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This submission is the AAR forecast of the second quarter 2024 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2024-2) *Quarterly Rail Cost Adjustment Factor*. The versions of RCAF-related indices covered in this filing are: the All-Inclusive Index (initiated in the second quarter of 1985), the Unadjusted RCAF (produced since October 1982), the Adjusted RCAF (first published in the second quarter of 1989), and the RCAF-5 (created by the STB in its Ex Parte No. 290 (Sub-No. 7) decision served October 3, 1996). The table below summarizes the second quarter 2024 results and compares to the previous quarter. Both quarters are shown on a 4Q\2022=100 base.

	<u>2024Q1</u>	<u>2024Q2</u>	<u>% Change</u>
All-Inclusive Index	98.1	97.8	-0.3
Preliminary RCAF	0.981	0.978	-0.3
Forecast Error Adjustment	-0.007	0.008	
RCAF (Unadjusted)	0.974	0.986	1.2
Productivity Adjustment Factor	2.5430	2.5499	
RCAF (Adjusted)	0.383	0.387	1.0
PAF-5	2.6566	2.6749	
RCAF-5	0.367	0.369	0.5

In its October 3, 1996 decision in Ex Parte No. 290 (Sub-No. 7), *Productivity Adjustment - Implementation*, the STB noted its intent to publish, in addition to the RCAF (Unadjusted) and RCAF (Adjusted), an RCAF-5 (i.e., a calculation of the productivity adjusted RCAF values as if the agency had always used a 5-year rolling average to calculate the productivity adjustment). In response to a request by STB staff, the AAR is including a calculation of the RCAF-5 in its quarterly RCAF filing. The AAR and its members, however, do not believe the publication of a third RCAF index is required or permitted by the applicable statute (49 U.S.C. § 10708) and do not endorse its publication.

Our quarterly non-proprietary work papers underlying this submission are e-filed herewith, in accordance with the ICC's order in Ex Parte No. 290 (Sub-No. 2), *Railroad Cost Recovery Procedures*, served February 8, 1990. We have notified Pedro Ramirez, in the STB office handling this proceeding, of our plan to e-file the submission and non-proprietary work papers. A second copy of the submission and non-proprietary work papers, plus selected highly confidential work papers, will be provided to Mr. Ramirez's Data Collection and Auditing Team. All work papers are available for STB inspection. Questions should be directed to me or Kiara Carter (202 639-2327) of this office.

Sincerely,



Rand Ghayad

Attachments

**Second Quarter 2024
All-Inclusive Index**

Ex Parte No. 290 (Sub-No. 5) (2024-2)

**Quarterly Rail Cost Adjustment Factor
Surface Transportation Board**

**Policy and Economics Department
Association of American Railroads**

March 5, 2024

Table of Contents

Subject	Page
Introduction	1
Index Weights	2
All-Inclusive Index - Second Quarter 2024	3
Forecast vs. Actual All Inclusive Index - Fourth Quarter 2023	4
Productivity	5
Rail Cost Adjustment Factor - Second Quarter 2024	6
Appendices	
A Labor	
B Fuel	
C Materials & Supplies	
D Equipment Rents	
E Depreciation	
F Interest	
G Other Expenses	
H Railroad and Union Abbreviations	

Introduction

On January 2, 1985, the Interstate Commerce Commission (ICC) adopted the All-Inclusive Index as the basis for the Rail Cost Adjustment Factor (RCAF). The quarterly projection of railroad costs, as documented herein, employs the All-Inclusive Index as required by the regulations. Also presented in this submission is the RCAF, both Adjusted and Unadjusted, as required by the ICC in its decision in Ex Parte No. 290 (Sub-No. 4), Rail Cost Recovery Procedures - Productivity Adjustment, served March 24, 1989. In addition, the AAR has included the RCAF-5, which was instituted by a Surface Transportation Board decision served October 3, 1996 in Ex Parte No. 290 (Sub-No. 7), *Productivity Adjustment - Implementation*. The AAR and its members do not believe the additional productivity-adjusted index is required or permitted by the applicable statute, and do not endorse its publication.

This quarter's projection of railroad costs is for the second quarter 2024. Calculations for the productivity adjustment decision, served January 18, 2024, have been utilized to update productivity adjustment factors listed on page 5 herein.

Index Weights

In the Ex Parte No. 290 (Sub-No. 2) final rules, issued in April 1981, the Interstate Commerce Commission mandated that the weights of each major cost component be updated annually. These "external" weights are calculated using expense data from Schedules 410 and 210 of the R-1 annual report filed with the Surface Transportation Board by the Class I railroads. The weights are typically updated with the fourth quarter projection.

The 2022 (current) and 2021 (previous) weights are shown below. Weights calculated from 2021 data were used for the fourth quarter of 2022 through the third quarter of 2023. Beginning with the fourth quarter of 2023, weights calculated using 2022 data are used. The component with the biggest change in weight was Fuel, which increased by 6.2 percentage points. Labor and Depreciation fell by 2 and 2.3 percentage points, respectively. Materials & Supplies increased .2 percentage points. The weight for Other decreased 1.3 percentage point, Equipment Rents decreased by .5 percentage points, and Interest decreased by .3 percentage points.

Weights for RCAF's All-Inclusive Index		
	2022	2021
Labor	29.4 %	31.4 %
Fuel	20.4	14.2
Materials & Supplies	4.7	4.5
Equipment Rents	4.4	4.9
Depreciation	15.2	17.5
Interest	2.1	2.4
Other	23.8	25.1
Total	100.0	100.0

Reweightings of the index is accomplished by calculating both the current quarter (normally the fourth) and prior (normally the third) quarter indexes with the new weights. The relative change between the two quarters is then multiplied times the prior quarter (usually the third) *linked* index. Use of this method ensures that the weight change, by itself, does not cause a change in the level of the All-Inclusive Index.

Internal weights in the labor and equipment rents components are updated at the same time as the external weights. When these weights are changed, they are also linked using the procedure described above in order to eliminate the effect of the change in weighting.

All-Inclusive Index

Second Quarter 2024

The components and values of the current and previous All-Inclusive Indexes are shown below. Details of the construction of each component of the index are contained in the Appendices.

	2022 Weights	Forecast		Percent Change
		Previous 2024Q1	Current 2024Q2	
1. Labor	29.4%	526.4	527.0	0.1 %
2. Fuel	20.4%	368.9	350.4	-5.0
3. M&S	4.7%	337.5	367.1	8.8
4. Equipment Rents	4.4%	266.9	279.8	4.8
5. Depreciation	15.2%	238.4	240.2	0.8
6. Interest	2.1%	51.0	51.0	0.0
7. Other	23.8%	291.6	292.4	0.3
8. Weighted Average				
a. 1980 = 100		364.3	363.2	
b. 1980 = 100 (linked)		335.8	334.8 ¹	
c. 4Q22 = 100		98.1	97.8 ²	-0.3

¹ Index80 = (Current Index / Previous Index) * the Previous Quarter Linked Index
 = (363.2 / 364.3) x 335.8
 = 334.8

² To calculate the 4Q22 = 100 index:
 Index4Q22 = (Current Linked Index / 4Q22 Basing Factor) * 100
 = 334.8 divided by 342.3 times 100
 = 97.8

Indexes based on other periods:

4Q17 based index = 334.8 / 264.5 x 100 = 126.6
 4Q12 based index = 334.8 / 297.6 x 100 = 112.5
 4Q07 based index = 334.8 / 245.9 x 100 = 136.2
 4Q02 based index = 334.8 / 192.1 x 100 = 174.3
 4Q97 based index = 334.8 / 173.2 x 100 = 193.3
 4Q92 based index = 334.8 / 156.9 x 100 = 213.4

Forecast vs. Actual All-Inclusive Index

Fourth Quarter 2023

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the fourth quarter actual index of 103.8 is 0.8 index points above the forecast value of 103.0. Therefore, the forecast error adjustment for second quarter 2024 is 0.8 index points.

	2022	Fourth Quarter 2023		Amt
	Weights	Forecast	Actual	Difference
1. Labor	29.4%	581.2	581.2	
2. Fuel	20.4%	387.9	402.2	
3. M&S	4.7%	342.5	342.5	
4. Equipment Rents ¹	4.4%	263.6	261.4	
5. Depreciation	15.2%	238.4	239.4	
6. Interest	2.1%	51.0	51.0	
7. Other	23.8%	283.9	287.4	
8. Weighted Average				
a. 1980 = 100		382.6	386.4	
b. 1980 = 100 (linked)		352.7	355.2 ²	
c. 4Q22 = 100 ³		103.0	103.8	0.8

Forecast error —————→ **0.8 index points**

¹	2022	Fourth Quarter 2023	
	Weights	Forecast	Actual
Car-Hire	68.1%	226.1	226.2
Lease Rentals	31.9%	283.9	287.4
Weighted Average		244.5	245.7
Weighted Average (linked)		263.6	261.4

² Linked actual index = (actual index / previous actual index) x previous linked actual index.

$$355.2 = 386.4 / 370.6 \times 340.7$$

³ The 4Q22 based indexes are 1980 based indexes divided by the 4Q22 basing factor (342.3/100).
 Other basing factors are: 4Q22 = 264.5; 4Q12 = 297.6; 4Q07 = 245.9; 4Q02 = 192.1; 4Q97 = 173.2; and 4Q92 = 156.9.

Productivity

On January 18, 2024, the Surface Transportation Board served a decision which proposed to adopt 1.1 percent as the geometric average productivity change for the five most recent years available. Their five year rolling geometric average calculation added the year 2022 and removed the year 2017. The components of this average annual value are shown on the following table in ratio format – therefore, 1.011 is the same as an increase of 1.1 percent. Productivity changes are calculated by multiplying each of the five productivity changes together and taking the result to the one-fifth power. The productivity adjustment factors (PAF) for each quarter are calculated by increasing the previous quarter's PAF by quarterly versions of the annual rate, which are the fourth root of the geometric average annual growth rate. The difference between the PAF and the PAF-5 is the timing of the five-year productivity trend.

Comparison of Output, Input, & Productivity			
2018 - 2022			
Year	Output Index (1)	Input Index (2)	Productivity Changes (3)
2018	1.032	1.004	1.028
2019	0.968	0.961	1.007
2020	0.923	0.904	1.021
2021	1.028	0.999	1.029
2022	0.992	1.020	0.972
Average			1.011
Previous Average (2017-2021)			1.028

Calculation of PAF and PAF-5			
For 2018-2022, use fourth root of avg. productivity change = 1.0027			
For 2017-2021, use fourth root of avg. productivity change = 1.0069			
Quarter	Year	PAF	PAF-5
Q1	2024	2.5430	2.6566
Q2	2024	2.5499	2.6749
Q3	2024	2.5568	2.6934
Q4	2024	2.5637	2.7120
Q1	2025	2.5706	2.7193

Rail Cost Adjustment Factor

Second Quarter 2024

Four RCAF values are presented in this filing. Two are not modified for productivity (Preliminary RCAF and RCAF Unadjusted), and two incorporate a productivity calculation (RCAF Adjusted and RCAF-5). The All-Inclusive Index and all four RCAF values, plus the percent change for each, are shown below. Note that beginning with the 2023Q1 index, the All-Inclusive Index was rebased to a 2022Q4=100 basis as required in the applicable statute.

	Previous 2024Q1	Current 2024Q2	Percent Change
All-Inclusive Index ¹	98.1	97.8	-0.3 %
Preliminary RCAF ²	0.981	0.978	-0.3
Forecast Error Adjustment ³	<u>-0.007</u>	<u>0.008</u>	
RCAF (Unadjusted) ⁴	0.974	0.986	1.2
Productivity Adjustment Factor ⁵	<u>2.5430</u>	<u>2.4599</u>	
RCAF (Adjusted) ⁶	0.383	0.401	4.7
PAF-5 ⁷	2.6566	2.6749	
RCAF-5 ⁸	0.367	0.369	0.5

¹ See All-Inclusive Index on page 3.

² All-Inclusive Index divided by the All-Inclusive Index in the base period (100.0).

³ The current figure is from Forecast vs. Actual All-Inclusive Index in this filing (page 4). The previous quarter figure is shown in a similar section of the previous quarter's filing.

⁴ Preliminary RCAF plus the forecast error adjustment.

⁵ See Productivity on page 5.

⁶ RCAF (Unadjusted) divided by the Productivity Adjustment Factor (PAF).

⁷ See Productivity on page 5.

⁸ RCAF (Unadjusted) divided by the PAF-5.

Appendixes

Labor

Second Quarter 2024

The second quarter 2024 Labor Index is 0.1 percent higher than the previous quarter. The increase in back pay, from new independent contracts, is primarily responsible for this quarter's higher Labor Index.

Wage Rate Index

The Wage Rate Index portion of the Labor Index increased by 0.2%.

Wage Increases: There are no national wage increases currently scheduled for the second quarter. There were new contracts for independent groups that included retroactive increases and increased the wage rate index.

