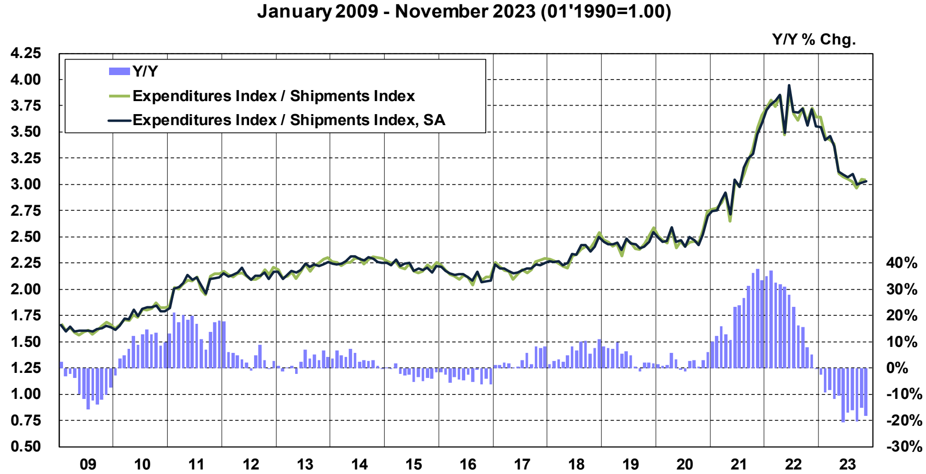


Source: Cass Information Systems, ACT Research Co. © 2023

- The shipments component of the Cass Freight Index® fell 1.2% m/m and 8.9% y/y in November, after a 9.5% decline in October. The y/y declines remain exaggerated by unusual excess inventory repositioning in 2H'22.
- US freight volumes, as measured by the Cass Freight Index®, have fallen for most of the past two years, similar to prior downcycles in both length and magnitude, except for the pandemic downturn.
- The 2023 peak season has been decidedly soft in the for-hire market, as real retail sales are still down from year-ago levels. Overall US freight volumes are more flattish on a y/y basis as private fleet insourcing persists, in our view.
- The acceleration in real disposable incomes, supported by a surprisingly sharp disinflation, and the ongoing strong labor market suggest demand fundamentals will improve in 2024.

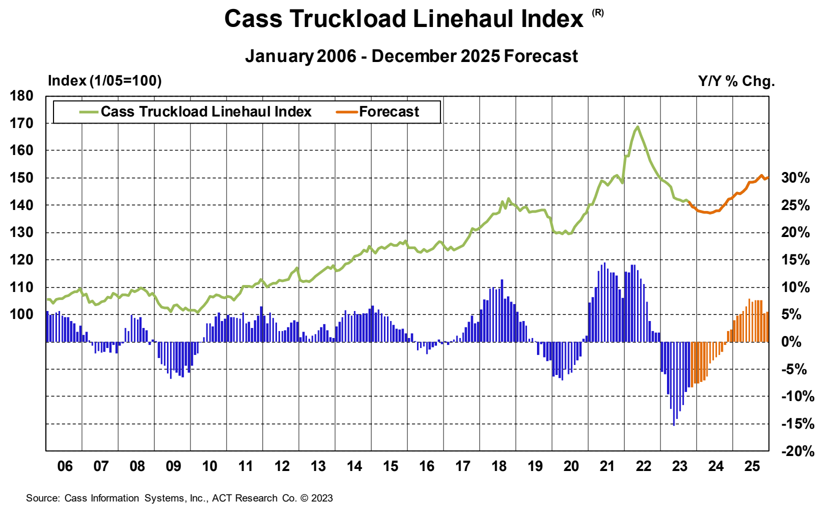
Cass Inferred Freight Rates

January 2009 - November 2023 (01'1990=1.00)

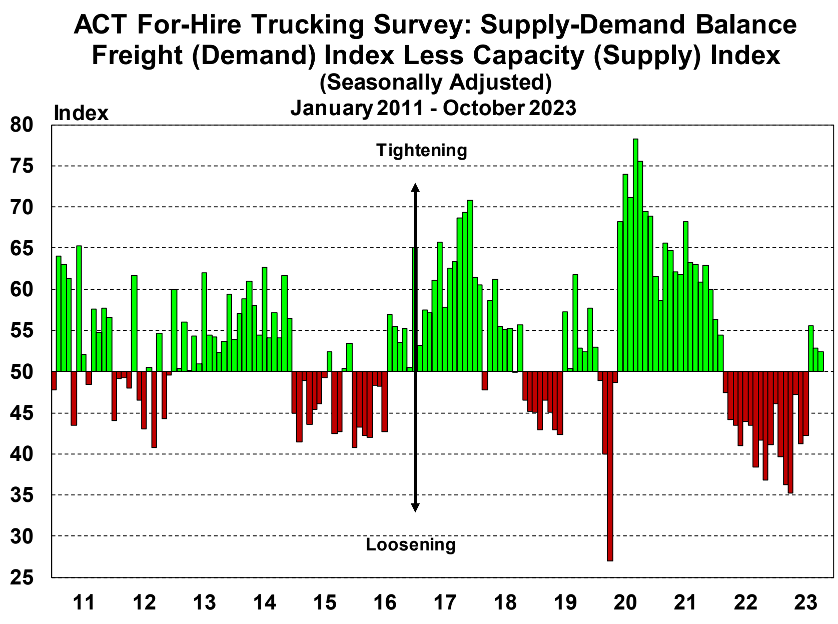


Source: Cass Information Systems, Inc., ACT Research Co. © 2023

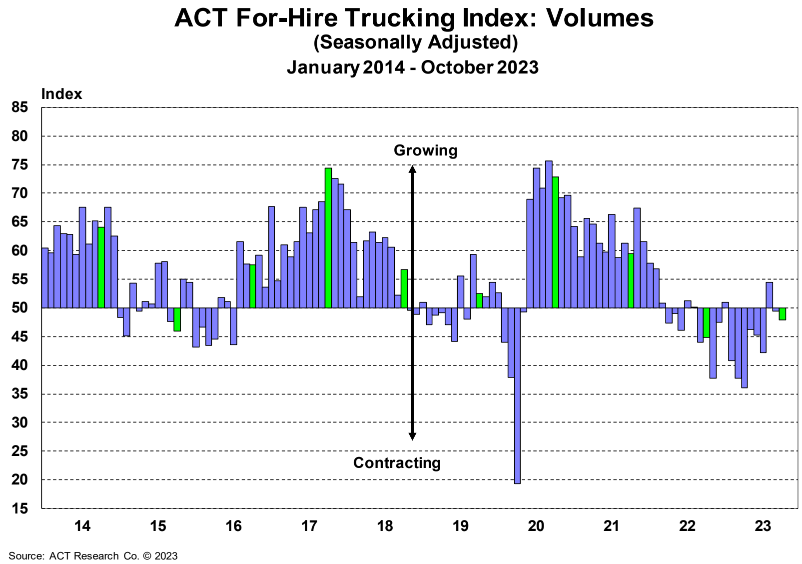
- The rates embedded in the two components of the Cass Freight Index® declined 18% y/y in November, after falling 15% in October.
- Cass Inferred Freight Rates rose 0.6% m/m SA, following a 0.5% increase in October. While this followed an outsized 3.3% m/m drop in September, the stabilization is notable and similar to the slowing declines in the Cass Truckload Linehaul Index®.
- Based on the normal seasonal pattern, this index would rise m/m in December, with the y/y decline narrowing to 16%.
- With spot rates stabilizing, sequential declines are likely to slow from here, but the freight market is delivering significant savings to shippers this holiday season.



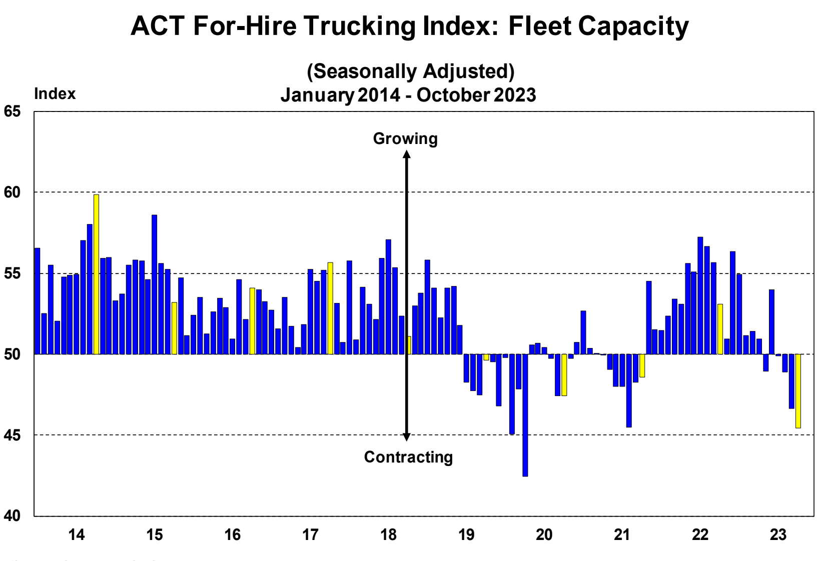
- The Cass Truckload Linehaul Index® fell 0.3% m/m in November to 140.7, after a 0.6% m/m decline in October.
- The October level was a new cycle low and down 7.5% y/y, but shows further stabilization.
- Since June, the index has declined an average of 0.2% m/m, suggesting further moderation in y/y declines.
- We estimate this index will fall 10% in 2023, followed by a 3% decline in 2024, and an 8% increase in 2025. Our forecasts are essentially unchanged this month.



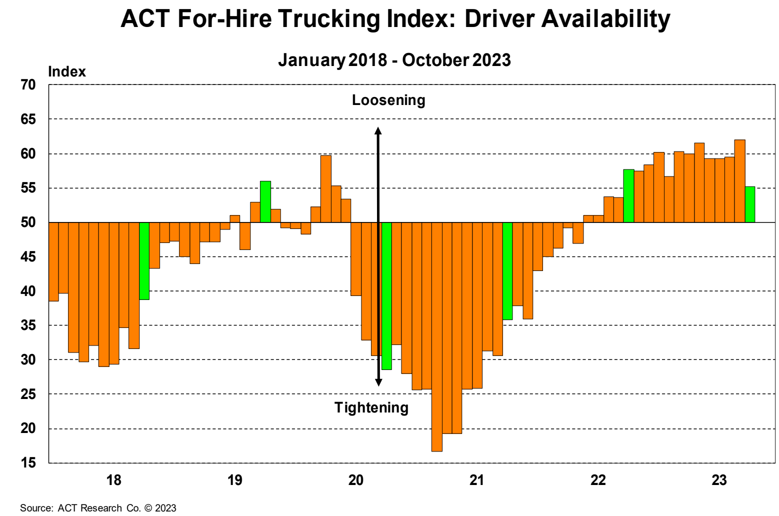
- The Supply-Demand Balance remained positive for the third month in a row in October, but declined to 52.4 (SA), from 52.8 in September, as the drop in volume was larger than the tightening of capacity. The main cause for the improvement in the supply-demand balance in the past three months has been capacity declines, but smaller volume declines have also contributed. This three-month positive string follows 17 months in a loose market balance, similar to the 2015-2016 downcycle, when the Supply-Demand Balance was loose for 16 of 19 months.
- After a historically sharp downturn, cyclical dynamics are beginning to improve, albeit from low levels. With improving goods demand and inventory fundamentals, we expect gradual improvement to continue.



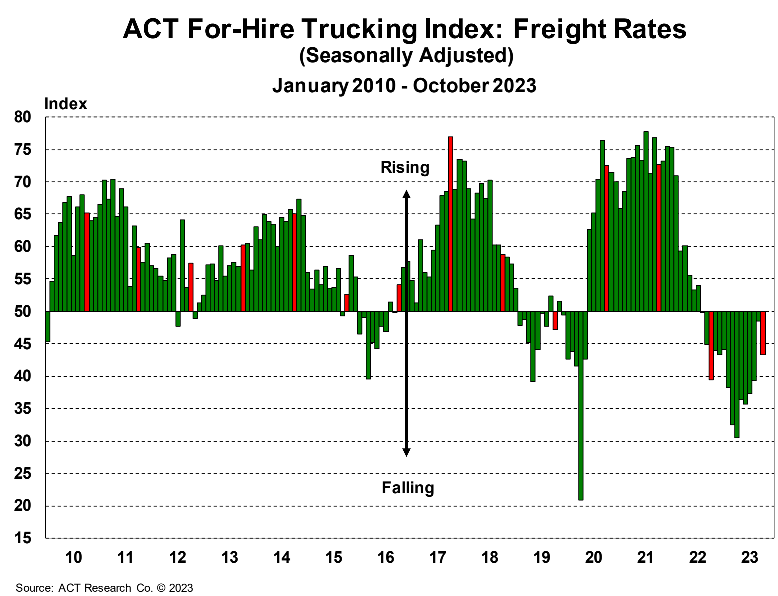
- The Volume Index fell 1.7 points in October to 47.8 (SA), from 49.5 in September. October's reading may have been impacted by the UAW strikes and still reflects the soft, but gradually recovering trend over the past several months. With slower inflation, real income growth has improved this year and been resilient despite higher fuel prices recently.
- Crucially for freight, consumers are reverting to more goods spending as the post-pandemic service boom fades, so freight demand fundamentals are improving. A low savings rate and private fleet growth are ongoing headwinds to for-hire volumes. However, with improving goods consumption trends, the end of destocking, and a resilient industrial sector, we expect the gradually improving trend to continue.



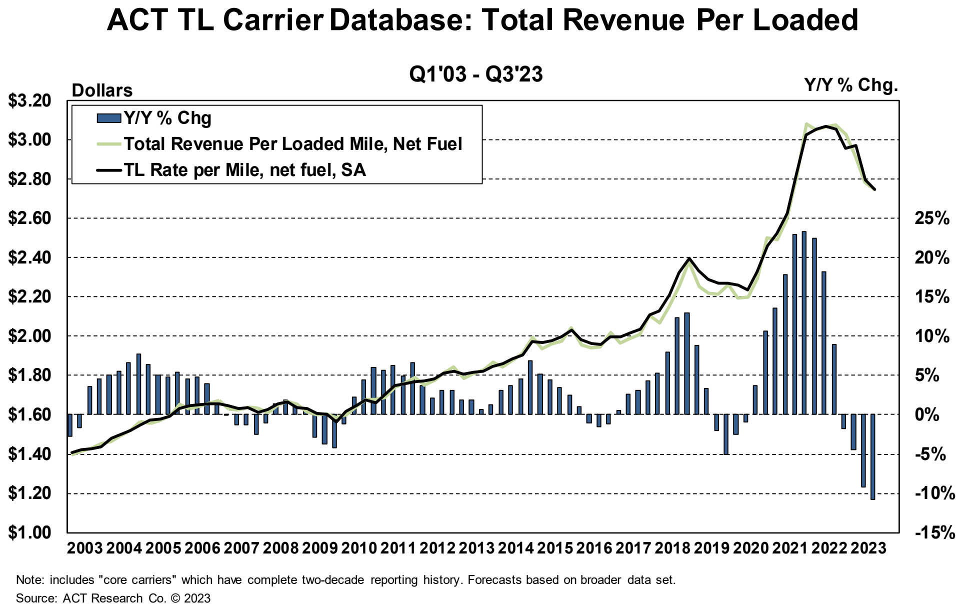
- The Capacity Index fell for the fourth month in a row by 1.2 points m/m to 45.4 in October, signaling for-hire fleets are reducing supply after significant industry growth in the past couple years.
- Our survey group reflects mostly larger for-hire TL and LTL fleets, and with new Class 8 tractor sales near record levels, capacity is still being added industry-wide by private fleets. We see this, along with BLS employment data and DOT operating authorities, as signs that the for-hire sector is contracting, a key step in the industry rebalancing process.
- Equipment manufacturers are building at essentially full capacity in 2023, but many signs suggest lower demand in 2024, which will broaden the capacity contraction to include private fleets.



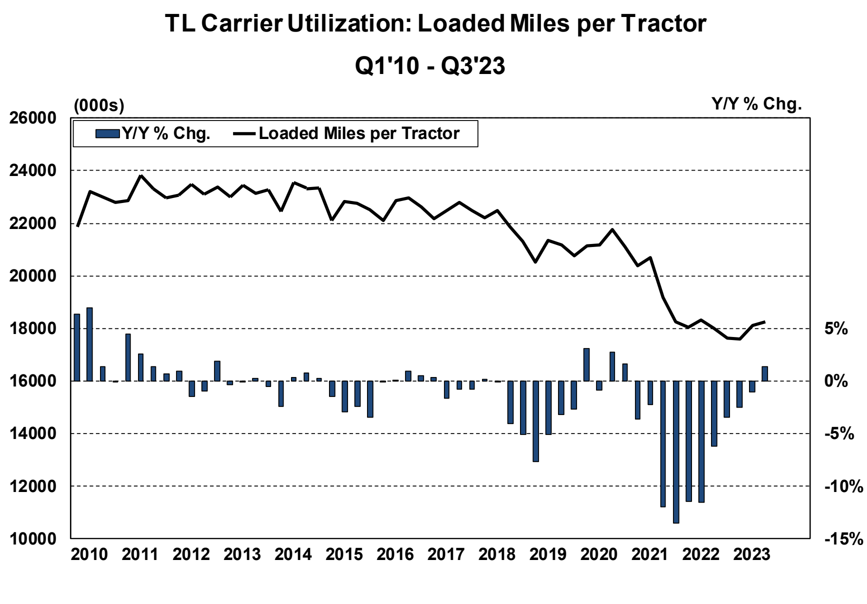
- The Driver Availability Index retreated 6.8 points from the all-time high last month with a reading of 55.2 in October.
- One month doesn't make a trend, but after a year of driver availability at or near record levels, leaving the market loose, this retrenchment is welcome news for fleets. Continued tightening in the driver market is a requisite for the cycle to turn positive. The combination of owner-operators seeking refuge with large fleets and a broad trend of labor hoarding has kept the truckload market looser for longer this year, but low freight rates sow the seeds of a tighter market to come.
- Longer-term challenges to driver availability will persist, such as the retiring baby boomer demographic, resulting weak US labor force growth, and the FMCSA Drug & Alcohol Clearinghouse. The industry trained hundreds of thousands of new drivers in the past couple years, and employers want to be ready when labor demographics bite again.



- The Pricing Index fell 5.1 points in October to 43.4 (SA), and while down, it was still the third highest reading recorded this year. The "less-worse" trend and soft but firming pricing environment should persist in the near term, as private fleet capacity additions slow and driver availability starts to decline. Though if this month's decrease in our driver's index continues in the coming months, it would be a considerable positive for freight rates. Slow improvements in volumes and decreasing capacity are positive signs for rates, though spot rates have continued to slide recently.
- The pricing pendulum remains with shippers for now, but capacity has begun to rebalance. Though growth in private fleets is delaying the recovery in rates, the worst is in the rearview, and the supply/demand balance suggests the recovery will continue.



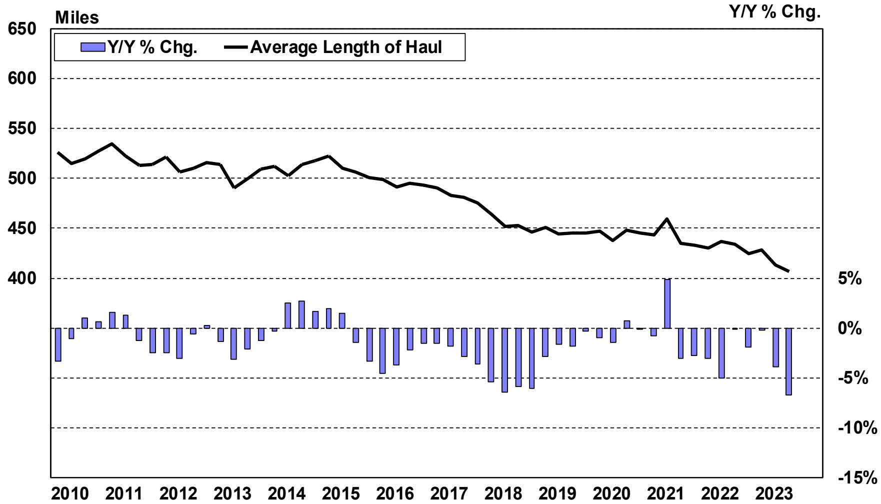
- TL contract rates fell 4¢ q/q (1.4%) in Q3'23 to $2.74 per mile, extending to an 11% y/y decrease after a 9% y/y decline in Q2'23. Seasonally adjusted, TL contract rates fell 5¢ q/q in Q3, after a 17¢ sequential decrease in Q2'23.
- These rates represent the sum of the "core" publicly traded truckload fleets that have reported consistent data for over two decades. The fleet rate forecast in the summary in the front of this report is slightly different, as it includes all carriers reporting publicly in recent years.



- Large fleet utilization, measured in loaded miles per tractor, rose 1.4% y/y in Q3'23 to 18,255 miles. Regional fleets have become more regional, and national fleets have acquired regional capacity, pulling this figure down over time.
- Loaded miles per tractor rose 0.7% q/q in Q3'23, ahead of the 10-year average 1.0% q/q decrease in Q3. Despite ongoing softness in demand, we believe the increase reflects fleets paring back their tractor counts.
- Long-term regionalization trends persist, including e-commerce. The trend of all-water shipping from Asia to the US East Coast may also be a factor driving increased regionalization.

TL Carrier Database: Length of Haul

Q1'10 - Q3'23

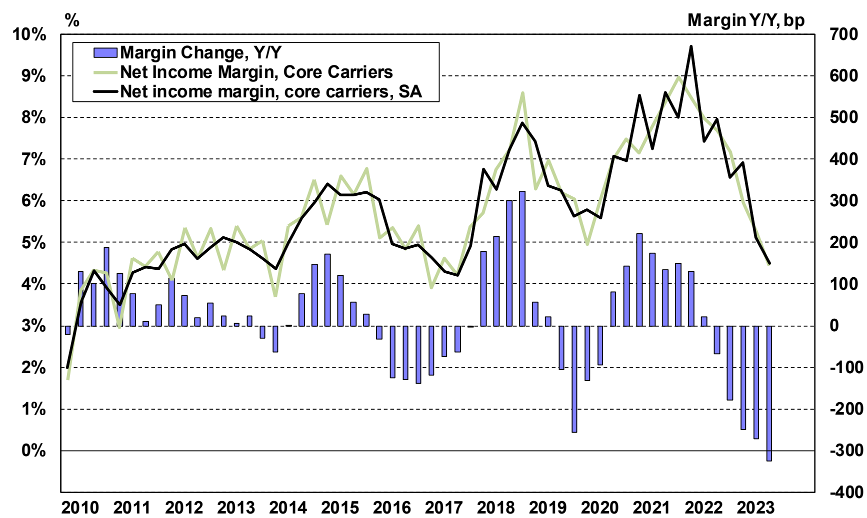


Source: ACT Research Co. © 2023

- The length of haul (LOH) of truckload shipments fell 6.7% y/y in Q3’23 to 407 average miles per load for the public truckload fleets.
- The long-term trend toward more regional loads continues, and acquisitions are putting downward pressure on this data series too.