Lump Sums: The second quarter lump sum rate fell 6.4%. One amount was fully amortized and removed, and it was replaced by one new similar amount.

Back Pay: The back pay increased from \$0.009 to \$0.100. The previous back pay amount from national contracts and a few independent contracts were removed in Q1 and Q2, respectively, and there is a new backpay added from new independent contacts. As always, back pay amounts will be removed from the index after they have been amortized for four quarters.¹

Other: In wages, "Other" contains the amortization of incentive compensation payments (similar to lump sums) that one railroad makes each year to its dispatchers, yardmasters, and locomotive engineers. The second quarter rate is unchanged from the prior quarter.

¹ Index procedure, decided by the Interstate Commerce Commission in 1988, is to amortize lump sums and/or back pay over four quarters using the rates for 13-week (a.k.a. 3-month) U.S. Treasury bills.

Labor

Second Quarter 2024

Supplements Index

The Supplements Index decreased 0.1 percent this quarter. All of the components of the supplements index remained relatively unchanged, with the exception of the Other category.

Health & Welfare: The Health & Welfare rate was relatively flat with zero percent change. There was an update to employee contributions for independent contacts which caused an insignificant increase.

Railroad Retirement: The Railroad Retirement rate increased 0.2 percent due to higher wages in second quarter.

Unemployment Insurance: The Unemployment Insurance rate remained unchanged.

Other: The "Other" category is a reflection of all other fringe benefits, and currently contains known employer contributions to employee 401(k) accounts and employer contributions to employee stock plans that are recorded as fringe benefits. The second quarter rate is 18.7 percent lower than last quarter.

Labor Index Calculation

As shown in Table A-1 on the next page, the 0.2 percent increase in the Wage Rate Index and the 0.1 percent decrease in the Supplements Index combined to cause the Labor Index to be 0.1 percent higher than the previous quarter. The linked second quarter 2024 Labor index is 527.0, which is 7.6 percent lower than one year ago.

Labor

Second Quarter 2024

Table A-1 Labor Index

	2024Q1	2024Q2	Change	
			Percent	Amount
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$52.833	\$52.909	0.1%	\$0.076
Adjustments:				
Lump Sum	0.611	0.572	-6.4%	-\$0.039
Back Pay	0.009	0.100	1011.1%	\$0.091
Other	0.220	0.220	0.0%	\$0.000
Total Wages	<u>53.673</u>	<u>53.801</u>	0.2%	\$0.128
Health & Welfare Benefits	9.261	9.263	0.0%	\$0.002
RR Retirement & Medicare	11.527	11.547	0.2%	\$0.020
Unemployment Insurance	0.038	0.038	0.0%	\$0.000
Other	0.241	0.196	-18.7%	-\$0.045
Total Supplements	<u>\$21.067</u>	<u>\$21.044</u>	-0.1%	-\$0.023
Total Labor (as info only)	\$74.740	\$74.845		
Wage Index¹	459.3	460.4	0.2%	
Supplements Index²	778.5	777.7	-0.1%	
Total labor Index, 2022 Weights ³	549.0	549.6		
Labor Index (linked)⁴	526.4	527.0	0.1%	

¹ 1980 wage rate \$11.685

² 1980 supplements rate \$2.706

³ 2022 weights: wages, supplements 71.9% 28.1%

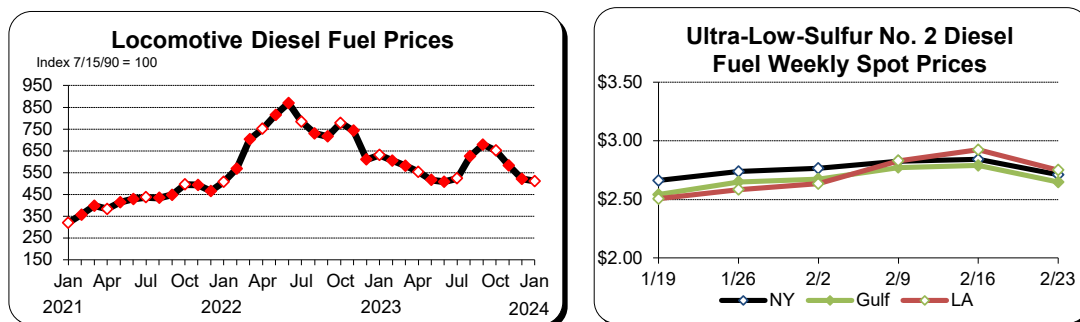
⁴ 2024Q2 linked Index = 2024Q1 linked x (2024Q2 / 2024Q1)
 = 526.4 x 549.6 / 549.0

Fuel

Second Quarter 2024

The forecast for fuel is based on: (1) a survey of railroad fuel purchasing officers concerning current price and volume levels, (2) expectations of railroad purchasing officers based on their own forecast models and discussions with their major suppliers, and (3) a consensus of petroleum industry experts and general business publications. Fuel purchases are assumed to remain in inventory for 30 days before the fuel is consumed (and therefore expensed). Therefore, prices *paid* in the first month of each quarter are for fuel *expensed* in the second (or middle) month of the quarter, and the middle month expensed is used to represent each quarter.

The average locomotive diesel fuel price hit a peak point in June 2022, but has trended downward with fluctuations. While average prices for locomotive diesel fuel are available only through January 2024, data through four weeks of February are available for related fuel types. According to the Energy Information Administration, the daily spot price as of February 26 for Ultra-Low-Sulfur Diesel Fuel* is an average of 4.9 percent lower than the average for January. The chart below (on left) shows the AAR's Monthly Locomotive Diesel Fuel Price Index through January 2024. The second chart (on right) shows recent spot prices for Ultra-Low-Sulfur No. 2 Diesel Fuel as reported by the Energy Information Administration.



Using information from the EIA, prices towards the end of February are higher than prices that actually occurred in January. Railroads that responded to the AAR's forecast survey expect prices to decrease by April (Q2) compared to prices that actually occurred for January (Q1). The second quarter 2024 forecast is 5.0 percent lower than the previous quarter forecast, and 11.0 percent higher than the prior quarter actual.

Forecast Fuel Index (1980 = 100)	350.4
Change from previous quarter forecast	-5.0%
Change from previous quarter actual	11.0%

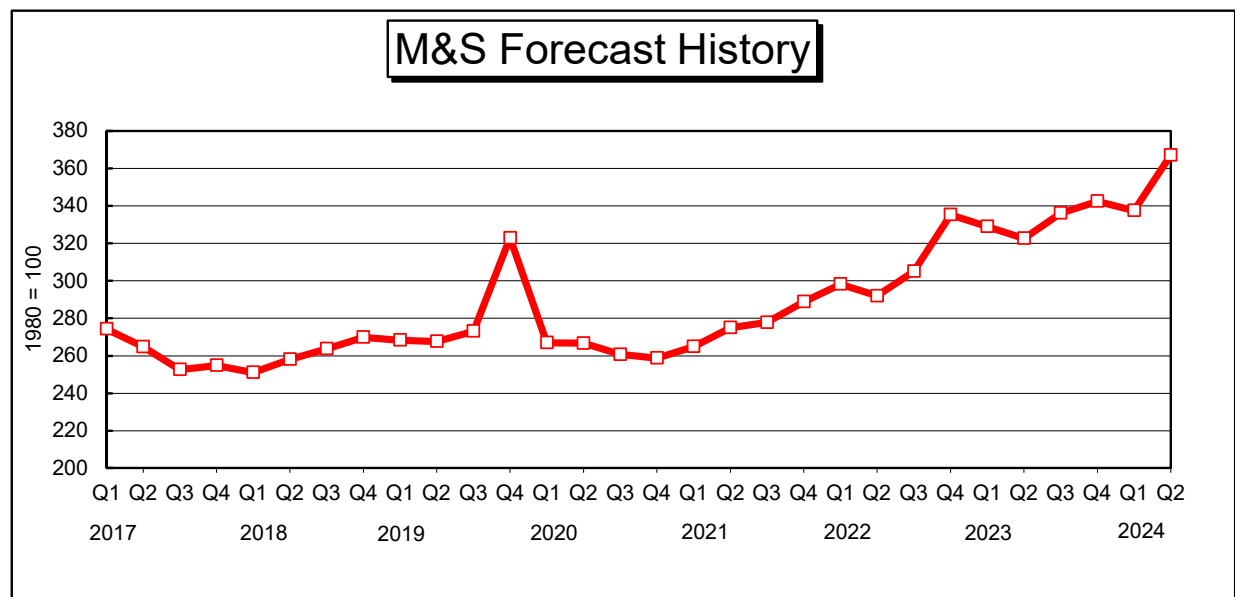
* Heating oil, Ultra-Low-Sulfur No. 2 Diesel Fuel, and locomotive diesel fuel are part of a group of closely related products, commonly labeled as distillates, that differ mostly by their sulfur content. Because of these similarities, these fuels are produced together and have similar pricing trends.

Materials & Supplies

Second Quarter 2024

The second quarter 2024 Materials & Supplies Index increased 8.8 percent from the previous quarter. Prices increased for Miscellaneous, Metal, and Forest Products.

2024Q2	Materials & Supplies Index =	367.1
2024Q1	Materials & Supplies Index =	337.5
	Difference	29.6 basis points
		or
		8.8 %



Equipment Rents

Second Quarter 2024

The Equipment Rents Index consists of two components – car hire and lease rentals. The methodologies used to create these two components, and the final Equipment Rents Index, are explained below.

Car Hire

The car hire component is indexed using data from the Car Hire Accounting Rate Master (CHARM) file. Car hire rates for the forecast quarter are estimated based on data for active freight cars using the most recent data available. For the first quarter, December 1 of the previous year is typically used. For the second, third and fourth quarters; March 1, June 1, and September 1 are usually used, respectively. Using data retrieved from the latest CHARM file, an average rate per car is developed. Next, those average rates are grouped into four car type categories to create an overall summary of car hire rates. The summary rates are then compared from quarter to quarter, and weighted, to determine the Car Hire Index.

Lease Rentals

The lease rentals portion of the Equipment Rents Index uses the Producer Price Index for Industrial Commodities less Fuel and Related Products and Power (PPI-LF). The Commission adopted this surrogate in its decision served March 13, 1987. The AAR uses six years of historical data to derive its forecast for the PPI-LF. The forecast is used not only for lease rentals, but also for the "Other" component of the All-Inclusive Index. Appendix G discusses the forecast in more detail.

Equipment Rents Index Calculation

The table below calculates the Equipment Rents Index. The second quarter Car Hire portion of the Index increased 7.6 percent as the latest rates for private-owned cars were higher compared to three months ago. A 0.3 percent increase in the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 7.6 percent increase for Car Hire, caused the Equipment Rents Index to increase by 4.83 percent – rounded to 4.8 percent in the table below.

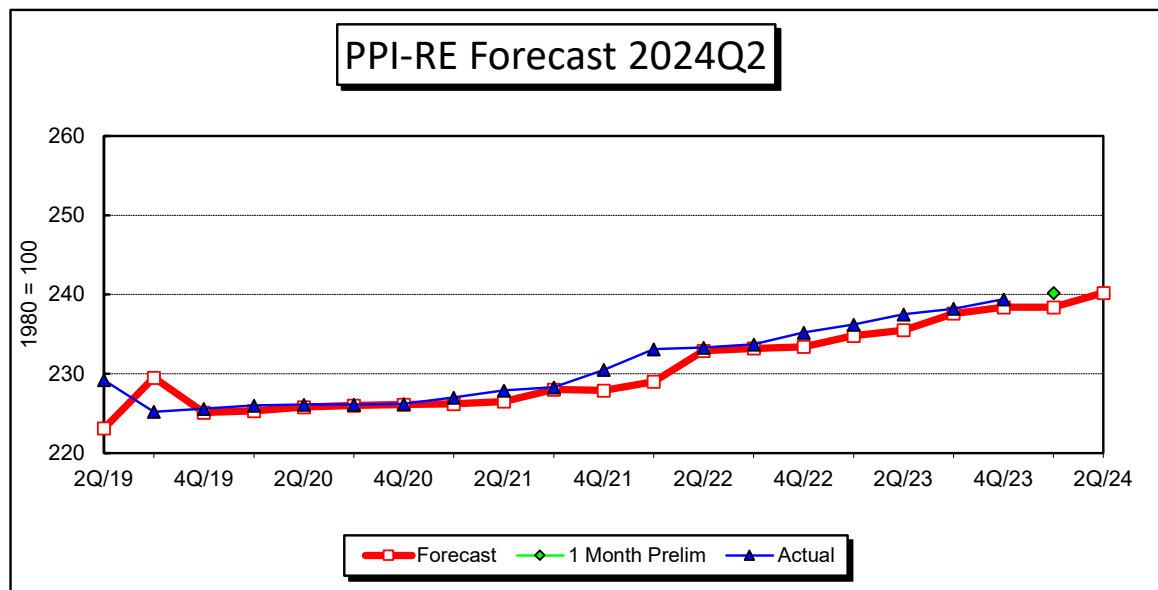
	2022			Percent
	Weight	2024Q1	2024Q2	Change
Car Hire	68.1%	227.0	244.2	7.6 %
Lease Rentals	31.9%	291.6	292.4	0.3
Weighted Average		247.6	259.6	4.8
Weighted Average (Linked)		266.9	279.8	4.8

Depreciation

Second Quarter 2024

The Producer Price Index for Railroad Equipment (PPI-RE) is used to index depreciation expense. The PPI-RE is forecast using an ARIMA (Auto-Regressive Integrated Moving Average) process where a statistical package picks the model that best fits the historical data set (see next page), and that model is then used for the forecast. The historical data set contains 6 years of monthly data (a sample size of 72), where the most recent available data point is the first month of the quarter prior to the forecast quarter. For a first quarter forecast, the most recent month of data available would be for October of the prior year. For a second quarter forecast, January would normally be the most recent period available. April and July would be the most recent months available for third and fourth quarter forecasts, respectively. The output from the forecast model is shown on page 2 of this appendix on a 1982=100 basis. The figure forecast by the model increased 1.1 percent from the previous quarter's forecast.

Forecast of Depreciation Index (1982=100)	217.1
Forecast of Depreciation Index (1980=100)	240.2
Change from previous quarter forecast	0.8% = 0.76%
Change from actual first month of previous quarter	0.0% = 0.00%
Change from same quarter of prior year (actual)	1.1%



Depreciation

Second Quarter 2024

PPI RAILROAD EQUIPMENT

Expert Analysis

Using rule-based logic I have narrowed down the choice to exponential smoothing or Box-Jenkins.
I will perform an out-of-sample test to select between these two approaches.

The cumulative MAD for Exponential smoothing was 1.54 and for Box-Jenkins was 1.51.
The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method.

Based on the lower MAD, I will use Box-Jenkins.

Model Details

Expert selection

Box-Jenkins

ARIMA(0, 1, 0)

Within-Sample Statistics

Sample size	72	No. parameters	0
Mean	207.41	Std. deviation	4.81
R-square	0.97	Adj. R-square	0.97
Durbin-Watson	2.13	Ljung-Box(18)	18.5 P=0.58
Forecast error	0.83	BIC	0.83
MAPE	19.00%	SMAPE	19.00%
RMSE	0.83	MAD	0.39
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Actual

2023-Aug	215.4
2023-Sep	215.5
2023-Oct	215.3
2023-Nov	217
2023-Dec	217.0
2024-Jan	217.1

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2024-Feb	215.470	217.100	218.73
2024-Mar	214.795	217.100	219.405
2024-Apr	214.278	217.100	219.922
2024-May	213.841	217.100	220.359
2024-Jun	213.456	217.100	220.744
QTR AVG	213.858	217.100	220.342

Interest

Second Quarter 2024

The Interstate Commerce Commission, in its decision served February 28, 1989, revised the All-Inclusive Index methodology to include a specific interest component, which is to track changes in the average interest rate from year to year. The interest rate is essentially the embedded cost of debt, i.e., total interest expense divided by average total long term debt.

The interest rate is calculated for the most recent year and used until the next year's figures are finalized. The source data are from a summary of the annual reports (Form R-1) submitted by each of the Class I railroads. Although the data set is received at the end of March, it is not used until the September filing. This enables data to be entered into a database and reviewed – and any revisions made, if necessary, before the data are used in the Index. The current Interest Index is based on 2022 data, and was updated in the Q4 filing submitted on September 5, 2023. The Interest Index based on 2022 increased from 50.1 in 2021 to 51.0 in 2022.

The R-1 source for interest expense is Schedule 210, column b. The lines currently used are listed below. The source for average total debt is Schedule 200. The sums of data from columns b and c (ending and beginning balances) are combined and divided by 2 to compute an average balance. The line numbers listed below account for the line number changes effective beginning with the 2016 annual report.

Interest Expense (Schedule 210)

Line	
42	Total Fixed Charges
44	Contingent Interest
less	
22	Release of Premium on Funded Debt

Average Total Debt (Schedule 200)

Line	
29	Current Liabilities, Loans and Notes Payable
38	Equipment Obligations and Other Long Term Debt Due Within One Year
40	Non-Current Liabilities: Funded Debt Unmatured
41	Non-Current Liabilities: Equipment Obligations
42	Non-Current Liabilities: Capitalized Lease Obligations
43	Non-Current Liabilities: Debt in Default
44	Non-Current Liabilities: Accounts Payable: Affiliated Companies
45	Non-Current Liabilities: Unamortized Debt Premium

2022	Interest Rate	4.00%
1980	Interest Rate	7.85%
2024Q2	Interest Index	51.0
2024Q1	Interest Index	51.0
	Percent Change	0.0%

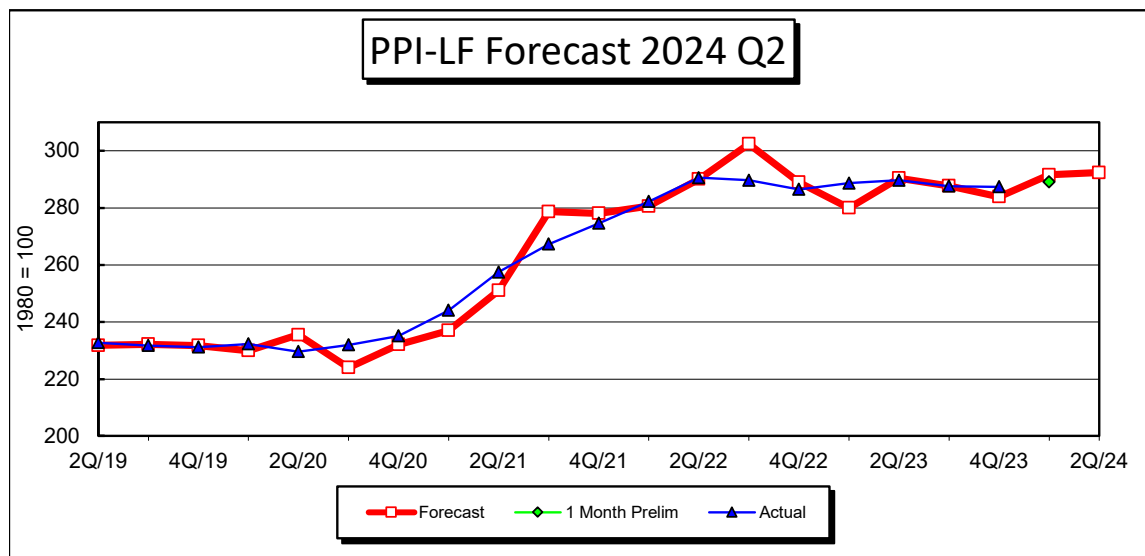
Other Expenses

Second Quarter 2024

The Producer Price Index for Industrial Commodities less Fuels and Related Products and Power (PPI-LF) is used to index purchased services, casualties and insurance, loss and damage, taxes (other than income and payroll), general and administrative expenses, and lease rentals. These expenses, when grouped together, are usually called "Other" expenses.

Like the PPI-RE, the PPI-LF is forecast using an ARIMA process on 6 years of monthly data (a sample size of 72) with the most recent available monthly data being the first month of the quarter prior to the forecast quarter. For a first quarter forecast, the most recent month of data available would be for October of the prior year. For a second quarter forecast, January would normally be the most recent month available. April and July would be the most recent months available for third and fourth quarter forecasts, respectively. The output from the forecast model is shown on page 2 of this appendix for 1982=100. The figure forecast by the model is 0.9 percent higher than the prior quarter forecast.

Forecast of Other Expense Index (1982=100)	260.8
Forecast of Other Expense Index (1980=100)	292.4
Change from previous quarter forecast	0.3%
Change from actual first month of previous quarter	1.1%
Change from same quarter of prior year (actual)	0.9%



Other Expenses

Second Quarter 2024

PPI INDUSTRIAL COMMODITIES LESS FUEL AND RELATED PRODUCTS AND POWER

Expert Analysis

Using rule-based logic I have narrowed down the choice to exponential smoothing or Box-Jenkins.
I will perform an out-of-sample test to select between these two approaches.

The cumulative MAD for Exponential smoothing was 4.14 and for Box-Jenkins was 3.37.
The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method.

Based on the lower MAD, I will use Box-Jenkins.

Model Details

Expert selection

Box-Jenkins

ARIMA(0, 2, 0)*(1, 0, 0)

Term	Coefficient	Std. Error	t-Statistic	Significance
A[12]	0.3936	0.1104	3.564	0.9993

Within-Sample Statistics

Sample size	72	No. parameters	1
Mean	228.65	Std. deviation	23.08
R-square	1	Adj. R-square	1
Durbin-Watson	2.16	Ljung-Box(18)	21.4 P=0.74
Forecast error	0.84	BIC	0.86
MAPE	0.27	SMAPE	0.27
RMSE	0.84	MAD	0.62
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Actual

2023-Aug	256.4
2023-Sep	256.5
2023-Oct	256.4
2023-Nov	256.3
2023-Dec	256.6
2024-Jan	257.9

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2024-Feb	257.145	258.806	260.468
2024-Mar	255.800	259.516	263.232
2024-Apr	254.087	260.304	266.522
2024-May	251.794	260.896	269.997
2024-Jun	248.81	261.133	273.457
QTR AVG	251.564	260.778	269.992

Railroad and Union Abbreviations

Second Quarter 2024

Railroads

BLE	Bessemer & Lake Erie Railroad (Part of CN's Grand Trunk Corp.)
BNSF	BNSF Railway Company
CC	Chicago, Central & Pacific (Part of CN's Grand Trunk Corp. Sometimes noted as CC&P.)
CN	Canadian National Railway (Commonly known as CN, owns Grand Trunk Corporation.)
CNGT	AAR's abbreviation for Grand Trunk Corporation (Almost all of CN's U.S. operations.)
CP	Canadian Pacific (Also noted as CPR. Owns the U.S. Class I railroad Soo Line.)
CPSL	AAR's abbreviation for Soo Line Corporation (CP's U.S. operations including SOO, D&H, and DME.)
CSX	CSX Transportation
D&H	Delaware & Hudson (Part of Canadian Pacific's U.S. operations, included beginning 2011Q4.)
DME	Dakota, Minnesota & Eastern (Part of Canadian Pacific's U.S. operations, included beginning 2011Q4.)
CMQ	Central Maine & Quebec (Part of Canadian Pacific's U.S. operations, included beginning 2021Q4.)
GTW	Grand Trunk Western Railroad (Part of CN's Grand Trunk Corp.)
IC	Illinois Central Railroad (Part of CN's Grand Trunk Corp.)
KCS	Kansas City Southern Railway
NS	Norfolk Southern Combined Railroad Subsidiaries (a.k.a. Norfolk Southern Railway or NS Rail)
SOO	Soo Line Railroad (The largest part of Canadian Pacific's U.S. operations.)
UP	Union Pacific Railroad
WC	Wisconsin Central and subsidiaries (Part of CN's Grand Trunk Corp.)

Major Unions Involved with Railroads

ATDA	American Train Dispatchers Association
BLET	Brotherhood of Locomotive Engineers and Trainmen Div. of the International Brotherhood of Teamsters
BMWED	Brotherhood of Maintenance of Way Employees Division of the International Brotherhood of Teamsters
BRS	Brotherhood of Railroad Signalmen
IAM	International Association of Machinists and Aerospace Workers
IBBM	International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers & Helpers
IBEW	International Brotherhood of Electrical Workers
NCFO	National Conference of Firemen and Oilers
SMART-TD	International Association of Sheet Metal, Air, Rail, and Transportation Workers - Transportation Division*
SMART-MD	International Association of Sheet Metal, Air, Rail, and Transportation Workers - Mechanical Division**
TCU	Transportation Communication International Union
TCU-Carmen	Brotherhood of Railway Carmen Division of the Transportation Communications International Union

Predecessor Unions (Some AAR databases use these old abbreviations.)

BLE	Brotherhood of Locomotive Engineers (predecessor to BLET)
BMWE	Brotherhood of Maintenance of Way Employees (predecessor to BMWED)
BRC	Brotherhood of Railway Carmen (predecessor to TCU-Carmen)
IBFO	International Brotherhood of Firemen and Oilers (predecessor to NCFO)
SMW	Sheet Metal Workers' International Association (see SMART-MD)
UTU	United Transportation Union (merged into SMART)
UTU-YMD	United Transportation Union Yardmaster Department (see SMART-TD)

* Represents employees formerly represented by the UTU (conductors and brakemen) and also has a separate yardmasters department.