TL Carrier Database: Net Income Margin, Core Carriers

Q1'10 - Q3'23



Source: ACT Research Co. © 2023

- Public truckload carrier net profit margins of 4.4% fell 320 basis points (bps) y/y in Q2, the largest decline on record, and pulled back 80bps q/q. On an SA basis, margins were down 60bps q/q to 4.5% from 5.1%. While fleets managed costs well amid record rate pressure, profits were still hit hard.
- After an eight-quarter streak of y/y improvements, a likely eight-quarter (or so) string of declining y/y performance began in Q3’22 as lower rates impact fleet margins. The pressure has likely peaked in Q3 and should start to ease from here.
- Core carriers are those who have been public and reporting consistently for this full time frame.

ACT Research

Public For-Hire Truckload

Carrier Database

$ in millions, except as noted	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
Transportation Revenue, net fuel	**10,640**	**10,918**	**10,816**	**10,346**	**9,808**	**9,079**	**9,229**
y/y	29%	20%	10%	-3%	-8%	-17%	-15%
Additions/Acquisitions	305	334	192	232	154	147	
Organic revenue, y/y	25%	17%	8%	-5%	-9%	-18%	-15%
Fuel Surcharge	1,181	1,766	1,682	1,539	1,290	1,063	1,228
y/y	84%	123%	93%	55%	9%	-40%	-27%
Other Revenue	484	544	284	288	15	12	118
Total Revenue	**12,306**	**13,229**	**12,781**	**12,173**	**11,113**	**10,153**	**10,574**
y/y	35%	31%	15%	0%	-10%	-23%	-17%
Total Operating Expenses	11,070	11,898	11,590	11,096	10,239	9,397	9,986
Operating Income	**1,236**	**1,331**	**1,191**	**1,077**	**874**	**757**	**588**
y/y	64%	38%	8%	-14%	-29%	-43%	-51%
q/q	-1%	8%	-10%	-10%	-19%	-13%	-22%
Operating Ratio (OR)	**90.0%**	**89.9%**	**90.7%**	**91.2%**	**92.1%**	**92.5%**	**94.4%**
Margin change, y/y	176bp	51bp	(59bp)	(145bp)	(217bp)	(261bp)	(376bp)
OR, net fuel	**88.4%**	**87.8%**	**89.0%**	**89.6%**	**91.1%**	**91.7%**	**93.6%**
Margin change, y/y	247bp	154bp	(22bp)	(127bp)	(270bp)	(385bp)	(464bp)
Margin change, q/q	(6bp)	57bp	(117bp)	(61bp)	(149bp)	(58bp)	(197bp)
15-year Average q/q	(187bp)	181bp	(3bp)	16bp	(207bp)	167bp	(13bp)
Pretax Income	1,175	1,260	1,175	1,034	785	707	534
Taxes	288	319	286	246	192	171	99
Tax Rate	24.5%	25.3%	24.3%	23.8%	24.4%	24.2%	18.5%
Net Income	**884**	**938**	**886**	**785**	**591**	**525**	**434**
y/y	61%	27%	11%	-16%	-33%	-44%	-51%
q/q	-5%	6%	-6%	-11%	-25%	-11%	-17%
Net Income Margin	**7.19%**	**7.09%**	**6.94%**	**6.45%**	**5.31%**	**5.17%**	**4.10%**
Margin change, y/y	116bp	(23bp)	(24bp)	(125bp)	(187bp)	(192bp)	(283bp)
Net Income Margin, Core Carriers	**8.45%**	**7.97%**	**7.67%**	**7.18%**	**5.95%**	**5.25%**	**4.43%**
Margin change, y/y	130bp	20bp	(67bp)	(179bp)	(250bp)	(272bp)	(324bp)
Fleet Statistics							
Tractors (period average)							
Covenant	2,318	2,358	2,280	2,138	2,040	2,132	2,149
Daseke	4,565	4,690	4,797	4,985	4,814	4,861	4,906
Heartland*	3,031	3,681	5,881	6,031	5,717	5,616	5,566
JB Hunt	22,000	23,277	24,218	24,386	24,134	23,419	23,205
Knight-Swift	21,640	21,807	22,047	22,103	21,922	21,670	28,042
Landstar	11,935	11,887	11,644	11,281	10,809	10,548	10,253
Marten	3,233	3,311	3,467	3,650	3,626	3,599	3,487
PAM	2,063	2,228	2,483	2,461	2,440	2,428	2,333
Schneider	11,898	12,056	12,237	12,094	11,958	11,931	12,134
Universal	3,124	3,072	3,165	3,231	3,017	3,064	2,906
US Xpress*	6,239	6,355	6,648	6,972	7,017	6,817	
Werner	8,238	8,286	8,513	8,709	8,561	8,351	8,226
Total Tractors	**102,142**	**104,827**	**107,380**	**108,041**	**106,055**	**104,436**	**103,206**
y/y	7.3%	10.4%	9.7%	7.7%	3.8%	-0.4%	-3.9%
Additions/Acquisitions	3,591	4,479	3,483	3,997	3,650	320	320
Organic fleet change, y/y	**3.6%**	**5.6%**	**6.1%**	**3.7%**	**0.3%**	**-0.7%**	**-4.2%**

* Heartland estimated based on FMCSA and company data; US Xpress acquired by Knight-Swift in Q3'23

- In Q3'23, large fleet capacity declined 4.2% y/y, adjusted for acquisitions. This turned quickly this year, even as fleets continue to replace equipment at elevated rates.
- Transportation revenue fell 15% y/y in Q3'23, net of fuel and acquisitions, after an 18% decline in Q2'23. After nine consecutive quarters of growth, the revenue downcycle that started in Q4'22 will assuredly last into 2024.
- Fleet operating margins were 185bps below normal seasonality q/q with a 200-bp decline in Q3. With both revenue and margins down, net income fell 51% y/y.
- The aggregate public TL sector's net income margin declined 280bps y/y to 4.1% in Q3, the largest y/y decline in our history dating to the 1990s as the rate downturn worsened.
- The core carriers' net margins fell even more sharply to 4.4% in Q3, down 320bps y/y.

ACT Research

Public For-Hire Truckload Carrier Database

$ in millions, except as noted	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
Cash Flow							
Operating Cash Flow	**1,371**	**1,440**	**1,809**	**1,681**	**1,571**	**1,461**	**1,165**
Gross Capital Expenditures	(728)	(972)	(1,189)	(1,377)	(1,227)	(1,511)	(1,467)
Equipment Sales	247	301	213	247	353	345	317
Free Cash Flow	**890**	**768**	**833**	**551**	**696**	**294**	**15**
Margin	8.4%	7.0%	7.7%	5.3%	7.1%	3.2%	0.2%
Investing Cash Flow	**(669)**	**(924)**	**(1,639)**	**(1,374)**	**(939)**	**(1,312)**	**(1,994)**
Proceeds from Borrowing	406	379	824	289	1,409	1,942	64
Payment of Long Term Debt	(370)	(382)	(790)	210	(263)	(161)	(95)
Principal Payments on Capital Leases	(13)	(90)	(82)	(55)	(13)	(9)	(11)
Financing Cash Flow	**(743)**	**(767)**	**32**	**(97)**	**(526)**	**274**	**(78)**
Net Change in Cash	(41)	(251)	202	210	106	422	(907)
Beginning Cash Balance	1,312	1,270	1,019	1,221	1,431	1,538	1,960
Ending Cash Balance	1,270	1,019	1,221	1,431	1,538	1,960	1,053
Balance Sheet							
Current Assets	9,349	9,494	9,179	9,128	8,757	8,765	8,317
Net Property & Equipment	15,150	15,699	16,541	17,270	17,598	17,656	18,740
Operating Lease Assets	554	596	587	633	651	299	607
Other Assets	9,200	9,265	9,513	9,605	9,687	9,239	10,426
Total Assets	**33,699**	**34,457**	**35,234**	**36,003**	**36,042**	**35,660**	**37,483**
Current Operating Lease Obligations	341	390	239	226	217	131	497
Current LT Debt/Capital Leases	908	946	512	547	799	685	1,049
Total Current Liabilities	6,484	6,734	5,926	5,784	5,779	5,414	6,254
Long Term Debt	4,243	4,222	5,011	5,133	4,811	4,834	4,944
Capital Lease Obligations	350	399	349	345	336	336	326
Operating Lease Obligations	501	458	451	508	515	266	506
Other Liabilities	4,319	4,293	5,026	5,282	5,019	4,979	5,239
Total Liabilities	**16,208**	**16,656**	**16,785**	**17,042**	**16,704**	**16,222**	**17,773**
Total Stockholders' Equity	**17,396**	**17,863**	**18,410**	**18,912**	**19,298**	**19,412**	**19,671**
Total Liabilities & Stockholders' Equity	33,699	34,457	35,234	36,003	36,042	35,660	37,483
Performance Ratios							
Current Ratio	144%	141%	155%	158%	152%	162%	133%
Total Debt	5,501	5,567	5,872	6,025	5,946	5,855	6,319
Total Debt to Equity	31.6%	31.2%	31.9%	31.9%	30.8%	30.2%	32.1%
Return on Invested Capital (annualized)	18.2%	18.9%	16.2%	14.5%	11.7%	10.3%	8.1%

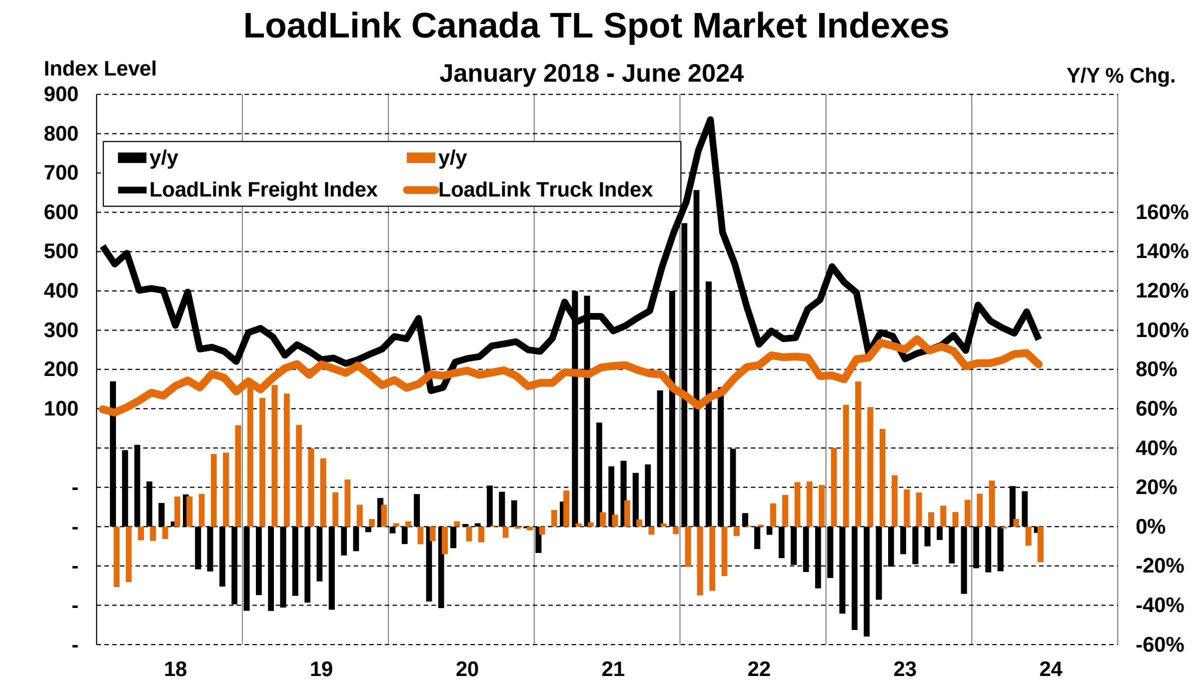
- Free cash flow all but disappeared in Q3 as operating cash fell, capex remained elevated, and equipment proceeds fell. The public TL carriers collectively generated just $15 million in free cash flow in Q3, down from $361 million in Q2'23, as lower freight rates impacted operating cash flow and net capex stayed high.
- Fleets added to debt in Q3, and the industry debt/equity ratio rose to 32.1% from 30.2%, remaining low by historical standards. The 20-year average is about 55%, and about 40% if we remove the tumultuous 2008-2010 period. We expect it to rise in 2023 but not to particularly stressed levels.
- Fleet returns on invested capital (ROIC) fell 220bps q/q to 8.1% in Q3, well below normal seasonality of returns. Over the past 10 years, ROIC has dropped by an average of 60bps q/q in Q3.

ACT Research

Public For-Hire Truckload Carrier Database

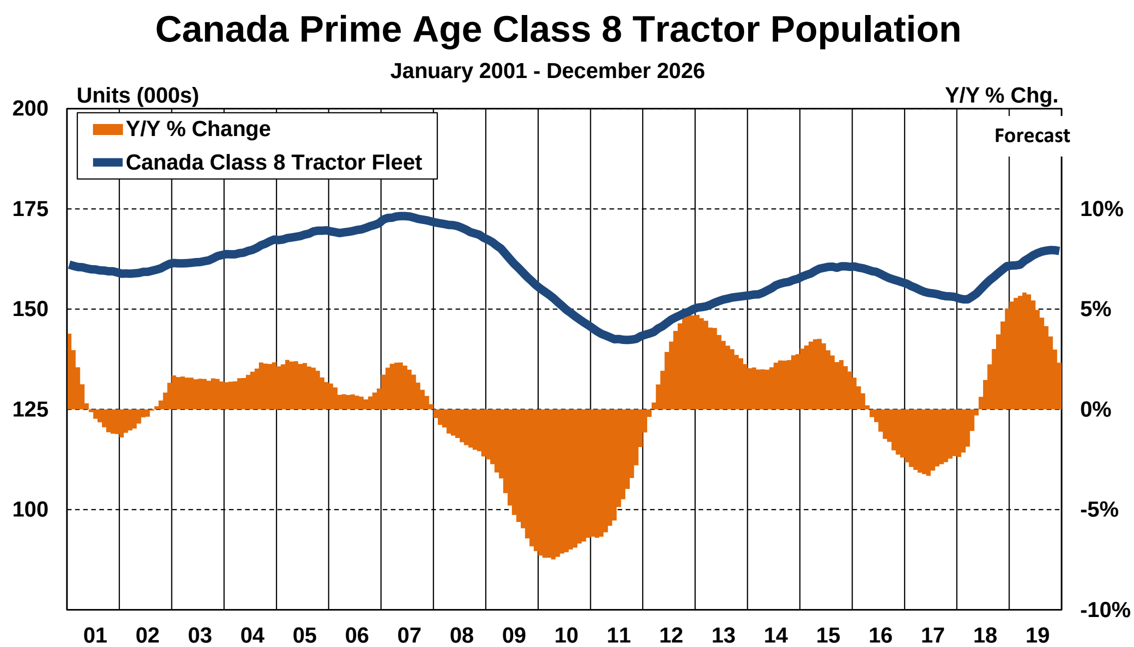
$ in millions, except as noted	2018	2019	2020	2021	2022	2023E	2024E	2025E
Transportation Revenue, net fuel	**30,411**	**30,104**	**30,520**	**37,813**	**42,720**	**37,147**	**37,677**	**43,906**
y/y	17%	-1%	1%	24%	13%	-13%	1%	17%
Additions/Acquisitions	870	434	127	470	1,063	301	0	0
Organic revenue, y/y	**13.5%**	**-2.4%**	**1.0%**	**22.4%**	**10.2%**	**-13.7%**	**1.4%**	**16.5%**
Fuel Surcharge	3,425	3,140	2,199	3,295	6,168	4,804	4,807	4,828
y/y	36%	-8%	-30%	50%	87%	-22%	0%	0%
Other Revenue	477	818	706	1,344	1,600	284	542	547
Total Revenue	**34,313**	**34,062**	**33,425**	**42,452**	**50,488**	**42,235**	**43,025**	**49,281**
y/y	18%	-1%	-2%	27%	19%	-16%	2%	15%
Total Operating Expenses	31,388	31,496	30,862	38,384	45,654	39,317	39,939	44,844
Operating Income	**2,925**	**2,566**	**2,562**	**4,068**	**4,834**	**2,918**	**3,086**	**4,437**
y/y	52%	-12%	0%	59%	19%	-40%	6%	44%
q/q								
Operating Ratio (OR)	**91.5%**	**92.5%**	**92.3%**	**90.4%**	**90.4%**	**93.1%**	**92.8%**	**91.0%**
Margin change, y/y	193bp	(99bp)	13bp	192bp	(1bp)	(267bp)	26bp	183bp
OR, net fuel	**90.4%**	**91.5%**	**91.6%**	**89.2%**	**88.7%**	**92.1%**	**91.8%**	**89.9%**
Margin change, y/y	224bp	(109bp)	(13bp)	236bp	56bp	(346bp)	33bp	191bp
D&A	2,014	2,176	2,193	2,278	2,588	2,747	2,848	2,940
EBITDA	**4,938**	**4,742**	**4,755**	**6,347**	**7,422**	**5,666**	**5,935**	**7,377**
Pretax Income	2,752	2,363	2,412	3,993	4,644	2,637	2,823	4,211
Taxes	648	588	597	967	1,138	615	702	1,041
Tax Rate	24%	25%	25%	24%	25%	23%	25%	25%
Net Income	**2,096**	**1,755**	**1,811**	**3,021**	**3,494**	**2,004**	**2,112**	**3,160**
y/y	**89%**	**-16%**	**3%**	**67%**	**16%**	**-43%**	**5%**	**50%**
Net Income Margin	**6.1%**	**5.2%**	**5.4%**	**7.1%**	**6.9%**	**4.7%**	**4.9%**	**6.4%**
Margin change, y/y	230bp	(96bp)	27bp	170bp	(20bp)	(218bp)	16bp	150bp
Net Income Margin, Core Carriers	**7.07%**	**6.31%**	**6.36%**	**8.06%**	**7.82%**	**5.03%**	**5.33%**	**7.06%**
Margin change, y/y	254bp	(77bp)	6bp	169bp	(24bp)	(279bp)	30bp	173bp
Fleet Statistics								
Tractors (period average)								
Total Tractors	**96,044**	**98,032**	**96,400**	**97,332**	**106,111**	**107,364**	**104,184**	**107,604**
y/y	3.3%	2.1%	-1.7%	1.0%	9.0%	1.2%	-3.0%	3.3%
Additions/Acquisitions	2,768	851	0	1,461	3,888	1,153	320	
Organic fleet change, y/y	**0.3%**	**1.2%**	**-1.7%**	**-0.5%**	**5.0%**	**0.1%**	**-3.3%**	**3.3%**

- The publicly traded truckload industry produced record results in 2022, with $3.5 billion in net income. While we think falling rates and cost pressures will carve away about 43% of that in 2023, it leaves this group of fleets with $2.0 billion in net earnings and a 5.0% core carrier margin, still better than a stick in the eye.
- An interesting feature of the 2023 transportation industry is how growth in revenues and earnings over the past several years have outpaced the growth in tractor counts. This reflects strong development in intermodal and logistics businesses, which are supplementing expansion for these companies.
- The large drop in contract rates is having a significant and direct negative impact on the large fleets this year. In 2024 and 2025, outcomes are far from certain, but if spot rates begin to recover as we expect, it will set up higher contract rates and a return to earnings growth.
- While we now expect contract rates to decline for full-year 2024, the slight margin improvement we expect in 2024 mainly comes from non-TL segments.
- We expect greater margin pressure in 2023 than in 2019 because of sharper rate declines and the inflationary cost environment, though our fleet survey suggests driver pay increases are done for now. And the 2023 rate downcycle is more severe than that of 2018-2019, partly as a reflection of the sharp increases experienced in 2021 and 1H'22.
- We see the pricing pendulum beginning to shift from shippers back toward fleets, but the capacity additions in the private fleet sector are prolonging the rebalancing, setting up recovery in financial performance in 2024 with acceleration into 2025.



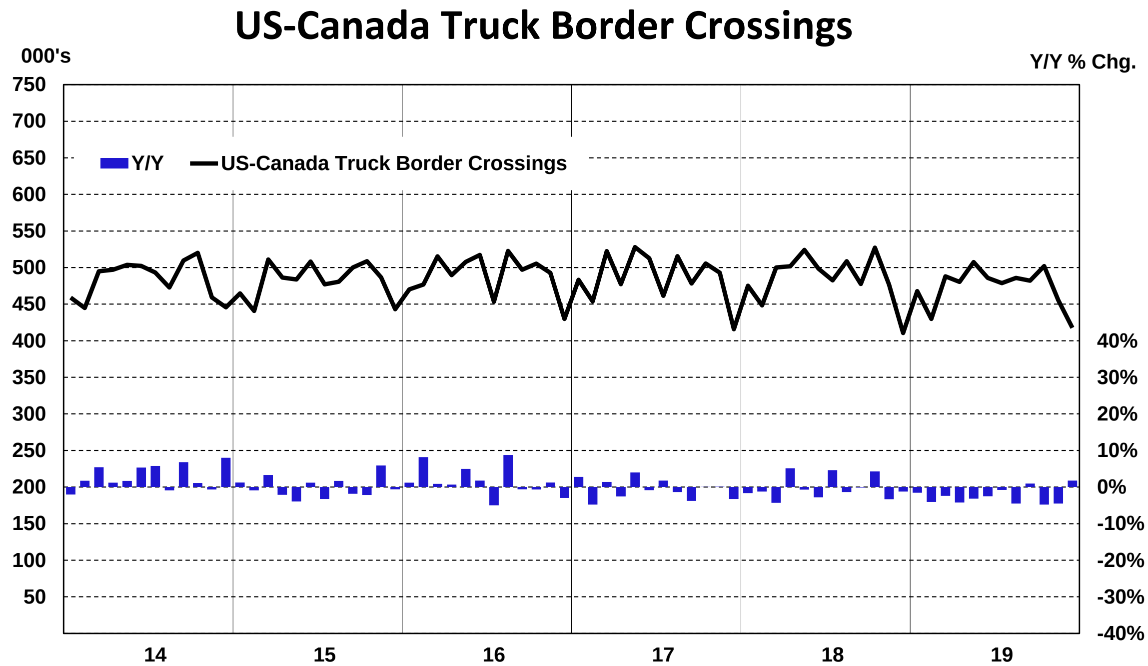
Source: LoadLink Technologies, ACT Research Co. © 2024

- The supply/demand balance in the Canadian market appears ___, but starting to __ at the margin, according to LoadLink's Truck Index and Freight Index, which respectively track supply and demand in the Canadian TL spot market.
- The LoadLink Freight Index fell X% y/y in June but rose X% y/y in Q2'24.
- The LoadLink Truck Index fell X% in June and X% y/y in Q2'24.