** Represents employees formerly represented by the SMW (steel workers)

AAR Workpapers Sent to STB for 2024 Q2 RCAF

March 5, 2024

- 1 . Index Calculation Spreadsheet (index_calc.xlsx, 2 pages)
- 2 . Summary of ST and PFTNW Hourly Rates (Summary.xlsx)
- 3 . RCAF Taxable Wages adjustment calculation (TaxableRate.xlsx)
- 4 . National Contracts spreadsheet, 2 sections (2 and 5 pages)
- 5 . Wall Street Journal - 13 week Treasury Bill Rate from recent auction (a.k.a. 3-Mo. T-Bill)
- 6 . 2022/Q2 RCAF Lump Sum Amortization summary, public version (1 page)
- 7 . 2022/Q2 RCAF Back Pay Amortization summary, public version (1 page)
- 8 . Health & Welfare worksheet (1 page)
- 9 . Railroad Retirement spreadsheet (5 pages)
- 10 . Unemployment Insurance Tax worksheet (1 page)
- 11 . 2-page SAS run for 2022 Q2 Unemployment Insurance Tax
- 12 . 2 pages from EIA including spot prices for various distillates
- 13 . Summary of Materials & Supplies - "U.S. Summary by Composition Category" (1 page)
- 14 . RCAF Car Hire Forecast Spreadsheet for Equipment Rents (2 pages) plus source data page
- 15 . 6 pages of PPI-RE for Depreciation including graph page, input/output, and BLS source data
- 16 . 6 pages of PPI-LF for Other (and Lease Rentals) incl. graph page, input output, BLS source data
- 17 . Forecast Error calc. and workpapers (7pages: calc, fuel, 3 car hire, deprec, other)

RCAF All-Inclusive Index's Labor Index Based on 2022 Benchmarks

	22 Wts.	3Q/23	3Q/23 Rebenchd As Info Only	% Chg	4Q/23	% Chg	1Q/24	% Chg	2Q/24	% Chg	3Q/24	% Chg
Straight Time		\$44.251	\$43.997	-0.6%	\$43.997	-0.6%	\$44.011	0.0%	\$44.074	0.1%		--
PFTNW		\$8.495	\$8.819	3.8%	\$8.819	3.8%	\$8.822	0.0%	\$8.835	0.1%		--
Total		\$52.746	\$52.816	0.1%	\$52.816	0.1%	\$52.833	0.0%	\$52.909	0.1%	\$0.000	--
Adjustments												
Lump Sum		\$0.161	\$0.160		\$0.622		\$0.611		\$0.572			
Back Pay		\$7.057	\$7.002		\$6.993		\$0.009		\$0.100			
Other		\$0.222	\$0.220		\$0.220		\$0.220		\$0.220			
Total Wages		\$60.186	\$60.198	0.0%	\$60.651	0.8%	\$53.673	-11.5%	\$53.801	0.2%	\$0.000	--
Pre-Tax Reduction		(\$1.444)	(\$1.092)		(\$1.092)		(\$1.092)		(\$1.088)			
Taxable Wages		\$58.742	\$59.106		\$59.559		\$52.581		\$52.713		\$0.000	
H & W		\$9.530	\$9.532	0.0%	\$9.532	0.0%	\$9.261	-2.8%	\$9.263	0.0%		--
RR Ret & Medicare		\$12.253	\$12.216	-0.3%	\$12.282	0.2%	\$11.527	-6.1%	\$11.547	0.2%		--
Unemp. Insurance		\$0.876	\$0.432	-50.7%	\$0.432	-50.7%	\$0.038	-91.2%	\$0.038	0.0%		--
Other		\$0.335	\$0.333	-0.6%	\$0.182	-45.7%	\$0.241	32.4%	\$0.196	-18.7%		--
Total		\$22.994	\$22.513	-2.1%	\$22.428	-2.5%	\$21.067	-6.1%	\$21.044	-0.1%	\$0.000	--
Adjustments												
Total Supplements		\$22.994	\$22.513	-2.1%	\$22.428	-2.5%	\$21.067	-6.1%	\$21.044	-0.1%	\$0.000	--
Total Labor		\$83.180	\$82.711	-0.6%	\$83.079	-0.1%	\$74.740	-10.0%	\$74.845	0.1%	\$0.000	--
Wage Rate Index	0.7190	515.1	515.2	0.0%	519.1	0.8%	459.3	-11.5%	460.4	0.2%	0.0	--
Supplements Index	0.2810	849.7	832.0	-2.1%	828.8	-2.5%	778.5	-6.1%	777.7	-0.1%	0.0	--
Total Labor Index '21 Wts.		614.1										
Total Labor Index '22 Wts.		609.1	604.2	-0.8%	606.1	-0.5%	549.0	-9.4%	549.6	0.1%	0.0	--
Labor Index (Linked)		584.1			581.2	-0.5%	526.4	-9.4%	527.0	0.1%	0.0	-100.0%

All Inclusive Index and RCAF using 2022 Benchmarks and Weights

	22 Wts.	3Q/23	22 Wts. 3Q/23	% Chg	4Q/23	% Chg	1Q/24	% Chg	2Q/24	% Chg	3Q/24	% Chg
Labor	0.294	584.10	584.1	0.0%	581.2	-0.5%	526.4	-9.4%	527.0	0.1%	0.0	-100.0%
Fuel	0.204	330.30	330.3	0.0%	387.9	17.4%	368.9	-4.9%	350.4	-5.0%		--
M&S	0.047	336.20	336.2	0.0%	342.5	1.9%	337.5	-1.5%	367.1	8.8%		--
Equip. Rents	0.044	261.00	261.0	0.0%	263.6	1.0%	266.9	1.3%	279.8	4.8%	0.0	-100.0%
Depreciation	0.152	237.60	237.6	0.0%	238.4	0.3%	238.4	0.0%	240.2	0.8%		--
Interest	0.021	50.10	50.1	0.0%	51.0	1.8%	51.0	0.0%	51.0	0.0%	51.0	0.0%
Other	0.238	287.70	287.7	0.0%	283.9	-1.3%	291.6	2.7%	292.4	0.3%		--
Weighted Avg.	1.000	373.20	372.0	-0.3%	382.6	2.8%	364.3	-4.8%	363.2	-0.3%	1.1	-99.7%
Linked		342.90			352.7	2.9%	335.8	-4.8%	334.8	-0.3%	1.0	-99.7%
Basing Factor												
10/1/80 basis	102.7	333.9			343.4	2.8%	327.0	-4.8%	326.0	-0.3%	1.0	-99.7%
10/1/82	120.9	283.6			291.7	2.9%	277.8	-4.8%	276.9	-0.3%	0.8	-99.7%
4Q/87	132.2	259.4			266.8	2.9%	254.0	-4.8%	253.3	-0.3%	0.8	-99.7%
4Q/92	156.9	218.5			224.8	2.9%	214.0	-4.8%	213.4	-0.3%	0.6	-99.7%
4Q/97	173.2	198.0			203.6	2.8%	193.9	-4.8%	193.3	-0.3%	0.6	-99.7%
4Q/02	192.1	178.5			183.6	2.9%	174.8	-4.8%	174.3	-0.3%	0.5	-99.7%
4Q/07	245.9	139.4			143.4	2.9%	136.6	-4.7%	136.2	-0.3%	0.4	-99.7%
4Q/12	297.6	115.2			118.5	2.9%	112.8	-4.8%	112.5	-0.3%	0.3	-99.7%
4Q/17	264.5	129.6			133.3	2.9%	127.0	-4.7%	126.6	-0.3%	0.4	-99.7%
4Q/22 basis	342.3	100.2			103.0	2.8%	98.1	-4.8%	97.8	-0.3%	0.3	-99.7%
Car Hire	0.681	220.80	220.8	0.0%	226.1	2.4%	227.0	0.4%	244.2	7.6%		--
Lease Rents	0.319	287.70	287.7	0.0%	283.9	-1.3%	291.6	2.7%	292.4	0.3%	0.0	--
Weighted Avg Eq Rents		242.10	242.1	0.0%	244.5	1.0%	247.6	1.3%	259.6	4.8%	0.0	--
Linked Equipment Rents		261.00			263.6	1.0%	266.9	1.3%	279.8	4.8%	0.0	-100.0%
Preliminary RCAF		1.002			1.030	2.79%	0.981	-4.8%	0.978	-0.3%	0.003	-99.7%
Forecast Error Adj.		(0.027)			(0.018)		(0.007)		0.008			
RCAF Unadjusted		0.975			1.012	3.79%	0.974	-3.8%	0.986	1.2%	0.003	-99.7%
PAF		2.5083			2.5256	0.69%	2.5430	0.69%	2.5499	0.27%		--
RCAF Adjusted		0.389			0.401	3.08%	0.383	-4.5%	0.387	1.0%	#DIV/0!	--
PAF-5		2.6221			2.6384	0.62%	2.6566	0.69%	2.6749	0.69%		--
RCAF-5		0.372			0.384	3.23%	0.367	-4.4%	0.369	0.5%	#DIV/0!	--

Hourly Rate for 2024 Q2

Straight Time and Time Paid For But Not Worked

2023Q3 Straight Time Hourly Rate (from national spreadsheet)	\$43.985
Rebenchmark	

Adjustments to 2022 base:

Added 2023Q1

Miscellaneous Independents	Nothing	0.000
Soo Corp.	12 new GWIs	0.003

Added 2023Q2

Miscellaneous Independents	Nothing	0.006
Soo Corp.	12 new GWIs	0.008

Added 2023Q3

Miscellaneous Independents	Nothing	0.005
Soo Corp.	9 new GWIs	0.002

Added 2023Q4

Miscellaneous Independents	Nothing	0.000
Soo Corp.	7 new GWIs	0.000

Added 2024Q1

Miscellaneous Independents	Nothing	0.000
Soo Corp.	12 new GWIs	0.003

Added 2024Q2

Miscellaneous Independents	Nothing	0.006
Soo Corp.	5 new GWIs	0.057

Adjusted STHR Total	\$44.074
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Pay For Time Not Worked

PFTNW (from national spreadsheet)	\$8.817
Ratio Adj STHR to Nat STHR	44.074 / 43.985 = 1.00202

Adjusted Pay For Time Not Worked	\$8.835
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Adjusted STHR + Adjusted Pay For Time Not Worked	\$52.909
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Notes:

1. Miscellaneous Independent is mostly trainmen, yardmasters, and non-union plus CN's IAM employees.
Includes 20 union groups with employees and 5 non-union groups with employees.
2. Soo Corp. includes SOO, D&H, DM&E, and CMQ.
3. National Wage Increases are not fully captured in 2022 wage statistics due to the timing of implementation.
It's estimated that 4.2% of the 14.1% GWI was captured in 2022. Therefore, 9.9% GWI was applied in Q1 2023.

RCAF Taxable Wages

(To Use for Railroad Retirement and Unemployment Insurance Payroll Tax Calculations)

In the RCAF calculation, Total Wages are the wages paid, while Taxable Wages are the wages on which to base payroll tax calculations. The difference is caused by pre-tax employee contributions to help pay Health & Welfare costs. This page calculates that wage rate difference.

The national agreements feature employee Health & Welfare cost sharing. Some of the independent agreements adopt the dollar amount contributed under the national agreement, and some have their own employee contribution rate. This Cost Sharing is a pre-tax employee contribution to Health & Welfare insurance premiums paid by the employer. The employee contribution reduces employer Health & Welfare costs, while the Health & Welfare insurance premiums paid to the provider are unchanged. In the RCAF calculation, the reduction to the employer's Health & Welfare costs affect the Supplements portion of the Labor component of the index. The Taxable Wage Rate is used for Railroad Retirement and Unemployment Insurance calculations.

Reduction Calculation for 1Q/2024

U.S. ST Hours = 224,778,198
Wage Statistics are for 2022

Union Group	Employees	Mo. Rate	Annual \$
National ATDA (BNSF, CSX, KCS, NS, SOO, GTW, WC)	1,439	(\$309.21)	(\$5,339,438.28)
National BLET (BNSF, CSX, KCS, NS, UP, SOO, DH)	19,976	(\$309.21)	(\$74,121,347.52)
National BMWE (All except SOO, DME, DH)	18,935	(\$309.21)	(\$70,258,696.20)
National BRS (All except DME)	5,575	(\$309.21)	(\$20,686,149.00)
National IAM (BNSF, CSX, KCS, NS, SOO, UP)	4,553	(\$309.21)	(\$16,893,997.56)
National IBBM (BNSF, CSX, KCS, NS, SOO, UP, IC)	585	(\$309.21)	(\$2,170,654.20)
National IBEW (All except DME)	3,796	(\$309.21)	(\$14,085,133.92)
National NCFO (All except DME and WC)	1,484	(\$309.21)	(\$5,506,411.68)
National SMW (BNSF, CSX, KCS, NS, UP, IC)	529	(\$309.21)	(\$1,962,865.08)
National TCU (All except DME and DH)	3,660	(\$309.21)	(\$13,580,503.20)
National TCU-CAR (All except DME)	5,777	(\$309.21)	(\$21,435,674.04)
National UTU (BNSF, CSX, KCS, NS, UP, SOO, DH)	29,529	(\$309.21)	(\$109,567,945.08)
Yardmasters (BNSF, CSX, KCS, NS, UP, SOO, DH)	1,262	(\$309.21)	(\$4,682,676.24)
Misc Indep (DME, CMQ, portions of DH & SOO, portions of CN)	4,451	(\$282.24)	(\$15,075,002.88)
Total Union	101,551		(\$375,366,494.88)
All Other @ -\$10,896,344.69 total per month			\$130,756,136.28
Total			(\$244,610,358.60)

Reduction in Wage Rate Per ST Hour	-\$1.08822991
Deduct this amount from the Wage Rate	-\$1.088

National Contracts U.S.