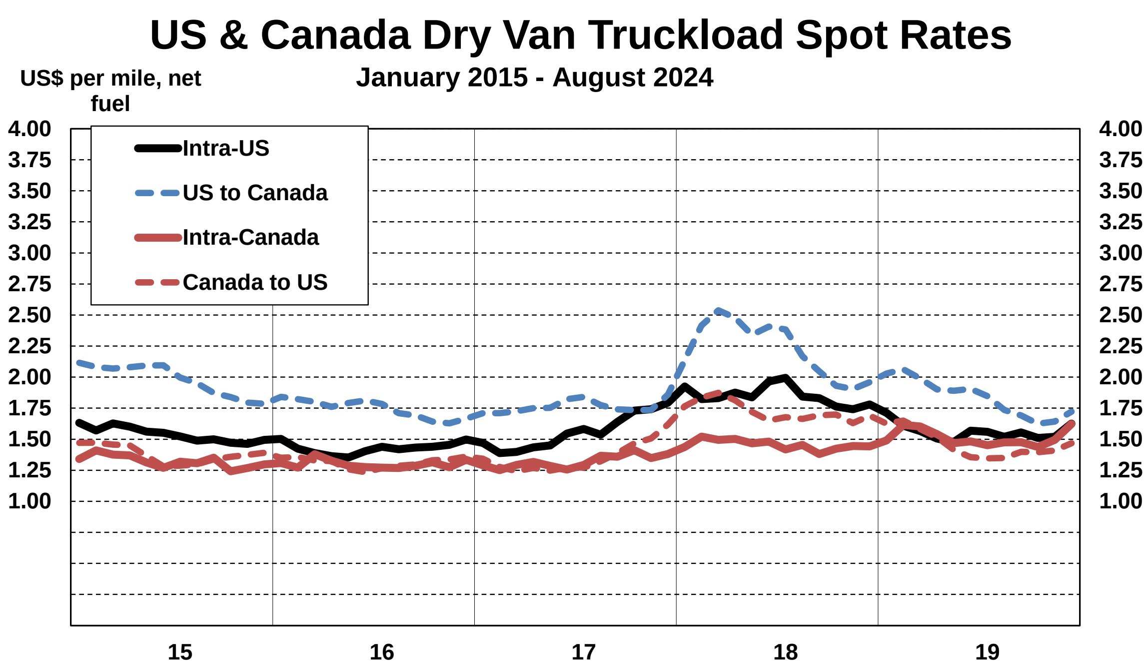
Source: ACT Research Co. © 2024

- Zooming out to the Canadian heavy duty tractor market, we estimate a prime age (_______________) Class 8 tractor fleet of just under X units. With sales close to replacement levels, we estimate just X% growth in the fleet this year, followed by a ________________ in 2025.



Source: Bureau of Transportation Statistics, ACT Research Co. © 2024

- In July, US-Canada truck border crossings of Xk were X% y/y, after a X% y/y ________ in June.
- In the first seven months of 2024, US-Canada truck border crossings were ____ X% y/y.

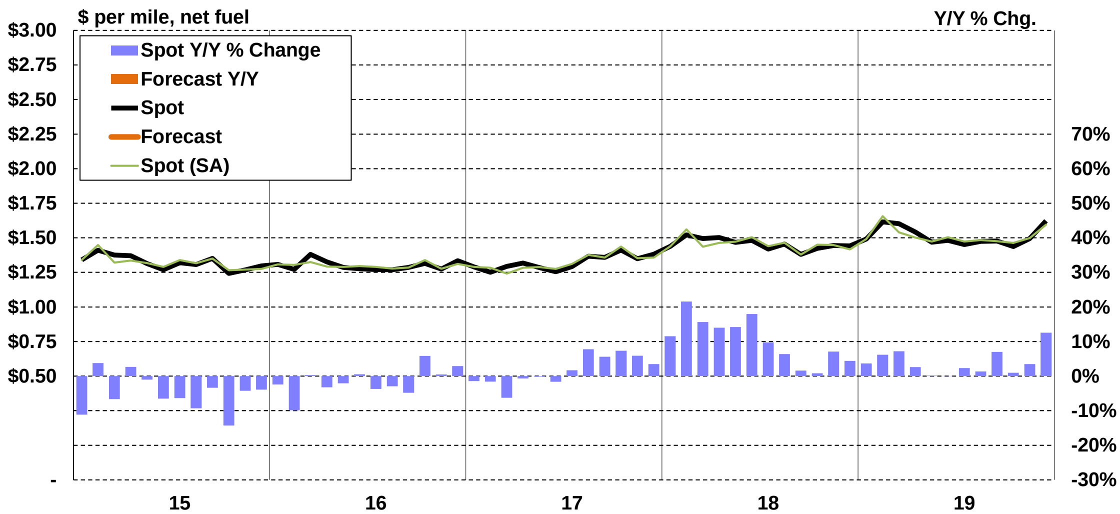


Source: DAT Freight & Analytics, ACT Research Co. © 2024

- Dry van TL spot rates in Canada were $X.xx per mile in August, ___ from $X.xx in July and above the comparable US dry van rate of $X.xx in August. The limited rail strike likely helped, albeit briefly and modestly with available capacity.
- We think the strong US dollar has helped bring Canadian rates _____ with US rates _________________________.
- US-to-Canada rates tend to be _______ broader market rates as there is ____TL freight heading southbound. This southbound backhaul competition is also ____.

DAT Intra-Canada Dry Van Truckload Spot Rates

January 2015 - December 2026 Forecast

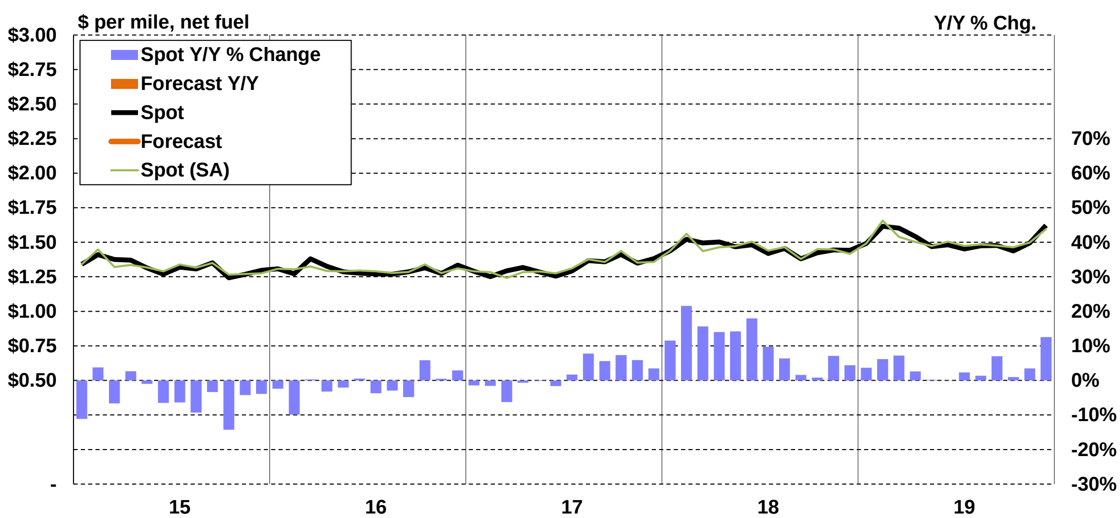


Source: DAT Freight & Analytics, ACT Research Co. © 2024

- Canadian TL market dynamics tend to move with the US, as shown in the top chart. Based on the interconnection of the US and Canadian economies, our Canada TL spot rate forecasts are ______________________________.
- ________________, we expect _____ rates to lead to ____________________ in 2025, and along with ____.
- Rail strikes briefly sent spot rates from ~$X.xx to ~$X.xx per mile in late-August, but our $X.xx September estimate includes _______________________________________.

DAT Intra-Canada Dry Van Truckload Spot Rates

January 2015 - December 2026 Forecast



Source: DAT Freight & Analytics, ACT Research Co. © 2024

- In August, DAT US to Canada dry van spot rates, net fuel, _____ to $X.xx per mile from $X.xx in July (_____¢ SA).
- US-to-Canada rates _________ y/y, net fuel, in August, after a X% _______ in July. In September, we estimate a X% y/y _________ against _______________ with a ______________________________.

North American Class I Rail Volumes

y/y % change

	Q1'21	Q2'21	Q3'21	Q4'21	Q1'22	Q2'22	Q3'22	Q4'22	Q1'23	Q2'23	Q3'23	Q4'23TD
Intermodal	13.6%	22.8%	-1.2%	-10.3%	-6.1%	-3.6%	-0.7%	-3.1%	-9.7%	-11.1%	-7.5%	0.6%
Chemicals	-3.0%	14.2%	4.6%	3.8%	5.4%	0.0%	0.1%	-8.6%	-3.9%	-3.6%	0.5%	5.6%
Metals	-1.2%	32.6%	28.3%	8.5%	-0.4%	-1.2%	-6.5%	-4.8%	5.3%	1.4%	1.8%	4.7%
Automotive	-7.8%	134.0%	-25.5%	-19.1%	-7.9%	8.9%	20.4%	10.6%	10.0%	14.0%	10.4%	8.5%
Petroleum	-20.0%	14.4%	14.2%	-2.4%	-9.1%	-1.4%	-2.9%	-0.4%	5.9%	-4.4%	-0.3%	6.3%
Minerals/Sand	-9.1%	12.1%	11.5%	7.7%	8.4%	3.9%	4.2%	3.0%	5.0%	2.4%	0.6%	-2.2%
Paper/Lumber	1.1%	11.0%	5.4%	0.9%	-2.5%	-0.6%	-0.8%	-7.3%	-3.9%	-8.6%	-5.9%	-3.3%
Grain/Food	13.1%	7.0%	-11.7%	-8.7%	-7.2%	-6.9%	5.5%	6.0%	5.5%	-1.8%	-0.7%	-5.7%
Coal	-5.2%	33.5%	17.5%	7.4%	13.9%	-0.5%	3.3%	0.8%	1.1%	-0.5%	-3.4%	0.6%
Total	**4.5%**	**22.4%**	**1.7%**	**-5.2%**	**-2.4%**	**-2.2%**	**0.7%**	**-2.2%**	**-3.8%**	**-5.6%**	**-5.0%**	**0.6%**
Carloads, ex-Intermodal	-3.3%	22.1%	4.8%	0.0%	1.4%	-0.7%	2.1%	-1.4%	1.6%	-0.1%	-0.7%	0.6%

Source: Company reports; ACT Research Co. © 2023

- After strong Q4 performance so far, rail volumes are on track for their first quarterly increase in five quarters (and just the second in the past nine), with volumes up through December and comparisons easing into year end.
- Intermodal volumes are tracking toward 2%-3% y/y growth in Q4, which would break a nine-quarter streak of declines.
- The UAW strikes had a very small impact on automotive rail volumes in October, and are likely to reaccelerate into year end as early voting suggests ratification of a popular contract.
- Industrial carload trends have had a strong 2H'23 recovery, led by metals and chemicals.
- The nascent intermodal recovery appears to be gaining some legs, with consumption trends stronger than expected, the US retail destock playing out, and the Panama Canal constraints are pushing freight to west coast ports. We remain optimistic about a recovery to 5% intermodal volume growth in 2024.

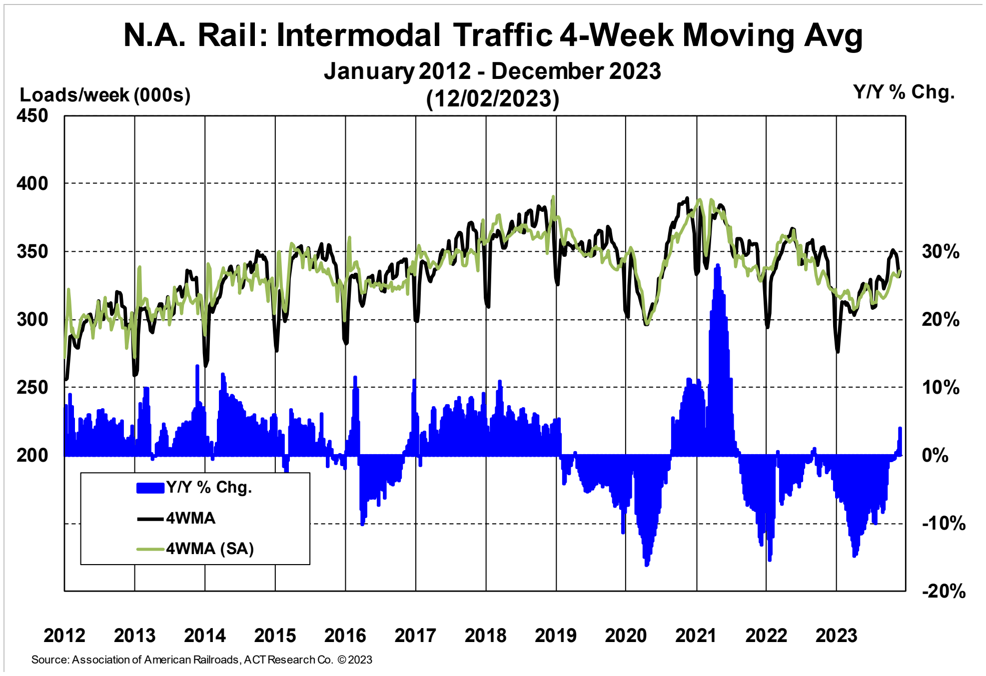
Weekly North American Rail Volumes by Segment

y/y % change

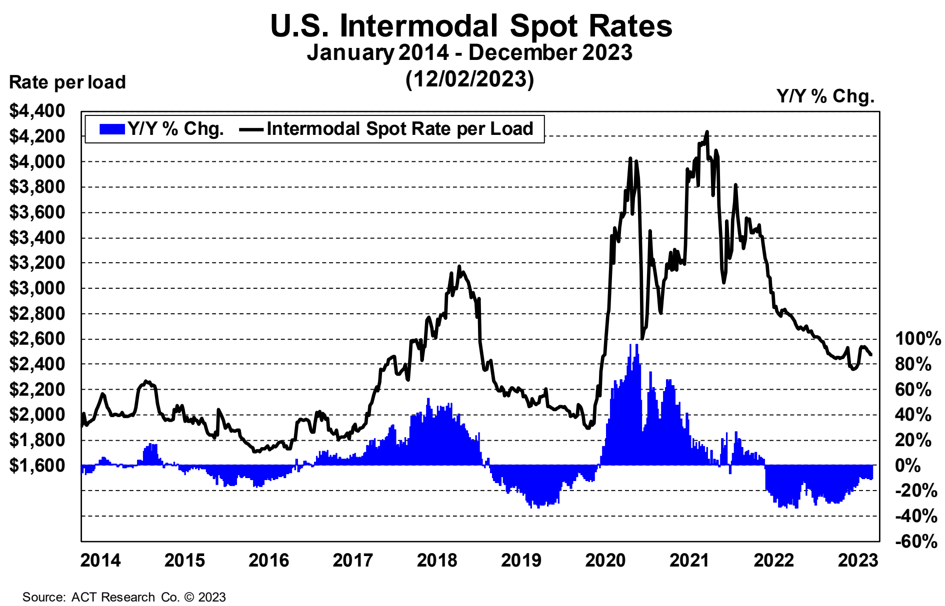
Week ending:	10/14/23	10/21/23	10/28/23	11/4/23	11/11/23	11/18/23	11/25/23	12/2/23	12/9/23
Intermodal	-1.1%	0.2%	-0.9%	-0.9%	0.6%	1.4%	3.4%	5.3%	3.9%
Chemicals	3.5%	7.6%	3.3%	1.7%	0.6%	10.4%	0.3%	20.1%	6.3%
Metals	-3.5%	9.2%	9.4%	9.9%	4.7%	7.2%	2.9%	2.3%	2.3%
Automotive	7.4%	8.2%	0.6%	5.4%	13.3%	10.8%	8.2%	7.7%	11.6%
Petroleum	10.4%	5.1%	10.3%	4.5%	9.4%	5.8%	1.8%	7.9%	9.8%
Minerals/Sand	1.3%	2.6%	-3.8%	-5.1%	-2.5%	1.4%	-7.6%	-9.4%	-5.5%
Paper/Lumber	-1.9%	-7.0%	-4.7%	-6.5%	-3.7%	1.1%	-1.5%	-0.4%	4.6%
Grain/Food	-6.2%	-5.4%	-3.5%	-8.8%	-3.8%	-4.6%	-9.4%	-9.2%	-1.4%
Coal	-3.9%	-3.0%	-6.9%	-0.4%	7.7%	6.2%	0.2%	2.2%	-6.3%
Total	**-0.7%**	**0.4%**	**-1.1%**	**-1.1%**	**1.8%**	**2.7%**	**-0.2%**	**3.1%**	**2.2%**
Carloads, ex-Intermodal	-0.4%	0.6%	-1.3%	-1.3%	2.8%	3.8%	-3.1%	1.3%	0.6%

Source: Company reports; ACT Research Co. © 2023

- Rail volumes finally turned the corner in November, with total volumes inflecting to 2% y/y growth, driven by industrial and intermodal loads, with softness in grain and minerals.
- On the carload side, automotive volume growth slowed, which should continue as comparisons toughen, but volumes have recovered from the modest strike effects.
- Metals and chemicals, which historically tend to lead trucking volumes as inputs to production, are also trending up.
- We continue to expect a gradual recovery, with goods consumption trends reversing from post-pandemic service substitution effects.
- Intermodal growth in 2024 should be driven by easy comparisons, improving goods demand fundamentals, and growing Panama Canal constraints. Intermodal fleets in California are starting to implement ZEV pricing as regulators implement aggressive decarbonization rules beginning in 2024. As ZEV equipment supply is limited and drayage fleets tend to operate older equipment, this transition could constrain supply and press rates higher.



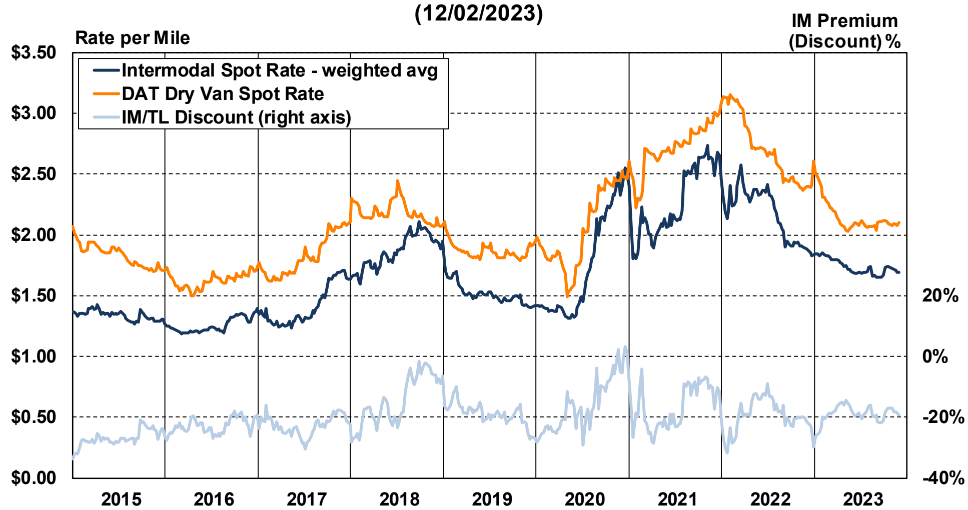
- Seasonally adjusted (SA), NA intermodal volumes were up 0.9% m/m in November after the largest monthly move of the year, up 4.4% in October.
- Peak season is gaining decent momentum, as expected, returning intermodal volumes to growth on a y/y basis in recent weeks, and growth seems likely to continue with easy comparisons through 2024.



- After jumping in September and October, intermodal spot rates leveled off and gave back some of the gains in November. Rising imports into Southern California have pressed rates up. Rates out of LA rose 27% on average across the past three months, while all others fell 1% on average.
- With the TL sector still broadly a shipper’s market, we think a broad jump in rates is unlikely. More container ships are likely heading to California, particularly after Houthi rebels attacked commercial ships in early December in the Red Sea. The US Navy shot down the drones, but the Suez Canal isn’t exactly a risk-free alternative to the Panama Canal. A commercial tanker was struck by a missile a few days later. Mounting global ocean shipping risks should continue to drive imports to the West Coast, leading to more intermodal volume growth off the West Coast.

Dry Van TL vs Intermodal Spot Rate Comparison

January 2015 - December 2023
(12/02/2023)

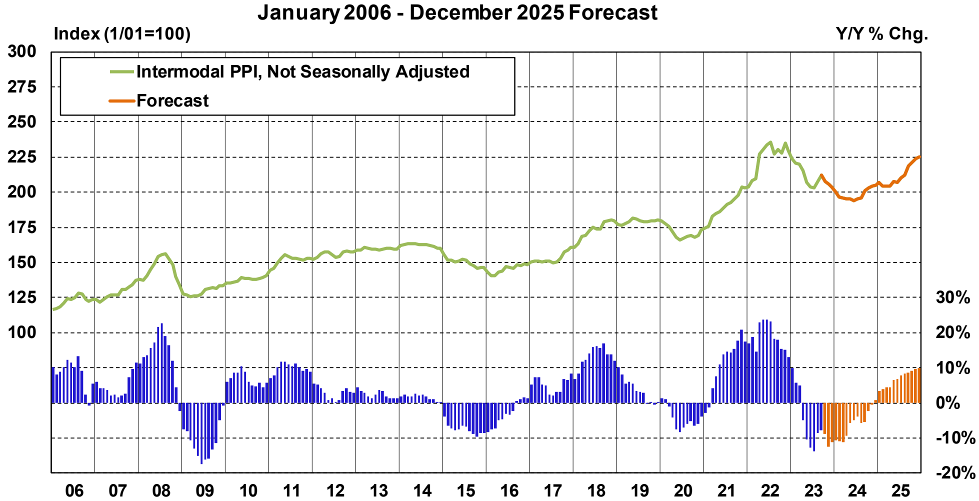


Source: DAT Freight & Analytics, ACT Research Co. © 2023

- The cost advantage of intermodal spot rates is now 17% below the DAT dry van TL rate, both including fuel, and below the 21% average discount in our eight-year history, but above the 17% historical early-December average.
- While tightening due to higher rates from LA, the spread still suggests a looser than normal market.
- Low TL rates are not helping intermodal demand, but Panama Canal restrictions will likely continue to drive more transcontinental intermodal demand, at least through the next wet season starting in May, and likely beyond.

Producer Price Index, Intermodal

January 2006 - December 2025 Forecast

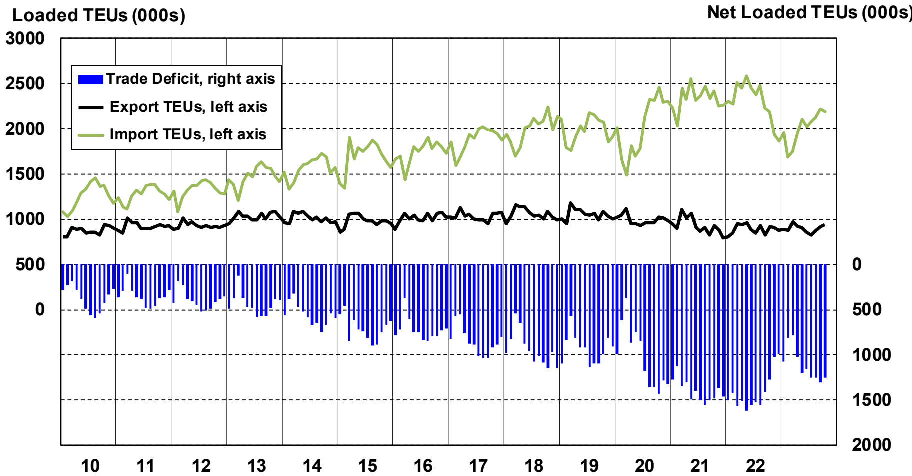


Source: Bureau of Labor Statistics, ACT Research Co. © 2023

- Intermodal rates fell 6% y/y in October after an 8% y/y decline in September, according to the PPI, which measures an all-in rate including fuel surcharges. Most of the 4.5% increase in the past two months was derived from higher fuel surcharges, but seasonality may also be a factor as peak season begins.
- Intermodal rates should continue to move lower with truckload rates at a slight lag and y/y declines set to be significant for the next couple of quarters.
- We expect the current downtrend to continue over the next year due to loose truckload market conditions, with the rate cycle bottoming in 1H'24 followed by increases through 2025.
- On an annual basis, this results in a 7% decline in 2023 and a 6% decline in 2024, though we expect rates to bottom in Q2'24 and turn up on a y/y basis in late 2024, followed by a 9% increase in 2025.

N.A. Ports: Container Trade Deficit

January 2010 - October 2023

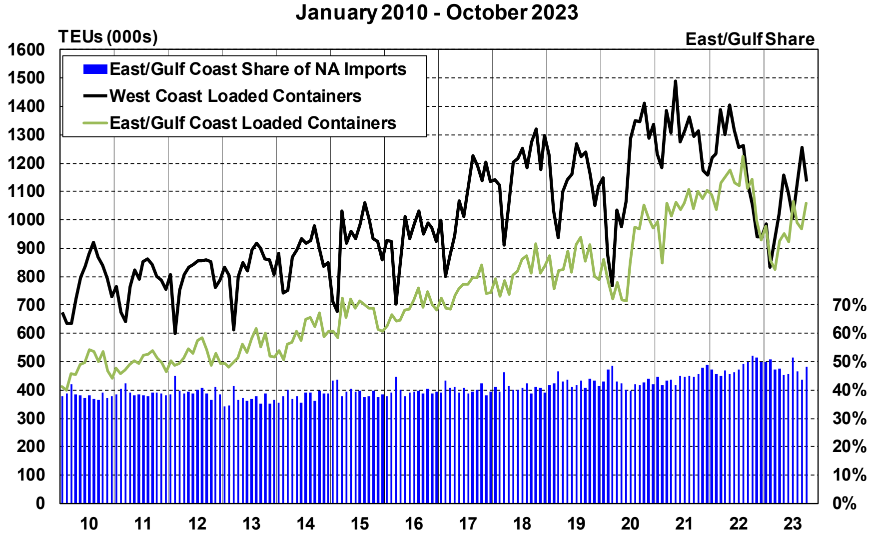


Note: Port of Vancouver added in 2013 and Lazaro Cardenas added in 2015.
Source: ACT Research Co. © 2023

- In October, the North American container trade deficit narrowed to 1.25mm Twenty-foot Equivalent Units (TEUs) from 1.31mm in September. The deficit has risen this year as imports recover, while exports remain depressed.
- The import recovery over the past several months is consistent with slower destocking, and we see a gradual consumption recovery and eventually an inventory restock pressing freight demand higher from here.
- Container trade deficit levels are wider than pre-pandemic levels. With progress on nearshoring likely to remain slow, this situation will likely persist.

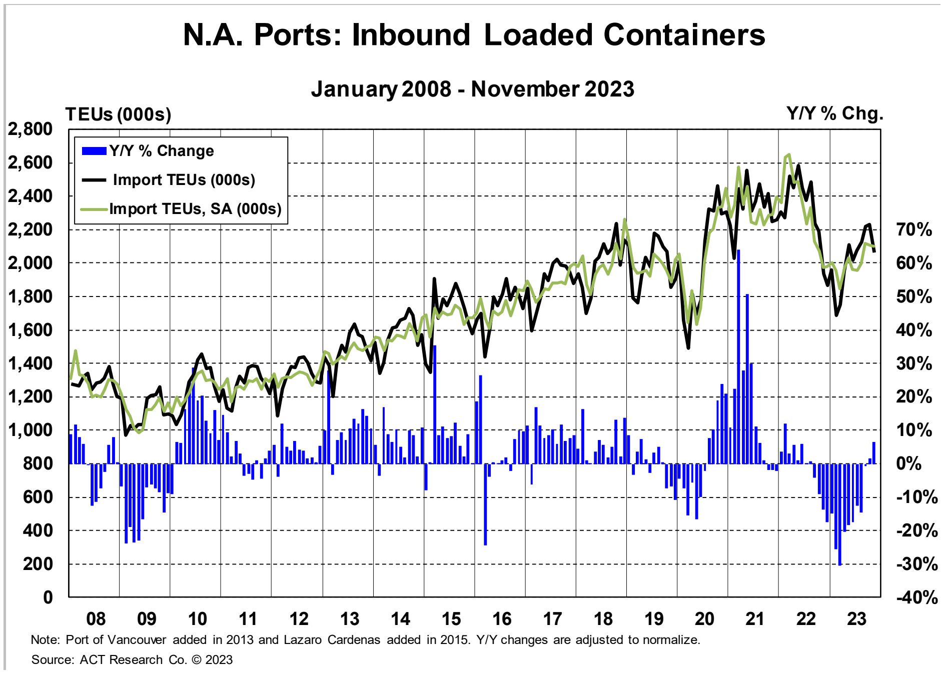
N.A. Loaded Container Imports by Coast

January 2010 - October 2023

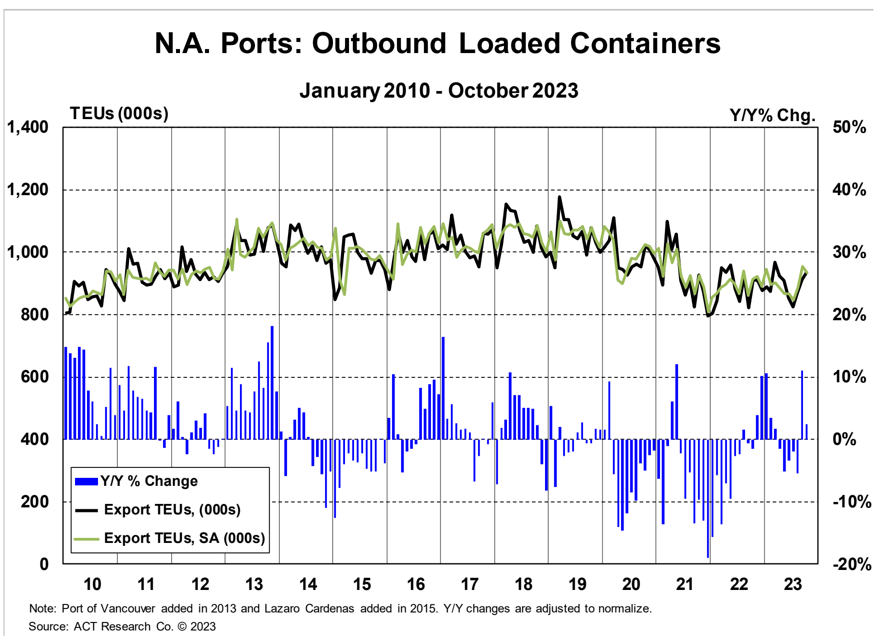


Source: ACT Research Co. © 2023

- East coast ports processed 49.1% of North American container imports in October, down 3.0 percentage points (pps) from the year-ago level, but 5.6pps above the September level.
- After all-water shipping from Asia to the East Coast gained share of imports for several years, the restrictions on Panama Canal passage suggest this trend is reversing back toward the West Coast and will continue for some time. While global container ships will also likely use the Suez Canal to the US East Coast from parts of South Asia, war in the Middle East adds risk to this option, making the US West Coast look pretty good.



- NA container imports rose 1.6% y/y in October, after a 0.7% y/y decline in September, in the first y/y increase in fourteen months. After a 6.2% m/m SA increase in September as freight started pouring into west coast ports, volumes were steady in SA terms in October and, based on industry data, in November, accelerating to 7% y/y growth. While reducing eastern imports, this is increasing western imports and intermodal freight.
- Stabilizing real US retail sales and the end of destocking are also supporting a gradual recovery amid better US goods consumption fundamentals. Even as nearshoring activity has been gradually gaining momentum, supporting cross-border surface freight demand, the effects on import patterns remain minor.



- Container exports of 935,000 TEUs in October were up 2.5% y/y but fell 2.1% m/m (SA), giving back a small fraction of the 12.7% two-month jump from July to September.
- While not exactly a major surge given the depressed level of US container exports from a long-term perspective, the recent improvement is significant despite a considerable strengthening of the US dollar in recent months, which may pressure exports further after four straight years of significant decline.

North American Container Import Volumes by Port

Loaded TEUs, y/y % change

Largest to Smallest ---->

	Los Angeles	Long Beach	Vancouver	Seattle	Oakland	Prince Rupert	Lazaro Cardenas	**West Coast**	New York	Savannah	Virginia	Houston	Charleston	Baltimore	**East/Gulf Coast**	**Total**	**East/Gulf Coast % of Total**
Jul-22	3%	-2%	13%	-30%	-27%	-43%	6%	**-4%**	2%	10%	5%	17%	-12%	33%	**6%**	**0%**	**47.1%**
Aug-22	-17%	-6%	-2%	-8%	-10%	32%	37%	**-7%**	7%	20%	11%	13%	-1%	3%	**10%**	**1%**	**49.2%**
Sep-22	-27%	-7%	1%	-17%	-5%	3%	9%	**-13%**	12%	-10%	-6%	31%	16%	2%	**7%**	**-4%**	**49.7%**
Oct-22	-28%	-24%	-13%	-22%	15%	-21%	22%	**-20%**	-4%	2%	-3%	20%	13%	43%	**4%**	**-9%**	**52.1%**
Nov-22	-24%	-28%	12%	-31%	-17%	9%	5%	**-20%**	-8%	-8%	-13%	8%	-22%	16%	**-7%**	**-14%**	**51.5%**
Dec-22	-9%	-33%	-32%	-12%	-17%	-25%	61%	**-19%**	-23%	-9%	-20%	-11%	-12%	-11%	**-16%**	**-17%**	**49.7%**
Jan-23	-13%	-32%	-8%	-30%	-21%	-6%	38%	**-19%**	-19%	-16%	5%	-6%	-7%	34%	**-10%**	**-15%**	**49.8%**
Feb-23	-41%	-35%	-8%	-34%	-32%	-41%	17%	**-33%**	-25%	-16%	-24%	13%	-22%	-4%	**-17%**	**-26%**	**50.7%**
Mar-23	-35%	-35%	-30%	-37%	-36%	-35%	30%	**-33%**	-35%	-19%	-29%	-12%	-31%	-9%	**-27%**	**-30%**	**47.1%**
Apr-23	-25%	-22%	-19%	-14%	-17%	-48%	29%	**-21%**	-24%	-21%	-17%	-14%	-28%	29%	**-20%**	**-21%**	**47.5%**
May-23	-18%	-17%	-15%	-35%	-28%	-6%	44%	**-18%**	-18%	-26%	-23%	-12%	-22%	-3%	**-19%**	**-18%**	**45.2%**
Jun-23	-2%	-34%	-20%	-20%	-31%	-24%	64%	**-17%**	-26%	-24%	-18%	-7%	6%	-5%	**-18%**	**-18%**	**45.7%**
Jul-23	-25%	-28%	-26%	0%	12%	-16%	35%	**-20%**	-8%	-9%	-6%	4%	3%	-3%	**-5%**	**-13%**	**51.4%**
Aug-23	7%	-15%	-24%	-19%	-17%	-54%	23%	**-10%**	-19%	-30%	-15%	-17%	-10%	0%	**-19%**	**-15%**	**46.5%**
Sep-23	14%	19%	-16%	32%	-4%	-37%	68%	**12%**	-20%	-5%	-9%	-12%	-14%	5%	**-13%**	**-1%**	**43.5%**
Oct-23	11%	24%	-7%	5%	-8%	-47%	24%	**8%**	0%	-16%	1%	-4%	0%		**-4%**	**2%**	**49.1%**

- Freight is going, going, back, back to Cali, Cali. West coast ports continued to lead the improvement in imports in October, particularly at the ports closest to the restricted Panama Canal. West coast port container volumes rose 8% y/y, with all but the northernmost ports participating.
- The major west-to-east shift of the past couple years continued to reverse, with west coast share up 3.0pps from year-ago October.
- All-water shipping from Asia to the US East Coast has resulted in a freight market share shift from highway and rail to ocean over the past couple of years. We believe this has been a minor factor overall in this freight recession, but a larger factor for intermodal volumes. While some incremental freight may shift all-water through the Suez Canal, the shift of imports back to the West Coast should be positive for intermodal demand in 2024.
- This is a much different market with considerably more capacity than in 2020 when imports began surging into Southern California. While we can see imports helping the intermodal sector already, they are not enough to impact trucking freight broadly at this point, though imports could support a return to a stronger freight environment in 2024.

North American Container Export Volumes by Port

Loaded TEUs, y/y % change

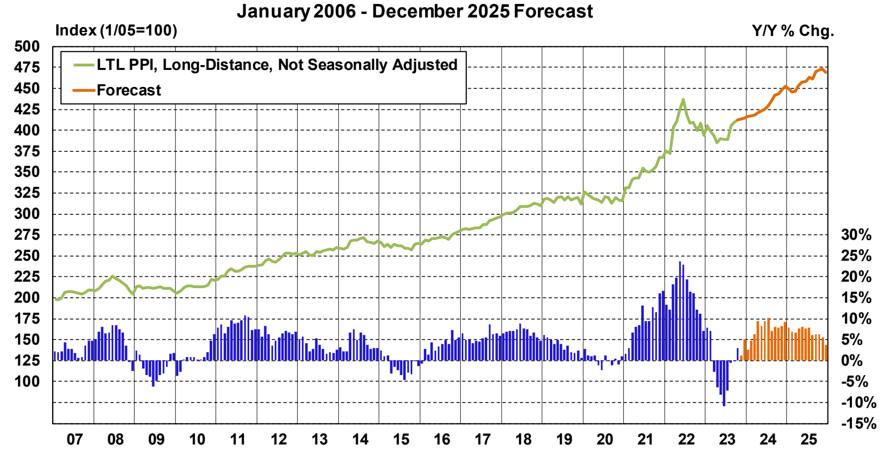
Largest to Smallest ---->

	Los Angeles	Long Beach	Vancouver	Seattle	Oakland	Prince Rupert	Lazaro Cardenas	**West Coast**	New York	Savannah	Virginia	Houston	Charleston	Baltimore	**East/Gulf Coast**	**Total**	**East/Gulf Coast % of Total**
Jul-22	14%	0%	-8%	-17%	-31%	-21%	14%	**-6%**	-14%	3%	5%	36%	-25%	0%	**1%**	**-2%**	**56.1%**
Aug-22	1%	2%	-24%	-6%	-5%	-6%	2%	**-5%**	5%	4%	12%	36%	-20%	-10%	**8%**	**1%**	**55.1%**
Sep-22	3%	2%	-12%	-19%	-12%	-18%	2%	**-6%**	3%	-8%	5%	47%	-19%	-2%	**4%**	**-1%**	**55.7%**
Oct-22	-9%	-2%	-8%	-28%	18%	-42%	-1%	**-7%**	-7%	3%	1%	25%	-7%	4%	**3%**	**-1%**	**56.9%**
Nov-22	9%	14%	19%	-18%	-12%	11%	8%	**4%**	-7%	6%	11%	25%	-17%	0%	**4%**	**4%**	**55.4%**
Dec-22	36%	2%	9%	15%	5%	-18%	0%	**11%**	-3%	27%	2%	19%	11%	-7%	**10%**	**10%**	**55.9%**
Jan-23	3%	-14%	20%	4%	-7%	-14%	15%	**-2%**	12%	21%	39%	31%	11%	24%	**23%**	**11%**	**57.5%**
Feb-23	-14%	-6%	25%	0%	-11%	-33%	6%	**-4%**	-5%	7%	9%	42%	12%	-15%	**10%**	**4%**	**57.4%**
Mar-23	-12%	17%	1%	-5%	-6%	16%	-22%	**0%**	-1%	8%	5%	10%	-13%	2%	**3%**	**2%**	**55.4%**
Apr-23	-12%	1%	21%	1%	-4%	-20%	-16%	**-1%**	0%	-6%	-8%	-4%	12%	10%	**-2%**	**-2%**	**55.8%**
May-23	-19%	8%	3%	-6%	-15%	0%	-15%	**-6%**	-7%	-5%	-10%	3%	4%	-15%	**-4%**	**-5%**	**54.6%**
Jun-23	15%	-18%	19%	-12%	-21%	-13%	-6%	**-5%**	-8%	-9%	-4%	1%	33%	-18%	**-2%**	**-3%**	**55.4%**
Jul-23	6%	-18%	-34%	-8%	23%	-19%	-24%	**-7%**	5%	-14%	4%	15%	9%	-6%	**2%**	**-2%**	**58.5%**
Aug-23	22%	-23%	-5%	-11%	-7%	-34%	8%	**-5%**	-3%	-15%	-6%	-6%	9%	3%	**-5%**	**-5%**	**55.1%**
Sep-23	55%	-10%	7%	34%	9%	17%	0%	**16%**	-3%	11%	-3%	21%	12%	-8%	**7%**	**11%**	**53.7%**
Oct-23	35%	-25%	5%	32%	4%	1%	14%	**5%**	-1%	-4%	3%	6%	-4%		**0%**	**3%**	**55.7%**

- Container export trends improved considerably across North American ports in the past few months, with significant increases from west coast ports as they regained share from the East, and modest improvement from the East too.
- The strengthening US dollar and ongoing trade tensions suggest muted export trends.

Producer Price Index, Long-Distance LTL

January 2006 - December 2025 Forecast

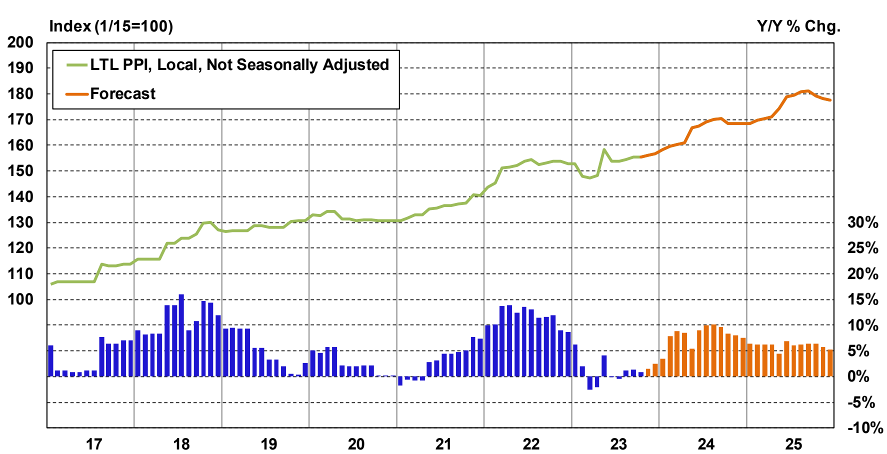


Source: Bureau of Labor Statistics, ACT Research Co. © 2023

- The long-distance LTL Producer Price Index (PPI), an all-in rate including fuel, rose 0.6% m/m in October, and is now up 5.9% since Yellow's exit in July.
- LTL rates have moved higher particularly quickly in the long-haul market, where Yellow's share was well above their 9%-10% of the entire LTL sector: Yellow and Roadway were historically long-haul LTL fleets, and the USF regional brands were a smaller proportion of Yellow's fleet.
- After a fuel price-supported 16% increase in 2022, we forecast a 1% full-year decline in this index for 2023, including about 3-4 percentage points (pps) of fuel headwinds, followed by 8% and 7% fuel-neutral increases in 2024 and 2025.
- These forecasts are little changed despite our modest TL rate forecast reductions, as we assume low price sensitivity to TL right now.