Straight Time Hourly Rate															Check
Weight	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTRS	OTHER	Sum
	0.234585	0.02934	0.178029	0.004122	0.046441	0.15670	0.046558	0.011721	0.036378	0.00449	0.030637	0.015152	0.009434	0.196411	1.00000
2022 Avg.	33.787	35.166	36.339	37.153	36.257	31.383	37.022	32.023	37.798	33.854	37.768	47.093	46.175	58.700	540.518
12/31/22	33.787	35.166	36.339	37.153	36.257	31.383	37.022	32.023	37.798	33.854	37.768	47.093	46.175	58.700	540.518
1/1/23	37.056	38.585	39.849	40.831	39.775	34.402	40.613	35.154	41.496	37.009	41.443	50.324	49.525	58.700	
4/1/23	37.056	38.585	39.849	40.831	39.775	34.402	40.613	35.154	41.496	37.009	41.443	50.324	49.525	58.700	
7/1/23	38.505	40.101	41.404	42.464	41.334	35.740	42.204	36.544	43.136	38.403	43.072	51.718	50.976	61.049	
10/1/23	38.505	40.101	41.404	42.464	41.334	35.740	42.204	36.544	43.136	38.403	43.072	51.718	50.976	61.049	
1/1/24	38.505	40.101	41.404	42.464	41.334	35.740	42.204	36.544	43.136	38.403	43.072	51.718	50.976	61.049	
4/1/24	38.505	40.101	41.404	42.464	41.334	35.740	42.204	36.544	43.136	38.403	43.072	51.718	50.976	61.049	
7/1/24	40.198	41.874	43.222	44.375	43.157	37.303	44.064	38.168	45.054	40.030	44.976	53.331	52.657	63.796	

Weighted Straight Time Hourly Rate															
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTRS	OTHER	Total
2022 Avg.	7.926	1.032	6.469	0.153	1.684	4.918	1.724	0.375	1.375	0.152	1.157	0.714	0.436	11.529	39.644
12/31/22	7.926	1.032	6.469	0.153	1.684	4.918	1.724	0.375	1.375	0.152	1.157	0.714	0.436	11.529	39.644
1/1/23	8.693	1.132	7.094	0.168	1.847	5.391	1.891	0.412	1.510	0.166	1.270	0.762	0.467	11.529	42.333
4/1/23	8.693	1.132	7.094	0.168	1.847	5.391	1.891	0.412	1.510	0.166	1.270	0.762	0.467	11.529	42.333
7/1/23	9.033	1.177	7.371	0.175	1.920	5.601	1.965	0.428	1.569	0.172	1.320	0.784	0.481	11.991	43.985
10/1/23	9.033	1.177	7.371	0.175	1.920	5.601	1.965	0.428	1.569	0.172	1.320	0.784	0.481	11.991	43.985
1/1/24	9.033	1.177	7.371	0.175	1.920	5.601	1.965	0.428	1.569	0.172	1.320	0.784	0.481	11.991	43.985
4/1/24	9.033	1.177	7.371	0.175	1.920	5.601	1.965	0.428	1.569	0.172	1.320	0.784	0.481	11.991	43.985
7/1/24	9.430	1.229	7.695	0.183	2.004	5.845	2.052	0.447	1.639	0.180	1.378	0.808	0.497	12.530	45.916

Note: The 2022 Average and 12/31/22 Straight Time Hourly Rates are the industry rates, and include all Class I railroad employees. The rates for 1/1/23 through 7/1/24 are based on the industry year-end rates updated by NATIONAL UNION wage increases using contract information. These national increases are diluted using "percent national" ratios to account for non-national union contracts. The impacts of non-national (or independent contract) increases after 2022 are not shown on this page and are handled separately.

National Contracts U.S.

Pay For Time Not Worked Hourly Rate															Check Sum
Weight	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTRS	OTHER	1.00000
2022 Avg.	0.234585	0.02934	0.178029	0.004122	0.046441	0.15670	0.046558	0.011721	0.036378	0.00449	0.030637	0.015152	0.009434	0.196411	93.593
12/31/22	12.292	4.441	13.329	5.720	8.537	5.314	4.694	3.860	5.191	4.717	6.027	10.331	7.933	1.205	
1/1/23	13.481	4.873	14.616	6.286	9.365	5.825	5.150	4.237	5.699	5.157	6.614	11.040	8.509	1.205	
4/1/23	13.481	4.873	14.616	6.286	9.365	5.825	5.150	4.237	5.699	5.157	6.614	11.040	8.509	1.205	
7/1/23	14.008	5.065	15.187	6.538	9.733	6.052	5.351	4.405	5.925	5.351	6.874	11.346	8.758	1.253	
10/1/23	14.008	5.065	15.187	6.538	9.733	6.052	5.351	4.405	5.925	5.351	6.874	11.346	8.758	1.253	
1/1/24	14.008	5.065	15.187	6.538	9.733	6.052	5.351	4.405	5.925	5.351	6.874	11.346	8.758	1.253	
4/1/24	14.008	5.065	15.187	6.538	9.733	6.052	5.351	4.405	5.925	5.351	6.874	11.346	8.758	1.253	
7/1/24	14.624	5.289	15.854	6.832	10.162	6.316	5.587	4.600	6.188	5.578	7.178	11.700	9.047	1.310	

Pay For Time Not Worked Hourly Rate															
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTRS	OTHER	Total
2022 Avg.	2.883	0.130	2.373	0.024	0.396	0.833	0.219	0.045	0.189	0.021	0.185	0.157	0.075	0.237	7.766
12/31/22	2.883	0.130	2.373	0.024	0.396	0.833	0.219	0.045	0.189	0.021	0.185	0.157	0.075	0.237	7.766
1/1/23	3.162	0.143	2.602	0.026	0.435	0.913	0.240	0.050	0.207	0.023	0.203	0.167	0.080	0.237	8.488
4/1/23	3.162	0.143	2.602	0.026	0.435	0.913	0.240	0.050	0.207	0.023	0.203	0.167	0.080	0.237	8.488
7/1/23	3.286	0.149	2.704	0.027	0.452	0.948	0.249	0.052	0.216	0.024	0.211	0.172	0.083	0.246	8.817
10/1/23	3.286	0.149	2.704	0.027	0.452	0.948	0.249	0.052	0.216	0.024	0.211	0.172	0.083	0.246	8.817
1/1/24	3.286	0.149	2.704	0.027	0.452	0.948	0.249	0.052	0.216	0.024	0.211	0.172	0.083	0.246	8.817
4/1/24	3.286	0.149	2.704	0.027	0.452	0.948	0.249	0.052	0.216	0.024	0.211	0.172	0.083	0.246	8.817
7/1/24	3.431	0.155	2.822	0.028	0.472	0.990	0.260	0.054	0.225	0.025	0.220	0.177	0.085	0.257	9.202

U.S. National Contract

UTU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				33.78694	12.29156
12/31/22 Industry Rate				33.78694	12.29156
1/1/23	9.90%		97.738%	37.05620	13.48091
4/1/23			97.738%	37.05620	13.48091
7/1/23	4.00%		97.738%	38.50493	14.00795
10/1/23			97.738%	38.50493	14.00795
1/1/24			97.738%	38.50493	14.00795
4/1/24			97.738%	38.50493	14.00795
7/1/24	4.50%		97.738%	40.19846	14.62405

TCU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				35.16556	4.44148
12/31/22 Industry Rate				35.16556	4.44148
1/1/23	9.90%		98.224%	38.58511	4.87338
4/1/23			98.224%	38.58511	4.87338
7/1/23	4.00%		98.224%	40.10111	5.06486
10/1/23			98.224%	40.10111	5.06486
1/1/24			98.224%	40.10111	5.06486
4/1/24			98.224%	40.10111	5.06486
7/1/24	4.50%		98.224%	41.87361	5.28873

BLET

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				36.33885	13.32886
12/31/22 Industry Rate				36.33885	13.32886
1/1/23	9.90%		97.573%	39.84909	14.61640
4/1/23			97.573%	39.84909	14.61640
7/1/23	4.00%		97.573%	41.40437	15.18686
10/1/23			97.573%	41.40437	15.18686
1/1/24			97.573%	41.40437	15.18686
4/1/24			97.573%	41.40437	15.18686
7/1/24	4.50%		97.573%	43.22235	15.85369

U.S. National Contract

SMWIA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				37.15286	5.72015
12/31/22 Industry Rate				37.15286	5.72015
1/1/23	9.90%		100.000%	40.83099	6.28645
4/1/23			100.000%	40.83099	6.28645
7/1/23	4.00%		100.000%	42.46423	6.53790
10/1/23			100.000%	42.46423	6.53790
1/1/24			100.000%	42.46423	6.53790
4/1/24			100.000%	42.46423	6.53790
7/1/24	4.50%		100.000%	44.37512	6.83211

BRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				36.25671	8.53716
12/31/22 Industry Rate				36.25671	8.53716
1/1/23	9.90%		98.007%	39.77460	9.36550
4/1/23			98.007%	39.77460	9.36550
7/1/23	4.00%		98.007%	41.33388	9.73265
10/1/23			98.007%	41.33388	9.73265
1/1/24			98.007%	41.33388	9.73265
4/1/24			98.007%	41.33388	9.73265
7/1/24	4.50%		98.007%	43.15684	10.16190

BMWE

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				31.38295	5.31386
12/31/22 Industry Rate				31.38295	5.31386
1/1/23	9.90%		97.181%	34.40228	5.82511
4/1/23			97.181%	34.40228	5.82511
7/1/23	4.00%		97.181%	35.73958	6.05154
10/1/23			97.181%	35.73958	6.05154
1/1/24			97.181%	35.73958	6.05154
4/1/24			97.181%	35.73958	6.05154
7/1/24	4.50%		97.181%	37.30252	6.31618

U.S. National Contract

TCU-Carmen

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				37.02232	4.69445
12/31/22 Industry Rate				37.02232	4.69445
1/1/23	9.90%		97.957%	40.61265	5.14971
4/1/23			97.957%	40.61265	5.14971
7/1/23	4.00%		97.957%	42.20396	5.35149
10/1/23			97.957%	42.20396	5.35149
1/1/24			97.957%	42.20396	5.35149
4/1/24			97.957%	42.20396	5.35149
7/1/24	4.50%		97.957%	44.06434	5.58738

NCFO

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				32.02288	3.85981
12/31/22 Industry Rate				32.02288	3.85981
1/1/23	9.90%		98.781%	35.15449	4.23728
4/1/23			98.781%	35.15449	4.23728
7/1/23	4.00%		98.781%	36.54353	4.40470
10/1/23			98.781%	36.54353	4.40470
1/1/24			98.781%	36.54353	4.40470
4/1/24			98.781%	36.54353	4.40470
7/1/24	4.50%		98.781%	38.16794	4.60050

IAM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				37.79823	5.19144
12/31/22 Industry Rate				37.79823	5.19144
1/1/23	9.90%		98.817%	41.49599	5.69932
4/1/23			98.817%	41.49599	5.69932
7/1/23	4.00%		98.817%	43.13619	5.92459
10/1/23			98.817%	43.13619	5.92459
1/1/24			98.817%	43.13619	5.92459
4/1/24			98.817%	43.13619	5.92459
7/1/24	4.50%		98.817%	45.05435	6.18804

U.S. National Contract

IBBM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				33.85380	4.71701
12/31/22 Industry Rate				33.85380	4.71701
1/1/23	9.90%		94.144%	37.00908	5.15665
4/1/23			94.144%	37.00908	5.15665
7/1/23	4.00%		94.144%	38.40275	5.35084
10/1/23			94.144%	38.40275	5.35084
1/1/24			94.144%	38.40275	5.35084
4/1/24			94.144%	38.40275	5.35084
7/1/24	4.50%		94.144%	40.02969	5.57753

IBEW

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				37.76845	6.02731
12/31/22 Industry Rate				37.76845	6.02731
1/1/23	9.90%		98.263%	41.44259	6.61365
4/1/23			98.263%	41.44259	6.61365
7/1/23	4.00%		98.263%	43.07150	6.87360
10/1/23			98.263%	43.07150	6.87360
1/1/24			98.263%	43.07150	6.87360
4/1/24			98.263%	43.07150	6.87360
7/1/24	4.50%		98.263%	44.97606	7.17754

ATDA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				47.09313	10.33127
12/31/22 Industry Rate				47.09313	10.33127
1/1/23	9.90%		69.291%	50.32364	11.03998
4/1/23			69.291%	50.32364	11.03998
7/1/23	4.00%		69.291%	51.71843	11.34597
10/1/23			69.291%	51.71843	11.34597
1/1/24			69.291%	51.71843	11.34597
4/1/24			69.291%	51.71843	11.34597
7/1/24	4.50%		69.291%	53.33106	11.69975

YDMSTRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				46.17529	7.93340
12/31/22 Industry Rate				46.17529	7.93340
1/1/23	9.90%		73.271%	49.52478	8.50887
4/1/23			73.271%	49.52478	8.50887
7/1/23	4.00%		73.271%	50.97628	8.75826
10/1/23			73.271%	50.97628	8.75826
1/1/24			73.271%	50.97628	8.75826
4/1/24			73.271%	50.97628	8.75826
7/1/24	4.50%		73.271%	52.65708	9.04703

OTHER

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2022 Industry Avg.				58.70050	1.20501
12/31/22 Industry Rate				58.70050	1.20501
1/1/23			100.000%	58.70050	1.20501
4/1/23			100.000%	58.70050	1.20501
7/1/23	4.00%		100.000%	61.04852	1.25321
10/1/23			100.000%	61.04852	1.25321
1/1/24			100.000%	61.04852	1.25321
4/1/24			100.000%	61.04852	1.25321
7/1/24	4.50%		100.000%	63.79570	1.30960

Check Sums

	Increase	Applicable	ST HR	PFTNW HR
2022 AVG			540.51845	93.59280
12/31/22			540.51845	
		1319.249%		
		ok matches	ok matches	ok matches
			ok matches	

Should match check sum on National Increase Applicability for U.S. Total page.