Producer Price Index, Local LTL

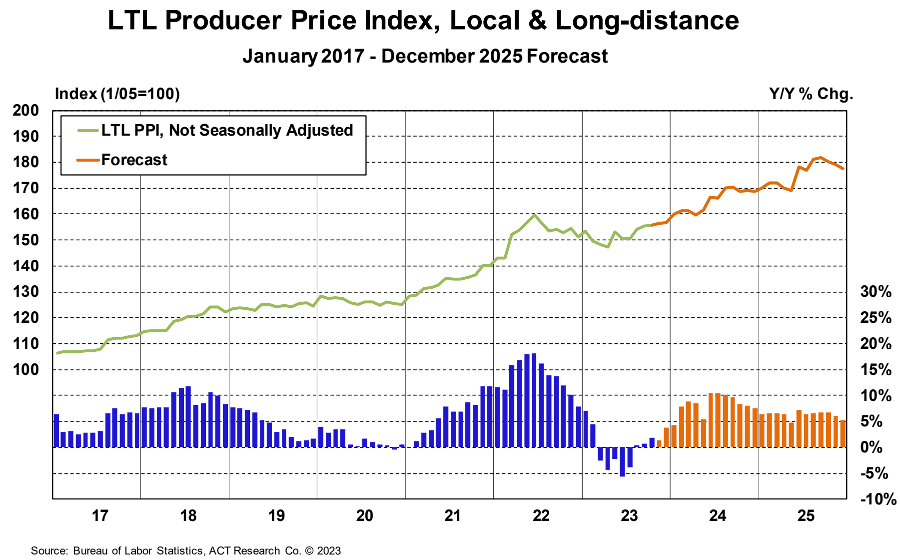
January 2017 - December 2025 Forecast



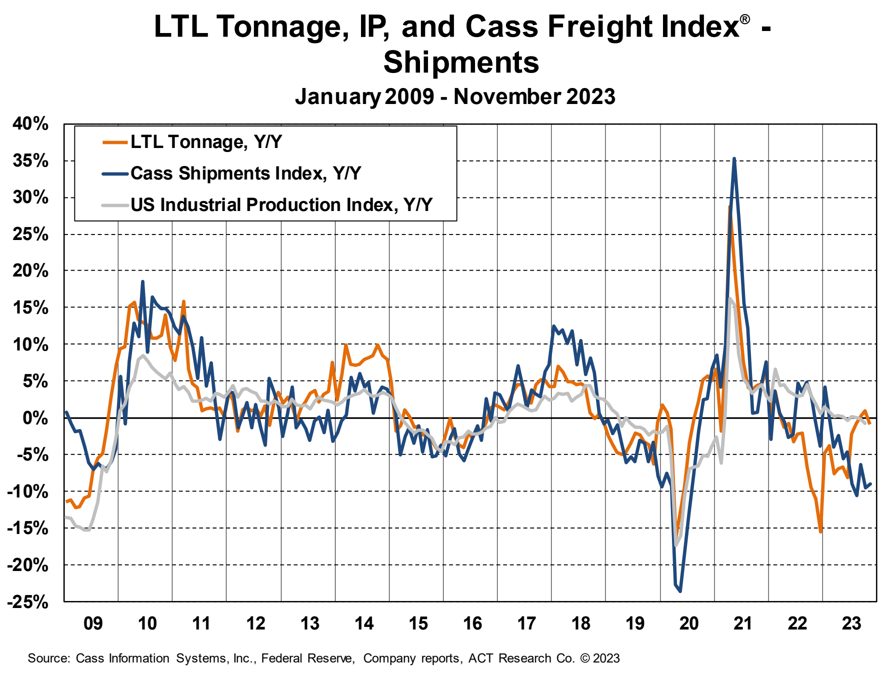
Source: Bureau of Labor Statistics, ACT Research Co. © 2023

- The local LTL PPI was flat m/m in October, after a 0.6% m/m increase in September, but we estimate lower diesel prices lowered rates by about 0.5% m/m, so underlying rates likely continued to rise.
- Yellow's USF and New Penn brands provided regional service, so their closure puts upward pressure on local LTL pricing both directly and indirectly via the larger loss of capacity. However, these brands had a smaller presence in regional markets, so the acceleration in local rates is going slower than that for the long-distance LTL PPI.
- For 2023, we estimate a 2% increase in this index, with about 3pps of fuel surcharge savings and underlying rates up about 5%. For 2024 and 2025, we estimate 8% and 7% fuel-neutral increases in this index, respectively.
- We slightly lower these forecasts this month as we incorporate a longer TL downcycle, but with a low sensitivity.

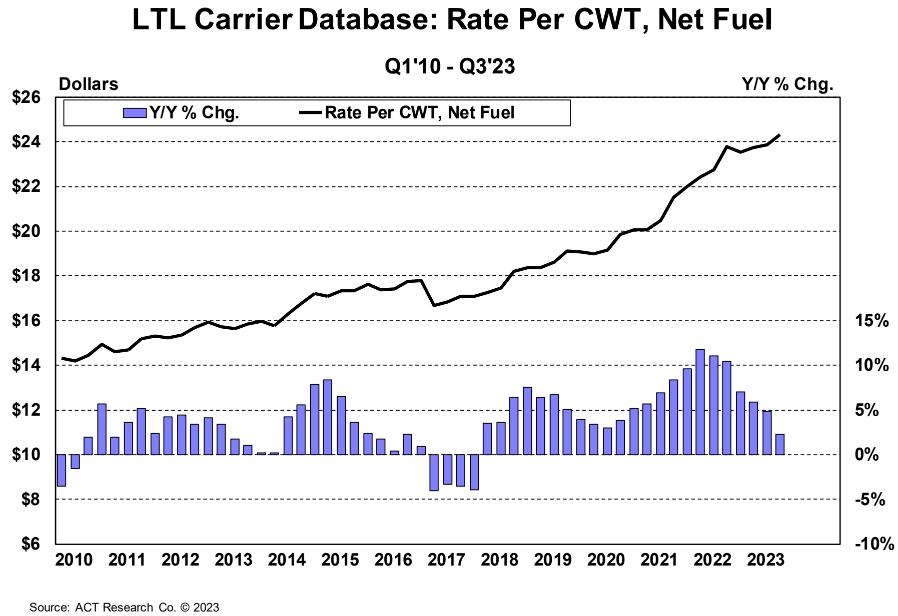
ACT Research



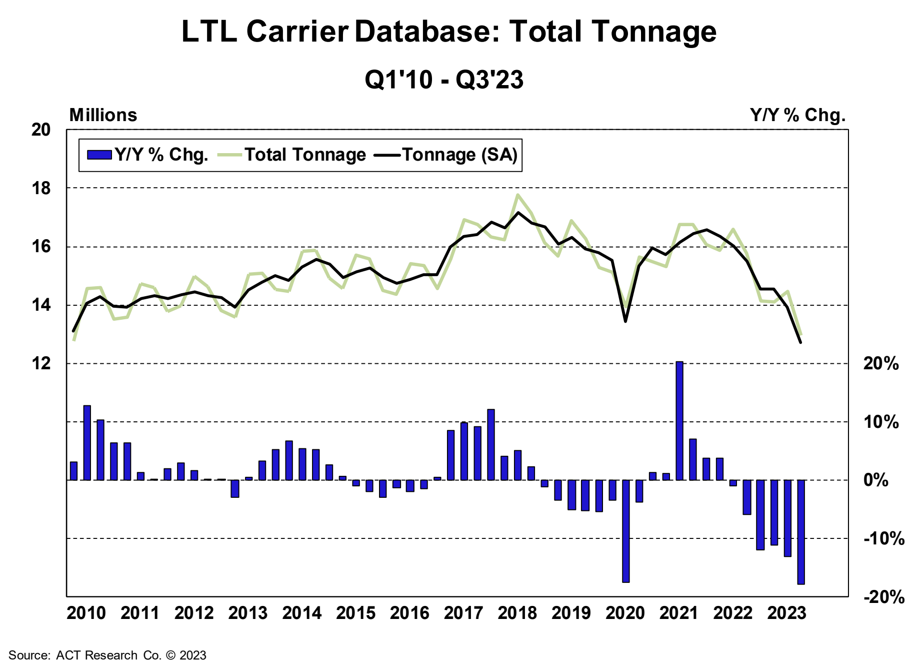
- The index above is a combination by ACT Research of the two indexes on the prior page, for those curious about what the two LTL indexes mean for the sector as a whole.
- Over the long run, we expect local and long-haul trends to be generally consistent with potential for outperformance in local rates driven by regional LTL freight demand, but absent Yellow's larger presence in the long-haul market, those rates are rising more quickly in the near term.



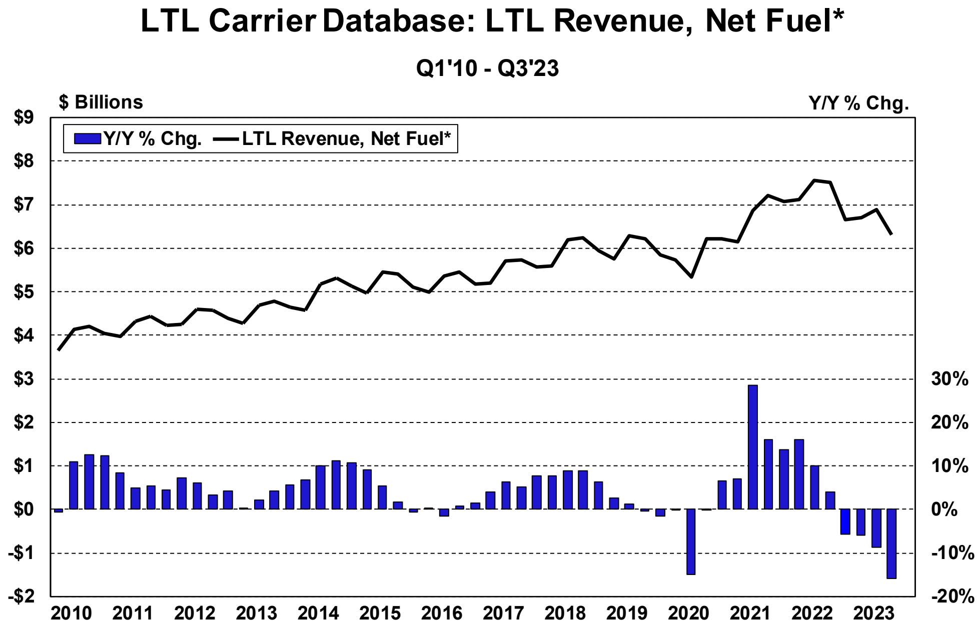
- Average public LTL tonnage fell 0.9% y/y in November, after turning positive in September and October following 17 months of declines. It appears shippers continue to test other modes. The absence of Yellow in this average has led the improvement ahead of the Cass Freight Index®. But since much of Yellow's business went to multi-stop TL, other LTLs, and hot shots, the improvement in freight at these peers has been modest to date.
- US industrial production is roughly flat y/y, rising 0.2% y/y in August, according to Federal Reserve data, after a flat y/y result in July.
- Measuring the LTL sector will be tricky for the next year. This monthly series may overstate the market due to survivorship bias, since it is a simple average of Saia, OD, ArcBest, and XPO (we chose not to include a -100% for Yellow), but it is a relatively small sample.



- LTL yield (revenue per hundred pounds), net fuel, rose 2.3% y/y in Q3’23, following a 4.9% y/y increase in Q2’23. Yield rose 1.9% q/q.
- LTL pricing trends have turned positive the past few months, as expected, and fleets continue to raise rates to fund network investments. Persistent competitive pressure from adjacent modes should keep LTL rates from accelerating particularly quickly, but general rate increases are set to be above average in the coming months.
- We changed our LTL rate series a few months ago following Yellow’s bankruptcy, and this new series reflects the addition of Knight-Swift LTL (AAA Cooper and MME) and TFI Canada, and the removal of Yellow going forward.

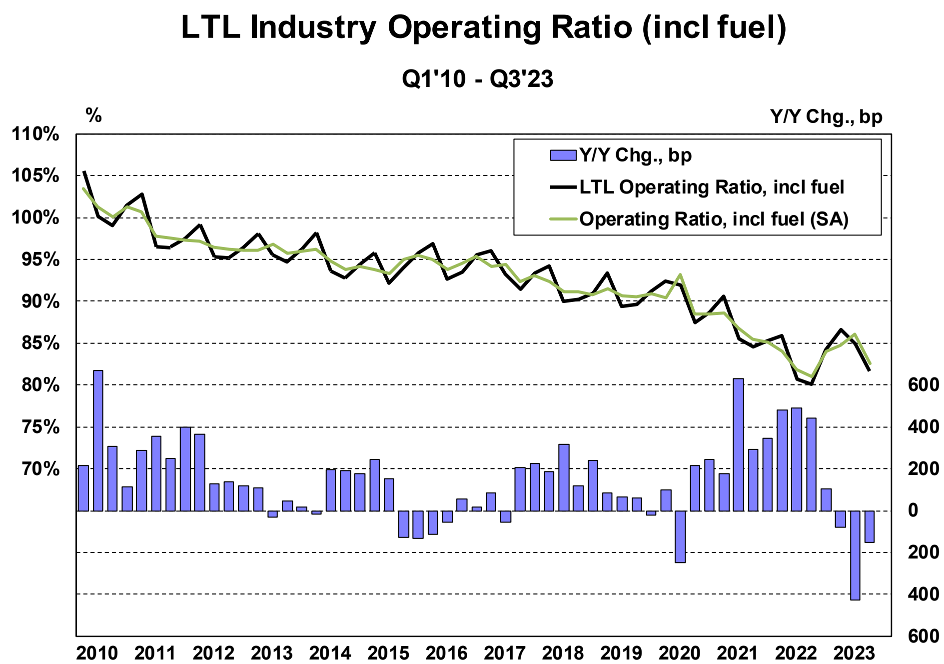


- LTL tonnage for the public fleets fell 18% y/y in Q3’23. Though Yellow’s LTL market share was 9%-10%, it was 16% of this data set in Q3’23, so its absence accounts for most of the decline. Adjusted, tonnage was down 2%.
- On a seasonally adjusted (SA) basis, LTL tonnage fell 8.7% q/q in Q3 from Q2, after a 4.3% q/q drop in Q2, with a fairly modest proportion of Yellow’s freight moving to the other nine fleets in our database.



*Includes FedEx Freight, TForce Freight/UPS Freight, XPO LTL, Old Dominion, Saia, ArcBest, Forward Air, Yellow Corp.
Source: ACT Research Co. © 2023

- LTL revenue, net fuel, fell 16% y/y in Q3’23, largely reflecting the absence of Yellow, after an 8.7% decrease in Q2.
- The ten fleets in the ACT For-Hire LTL Carrier Database represent about 65% of the LTL industry, and though we’ve added two fleets, privately held fleets not in our database will gain share as well.



Source: ACT Research Co. © 2023

- The LTL sector operating ratio (OR) of 81.6% in Q3’23 improved by 350 basis points (bps) q/q, but was still 150bps worse than the year-ago quarter.
- The main factor behind the q/q improvement was the absence of Yellow.
- On an SA basis, the LTL sector OR declined (improved) by 150bps q/q in Q1’23 to 86.2%, after a 70-bp increase in Q4’22.

Public Less-Than-Truckload (LTL) Industry Database

Financial & Operating History and Outlook

$ in millions, except as noted	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
Transportation Revenue, net fuel	**37,570**	**40,995**	**40,243**	**40,238**	**45,190**	**44,458**	**38,120**	**40,165**	**44,584**
y/y	10%	9%	-2%	0%	12%	-2%	-14%	5%	11%
Fuel Surcharge	2,894	3,697	3,607	2,982	4,553	7,950	5,857	6,659	7,503
y/y	21%	28%	-2%	-17%	53%	75%	-26%	14%	13%
LTL Revenue, net fuel	**22,210**	**23,978**	**24,095**	**23,515**	**27,286**	**28,837**	**26,414**	**28,054**	**31,624**
y/y	6%	8%	0%	-2%	16%	6%	-8%	6%	13%
Total Revenue	40,464	44,692	43,850	43,220	49,743	52,408	43,977	46,825	52,087
y/y	10%	10%	-2%	-1%	15%	5%	-16%	6%	11%
Total Operating Expenses	38,612	41,950	40,950	40,167	45,029	45,174	38,084	40,016	43,543
Operating Income	**1,852**	**2,742**	**2,900**	**3,053**	**4,714**	**7,234**	**5,892**	**6,809**	**8,544**
y/y	25%	48%	6%	5%	54%	53%	-19%	16%	25%
Operating Ratio (OR)	**95.4%**	**93.9%**	**93.4%**	**92.9%**	**90.5%**	**86.2%**	**86.6%**	**85.5%**	**83.6%**
Margin change, y/y	55bp	156bp	48bp	45bp	241bp	433bp	(40bp)	114bp	186bp
OR, net fuel	**95.1%**	**93.3%**	**92.8%**	**92.4%**	**89.6%**	**83.7%**	**84.5%**	**83.0%**	**80.8%**
Margin change, y/y	62bp	176bp	52bp	38bp	284bp	584bp	(81bp)	149bp	221bp
Pretax Income	1,050	1,910	1,794	1,845	3,200	4,674	3,565	4,504	6,175
Taxes	306	387	386	441	825	1,148	974	1,182	1,523
Tax Rate	29.1%	20.3%	21.5%	23.9%	25.8%	24.6%	27.3%	26.2%	24.7%
Net Income	**744**	**1,522**	**1,408**	**1,404**	**2,374**	**3,526**	**2,591**	**3,322**	**4,651**
y/y	22%	104%	-7%	0%	69%	48%	-27%	28%	40%
Net Income Margin	**2.2%**	**4.1%**	**3.9%**	**3.9%**	**5.8%**	**8.6%**	**7.7%**	**9.5%**	**12.0%**
Margin change, y/y	20bp	189bp	(21bp)	2bp	194bp	274bp	(84bp)	182bp	243bp
LTL Operations									
Total Revenue Per CWT, incl fuel	$19.38	$20.91	$21.94	$22.23	$24.85	$30.20	$30.86	$33.43	$35.52
y/y	-2%	8%	5%	1%	12%	22%	2%	8%	6%
Rate Per CWT, net fuel	$16.93	$17.82	$18.79	$19.53	$21.03	$23.11	$24.35	$26.50	$28.26
y/y	-4%	5%	5%	4%	8%	10%	5%	9%	7%
Total Tonnage	65,582	67,297	64,108	60,194	64,873	62,403	54,239	52,934	55,956
y/y	10%	3%	-5%	-6%	8%	-4%	-13%	-2%	6%
Total Shipments (000s)	101,676	102,541	99,612	93,493	100,894	98,202	86,983	86,893	91,952
y/y	6%	1%	-3%	-6%	8%	-3%	-11%	0%	6%
Average Weight per Shipment (lbs)	1,290	1,313	1,287	1,288	1,286	1,271	1,247	1,218	1,217
y/y	3%	2%	-2%	0%	0%	-1%	-2%	-2%	0%
Revenue per Shipment, net fuel	218	234	242	252	270	294	304	323	344
y/y	0%	7.1%	3%	4%	8%	9%	3%	6%	7%
LTL Operating Ratio, incl fuel	**93.4%**	**91.3%**	**90.8%**	**90.0%**	**86.3%**	**82.6%**	**83.8%**	**82.2%**	**80.2%**
y/y	115bp	217bp	45bp	81bp	368bp	375bp	(122bp)	155bp	202bp

Fleets included: Old Dominion, Saia, XPO Logistics, FedEx Freight, TFI International, Knight LTL, ArcBest, Forward Air, and Yellow Corp (historically).
Source: ACT Research Public Less-Than-Truckload Industry Database. Copyright 2023. Click here for more information.

- This table summarizes the key financial and operating metrics for the public LTL sector. Our data set now reflects the addition of Knight-Swift LTL (AAA Cooper and MME) and TFI Canada. Data for Yellow end with Q2'23. The forecasts are based on our tonnage and rate forecasts, in addition to general expectations for operating cost inflation.
- The financial data in the top section reflect the entire companies for those which are primarily LTL, with the exceptions of FedEx and Knight-Swift, where we include just their LTL operations.
- The operational data in the bottom section remove all non-LTL business from the operating and financial statistics.
- LTL fleets have shown consistent margin improvement over the past several years, and after a pause that refreshes in 2023, we expect a relatively strong pricing environment to drive further improvement in the years to come.
- However, the forecast also reflects the redistribution of freight from an essentially unprofitable fleet to a number of profitable ones, improving the overall financial health of the sector.

US ECONOMIC OVERVIEW

The Year of Living Dangerously – The basics of our economic outlook have not changed – we continue to look for growth in the short term and long term of just under 2%, pretty much matching "potential" growth. This is our view even in the face of recent robust numbers, including an upwardly revised Q3 GDP growth estimate of 5.2% (q/q annualized). We regard this as an outlier, resulting from special factors, which will not carry forward to Q4 or to 2024. While some readers may look at sub-2% growth as pessimistic, the offset is that with each passing month, we mark down the probability of recession. We are not quite at the stage of ruling out a recession for 2024, but we think the probability of an economic downturn occurring in the next 12 months is 15% or less. This stands in contrast to our view one year ago, when recession was our base case for 2023.

In this month's economic commentary, we are reflecting on 2023 as we close it. While history can be entertaining, our real interest is to study the events and trends that transpired to apply the lessons going forward. In a decade marked by a pandemic, escalating inflation, supply-chain crises, and hot spot warfare, last year seemed to be another minefield. But the economy successfully navigated 2023, "living dangerously" all through the journey.

Soft landing – almost ready to put in the W column. History shows that a successful campaign by the Fed to engineer a soft landing is a rarity. Examination of the last 60 years shows only two "wins" (1965-66 and 1994-95) against seven "losses," when episodes of inflation-fighting rate hiking cycles ultimately contributed to recessions.

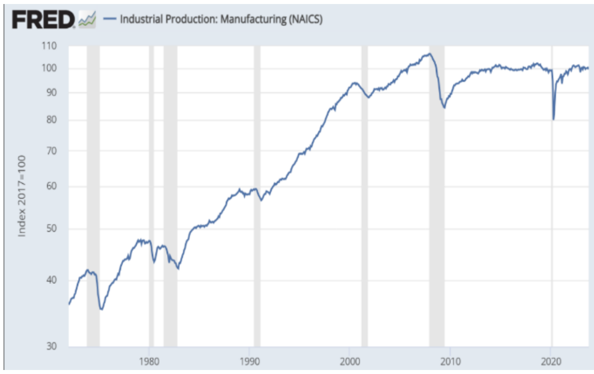
The jury is still out, and probably won't render a final verdict until late 2024. But at the moment, the prospects of a recession-free tightening cycle look promising. If the Fed can push inflation down to the 2% targeted rate for "core" (excluding food and energy) from the 2.5-3.0% current run rate, while the economy keeps growing, it can check the box. Using a football metaphor, we are in the red zone, but not quite in the end zone. In retrospect, this is quite a success for both the Fed and the economy, given the magnitude of the inflation problem (9% in the summer of 2022) and the aggressiveness of the Fed response (steepest tightening since 1981-82).