1319.249%

All three should match check sums on U.S. Benchmark page.



			52-WEEK	
	LATEST	WK AGO	HIGH	LOW
30 days	6.422	6.468	7.495	5.496
60 days	6.444	6.487	7.554	5.500

U.S. Government Rates

Monday, February 26, 2024

Discount Rates [Effective Date: 7/27/23]

			52-WEEK	
	LATEST	WK AGO	HIGH	LOW
	5.50	5.50	5.50	4.75

Federal Funds [Effective Date: 7/27/23]

			52-WEEK	
	LATEST	WK AGO	HIGH	LOW
Effective rate	5.33	5.33	5.35	4.58
Target rate	5.25-5.50	5.25-5.50	5.25-5.50	4.50-4.75
High	5.6500	5.6500	5.6500	4.9000
Low	5.3100	5.3100	5.3300	4.5500
Bid	5.3100	5.3100	5.3300	4.5700
Offer	5.3300	5.3300	5.3700	4.5800

Treasury Bill Auction

			52-WEEK	
	LATEST	WK AGO	HIGH	LOW
4 weeks	5.285	5.280	5.840	3.190
13 weeks	5.255	5.230	5.345	4.675
26 weeks	5.130	5.065	5.350	4.620

**RCAF Lump Sum Amortization
2024/Q2**

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hour	U.S. ST Hours
NS - BLET 2023Q2 PPI	2023Q2	2023Q3				224,778,198
NS - BLET 2023Q1 PPI	2023Q3	2023Q4				224,778,198
National Neg. Lump Sum	2023Q4	2023Q4				224,778,198
NS - BLET 2024Q1 PPI	2023Q4	2024Q1				224,778,198
NS - BLET 2024Q2 PPI	2024Q1	2024Q2				224,778,198
NS - BLET 2024 Ave PPI	2024Q1	2024Q2				224,778,198
NS - BLET 2023 TPB	2023Q1	2023Q2				224,778,198
Total			\$ 110,185,018.27	0.49019		

Should be slightly less
than amortized amount.

Fell out

NS - BLET 2023Q4 PPI	2023Q1	2023Q2				224,778,198
NS - BLET 2023 Ave PPI	2023Q1	2023Q2				224,778,198
NS - BLET 2023 TPB	2023Q1	2023Q2				224,778,198

Interest Rate

2022/Q1	0.050
2022/Q2	0.380
2022/Q3	1.060
2022/Q4	2.740
2023/Q1	4.285
2023/Q2	4.750
2023/Q3	5.250
2023/Q4	5.340
2024/Q1	5.280
2024/Q2	5.255
2024/Q3	
2024/Q4	

Lump Sum Adjustment for 2024/Q2 → 0.571570
or
0.572

Fell out					
DME - BLET 2022Q4	2022Q3	2022Q4		224,778,199	2022
National Contract (All)	2022Q4	2023Q1		224,778,199	2022
DH and Soo Indep	2023Q1	2023Q2		224,778,199	

New National Contracts 2023Q1 = (All Unions) except CP Railroads

Back Pay Adjustment for 2024/Q2	→	0.10018
		or
		0.100

Health and Welfare 2024Q2

	Employees Receiving				
	Pay	Monthly Contribution		Total	Total
	2022	2023	2024	2023	2024
1. All Employees					
a. Group health	122,362	\$1,972.43	\$1,972.43	\$241,350,479.66	\$241,350,479.66
b. Group dental	122,362	69.10	69.15	8,455,214.20	8,461,332.30
c. Early retirement major medical	122,362	65.94	48.95	8,068,550.28	5,989,619.90
d. Group vision	122,362	8.51	8.56	1,041,300.62	1,047,418.72
2. Supplemental Sickness					
a. Signalmen	5,700	62.17	30.00	354,369.00	171,000.00
b. Shopcrafts	15,459	98.52	50.00	1,523,020.68	772,950.00
c. MOW	19,695	48.22	30.00	949,692.90	590,850.00
d. Yardmasters	1,333	76.77	61.75	102,334.41	82,312.75
3. Short-Term Disability					
a. Engineers (CSX, KCS, SOO, UP)	9,062	40.00	40.00	362,480.00	362,480.00
4. Monthly Total Premiums				262,207,441.75	258,828,443.33
5. Monthly Employee Contributions To H&W					
a. National ATDA (BNSF, CSX, KCS, NS, SOO, GTW, WC)	1,439	(\$309.21)	(\$309.21)	(\$444,953.19)	(444,953.19)
b. National BLET (BNSF, CSX, KCS, NS, UP, SOO, DH)	19,976	(\$309.21)	(\$309.21)	(\$6,176,778.96)	(6,176,778.96)
c. National BMW (All except SOO, DME, DH)	18,935	(\$309.21)	(\$309.21)	(\$5,854,891.35)	(5,854,891.35)
d. National BRS (All except DME)	5,575	(\$309.21)	(\$309.21)	(\$1,723,845.75)	(1,723,845.75)
e. National IAM (BNSF, CSX, KCS, NS, SOO, UP)	4,553	(\$309.21)	(\$309.21)	(\$1,407,833.13)	(1,407,833.13)
f. National IBBM (BNSF, CSX, KCS, NS, SOO, UP, IC)	585	(\$309.21)	(\$309.21)	(\$180,887.85)	(180,887.85)
g. National IBEW (All except DME)	3,796	(\$309.21)	(\$309.21)	(\$1,173,761.16)	(1,173,761.16)
h. National NCFO (All except DME and WC)	1,484	(\$309.21)	(\$309.21)	(\$458,867.64)	(458,867.64)
i. National SMW (BNSF, CSX, KCS, NS, UP, IC)	529	(\$309.21)	(\$309.21)	(\$163,572.09)	(163,572.09)
j. National TCU (All except DME and DH)	3,660	(\$309.21)	(\$309.21)	(\$1,131,708.60)	(1,131,708.60)
k. National TCU-CAR (All except DME)	5,777	(\$309.21)	(\$309.21)	(\$1,786,306.17)	(1,786,306.17)
l. National UTU (BNSF, CSX, KCS, NS, UP, SOO, DH)	29,529	(\$309.21)	(\$309.21)	(\$9,130,662.09)	(9,130,662.09)
m. Yardmasters (BNSF, CSX, KCS, NS, UP*, SOO, DH)	1,262	(\$309.21)	(\$309.21)	(\$390,223.02)	(\$390,223.02)
n. Misc Indep (DME, CMQ, portions of DH & SOO, portions of CN)	4,451	(\$289.43)	(\$282.24)	(\$1,288,239.61)	(1,256,251.99)
Total Major Union	101,551			(\$31,312,530.61)	(\$31,280,542.99)
All Other Employee Contributions*				(\$3,207,823.72)	(\$3,207,823.72)
6. Net Employer Monthly Payments				\$227,687,087.42	\$224,340,076.62
7. Ratio Projected Year to Base Year, Based on Net Monthly Payments					0.98530
8. H&W hourly rate for base year 2021				\$9.401	
9. H&W hourly rate for projected quarter					\$9.263

* Non-union employee contributions net of opt-outs. The \$31,312,530.61 in major union contributions, plus \$3,207,823.72 in all other employee contributions, totals to the 12-month average of the total employee contributions reported to the AAR in its WF survey.

Railroad Retirement and Medicare for RCAF

Inputs:

RRB Earnings Distribution Year	2021	Tier I Maximum Taxable Earnings for 2024	168,600
Wage Statistics Year	2022	Tier II Maximum Taxable Earnings for 2024	125,100
Current Year	2024	Medicare Maximum Taxable Earnings for 2024	no limit
Employees Receiving Pay*	122,378	Tier I Employer Tax Rate for 2024	6.20%
* from 2022 final wage statistics		Tier II Employer Tax Rate for 2024	13.10%
		Medicare Employer Tax Rate for 2024	1.45%

USA RCAF	Wage Rate	Update Factor	Railroad Retirement Tax	Hourly Rate
2021	\$43.459			
2022	\$47.010	1.08172	\$622,793,723	\$10.490
1Q/2024	\$52.581	1.20991	\$684,364,774	\$11.527
2Q/2024	\$52.713	1.21294	\$685,549,069	\$11.547
3Q/2024		0.00000	--	\$0.000
4Q/2024		0.00000	--	\$0.000

Railroad Retirement & Medicare, U.S.