Silicon Valley Bank – the catalyst for a financial crisis that didn't happen. Financial crises are not fun. Long-Term Capital Management (LTCM) came close to triggering a global financial panic with its failure in 1998, as did the Bear Stearns collapse in the spring of 2008. Bear Stearns was the precursor to the mother-of-all-financial-crises, a chain reaction started by Lehman's failure in September 2008. When Silicon Valley Bank was closed and the FDIC named receiver on March 10, the risk of Lehman-like contagion came to the forefront. Their deposit base took flight as interest rates increased; at the same time, SVB was burdened with a loan portfolio locked into low historic rates. While the problem did spread to some other mid-sized banks (Signature and First Republic), the problem was largely contained. The lessons for 2024 are favorable: first, that the financial system is resilient, and second, any bank that started 2023 with an asset-liability mismatch has had nine months to fix it. It's also likely some bank CEOs keep Jamie Dimon's cellphone number handy.

Congress walks the budget tightrope. You deserve the government you elect. Congress, specifically the House of Representatives, collectively walked to the edge of the cliff three times in 2023. First on May 31 to raise the debt ceiling, then on September 30 with an 11th-hour budget extension, and once again on November 15 when a stopgap funding measure was passed. This may be a perverse positive – perhaps our representatives like to posture, but then can be counted on to compromise in a concession to reality. But common sense suggests there is risk to these close calls. The August 1 Fitch rating downgrade of US long-term debt to AA+ from AAA can be taken as a worrisome sign. To paraphrase Hemingway in *The Sun Also Rises*: fiscal crises happen gradually, then suddenly.

Count on the consumer. It is no surprise consumer spending was critical to recession avoidance during 2023. Even in the face of higher interest rates, weak sentiment metrics (especially the University of Michigan survey), and unsettling news developments, consumer expenditures were the biggest non-government sectoral contributor to GDP growth. Consumers helped make up for 2023's subpar results for residential investment and business equipment spending. The year's big surprise was ongoing healthy increases in consumer spending on durable goods, which are usually interest rate sensitive – perhaps a good portent for 2024.

Flat is good for manufacturing in 2023…and 2024. No sports team is happy with a tie, and no business leader is happy with a horizontal sales line, versus one growing north. But there are times when framing matters: flat compared to what? Complaints aside, flat beats what happens to manufacturing in recessions.



As the above 60+ year chart shows, manufacturing is "pro-cyclical" – it responds to changes in the economy with a sizable multiplier (beta) on rate of change. In the current cycle, industrial output has been flat for almost two years, since the post-COVID upside breakout in 2020. But flat is pretty good compared to the declines of past recession cycles, which saw drops of as much as 15-20% peak to trough.

The housing conundrum. One intended target of monetary policy tightening and higher interest rates is to trim the housing market by chilling *demand* for new and existing homes, making payments less affordable. Reinforcing that impact – and one of the surprises of 2023 – has been how higher mortgage rates have also impacted *supply*, by turning homeowners into squatters. Holding the attractive, low-rate mortgages they signed two or more years ago, some homeowners are staying put. Some households are locked in place, even in the face of lifestyle needs (a bigger, nicer place) or family demands (more kids) that would ordinarily dictate a move. Even job changes or promotions requiring relocation are being deferred, to keep that low-rate mortgage. As a result, home inventories have been at their lowest since the 1980s, taking volume and liquidity out of the residential marketplace. The good news is that slow times today will lead to pent-up demand in the future. That should become a growth driver once mortgage rates decline.

Stretching the horizon to look beyond 2024, our outlook anticipates continued slow growth. Trend growth averaging 1.8% is in line with most analysts' views on long-term US prospects. The growth trajectory we see is based on labor force growth of about 0.4% per year, coupled with annual labor productivity gains projected at about 1.4%. While there is some chance for a recession in the out-years, it is more likely to result from an unforecastable "black swan" event than anything systematically anticipated.

KEY ISSUES, CUSTOMER QUESTIONS, AND SIGNS TO WATCH IN DECEMBER AND JANUARY

Recent questions posed to us by our customers in November and December have been:

Is the Fed done hiking rates?

Probably, but we say that with less assurance than back at the start of November. The recent decline in long-term bond yields means that the bond market is NOT doing some of the "dirty work" that many Fed watchers and investors were expecting five or six weeks ago. This might make the final 2023 FOMC meeting (Dec 12 & 13) more of a discussion on hiking rates than rubber stamping a no-change decision.

How is the holiday retail season shaping up?

The short answer is nobody knows for sure. Most of the guesses now seem to be for a lukewarm season, but not terrible; however, this can change on a dime. Traditionally, analysts try to milk insights from sales on Black Friday or Cyber Monday, but history shows that early signs, positive or negative, can be reversed with the momentum of mid-December to Christmas, and even after, with post-Christmas sales. Clearly, in December, weather plays a huge role, too.

Q3 GDP was a big upside surprise. Is this a turning point, and will it continue?

In many ways, Q3 was a unicorn with a perfect storm of positives, not likely to repeat. We are expecting a "regression to the mean" in Q4 and beyond.

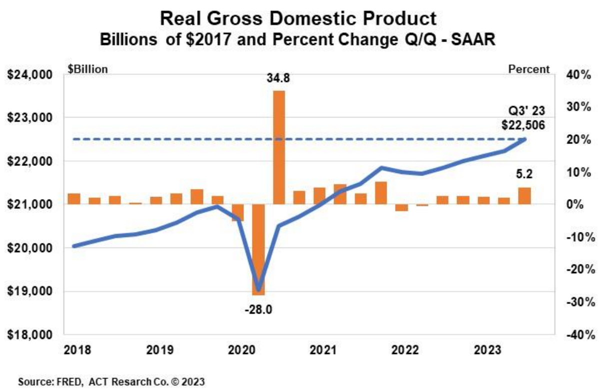
What bears monitoring? What are you really focusing on now?

Watching financial markets, especially the stock and bond rally, wondering if they are getting ahead of their skis on Q4 profits, the decline in inflation and seeming anticipation of the first Fed easing in May. And eyes on the Fed as it holds the December 12-13 meeting.

ACT Research

US ECONOMIC GROWTH INCREASES TO 5.2% WITH SECOND ESTIMATE

As stated last month, the US economy continued to outpace expectations in Q3, even in the face of significant economic headwinds. Based on more complete data, the BEA estimates that the US economy grew 5.2% in Q3'23 on a q/q SAAR basis. Consumer resilience, a rebound in private domestic investment, and sustained government spending helped accelerate the pace of Q3 economic growth. While this may not be the news the Fed was hoping for, on closer inspection, the economy is growing closer to 1.8% trend growth than Q3's performance alone would imply. To be sure, calendar-year-to-date through Q3, the economy grew 2.3% compared to the same three quarters of last year. This would imply that Q3's strong performance may have been more of an anomaly than a sign of a hotter economy.



Personal consumption expenditures (PCE) were revised down slightly due to lower services spending, but still accounted for nearly half of total GDP growth. The majority of PCE's contribution to growth came from spending on services (1.4%), a much less freight intensive subsector, while goods consumption remained strong with a combined contribution of 1.1 percentage points (pps).

On a somewhat more positive note for freight, gross private domestic investment (GPDI) was revised slightly higher. GPDI added 1.8pps to GDP in Q3'23, an increase of 0.3pps from the preliminary reading. All three subsectors were revised higher, with nonresidential investment increasing by 0.2pps from the preliminary estimate. The sector's largest contribution to overall growth – 70% of GPDI's total contribution – came from the change in private inventory. Despite high mortgage rates, the positive contribution from residential investment surprised to the upside.

With most of 2023 data already in the books, it is safe to say that GDP growth will exceed 2.0% for the third time in the last five years. Regarding expectations for next year, the data is somewhat bifurcated, with some analyst's predicting a major slowdown in 2024 (0.7% y/y) and others still believing the economy will remain near its 1.8% trend growth rate. The major issues supporting slower growth center around higher borrowing costs and the depletion of household excess savings that accumulated from the COVID-19 stimulus payments. In addition, as we move closer to loosening borrowing costs, a case could be made for consumers waiting for lower interest rates before making a long-term borrowing commitment. This would continue to impact the housing market and other big-ticket items like automobiles.

Personal interest payments as a percentage of disposable personal income (DPI) are at 2.8%, which is closing on the highs of the 1980s, 1990s, and the 2008 financial crisis. The 2008 subprime financial crisis was the result of an expansion of mortgage credit which led to a sharp rise in home prices and the willingness of lenders to accept small down payments and provide mortgages to more risky borrowers. From 2008 to 2010, the 10-year Treasury yield, a benchmark for mortgage rates, averaged around 3.2% and never peaked above 3.9%. In addition, from 2008 to 2010, consumer price inflation (CPI – All Items) averaged just 0.7% and never peaked above 2.8% on a y/y basis. However, for this discussion, it is better to focus on the 1980s and 1990s, because the higher borrowing costs of the 2008 recession were more of a function of bank failures than the Fed's desire to lower inflation. Today, the 10-year Treasury bond is trading at around 4.5%, with CPI inflation at 3.2% y/y and falling. Comparing today to the 12-year period of 1980 through 1991 when CPI averaged 5.4% (peaking at 14.6%) and the 10-year Treasury yield averaged 10.2% (and peaked at 15.3%), it is easy to see these are far different times.

As for the consumer's liquid assets, households are in a far better position today than they've ever been in history. While some of these funds are from the withdrawal of home refinancing, the interest payments on those withdrawals are most likely well below current borrowing rates and the current level of inflation. This places consumers in a very favorable position to keep spending in the coming months, even if most of the COVID-19 stimulus funds are exhausted. This data also suggest that the economy should keep growing well into 2024, allowing the Fed time to bring down inflation while successfully managing a soft landing for the economy.

CONSUMER INDICATORS: The composite indicator for the "ability to consume" remains yellow, with personal income growth increasing slightly, interest payments on personal credit stabilizing, and CPI inflation slowing. The only downside to this month's report was an increased inversion of the yield curve.

Real disposable personal income (RDPI) remained green for the ninth consecutive month, increasing 3.9% y/y in October, reversing a growth slowdown that started in July. However, a 3.9% y/y increase in RDPI means consumers still have about $583 billion more to spend than they did a year ago. When including the amount of excessive checkable deposits and available cash, it is easy to understand why personal consumption expenditures continue to be the driving force behind growth in the economy.

Personal interest payments as a percentage of disposable income remained unchanged at 2.8% in October. This is equivalent to $63.4 billion on an annualized basis. This is money that could otherwise be used for discretionary spending, forcing many households to dip deeper into savings to support their consumption patterns. However, on a positive note, the monthly increase in interest payments has been trending downward, with October at $52.1 billion, below the average for the last 12 months on an annualized basis.

Consumer price inflation, defined by CPI – All Items, rose 3.2% y/y in October, a decline of 0.5pps compared to September.

- CPI inflation, less food and energy (core), fell to 4.0% y/y, continuing its slow decline from a 6.6% peak reached in September 2022.
- While it is true that prices of some items remain stubbornly high, the prices on many items have fallen significantly below their previous peaks. For example, food (-8.0pps), energy (-45.8pps), medical (-6.8pps), and transportation (-21.6pps) inflation are significantly lower than at their post-pandemic peaks.
- In addition, goods prices have begun to fall. Durable goods prices have fallen or stayed unchanged for the last ten months. Nondurable goods inflation fell to just 1.7% y/y in September and is down 14.1pps from its previous peak.
- Inflation on shelter has remained stubbornly high, but is showing signs of slowing. In fact, it is one of the main contributors to top-line inflation and reflects estimates of homeowner rents rather than the true cost of shelter for most homeowners. Removing shelter from the CPI brings inflation down to just 1.5% y/y in October.

The yield curve indicator remains red, as the spread between the 10-year minus 3-month Treasuries remains negative at -102bps.

Consumer Leading Indicators

	Ability to Consume					Willingness to Consume				
	Real Disposable Income	Personal Interest Payments	CPI - All Items Inflation	Yield Curve	Composite	Consumer Sentiment	Initial Unemp. Claims	Average Manufacturing Hours / Week	Stock Market	Composite
Dec	-0.9	2.1	6.4	-74.0	Red	59.8	210,600	40.6	33,482	Yellow
2023	3.2	2.1	6.3	-116.0	Yellow	64.9	199,500	40.9	33,656	Yellow
Feb	3.5	2.1	6.0	-104.0	Yellow	66.9	218,500	40.7	33,648	Yellow
Mar	4.4	2.1	5.0	-120.0	Yellow	62.0	242,000	40.6	32,483	Yellow
Apr	4.5	2.2	5.0	-161.0	Yellow	63.7	237,000	40.7	33,731	Yellow
May	5.0	2.4	4.1	-174.0	Yellow	59.0	229,750	40.7	33,317	Yellow
Jun	5.3	2.5	3.1	-167.0	Yellow	64.2	256,750	40.8	33,905	Yellow
Jul	4.3	2.5	3.3	-159.0	Yellow	71.5	232,400	40.7	34,777	Yellow
Aug	4.0	2.6	3.7	-139.0	Yellow	69.4	237,750	40.8	34,881	Yellow
Sep	3.8	2.8	3.7	-118.0	Yellow	67.9	210,800	40.7	34,319	Yellow
Oct	3.9	2.8	3.2	-80.0	Yellow	63.8	210,750	40.7	33,319	Yellow
Nov				-102.0	Yellow	61.3	220,250	40.6	34,705	Yellow

Note: Disposable Income percent change year-over-year, Non-mortgage Interest Payments as Percent of Disposable income, CPI inflation year-over-year percent change, Yield Curve calculaton 10-year minus 3-month Treasury Bills monthly average, Univeristy of Michigan Consumer Sentiment, Weekly initial claims monthly average, average weekly Manufacturing Hours worked, and DJIA monthly average.

Source: Bureau of Economic Analysis, Federal Reserve Board of Governors, Bureau of Labor Statistics, University of Michigan, and ACT Research Co © 2023.

- The 10-year and 3-month Treasuries yield spread moved slightly more negative in November to -102, from -80 in October, after improving for four consecutive months.

The 3-month Treasury yield has flattened in recent months, as the Fed has not increased the target federal funds rate since July 2023. This caused the negative spread between the 10-year and 3-month Treasury yields to narrow, as the yield on the 10-year Treasury increased faster than the 3-month Treasury yield. The latest, more negative, reading was the result of the 10-year Treasury yield falling more quickly than the 3-month Treasury yield.

The composite for "willingness to consume" indicators remained yellow, as consumer confidence was unchanged, even as the stock market indicator was upgraded to green.

After rebounding mid-year, the University of Michigan (UoM) consumer sentiment index fell for the fourth consecutive month in November (63.1), from its July peak (71.6). While the index is slightly higher than it was last year, this month's 4.0% decline was a mix of improving factors offset by areas of increased pessimism.

- Contributors to the survey had a more favorable assessment of current economic conditions and expectations of personal finances, helped by a rebound in the stock market. However, these positives were offset by increased pessimism regarding future business conditions, with the business conditions component having declined 15% to its lowest level since July 2022.
- The split assessments were age related, as younger and middle-aged consumers exhibited stronger declines in economic attitudes, while the sentiment of those age 55 and older was much more optimistic, likely due to the stock market performance.
- The consumer's year-ahead inflation expectations increased in November, to 4.5% from 4.2% in October. Longer-run inflation expectations moved to 3.2% from 3.0% last month. Despite these more negative sentiments on inflation, consumers did note a continued slowdown in inflation.

The stock market indicator was upgraded to green from yellow, as the markets rebounded again in November after falling for two consecutive months.

- The monthly average of the DJIA increased 4.2% in November to 34,705, from 33,319 in October. More recently, the market continued its rebound with the DJIA moving above 36,000 in the first few days of December. If equity markets continue to advance, all else steady, we will likely see improving consumer sentiment in December.

BUSINESS INDICATORS: The business "conditions and activity" composites remain yellow, with improvements in corporate profits and producer price inflation offset by declines in capacity utilization, industrial production, and new orders.

Corporate profits (without inventory valuation adjustments and capital consumption adjustments) were revised higher in the third quarter to slightly over \$3.0 trillion on a SAAR basis, marking the third consecutive quarter of improvement.

Leading Indicators Business

	Business Conditions					Business Activity				
	Corporate Profits	Debt to Net Worth	Risk Premium	Producer Prices	Composite	Purchasing Managers Index	Capacity Utilization	Industrial Production	New Orders	Composite
Dec	$2,850.1	40.9	116	6.4	Yellow	48.4	77.1	101.5	$35,070	Yellow
2023			110	5.8	Yellow	47.4	78.3	102.5	$35,120	Yellow
Feb			103	4.7	Yellow	47.7	78.4	102.6	$34,983	Yellow
Mar	$2,881.0	40.4	111	2.7	Yellow	46.3	77.7	102.7	$34,633	Yellow
Apr			106	2.3	Yellow	47.1	78.4	103.2	$34,859	Yellow
May			110	1.3	Yellow	46.9	78.2	102.9	$34,872	Yellow
Jun	$2,902.9	39.7	110	0.4	Yellow	46.0	77.6	102.3	$34,698	Yellow
Jul			108	1.3	Yellow	46.3	77.8	103.3	$34,454	Yellow
Aug			107	2.0	Yellow	47.6	77.7	103.3	$34,722	Yellow
Sep	$3,029.1		103	2.2	Yellow	49.0	77.8	103.4	$34,610	Yellow
Oct			102	1.4	Yellow	46.7	77.1	102.7	$34,587	Yellow
Nov			101			46.7				Yellow

Note: Corporate Profits in Billions of dollars, Debt to Net Worth in percent, Risk Premium Baa - Aaa Corporate Bond Spread, Producer Price Index percent change year-over-year. ISM Purchasing Managers Index - Manufacturing, Capacity Utilization Manufacturing, Indestrial Production Index 2017 =100, and Manufacturing New Orders nondefense capital goods excluding aircraft inflation adjusted.

Source: Federal Reserve Board of Governors , Bureau of Economic Analysis, Institute for Supply Management, Moody's, and ACT Research Co © 2023

The Risk Premium Index, the spread between Aaa and Baa corporate bonds, improved for the fifth consecutive month, falling to 101bps in November. While the improvement wasn't significant, the directional trend is worth noting. Nonresidential investment fell more significantly as the risk premium starts to exceed 120bps. The opposite also holds true, as the risk premium fell below 100bps. That said, corporate bond yields have fallen for eight consecutive weeks, with both Aaa and Baa bond yields declining by a combined 54bps. If this trend continues and the risk premium narrows, it will be positive for nonresidential investment and freight.

The Producer Price Index (PPI) for final demand was upgraded to green, as the index decreased 0.8pps to 1.4% y/y on a seasonally adjusted (SA) basis. This reverses a three-month trend of increases, with the PPI inflation rate falling to its lowest level since July.

The manufacturing PMI remained unchanged in November at 46.7, its lowest level since March. Readings below 50 indicate contraction in manufacturing. Underlying details from the most recent survey include:

- The ISM New Orders Index increased in November to 48.3, from 45.5 in October, indicating a slowing pace of contraction. According to the November report, the two industries that reported growth in new orders were Food, Beverage & Tobacco Products and Plastics and Rubber Products. This is compared to 13 industries that reported a decline in new orders.
- The Production Index fell 1.9pps to 48.5 in November, indicating a contraction in production.
- The Employment Index decreased 1.0pps in November to 45.8, following a 4.4pps decline in October. This marks the second consecutive month of contraction in the employment index.
- Delivery performance of suppliers to manufacturing companies was faster for the fourteenth consecutive month in November.

Consistent with the decline in industrial production, capacity utilization for manufacturing declined in October to 77.1%, from 77.8% in September. Overall, this indicator has been trending downward since peaking in April 2022 at 80.0%.

The Industrial Production Index (102.7) remained green in October, but bears watching after falling to its lowest level since February 2023. Motor vehicles assembly of auto and light trucks declined to 8.9 million units, their lowest level since February 2022. While light vehicle sales remain well above year-ago levels, they have been trending downward since June 2023, as higher prices and borrowing costs have impacted consumer demand. The strongest gain in industrial production through November 2023 has been in mining, which is up 5.0% ytd.

The inflation-adjusted manufacturing new orders index is red, as orders continue to struggle to recover from the downward pressure brought by higher borrowing costs and near recession-level consumer durables purchase sentiment. Following a brief recovery after the onset of the pandemic, inflation-adjusted new orders fell to levels not seen since 2010 and remain 6.9% below the previous peak reached in December 2021.

HOUSING MARKET INDICATORS

New home sales declined by 5.6% in October to 679,000 units on a SAAR basis, down from 719,000 units in September. Surprisingly, year-to-date new home sales have averaged 677,000 on an annualized basis, a 6.3% increase compared to the same 10-month period last year. Existing home sales fell to 3,790,000 in October, a decline of 4.1% m/m and 14.6% y/y. On a ytd basis, existing home sales are down 19.5% compared to the same 10-month period last year. Existing home prices, which have fallen in each of the last four months on a m/m basis, remain 3.4% higher than in October 2022. Mortgage rates declined slightly in October, with the 30-year fixed rate at 7.4% and the 15-year fixed rate at 6.7%. Even with the decline, the 30-year fixed mortgage rate remains near its highest level in more than two decades. The most recent decline could negatively impact sales as buyers may decide to wait longer to see if the rate will fall even further.

LABOR REPORT

According to the Bureau of Labor Statistics (BLS), nonfarm payroll employment increased by 199,000 jobs in November, up from the 150,000 jobs added in October, but fewer jobs than added earlier this year. The slowdown in employment growth was anticipated given the Fed's restrictive monetary policy. However, the unemployment rate fell to 3.7% in November, from 3.9% in October, as the number of unemployed persons declined by 215,000 workers. There was an increase in goods producing employment of 29,000 workers, reversing October's decline of 10,000 workers. It remains to be seen if the slower pace of job growth in the second half of this year is enough for the Fed to keep rates where they are when the policy committee meets on December 12-13.

MONETARY POLICY

Is the Fed done raising interest rates? Obviously, the financial markets believe they are, given the 15% surge in equity prices since the Fed last increased the target rate in July 2023. Let's start by talking about why the Fed may be finished raising rates. First, while there are several ways to measure inflation, the Fed likes to look at PCE inflation less the volatile components of food and energy as its key inflation indicator, because it adjusts for what consumers are purchasing rather than the fixed basket of goods used in the CPI. This substitution effect makes the PCE index a better gauge of what consumers are buying with their money. For example, if the price of steak is too high, a consumer can choose to buy fish or chicken to save money. In addition, rather than just looking at the y/y price change, it's better to also look at other inflation calculations.

While PCE – Core inflation grew by 3.5% on a y/y basis, it grew just 2.0% on an annualized m/m basis. In addition, looking at the 3-month minus 12-month moving averages shows the velocity of price growth has been falling or steady since the start of the year. Another reason inflation may be easing is that at the start of the pandemic, many consumers increased their goods purchases since services, such as travel and entertainment, were not available. This contributed to shortages of many items, driving up prices even further. Today, while goods purchases are still above pre-pandemic levels, there is a better diversity of purchases between goods and services, which has helped bring supply in line with demand for items. Finally, at the onset of the pandemic, many older workers decided to retire, forcing companies to replace them with younger, less qualified workers, which drove down productivity and increased costs and, consequently, inflation. On the other side of the coin, there are still reasons to support the belief that inflation will continue to remain sticky. The major cause for concern centers around higher wages and availability of workers. While the Fed has been able to increase the unemployment rate to some degree, labor markets remain tight, enabling workers to demand more substantial wage increases. The most recent wage concession for auto workers, service employees, and the airline industry are just a few examples.

At a recent conference, Fed Chair Jerome Powell stated that the Fed is in no hurry to increase interest rates anytime soon, but he did not rule out the option of further interest rate increases. That said, if inflation does continue to decline more quickly, as it has demonstrated in recent months, this cycle of interest rate hikes might be done, and the Fed could start lowering interest rates as early as next spring.

SUMMARY

- Based on more complete data, the BEA estimates that the US economy grew 5.2% in Q3'23 on a q/q SAAR basis. However, a closer inspection of the data shows that the economy is slowing more toward trend growth than Q3's performance alone would imply. Calendar-year-to-date through Q3, the economy has grown 2.3% compared to the same period last year.
- The composite of consumer's "ability and willingness" remained yellow, as inflation remains high, the yield curve fell further negative, and fears of returning inflation are weighing negatively on consumer confidence.
- The business "conditions and activity" composites remain yellow, as the high cost of capital and a sluggish recovery of new orders helped to keep business attitudes low.
- While mortgage rates fell slightly in October, the housing market reversed the gains from last month with both new and used home sales declining, as buyers wait on the sidelines to see if rates will fall further.
- Job growth slowed in December from earlier this year, as employers added 199,000 jobs compared to the more than 300,000 jobs averaged each month in the first quarter of 2023.
- The FOMC will not meet again until mid-December and recent statements by Fed Chair Powell have given hope to the idea that this round of monetary tightening is ending. However, strong GDP growth and continued tightness of the labor market may cause the Fed to reassess its policy stance.

U.S. ECONOMIC ACTIVITY

	2021	2022	2023	2024	2025	2026	2027	2028
	(A)	(A)	(F)	(F)	(F)	(F)	(F)	(F)
Real GDP (bil. US$17)	21,408	21,822	22,358	22,778	23,194	23,645	23,920	24,425
	5.8%	**1.8%**	**2.5%**	**1.9%**	**1.8%**	**1.9%**	**1.2%**	**2.1%**
Personal Consumption (bil. US$17)	14,718	15,091	15,419	15,676	15,964	16,268	16,512	16,858
Y/Y % Chg.	**8.4%**	**2.5%**	**2.2%**	**1.7%**	**1.8%**	**1.9%**	**1.5%**	**2.1%**
PCE: Durable Goods (bil US$17)	1,965	1,960	2,040	2,080	2,134	2,195	2,244	2,322
Y/Y % Chg.	**16.7%**	**-0.2%**	**4.1%**	**1.9%**	**2.6%**	**2.9%**	**2.2%**	**3.5%**
Nonresidential Fixed Investment (bil. US$17)	2,975	3,132	3,270	3,350	3,460	3,595	3,685	3,814
Y/Y % Chg.	**5.9%**	**5.2%**	**4.4%**	**2.4%**	**3.3%**	**3.9%**	**2.5%**	**3.5%**
Residential Fixed Investment (bil. US$17)	904	823	734	754	783	830	841	875
Y/Y % Chg.	**10.7%**	**-9.0%**	**-10.7%**	**2.6%**	**3.8%**	**6.0%**	**1.4%**	**4.0%**
Government Purchases (bil. US$17)	3,705	3,670	3,813	3,909	3,964	3,983	4,003	4,023
Y/Y % Chg.	**-0.3%**	**-0.9%**	**3.9%**	**2.5%**	**1.4%**	**0.5%**	**0.5%**	**0.5%**
Exports (bil. US$17)	2,281	2,440	2,501	2,541	2,595	2,673	2,753	2,849
Y/Y % Chg.	**6.3%**	**7.0%**	**2.5%**	**1.6%**	**2.1%**	**3.0%**	**3.0%**	**3.5%**
Imports (bil. US$17)	3,215	3,491	3,436	3,502	3,593	3,719	3,849	3,980
Y/Y % Chg.	**14.5%**	**8.6%**	**-1.6%**	**1.9%**	**2.6%**	**3.5%**	**3.5%**	**3.4%**
Net Exports as % of GDP	**-4.4%**	**-4.8%**	**-4.2%**	**-4.2%**	**-4.3%**	**-4.4%**	**-4.6%**	**-4.6%**
Consumer Price Index - All (82-84=100)	271.0	292.6	304.8	314.2	321.8	329.8	336.4	343.8
Y/Y % Chg.	**4.7%**	**8.0%**	**4.2%**	**3.1%**	**2.4%**	**2.5%**	**2.0%**	**2.2%**
Unemployment (%)	**5.4**	**3.6**	**3.7**	**4.0**	**3.9**	**4.1**	**4.3**	**4.1**
Industrial Production	99.2	102.6	103.1	104.5	108.8	112.5	114.2	117.7
Y/Y % Chg.	**4.4%**	**3.4%**	**0.5%**	**1.3%**	**4.2%**	**3.4%**	**1.5%**	**3.0%**
Oil Price Assumption (US$/Bbl.)	**67.5**	**94.7**	**77.7**	**81.9**	**84.4**	**90.3**	**84.0**	**86.5**
ACT Freight Composite Index (2004=100)	160.5	164.3	164.3	167.6	170.9	176.5	179.3	185.0
Y/Y % Chg.	**9.6%**	**2.4%**	**0.0%**	**2.0%**	**2.0%**	**3.3%**	**1.6%**	**3.1%**

Source: ACT Research Co.

U.S. ECONOMIC ACTIVITY
Real GDP & Components

	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024
	(A)	(A)	(P)	(F)	(F)	(F)	(F)	(F)
Real GDP (bil. US$17)	22112.3	22225.4	22490.1	22588.2	22663.3	22726.7	22810.5	22910.2
Q/Q % Chg. @ SAAR	**2.2%**	**2.1%**	**5.2%**	**1.5%**	**1.3%**	**1.1%**	**1.5%**	**1.8%**
Personal Consumption (bil. US$17)	15312.8	15343.5	15479.5	15541.5	15595.8	15642.6	15697.4	15768.0
Q/Q % Chg. @ SAAR	**3.8%**	**0.8%**	**3.6%**	**1.6%**	**1.4%**	**1.2%**	**1.4%**	**1.8%**
Nonresidential Fixed Investment (bil. US$17)	3214.5	3272.7	3283.1	3308.2	644.0	648.8	652.9	657.8
Q/Q % Chg. @ SAAR	**5.7%**	**7.4%**	**1.3%**	**3.1%**	**4.0%**	**3.0%**	**2.5%**	**3.0%**
Residential Fixed Investment (bil. US$17)	731.1	727.1	738.1	741.0	745.1	749.2	756.3	764.4
Q/Q % Chg. @ SAAR	**-5.3%**	**-2.2%**	**6.2%**	**1.6%**	**2.2%**	**2.2%**	**3.8%**	**4.3%**
Government Purchases (bil. US$17)	3758.8	3789.8	3840.9	3863.0	3882.3	3900.8	3918.3	3934.0
Q/Q % Chg. @ SAAR	**4.8%**	**3.3%**	**5.5%**	**2.3%**	**2.0%**	**1.9%**	**1.8%**	**1.6%**
Net Exports as % of GDP	**-4.2%**	**-4.2%**	**-4.2%**	**-4.2%**	**-4.2%**	**-4.2%**	**-4.2%**	**-4.2%**
Oil Price Assumption (US$/Bbl)	**76.2**	**73.8**	**81.8**	**79.2**	**77.7**	**84.1**	**84.2**	**81.8**
ACT Freight Composite Index (2004= 100)	162.8	162.8	165.1	166.5	166.7	167.3	167.9	168.5
Q/Q % Chg. @ SAAR	**0.5%**	**0.1%**	**5.7%**	**3.4%**	**0.5%**	**1.6%**	**1.3%**	**1.4%**

(A): ACTUAL, (I): Initial, (P): Preliminary, (F): Forecast
Source: ACT Research Co.

INDUSTRY DEMAND, SUPPLY AND CYCLICALITY

The US transportation industry is a vast service business with several modes. We estimate it generated $1.24 trillion in revenue in 2022 using Department of Commerce, company data, and private fleet estimates. The modes in this report—TL, LTL, and intermodal—generated 72% of that revenue, or $893 billion.

Full truckload freight includes just about every physical product that is made or sold in the economy. We like the old axiom: if you bought it, a truck brought it. Truckload is the largest sector of the US transportation industry, generating about 63% of 2022 industry revenue. The largest market for the truckload industry is the retail sector, moving finished goods through distribution networks to consumers, followed by the industrial sector, moving inputs through the supply chain and finished goods to distribution.

The truckload sector is split between for-hire carriers which represent 31% of US freight market revenue, or $387 billion, and private fleets which we estimate are slightly larger at 32%, worth $394 billion. Combined, truckload represented about $781 billion in revenue of the $1.24 trillion US freight market in 2022.

Our Publicly Traded LTL Carrier Database tracks the top eight for-hire LTL providers, which accounted for $36 billion in LTL revenue in 2022 (excluding non-LTL revenues by LTL companies). Though our database does not include privately held LTL fleets, we think it represents just under 70% of the LTL industry, so the LTL sector is about $53 billion in all.

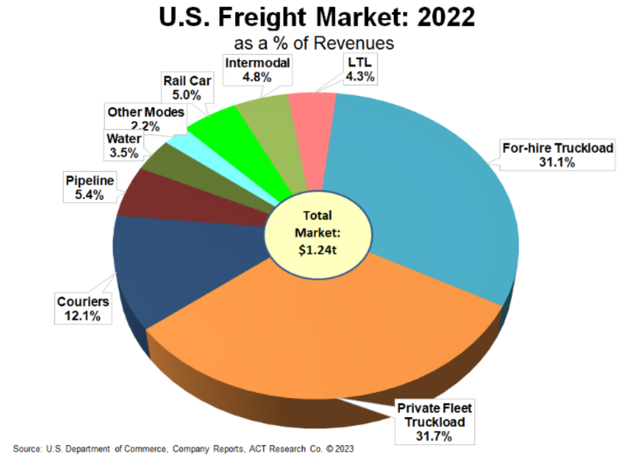
The intermodal segment generated $59 billion in 2022 revenue, 4.8% of the industry based on rates forecast in this report, applied to industry volume data.

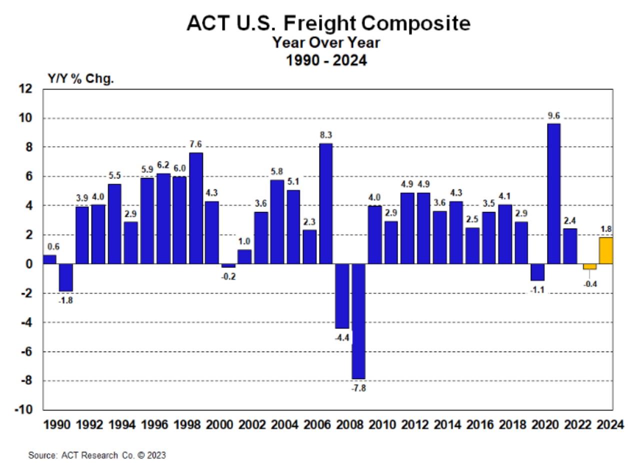
This report focuses on TL, LTL, and intermodal, but the rest of the rail sector represented roughly an additional $62 billion of revenue, or 5% of the industry in 2021. We also estimate the courier segment at $150 billion, or 12% of the US freight market, using Census data. Lastly, barges on the waterways and pipelines for the energy sector are about 3.5% and 5.4% of the business.

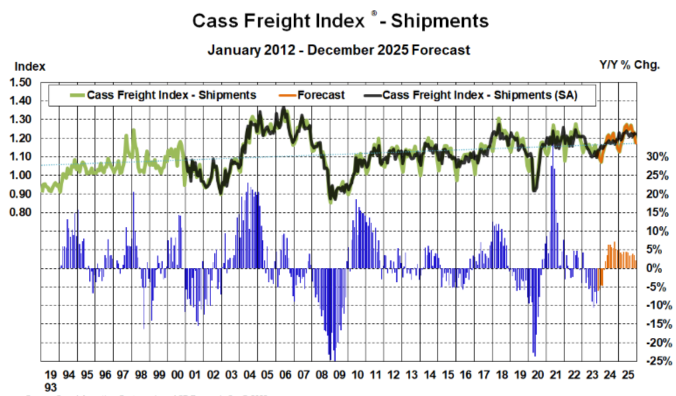
As a general rule, freight generation per capita is fairly stable over the long term, as observed by former Federal Reserve Chairman Alan Greenspan. Slower population growth clearly has longer-term ramifications on economic activity broadly and freight generation.

We find freight tends to grow fastest early in the economic cycle when businesses are both growing and adding inventory, and then tends to slow later in the cycle. Looking at recent history of the seasonally adjusted Cass Freight Index, the freight cycle tends to last about two years on the upside and downturns tend to last anywhere from a few months to two years. *There have been six such cycles over the past two decades.*

In the long term, this volume metric tracks fairly well with our ACT Freight Composite, which is constructed from the freight-driven components of US GDP, excluding services and overweighting durable goods and housing investment. One difference is the Freight Composite represents both the for-hire and private TL markets.







The Classic Cycle of the U.S. Truckload Sector

1) **Early Cycle: Demand Recovery / Undersupply.** If we start in a loose to roughly balanced supply-demand environment, the cycle begins with freight demand rising, and/or equipment and driver supply slowing, leading to tightening capacity. This forces the pendulum of pricing power to the fleets, initially realizing higher rates in the spot market, then in the contract market over the next few quarters. These periods are typically characterized by low Class 8 tractor production, rising spot load-to-truck ratios and rates, and accelerating Class 8 orders.
2) **Mid-Cycle: Demand Growth / Supply Response.** Capacity tightness and higher rates allow fleets to expand profit margins after lean times, eventually enabling them to add capacity. Fleets attract more drivers mainly through higher pay, and as cash flow improves, fleets invariably order new trucks and trailers, pressing up industry production rates. Because of the industry's high degree of fragmentation, similar decisions are made by thousands of fleets at similar times, leading to the strong tendency to add more capacity than needed when times are good. This part of the cycle is associated with high Class 8 tractor build rates and long order backlogs.
3) **Late-Cycle: Demand Slows / Supply Ramps / Rates Fall.** Meanwhile, the shipping community is finding new ways to reduce their recently raised shipping costs by becoming more productive and moving freight to their private fleets. At the same time, the freight cycle is also getting long in the tooth. This typically slows or reverses for-hire freight volume growth just as industry capacity growth is accelerating, creating a supply-demand imbalance that drives truckload rates down. This hurts carrier profitability and leads to lower order rates and higher order cancellations.
4) **Cycle Bottom: Demand Falls / Survival Mode / Rates Stabilize.** At this point, driver shortage noise fades (but never really disappears), and operators respond by reducing equipment budgets and cancelling orders. Lower rates push out marginal capacity, and equipment acquisition rates decline, which begins to bring supply and demand back into balance, until freight demand starts the cycle over again.

The Pricing Pendulum. We think an effective way of thinking about the state of supply and demand in the truckload market is the concept of a pendulum. During times when demand grows faster than capacity and drivers or tractors are short, the pendulum swings to the capacity owner and prices rise. At times when supply growth outpaces demand growth, the pendulum swings to the shipper and prices fall. There is an inherent cyclicality in trying to match long-term businesses with short-term fluctuations in freight demand. New entrants respond to loud but short-term price signals meant to attract fleets in tight markets, to meet demand which fluctuates. Just as that capacity shows up, consumer spending patterns can shift and inventory is restocked, reducing freight demand.

Freight Cycles Are Shorter than Economic Ones

Looking at ATA Tonnage, ATA Loads, Cass Shipments or Rail Carloadings, freight rarely grows for much more than two years before hitting soft spots, or freight recessions, which happen more frequently than broader economic recessions. We see a few reasons that freight is more cyclical than the broad economy.

1) First, freight is more sensitive to the **inventory** cycle than the total economy. As the economy moves more to e-commerce, the trend among retailers is to add more inventory closer to consumers to meet demand for ever-faster delivery. There is a structural element here with growing e-commerce warehousing networks that supports higher levels of inventory.
2) Second, **private fleet** dynamics are always at work. Most freight data series focus on the for-hire market, which is just under half of the US truckload industry. We regularly caution against reading "truckload industry" conclusions from "for-hire" data because more than half of the industry is private; we estimate 53%. For the private fleets, higher for-hire rates justify greater internal fleet investments, as was the case in 2018, and is the case again. Higher private fleet capacity took freight away from the for-hire market in 2019, as the for-hire truckload market is essentially the swing supplier of transportation capacity. This is also why our Freight Composite shows more consistent growth than for-hire market measures like the Cass Shipments Index and the ATA Load Index. In our view, the Freight Composite is a better gauge of "freight GDP," reflecting the whole US economy, whereas the truckload sector represents one critically important segment of the industry.
3) Third, the US **industrial** sector generates an outsized amount of freight, and it is more cyclical than the broader US economy. For example, one only has to look to 2015-2016 to find an industrial recession, which did not push the economy into a recession

because the consumer and service sectors carried us through, but it still drove a freight recession. The strong US dollar, lower oil and other commodity prices and rising tariffs were all causes of the US industrial recession in 2019, from our perspective. In 2021, a weaker dollar, rising commodity prices, and the coiled spring of pent-up demand should bring the industrial cycle back to a strong growth rate.

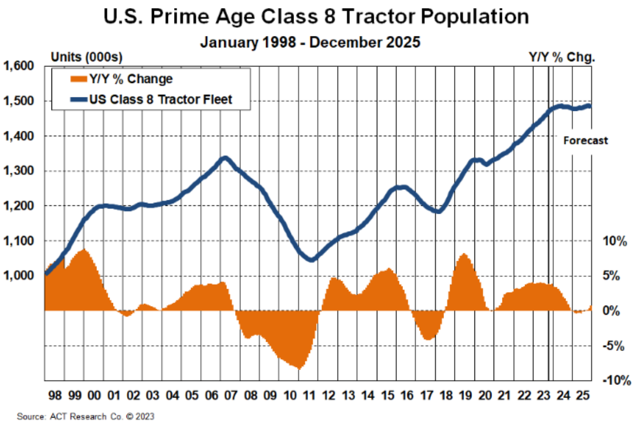
This is a source of considerable confusion due to the near-impossibility of measuring private fleet loads, and this is why we model the U-11 active truckload population based on retail tractor sales data – one of the few data sets which includes the whole industry, both for-hire and private fleets. While our for-hire survey data showed disciplined capacity trends in 2019, we know someone bought many trucks, so we can pretty safely infer it is private fleets, as supported by leasing company and trade association data.

Population Modeling for TL, LTL and Drayage

Stock replacement modeling has long been the foundation of ACT's Class 8 forecasts, and here we discuss which "stocks" or populations of trucks are applicable to each mode of freight movement. We believe we are uniquely positioned to use ACT Research data to estimate the number of Class 8 tractors running on US roads in TL and LTL operations, which correspond to the Class 8 tractor sleeper and day cab segments of the commercial vehicle industry. Beginning with historical tractor retail unit sales, we apply life cycle assumptions to estimate the number of tractors actively competing in the TL and LTL markets, and adjust for used tractor exports.

For the TL and LTL markets, we settled on an under 11-year (U-11) population based on several factors. One of the foremost was because it is the most predictive of rates, and with a six-month lead. The y/y change in the U-11 population is highly inversely predictive of the y/y change in truckload contract pricing six months in the future. Since we have strong visibility on Class 8 production typically six to twelve months into the future, this provides a foundation for forecasting TL rates twelve to eighteen months into the future.

We also found from our vast used truck database, where we have mileage and age data on hundreds of thousands of trucks, that Class 8 tractors do not rack up many miles after age ten. And logically, it makes sense that after a truck's eleventh birthday, it is not really competitive in the truckload sector or LTL linehaul anymore. There are many other jobs it can do, with farm product hauling, port drayage and oilfield work among



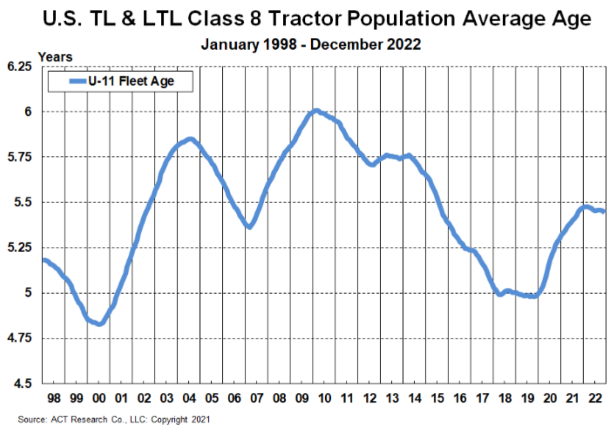
the lower mileage applications for old tractors, but its days on highway routes are about over. We econometrically tested several different population sizes, from 8 to 15 years, to determine which had the most predictive historical relationship with truckload contract pricing. The U-11 population fit the model best with a better fit for the overall regression model and considerably higher specific T-statistics than any other population.