From 2021 Earnings Distribution			1Q/2024 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$22,243	0.622 %	761	\$26,912	\$6,728	\$6,728	\$6,728	\$6,728	\$5,121,283	\$5,121,283	\$5,121,283	
41,700 - 43,699	\$42,478	0.124	152	51,394	12,849	12,849	12,849	12,849	1,949,758	1,949,758	1,949,758	
43,700 - 45,699	\$44,415	0.373	456	53,738	13,434	13,434	13,434	13,434	6,132,443	6,132,443	6,132,443	
45,700 - 47,699	\$46,908	0.249	305	56,754	14,189	14,189	14,189	14,189	4,323,558	4,323,558	4,323,558	
47,700 - 49,699	\$48,823	0.560	685	59,071	14,768	14,768	14,768	14,768	10,120,629	10,120,629	10,120,629	
49,700 - 51,699	\$50,237	0.311	381	60,782	15,196	15,196	15,196	15,196	5,783,345	5,783,345	5,783,345	
51,700 - 53,699	\$52,410	0.747	914	63,411	15,853	15,853	15,853	15,853	14,492,049	14,492,049	14,492,049	
53,700 - 55,699	\$54,607	1.182	1,447	66,069	16,517	16,517	16,517	16,517	23,892,458	23,892,458	23,892,458	
55,700 - 57,699	\$56,673	0.809	990	68,569	17,142	17,142	17,142	17,142	16,971,482	16,971,482	16,971,482	
57,700 - 59,699	\$58,725	0.809	990	71,052	17,763	17,763	17,763	17,763	17,585,980	17,585,980	17,585,980	
59,700 - 61,699	\$60,533	1.742	2,132	73,239	18,310	18,310	18,310	18,310	39,033,310	39,033,310	39,033,310	
61,700 - 63,699	\$62,652	2.116	2,590	75,803	18,951	18,951	18,951	18,951	49,073,342	49,073,342	49,073,342	
63,700 - 65,699	\$64,843	2.800	3,427	78,454	19,613	19,613	19,613	19,613	67,207,256	67,207,256	67,207,256	
65,700 - 67,699	\$66,856	2.987	3,655	80,889	20,222	20,222	20,222	20,222	73,921,478	73,921,478	73,921,478	
67,700 - 69,699	\$68,686	3.485	4,265	83,104	20,776	20,776	20,776	20,776	88,606,593	88,606,593	88,606,593	
69,700 - 71,699	\$70,691	2.987	3,655	85,529	21,382	21,382	21,382	21,382	78,161,769	78,161,769	78,161,769	
71,700 - 73,699	\$72,600	3.111	3,807	87,839	21,960	21,960	21,960	21,960	83,604,887	83,604,887	83,604,887	
73,700 - 75,699	\$74,607	4.543	5,560	90,267	22,567	22,567	22,567	22,567	125,463,485	125,463,485	125,463,485	
75,700 - 77,699	\$76,750	2.551	3,122	92,860	23,215	23,215	23,215	23,215	72,474,274	72,474,274	72,474,274	
77,700 - 79,699	\$78,516	3.111	3,807	94,997	23,749	23,749	23,749	23,749	90,417,649	90,417,649	90,417,649	
79,700 - 81,699	\$80,643	3.298	4,036	97,570	24,393	24,393	24,393	24,393	98,449,238	98,449,238	98,449,238	
81,700 - 83,699	\$82,766	3.671	4,492	100,139	25,035	25,035	25,035	25,035	112,468,624	112,468,624	112,468,624	
83,700 - 85,699	\$84,684	3.485	4,265	102,460	25,615	25,615	25,615	25,615	109,244,398	109,244,398	109,244,398	
85,700 - 87,699	\$86,692	3.298	4,036	104,889	26,222	26,222	26,222	26,222	105,833,877	105,833,877	105,833,877	
87,700 - 89,699	\$88,531	2.987	3,655	107,114	26,779	26,779	26,779	26,779	97,887,136	97,887,136	97,887,136	
89,700 - 91,699	\$90,700	2.925	3,580	109,738	27,435	27,435	27,435	27,435	98,203,776	98,203,776	98,203,776	
91,700 - 93,699	\$92,531	2.551	3,122	111,954	27,988	27,988	27,988	27,988	87,376,118	87,376,118	87,376,118	
93,700 - 95,699	\$94,733	1.867	2,285	114,618	28,655	28,655	28,655	28,655	65,469,744	65,469,744	65,469,744	
95,700 - 97,699	\$96,844	2.676	3,275	117,172	29,293	29,293	29,293	29,293	95,929,871	95,929,871	95,929,871	
97,700 - 99,699	\$98,712	2.302	2,817	119,432	29,858	29,858	29,858	29,858	84,114,390	84,114,390	84,114,390	
99,700 - 101,699	\$100,684	2.489	3,046	121,818	30,455	30,455	30,455	30,455	92,764,197	92,764,197	92,764,197	
101,700 - 103,699	\$102,743	2.614	3,199	124,309	31,077	31,077	31,077	31,077	99,415,215	99,415,215	99,415,215	
103,700 - 105,699	\$104,673	2.116	2,590	126,645	31,661	31,661	31,275	31,661	81,987,070	80,987,190	81,987,070	
105,700 - 107,699	\$106,752	2.489	3,046	129,160	32,290	32,290	31,275	32,290	98,354,888	95,263,288	98,354,888	
107,700 - 109,699	\$108,699	2.240	2,741	131,516	32,879	32,879	31,275	32,879	90,129,840	85,733,132	90,129,840	
109,700 - 111,699	\$110,473	1.742	2,132	133,662	33,415	33,415	31,275	33,415	71,235,968	66,672,819	71,235,968	
111,700 - 113,699	\$112,554	1.556	1,904	136,180	34,045	34,045	31,275	34,045	64,828,438	59,553,908	64,828,438	
113,700 - 115,699	\$114,625	1.991	2,437	138,685	34,671	34,671	31,275	34,671	84,478,392	76,202,976	84,478,392	
\$115,700 - over	\$148,494	18.482	22,618	179,664	44,916	42,150	31,275	44,916	953,344,568	707,374,884	1,015,904,546	
TOTAL	\$95,320	99.998	122,376									
								Total Taxable Earnings	3,465,852,777	3,193,281,810	3,528,412,755	
								Employer Tax Rate	6.20%	13.10%	1.45%	
								Quarterly Payment	\$214,882,872	\$418,319,917	\$51,161,981	

Total Tier I, Tier II, and Medicare Paid this Quarter

\$684,364,774

Railroad Retirement & Medicare, U.S.

From 2021 Earnings Distribution			2Q/2024 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info								
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)		
									Tier I	Tier II	Medicare
\$0 - 41,699	\$22,243	0.622 %	761	\$26,980	\$6,745	\$6,745	\$6,745	\$6,745	\$5,134,140	\$5,134,140	\$5,134,140
41,700 - 43,699	\$42,478	0.124	152	51,523	12,881	12,881	12,881	12,881	1,954,653	1,954,653	1,954,653
43,700 - 45,699	\$44,415	0.373	456	53,873	13,468	13,468	13,468	13,468	6,147,838	6,147,838	6,147,838
45,700 - 47,699	\$46,908	0.249	305	56,897	14,224	14,224	14,224	14,224	4,334,412	4,334,412	4,334,412
47,700 - 49,699	\$48,823	0.560	685	59,220	14,805	14,805	14,805	14,805	10,146,036	10,146,036	10,146,036
49,700 - 51,699	\$50,237	0.311	381	60,935	15,234	15,234	15,234	15,234	5,797,864	5,797,864	5,797,864
51,700 - 53,699	\$52,410	0.747	914	63,570	15,893	15,893	15,893	15,893	14,528,430	14,528,430	14,528,430
53,700 - 55,699	\$54,607	1.182	1,447	66,235	16,559	16,559	16,559	16,559	23,952,438	23,952,438	23,952,438
55,700 - 57,699	\$56,673	0.809	990	68,741	17,185	17,185	17,185	17,185	17,014,087	17,014,087	17,014,087
57,700 - 59,699	\$58,725	0.809	990	71,230	17,808	17,808	17,808	17,808	17,630,128	17,630,128	17,630,128
59,700 - 61,699	\$60,533	1.742	2,132	73,423	18,356	18,356	18,356	18,356	39,131,300	39,131,300	39,131,300
61,700 - 63,699	\$62,652	2.116	2,590	75,993	18,998	18,998	18,998	18,998	49,196,536	49,196,536	49,196,536
63,700 - 65,699	\$64,843	2.800	3,427	78,651	19,663	19,663	19,663	19,663	67,375,974	67,375,974	67,375,974
65,700 - 67,699	\$66,856	2.987	3,655	81,093	20,273	20,273	20,273	20,273	74,107,052	74,107,052	74,107,052
67,700 - 69,699	\$68,686	3.485	4,265	83,312	20,828	20,828	20,828	20,828	88,829,032	88,829,032	88,829,032
69,700 - 71,699	\$70,691	2.987	3,655	85,744	21,436	21,436	21,436	21,436	78,357,987	78,357,987	78,357,987
71,700 - 73,699	\$72,600	3.111	3,807	88,060	22,015	22,015	22,015	22,015	83,814,770	83,814,770	83,814,770
73,700 - 75,699	\$74,607	4.543	5,560	90,494	22,624	22,624	22,624	22,624	125,778,450	125,778,450	125,778,450
75,700 - 77,699	\$76,750	2.551	3,122	93,093	23,273	23,273	23,273	23,273	72,656,214	72,656,214	72,656,214
77,700 - 79,699	\$78,516	3.111	3,807	95,235	23,809	23,809	23,809	23,809	90,644,634	90,644,634	90,644,634
79,700 - 81,699	\$80,643	3.298	4,036	97,815	24,454	24,454	24,454	24,454	98,696,386	98,696,386	98,696,386
81,700 - 83,699	\$82,766	3.671	4,492	100,390	25,098	25,098	25,098	25,098	112,750,967	112,750,967	112,750,967
83,700 - 85,699	\$84,684	3.485	4,265	102,717	25,679	25,679	25,679	25,679	109,518,647	109,518,647	109,518,647
85,700 - 87,699	\$86,692	3.298	4,036	105,152	26,288	26,288	26,288	26,288	106,099,564	106,099,564	106,099,564
87,700 - 89,699	\$88,531	2.987	3,655	107,383	26,846	26,846	26,846	26,846	98,132,874	98,132,874	98,132,874
89,700 - 91,699	\$90,700	2.925	3,580	110,014	27,503	27,503	27,503	27,503	98,450,308	98,450,308	98,450,308
91,700 - 93,699	\$92,531	2.551	3,122	112,235	28,059	28,059	28,059	28,059	87,595,468	87,595,468	87,595,468
93,700 - 95,699	\$94,733	1.867	2,285	114,906	28,726	28,726	28,726	28,726	65,634,100	65,634,100	65,634,100
95,700 - 97,699	\$96,844	2.676	3,275	117,466	29,367	29,367	29,367	29,367	96,170,694	96,170,694	96,170,694
97,700 - 99,699	\$98,712	2.302	2,817	119,732	29,933	29,933	29,933	29,933	84,325,552	84,325,552	84,325,552
99,700 - 101,699	\$100,684	2.489	3,046	122,124	30,531	30,531	30,531	30,531	92,997,073	92,997,073	92,997,073
101,700 - 103,699	\$102,743	2.614	3,199	124,621	31,155	31,155	31,155	31,155	99,664,789	99,664,789	99,664,789
103,700 - 105,699	\$104,673	2.116	2,590	126,962	31,741	31,741	31,275	31,741	82,192,891	80,987,190	82,192,891
105,700 - 107,699	\$106,752	2.489	3,046	129,484	32,371	32,371	31,275	32,371	98,601,799	95,263,288	98,601,799
107,700 - 109,699	\$108,699	2.240	2,741	131,846	32,961	32,961	31,275	32,961	90,356,103	85,733,132	90,356,103
109,700 - 111,699	\$110,473	1.742	2,132	133,998	33,499	33,499	31,275	33,499	71,414,800	66,672,819	71,414,800
111,700 - 113,699	\$112,554	1.556	1,904	136,522	34,130	34,130	31,275	34,130	64,991,184	59,553,908	64,991,184
113,700 - 115,699	\$114,625	1.991	2,437	139,034	34,758	34,758	31,275	34,758	84,690,468	76,202,976	84,690,468
\$115,700 - over	\$148,494	18.482	22,618	180,115	45,029	42,150	31,275	45,029	953,344,568	707,374,884	1,018,454,885
TOTAL		99.998	122,376						3,472,160,209	3,198,356,593	3,537,270,527
									Employer Tax Rate	6.20%	13.10%
									Quarterly Payment	\$215,273,933	\$418,984,714
											\$51,290,423
									Total Tier I, Tier II, and Medicare Paid this Quarter		\$685,549,069

Railroad Retirement & Medicare, U.S.

From 2021 Earnings Distribution			3Q/2024 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info								
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)		
									Tier I	Tier II	Medicare
\$0 - 41,699	\$22,243	0.622	761	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41,700 - 43,699	\$42,478	0.124	152	0	0	0	0	0	0	0	0
43,700 - 45,699	\$44,415	0.373	456	0	0	0	0	0	0	0	0
45,700 - 47,699	\$46,908	0.249	305	0	0	0	0	0	0	0	0
47,700 - 49,699	\$48,823	0.560	685	0	0	0	0	0	0	0	0
49,700 - 51,699	\$50,237	0.311	381	0	0	0	0	0	0	0	0
51,700 - 53,699	\$52,410	0.747	914	0	0	0	0	0	0	0	0
53,700 - 55,699	\$54,607	1.182	1,447	0	0	0	0	0	0	0	0
55,700 - 57,699	\$56,673	0.809	990	0	0	0	0	0	0	0	0
57,700 - 59,699	\$58,725	0.809	990	0	0	0	0	0	0	0	0
59,700 - 61,699	\$60,533	1.742	2,132	0	0	0	0	0	0	0	0
61,700 - 63,699	\$62,652	2.116	2,590	0	0	0	0	0	0	0	0
63,700 - 65,699	\$64,843	2.800	3,427	0	0	0	0	0	0	0	0
65,700 - 67,699	\$66,856	2.987	3,655	0	0	0	0	0	0	0	0
67,700 - 69,699	\$68,686	3.485	4,265	0	0	0	0	0	0	0	0
69,700 - 71,699	\$70,691	2.987	3,655	0	0	0	0	0	0	0	0
71,700 - 73,699	\$72,600	3.111	3,807	0	0	0	0	0	0	0	0
73,700 - 75,699	\$74,607	4.543	5,560	0	0	0	0	0	0	0	0
75,700 - 77,699	\$76,750	2.551	3,122	0	0	0	0	0	0	0	0
77,700 - 79,699	\$78,516	3.111	3,807	0	0	0	0	0	0	0	0
79,700 - 81,699	\$80,643	3.298	4,036	0	0	0	0	0	0	0	0
81,700 - 83,699	\$82,766	3.671	4,492	0	0	0	0	0	0	0	0
83,700 - 85,699	\$84,684	3.485	4,265	0	0	0	0	0	0	0	0
85,700 - 87,699	\$86,692	3.298	4,036	0	0	0	0	0	0	0	0
87,700 - 89,699	\$88,531	2.987	3,655	0	0	0	0	0	0	0	0
89,700 - 91,699	\$90,700	2.925	3,580	0	0	0	0	0	0	0	0
91,700 - 93,699	\$92,531	2.551	3,122	0	0	0	0	0	0	0	0
93,700 - 95,699	\$94,733	1.867	2,285	0	0	0	0	0	0	0	0
95,700 - 97,699	\$96,844	2.676	3,275	0	0	0	0	0	0	0	0
97,700 - 99,699	\$98,712	2.302	2,817	0	0	0	0	0	0	0	0
99,700 - 101,699	\$100,684	2.489	3,046	0	0	0	0	0	0	0	0
101,700 - 103,699	\$102,743	2.614	3,199	0	0	0	0	0	0	0	0
103,700 - 105,699	\$104,673	2.116	2,590	0	0	0	852	0	0	2,205,581	0
105,700 - 107,699	\$106,752	2.489	3,046	0	0	0	2,111	0	0	6,430,112	0
107,700 - 109,699	\$108,699	2.240	2,741	0	0	0	3,290	0	0	9,019,679	0
109,700 - 111,699	\$110,473	1.742	2,132	0	0	0	4,365	0	0	9,305,129	0
111,700 - 113,699	\$112,554	1.556	1,904	0	0	0	5,625	0	0	10,711,807	0
113,700 - 115,699	\$114,625	1.991	2,437	0	0	0	6,880	0	0	16,762,909	0
\$115,700 - over	\$148,494	18.482	22,618	0	0	5,645	27,395	0	127,670,296	619,609,663	0
TOTAL		99.998	122,376						127,670,296	674,044,880	0
									Employer Tax Rate	6.20%	13.10%
									Quarterly Payment	\$7,915,558	\$88,299,879
											\$0
									Total Tier I, Tier II, and Medicare Paid this Quarter		\$96,215,438

Railroad Retirement & Medicare, U.S.