Of course, the concept of truck capacity is fluid. In a normal environment, our data suggest Class 8 tractors over eleven years old are generally not competing in the TL and LTL markets, but that is not uniform across fleets. When conditions tighten enough, older trucks are brought back on the highway because the OEMs and parts suppliers cannot immediately respond to spikes in demand. And when capacity becomes loose, older and less efficient trucks are pushed out by lower rates.

But our modeling suggests the truckload capacity crunch of 2017-2018 was driven in no small part by the exit of pre-bought 2004-2006 tractors from the truckload market, as evidenced by the 4% decline in the U-11 tractor population in 2017. By contrast, the 2020 capacity crunch was primarily a driver capacity shock.

While not the only factor, this helped drive the record TL rate increases of 2018. But, production responded and TL capacity grew 5% in 2018. As a result of both the decline in replacement demand and the elevated rate of new tractor production, we estimate the average size of the U-11 population grew 6% in 2019, reversing course in 2020 on lower retail tractor sales.

In addition, we estimate the average age of the U-11 population in the chart below. The fleet was younger than normal in 2018 and 2019, in fact the youngest since 2001, just before a used truck price downturn, which pressured freight rates. We expect aging to continue in 2021 as manufacturers ramp up based on fleet demographics, but as production heads toward peak in 2022, the average age will start to decline again. The U-11 tractor population has averaged 5.4 years old over the past five years, 5.6 over the past ten years and 5.5 over the past twenty years. Weaker TL pricing in 2019 negatively impacted demand for new equipment, leading to lower Class 8 tractor production in 2020. This should begin to increase the average age in early 2020, setting the stage for a recovery in TL pricing.

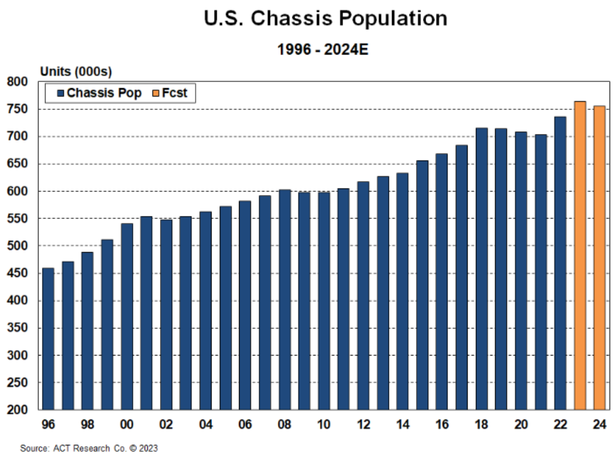


In drayage, tractors are younger where required, but we think the older 12-33-year-old tractor population is where trucks keeping to 50 to 100 miles per day tend to operate. Drayage operations typically employ many of the oldest tractors in the industry, in part because it is one of the lowest paying types of truck freight.

Based on intermodal loads and port traffic data, we estimate the US drayage tractor population is about 133,000 units. This is a small subset of the total population of 12-31 year-old tractors, which we estimate at about 660,000 units, which has declined about 12% since 2018 but will stabilize and return to growth in 2022-2025. Roughly half a million of these tractors are employed in the agricultural sector, and tens of thousands of others serve the oil and gas industry, as well as a wide variety of other applications. It is this population from which the truckload sector sources its swing capacity at times when demand is strong and capacity constrained. These are typically the least fuel-efficient, highest-cost trucks.

In 2021, large tariffs on imported Chinese chassis put the spotlight on the chassis market as sales and production fell and lack of availability snarled the intermodal network. Large orders were placed in late-2020, but domestic manufacturers struggled to ramp for much of 2021 due to labor constraints and as most domestic capacity was mothballed.

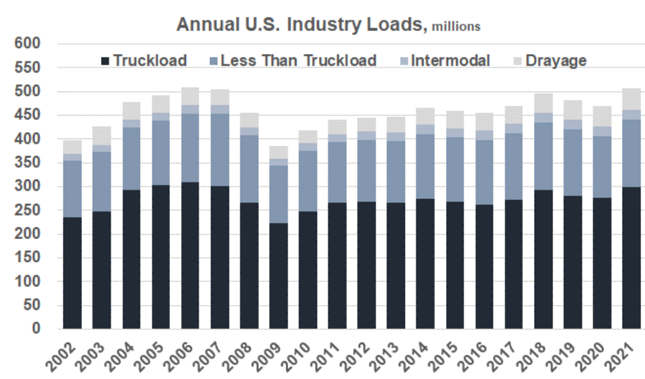
In 2021, we estimate a 0.7% decline in the US chassis population, following similar declines in 2019 and 2020. In 2022 and 2023, we saw a strong supply response, with an estimated 4.6% and 3.7% growth in the chassis population. This has helped alleviate the intermodal network congestion, and returned the chassis fleet to new highs. Demand for chassis is understandably quite low for 2024, with plenty of underutilized equipment.



Industry Load Volumes

The segments of the US freight transportation sector covered by this report represent the vast majority of the US freight market. While rail, pipeline, water and air cargo represent 10%, 16%, 7% and 0.03% of US freight tonnage using BTS data, truck and intermodal are the dominant modes, accounting for 68% of the weight shipped by the industry.

The truck and intermodal sectors covered by ACT Research generate roughly 500 million loads. By sector, 60% of the loads were full truckloads, 28% were smaller loads in the LTL sector, 4% went by intermodal rail and 8% were drayage moves associated with intermodal



and port activity. These estimates are based on several industry sources, including the US Census Bureau, Association of American Railroads, the Intermodal Association of North America, the top twelve North American container ports, and the for-hire LTL service providers.

Industry Structure

In terms of competition, the TL and LTL sectors are quite different. The eight LTL service providers in our database compose a large majority, roughly 70% of the sector, resulting in a high level of concentration and a generally lower level of price competition, at least since the last price war in 2008-2009.

In contrast, the TL sector is much closer to what economists call perfect competition, with hundreds of thousands of carriers in a very price efficient and highly cyclical market. As shown in the following table, there are about 750k licensed fleets operating in the US, mostly in TL operations. The largest swings in these fleet counts, both in good and bad times, tend to come from the small fleets who play the role of swing capacity. Medium and large fleets grew considerably faster than small fleets (ten trucks or less) in the 2012-2017 period shown here. So, concentration has risen over time in TL, but the shock of the pandemic drove it down significantly in the early 2020s. Heading into the mid-2020s, concentration is rising again.

Fleet Count by Power Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2012-2021 CAGR
1	254,029	254,781	248,088	257,650	249,972	261,116	278,448	289,408	317,791	407,872	
y/y	0.9%	0.3%	-2.6%	3.9%	-3.0%	4.5%	6.6%	3.9%	9.8%	28.3%	4.8%
2	92,813	93,533	92,665	95,997	93,596	95,979	99,221	101,044	104,620	117,742	
y/y	1.8%	0.8%	-0.9%	3.6%	-2.5%	2.5%	3.4%	1.8%	3.5%	12.5%	2.4%
3–10	135,976	137,465	137,817	141,952	139,549	143,248	147,710	149,225	150,545	161,525	
y/y	1.2%	1.1%	0.3%	3.0%	-1.7%	2.7%	3.1%	1.0%	0.9%	7.3%	1.7%
11–100	43,899	44,780	45,600	47,099	47,117	48,515	50,075	51,211	52,121	54,355	
y/y	2.2%	2.0%	1.8%	3.3%	0.0%	3.0%	3.2%	2.3%	1.8%	4.3%	2.2%
>100	3,905	3,870	4,012	4,182	4,176	4,282	4,396	4,572	4,604	4,753	
y/y	1.1%	-0.9%	3.7%	4.2%	-0.1%	2.5%	2.7%	4.0%	0.7%	3.2%	2.0%
NA	5,095	4,885	3,842	3,952	3,639	5,853	6,870	7,082	8,040	11,405	
Total	**535,717**	**539,314**	**532,024**	**550,832**	**538,049**	**558,993**	**586,720**	**602,542**	**637,721**	**757,652**	
y/y	**1.3%**	**0.7%**	**-1.4%**	**3.5%**	**-2.3%**	**3.9%**	**5.0%**	**2.7%**	**5.8%**	**18.8%**	**3.5%**

In terms of the private versus for-hire breakdown, there were 484,970 for-hire carriers at the end of 2021, according to the FMCSA, 64% of the fleet count. There were also 202,467 private carriers, or 27% of the total, and 67,334 fleets, or 9% which are registered as both for-hire and private.

Drivers

We recognize the vital role truck drivers play, which is seemingly at odds with the long-term pressure on real driver pay. Long term, we expect the hiring environment to become ever more challenging as baby boomers retire and not enough new entrants come into the labor market. It even seems possible that demographics could reverse that long-term wage pressure. Although we see the longstanding driver shortage as structural, due to the natural tendency of shippers to use the lowest cost transportation option, drivers respond to the cycle of pay. We also expect the 65+ population to operate as a sort of swing capacity, returning to the market in strong spot markets as they did in 2018, and hopefully enjoying retirement in weak ones.

So, drivers are not included in our model because we believe it is the amount of freight that determines the number of drivers, not the other way around. We tested the data in many different ways, but did not find trucking employment to be a leading indicator of rates or volume. We found that the driver population tends to follow pay, up and down, by about six months, and driver pay follows contract rates and utilization.

Key Regulatory Issues

Trucking is a heavily regulated industry and this discussion is by no means exhaustive, but how the government regulates the driver's work day has a direct impact on industry capacity. So, in this section we discuss how historical changes in Hours of Service (HOS) regulations have impacted freight rates.

History of Hours of Service Regulations. In the post-war era there have been six different regulatory regimes enforced by the Federal Motor Carrier Safety Administration (FMCSA) governing how truck drivers spend their time, the latest taking effect September 29, 2020. The latest changes add minor flexibility on breaks and the sleeper berth provision, which could help with productivity and thus add to capacity. Our carrier survey shortly after showed a mix of reactions with several seeing "no impact" and many seeing "modest benefits."

HOS changes are meant to improve safety, but there are often unintended consequences. For example, the provision from 2013 which forced two consecutive overnight periods from 1am to 5am during the weekly restart artificially tightened industry capacity and caused significant morning rush hour congestion as drivers all hit the road at the same time. This had a substantial positive exogenous impact on truckload sector pricing.

However, although the industry sighed with relief when this provision was removed in December 2014, the increased flexibility removed this artificial capacity constraint, and rates fell. While 2015 was also a weak year for the US industrial sector, truckload sector pricing weakened materially after this loosening of HOS.

ELDs: While not included in our table since it is not actually a change in the HOS rules, the requirement of Electronic Logging Devices (ELDs) also had a material impact on capacity. On December 18, 2017, the FMCSA started a soft enforcement of requiring all fleets to electronically log their hours. While not a rule change, this per se forced any operators who were previously under-reporting their driving time to play by the rules. We estimate that small fleets and owner-operators who represent about half of the for-hire truckload sector were likely under-reporting by 10%-15%, which was a 3%-4% impact on US tractor capacity, or 50k – 70k tractors.

The key question regarding the effect of ELDs on future industry productivity surrounds the effect reported by many large fleets who were early adopters of ELDs. Many regained some, if not all or even more of the productivity they initially lost during ELD implementation.

Personal Conveyance Guidance: One of the longtime complaints about the HOS regulations is what drivers who have not reached their destination when hours run out should do. Prior guidance (1997) excluded the use of laden vehicles as personal conveyance. In May 2018, the FMCSA provided guidance allows drivers to continue to operate the laden truck with the ELD in personal conveyance mode until the driver finds safe parking.

While this is reasonable, we believe the effect in reality was an increase in driving capacity. Most private fleet and for-hire fleet drivers would not benefit financially from moving their loads toward their destination in personal conveyance mode. However, the owner-operators who were the largest paper log HOS violators would earn revenue by continuing to advance the load toward the destination, making incremental cheating possible, even likely. Also, we doubt state police will be able to check whether or not a driver could find a safe parking place, allowing those who want to keep driving beyond legal HOS to do so. This driving will still be logged, so likely will not be too brazen since it could be audited. However, if one-third of the industry drives 5%-10% more, it would add 2%-3% to TL capacity, reversing much of the 3%-4% tightening experienced when ELD regulations went into effect in late-2017 and early-2018.

HOS Changes: In September, 2020, the DOT changed the HOS regulations as detailed in the table below. While modest, these increases in flexibility could be additive to capacity, but did not seem to have a measurable impact at the industry level. Rather, the pandemic-related externalities and the Drug & Alcohol Clearinghouse seemed to have the opposite effect.

History of Hours of Service Rules

	1962 - 1/3/2004	1/4/2004- 10/1/2005	10/2/2005- 6/30/2013	7/1/2013- 12/15/2014	12/16/2014- 9/28/2020	9/29/20- present
Driving Hours	10 hours	11 hours	No change	11 hours, with 30 minute break required after 8 or more consecutive hours **on-duty**	No change	11 hours, with 30 minute break required after 8 or more consecutive hours of **driving**
On-Duty Window	15 hours	14 consecutive hours after coming on duty	14 consecutive hours after coming on duty	14 consecutive hours after coming on duty, with 30-minute rest break now included and now excluded are resting times and up to two hours riding in passenger seat right after hours in sleeper berth	No change	Extends window to 16 consecutive hours from 14 to allow for adverse weather
Off-duty Hours (consecutive)	8 hours	10 hours	No change	No change	No change	No change
Cumulative On-Duty Weekly Max	60 hours per 7 days or 70 hours per 8 days	No change	No change	No change	No change	No change
Cumulative On-Duty Restart	None	Driver may restart the weekly clock after at least 34 consecutive hours off duty	No change	Driver may restart the weekly clock after at least 34 consecutive hours off duty, but limits to once a week and must include two periods from 1am to 5am home terminal time	Driver may restart the weekly clock after at least 34 consecutive hours off duty	No change
Sleeper Berth Provision	May be split into two periods adding to at least **eight** hours and at least two hours each	May be split into two periods adding to at least **ten** hours and at least two hours each	Driver must take at least eight consecutive hours in the sleeper, plus a separate two hours either in the sleeper, off-duty or both	No change	No change	Allows drivers to meet the 10-hour off-duty requirement with at least 7 hours in the berth and at least 2 hours inside or outside the berth, provided the two periods total at least 10 hours

APPENDIX B – FORECAST TABLES

Table 1: TL and LTL Capacity Forecast Detail

		2023					2024					
CAPACITY	2022	Q1	Q2	Q3	Q4	2023F	Q1	Q2	Q3	Q4	2024F	2025F
CLASS 8 TRACTOR RETAIL SALES	199,283	51,045	56,269	52,574	52,612	212,500	40,699	38,180	34,662	33,959	147,500	183,000
Y/Y	18%	32%	15%	-1%	-10%	7%	-20%	-32%	-34%	-35%	-31%	24%
CLASS 8 TRACTOR POPULATION, U11, 000s	1,423	1,435	1,450	1,463	1,477	1,477	1,481	1,482	1,478	1,472	1,472	1,481
Y/Y	4.1%	3.9%	4.0%	3.8%	3.7%	3.7%	3.2%	2.2%	1.0%	-0.3%	-0.3%	0.6%
TL NET INCOME MARGIN	7.8%	6.0%	5.3%	4.4%	4.3%	5.0%	4.5%	4.6%	5.1%	5.8%	5.0%	6.6%
Y/Y	(24bp)	(250bp)	(272bp)	(324bp)	(287bp)	(283bp)	(146bp)	(66bp)	65bp	153bp	1bp	162bp
LTL NET INCOME MARGIN	8.6%	6.4%	7.1%	9.1%	8.0%	7.6%	8.0%	10.3%	11.1%	11.3%	10.2%	11.7%
Y/Y	274bp	(183bp)	(236bp)	10bp	58bp	(97bp)	158bp	321bp	197bp	328bp	260bp	150bp

Table 2: Freight Volume Forecast Detail

		2023					2024					
VOLUMES	2022	Q1	Q2	Q3	Q4	2023F	Q1	Q2	Q3	Q4	2024F	2025F
Cass Freight Index® - Shipments	1.200	1.149	1.152	1.143	1.091	1.134	1.097	1.166	1.206	1.170	1.160	1.207
Y/Y	1%	0%	-4%	-9%	-9%	-6%	-4%	1%	6%	7%	2%	4%
ACT FREIGHT COMPOSITE INDEX	164.3	162.8	162.8	165.1	166.5	164.3	166.8	167.4	167.9	169.1	167.8	173.4
Y/Y	2%	-2%	-2%	1%	2%	0%	2%	3%	2%	2%	2%	3%
PRODUCTIVITY	-1%	0%	-1%	-1%	-1%	-1%	-1%	-1%	0%	0%	0%	-1%
Y/Y, NET PRODUCTIVITY	2%	-2%	-3%	0%	1%	-1%	2%	2%	2%	2%	2%	3%

Table 3: Truckload Rate Forecast Detail

		2023					2024					
TRUCKLOAD RATES	2022	Q1	Q2	Q3	Q4	2023F	Q1	Q2	Q3	Q4	2024F	2025F
DAT CONTRACT RATE / MILE, NET FUEL	2.59	2.42	2.27	2.19	2.17	2.26	2.13	2.15	2.18	2.25	2.18	2.39
Y/Y	6%	-9%	-14%	-15%	-13%	-13%	-12%	-5%	0%	4%	-4%	10%
DAT CONTRACT RATE / MILE, INCL FUEL	3.24	2.96	2.74	2.71	2.68	2.77	2.58	2.64	2.67	2.73	2.66	2.87
Y/Y	16%	-7%	-19%	-17%	-15%	-14%	-13%	-3%	-2%	2%	-4%	8%
DAT SPOT RATE / MILE, NET FUEL	2.19	1.87	1.76	1.71	1.72	1.76	1.67	1.82	1.89	2.07	1.86	2.17
Y/Y	-12%	-31%	-18%	-15%	-9%	-19%	-10%	3%	11%	20%	6%	17%
DAT SPOT RATE / MILE, INCL FUEL	2.84	2.41	2.23	2.23	2.24	2.28	2.12	2.31	2.38	2.55	2.34	2.65
Y/Y	0%	-25%	-22%	-17%	-12%	-20%	-12%	4%	7%	14%	3%	13%
Cass Truckload Linehaul Index®	159.7	148.5	143.9	141.8	140.5	143.7	139.2	138.5	138.9	140.9	139.4	149.8
Y/Y	9%	-7%	-14%	-11%	-8%	-10%	-6%	-4%	-2%	0%	-3%	7%
LARGE FLEET RATE PER MILE, NET FUEL	3.03	2.91	2.79	2.75	2.71	2.79	2.72	2.70	2.77	2.80	2.75	2.98
Y/Y	10%	-4%	-9%	-10%	-9%	-8%	-7%	-3%	1%	3%	-2%	8%
LARGE FLEET RATE PER MILE, INCL FUEL	3.65	3.42	3.24	3.26	3.22	3.28	3.16	3.18	3.24	3.27	3.21	3.44
Y/Y	17%	-4%	-13%	-12%	-10%	-10%	-8%	-2%	0%	2%	-2%	7%
FUEL SURCHARGE PER MILE	0.61	0.51	0.45	0.51	0.50	0.49	0.44	0.48	0.48	0.47	0.47	0.46
Y/Y	68%	-3%	-33%	-22%	-17%	-20%	-13%	6%	-6%	-7%	-6%	-1%

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Table 4: Less Than Truckload Forecast Detail

LESS THAN TRUCKLOAD	2022	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023F	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2024F	2025F
LTL PRODUCER PRICE INDEX - LOCAL	151.5	149.5	153.5	154.4	156.0	153.3	159.4	165.1	169.8	168.5	165.7	176.5
Y/Y	12%	2%	1%	1%	2%	1%	7%	8%	10%	8%	8%	7%
LTL PRODUCER PRICE INDEX - LONG-HAUL	405.2	399.1	388.0	401.5	413.1	400.4	417.1	423.1	435.4	448.0	430.9	462.3
Y/Y	16%	4%	-8%	-3%	3%	-1%	5%	9%	8%	8%	8%	7%
LTL PRODUCER PRICE INDEX - AGGREGATE	152.6	150.4	150.3	153.3	156.3	152.6	160.8	162.5	168.8	168.8	165.2	176.0
Y/Y	14%	3%	-4%	-1%	2%	0%	7%	8%	10%	8%	8%	7%
LTL RATE/CWT, INCL FUEL ($)	29.97	30.31	29.96	30.13	30.54	30.23	31.13	31.51	31.92	32.26	31.70	33.49
Y/Y	21%	10%	1%	-3%	-3%	1%	3%	5%	6%	6%	5%	6%
LTL RATE / CWT, NET FUEL ($)	23.15	23.76	23.93	24.36	24.77	24.20	25.36	25.74	26.15	26.49	25.93	27.72
Y/Y	10%	6%	5%	3%	5%	5%	7%	8%	7%	7%	7%	7%
LTL RATE PER SHIPMENT, NET FUEL ($)	294	301	301	307	306	304	316	326	333	330	326	347
Y/Y	9%	4%	3%	3%	4%	3%	5%	8%	8%	8%	7%	6%
LTL TONNAGE (000s)	62,403	14,107	14,449	12,962	12,543	54,060	12,913	13,689	13,438	13,357	53,397	55,779
Y/Y	-4%	-11%	-13%	-18%	-11%	-13%	-8%	-5%	4%	6%	-1%	4%

Table 5: Intermodal Forecast Detail

INTERMODAL	2022	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023F	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2024F	2025F
INTEK INTERMODAL SPOT RATE / MILE	2.17	1.83	1.72	1.68	1.74	1.74	1.59	1.71	1.83	2.02	1.79	2.05
Y/Y	-5%	-21%	-27%	-21%	-8%	-20%	-13%	-1%	9%	16%	3%	15%
INTERMODAL PRODUCER PRICE INDEX	224.9	221.6	208.8	207.7	208.7	211.7	198.4	193.4	199.5	206.4	199.5	212.2
Y/Y	19%	7%	-9%	-10%	-10%	-6%	-10%	-7%	-4%	-1%	-6%	6%
INTERMODAL RATE / LOAD ($)	3,314	3,089	2,916	2,896	2,786	2,922	2,740	2,742	2,854	2,841	2,794	3,056
Y/Y	21%	-2%	-12%	-16%	-17%	-12%	-11%	-6%	-1%	2%	-4%	9%
NA CLASS I INTERMODAL LOADS (MM)	17.8	4.0	4.2	4.2	4.3	16.7	4.1	4.4	4.5	4.6	17.5	18.2
Y/Y	-4%	-10%	-10%	-7%	2%	-6%	3%	5%	5%	7%	5%	4%

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