From 2021 Earnings Distribution			4Q/2024 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info								
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)		
									Tier I	Tier II	Medicare
\$0 - 41,699	\$22,243	0.622	761	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41,700 - 43,699	\$42,478	0.124	152	0	0	0	0	0	0	0	0
43,700 - 45,699	\$44,415	0.373	456	0	0	0	0	0	0	0	0
45,700 - 47,699	\$46,908	0.249	305	0	0	0	0	0	0	0	0
47,700 - 49,699	\$48,823	0.560	685	0	0	0	0	0	0	0	0
49,700 - 51,699	\$50,237	0.311	381	0	0	0	0	0	0	0	0
51,700 - 53,699	\$52,410	0.747	914	0	0	0	0	0	0	0	0
53,700 - 55,699	\$54,607	1.182	1,447	0	0	0	0	0	0	0	0
55,700 - 57,699	\$56,673	0.809	990	0	0	0	0	0	0	0	0
57,700 - 59,699	\$58,725	0.809	990	0	0	0	0	0	0	0	0
59,700 - 61,699	\$60,533	1.742	2,132	0	0	0	0	0	0	0	0
61,700 - 63,699	\$62,652	2.116	2,590	0	0	0	0	0	0	0	0
63,700 - 65,699	\$64,843	2.800	3,427	0	0	0	0	0	0	0	0
65,700 - 67,699	\$66,856	2.987	3,655	0	0	0	0	0	0	0	0
67,700 - 69,699	\$68,686	3.485	4,265	0	0	0	0	0	0	0	0
69,700 - 71,699	\$70,691	2.987	3,655	0	0	0	0	0	0	0	0
71,700 - 73,699	\$72,600	3.111	3,807	0	0	0	0	0	0	0	0
73,700 - 75,699	\$74,607	4.543	5,560	0	0	0	0	0	0	0	0
75,700 - 77,699	\$76,750	2.551	3,122	0	0	0	0	0	0	0	0
77,700 - 79,699	\$78,516	3.111	3,807	0	0	0	0	0	0	0	0
79,700 - 81,699	\$80,643	3.298	4,036	0	0	0	0	0	0	0	0
81,700 - 83,699	\$82,766	3.671	4,492	0	0	0	0	0	0	0	0
83,700 - 85,699	\$84,684	3.485	4,265	0	0	0	0	0	0	0	0
85,700 - 87,699	\$86,692	3.298	4,036	0	0	0	0	0	0	0	0
87,700 - 89,699	\$88,531	2.987	3,655	0	0	0	0	0	0	0	0
89,700 - 91,699	\$90,700	2.925	3,580	0	0	0	0	0	0	0	0
91,700 - 93,699	\$92,531	2.551	3,122	0	0	0	0	0	0	0	0
93,700 - 95,699	\$94,733	1.867	2,285	0	0	0	0	0	0	0	0
95,700 - 97,699	\$96,844	2.676	3,275	0	0	0	0	0	0	0	0
97,700 - 99,699	\$98,712	2.302	2,817	0	0	0	0	0	0	0	0
99,700 - 101,699	\$100,684	2.489	3,046	0	0	0	0	0	0	0	0
101,700 - 103,699	\$102,743	2.614	3,199	0	0	0	0	0	0	0	0
103,700 - 105,699	\$104,673	2.116	2,590	0	0	0	0	0	0	0	0
105,700 - 107,699	\$106,752	2.489	3,046	0	0	0	0	0	0	0	0
107,700 - 109,699	\$108,699	2.240	2,741	0	0	0	0	0	0	0	0
109,700 - 111,699	\$110,473	1.742	2,132	0	0	0	0	0	0	0	0
111,700 - 113,699	\$112,554	1.556	1,904	0	0	0	0	0	0	0	0
113,700 - 115,699	\$114,625	1.991	2,437	0	0	0	0	0	0	0	0
\$115,700 - over	\$148,494	18.482	22,618	0	0	0	0	0	0	0	0
TOTAL		99.998	122,376						0	0	0
Total Taxable Earnings									0	0	0
Employer Tax Rate									6.20%	13.10%	1.45%
Quarterly Payment									\$0	\$0	\$0
Total Tier I, Tier II, and Medicare Paid this Quarter											\$0

RCAF Unemployment Insurance Tax

	Unemployment Ins.			RRB	Factor	Avg. Ann.	Un. Ins.
	Tax	Earnings	Hourly	Sample	To Update	Taxable	Hourly
	Rate	Base	Earnings	Year	RRB Sample	Earnings	Rate
			\$41.687	(2018)			
2019 Avg.	3.38%	\$19,260	\$43.000		1.031497	\$17,742.46	\$0.318
3Q/20 reb.	0.99%	\$19,860	\$43.596		1.045794	\$18,283.51	\$0.096
4Q/20	0.99%	\$19,860	\$43.596		1.045794	\$18,283.51	\$0.096
1Q/21	5.69%	\$20,520	\$43.620		1.046369	\$18,867.16	\$0.569
2Q/21	5.69%	\$20,520	\$43.397		1.041020	\$18,863.22	\$0.569
3Q/21	5.69%	\$20,520	\$43.326		1.039317	\$18,861.96	\$0.569
			\$43.000	(2019)			
2020 Avg.	0.99%	\$19,860	\$43.981		1.022814	\$18,813.21	\$0.100
3Q/21 reb.	5.69%	\$20,520	\$43.508		1.011814	\$19,413.47	\$0.593
4Q/21	5.69%	\$20,520	\$43.504		1.011721	\$19,413.42	\$0.593
1Q/22	11.23%	\$21,060	\$43.482		1.011209	\$19,907.93	\$1.200
2Q/22	11.23%	\$21,060	\$43.606		1.014093	\$19,909.70	\$1.200
3Q/22	11.23%	\$21,060	\$43.732		1.017023	\$19,911.50	\$1.201
		\$1,755	\$43.981	(2020)			
2021 Avg.	5.69%	\$20,520	\$43.459		0.988125	\$19,350.22	\$0.574
3Q/22 reb.	11.23%	\$21,060	\$43.725		0.994174	\$19,846.09	\$1.162
4Q/22	11.23%	\$21,060	\$43.758		0.994933	\$19,846.60	\$1.162
1Q/23	7.79%	\$22,740	\$56.875		1.293172	\$21,601.54	\$0.877
2Q/23	7.79%	\$22,740	\$56.781		1.291035	\$21,549.68	\$0.875
3Q/23	7.79%	\$22,740	\$58.742		1.335622	\$21,570.87	\$0.876
		\$1,895	\$43.459	(2021)			
2022 Avg.	11.23%	\$20,520	\$47.010		1.081709	\$19,772.63	\$0.574
3Q/23 reb.	7.79%	\$22,740	\$59.106		1.343899	\$21,466.50	\$0.432
4Q/23	7.79%	\$22,740	\$59.559		1.354198	\$21,472.86	\$0.432
1Q/24	0.66%	\$23,820	\$52.581		1.195539	\$22,343.75	\$0.038
2Q/24	0.66%	\$23,820	\$52.713		1.198540	\$22,345.92	\$0.038
3Q/24					0.000000		\$0.000

Note: Average Annual Taxable Earnings is calculated from the RRB 1% sample data, by multiplying the average annual earnings in the file times the "Factor", and limiting the amount to the earnings base. Thus, the annual hourly earnings used for the calculation of the Factor is for the RRB sample year, and the Factor brings the earnings in the RRB 1% sample file to the current quarter's level.

The SAS System
TOTAL GROSS EARNINGS AND AVERAGE GROSS EARNINGS-2021 RRB File

The MEANS Procedure

Variable	N	Sum	Mean
ANUAL_US	2108	44868353.51	21284.80
QTRLY_US	2108	47105205.65	22345.92

The SAS System
Factors and Caps 2024 and 2024Q2

The MEANS Procedure

Variable	N	Sum	Mean
FactorA	2108	2280.24	1.0817090
FactorQ	2108	2526.52	1.1985400
Capa	2108	47935920.00	22740.00
Capq	2108	50212560.00	23820.00

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Spot Prices

(Crude Oil in Dollars per Barrel, Products in Dollars per Gallon)

Period: Monthly ▼

Product by Area	Graph Clear	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	View History
Crude Oil								
WTI - Cushing, Oklahoma	 ☐	81.39	89.43	85.64	77.69	71.90	74.15	1986-2024
Brent - Europe	 ☐	86.15	93.72	90.60	82.94	77.63	80.12	1987-2024
Conventional Gasoline								
New York Harbor, Regular	 ☐	2.874	2.894	2.524	2.306	2.226	2.244	1986-2024
U.S. Gulf Coast, Regular	 ☐	2.902	2.824	2.305	2.094	2.019	2.146	1986-2024
RBOB Regular Gasoline								
Los Angeles	 ☐	3.276	3.780	2.635	2.524	2.320	2.274	2003-2024
No. 2 Heating Oil								
New York Harbor	 ☐	2.939	3.168	3.002	2.811	2.540	2.590	1986-2024
Ultra-Low-Sulfur No. 2 Diesel Fuel								
New York Harbor	 ☐	3.117	3.325	3.114	2.905	2.632	2.681	2006-2024
U.S. Gulf Coast	 ☐	3.050	3.265	3.009	2.662	2.385	2.569	2006-2024
Los Angeles	 ☐	3.437	3.850	3.286	3.069	2.665	2.573	1996-2024
Kerosene-Type Jet Fuel								
U.S. Gulf Coast	 ☐	2.989	3.120	2.881	2.734	2.387	2.585	1990-2024
Propane								
Mont Belvieu, Texas	 ☐	0.679	0.730	0.675	0.639	0.687	0.821	1992-2024

 Click on the source key icon to learn how to download series into Excel, or to embed a chart or map on your website.

-- = No Data Reported; -- = Not Applicable; **NA** = Not Available; **W** = Withheld to avoid disclosure of individual company data.

Notes: Weekly, monthly, and annual prices are calculated by EIA from daily data by taking an unweighted average of the daily closing spot prices for a given product over the specified time period. See Definitions, Sources, and Notes link above for more information on this table.

Release Date: 2/28/2024

Next Release Date: 3/6/2024

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Spot Prices

(Crude Oil in Dollars per Barrel, Products in Dollars per Gallon)

Period: Weekly ▼

Product by Area	Graph Clear	01/19/24	01/26/24	02/02/24	02/09/24	02/16/24	02/23/24	View History
Crude Oil								
WTI - Cushing, Oklahoma	Key ☐	73.36	76.36	75.78	75.05	78.17	78.71	1986-2024
Brent - Europe	Key ☐	80.11	82.31	82.57	81.51	84.44	85.02	1987-2024
Conventional Gasoline								
New York Harbor, Regular	Key ☐	2.219	2.321	2.264	2.303	2.360	2.339	1986-2024
U.S. Gulf Coast, Regular	Key ☐	2.141	2.205	2.225	2.289	2.366	2.335	1986-2024
RBOB Regular Gasoline								
Los Angeles	Key ☐	2.133	2.260	2.578	2.596	2.647	2.510	2003-2024
No. 2 Heating Oil								
New York Harbor	Key ☐	2.567	2.644	2.681	2.760	2.777	2.651	1986-2024
Ultra-Low-Sulfur No. 2 Diesel Fuel								
New York Harbor	Key ☐	2.661	2.738	2.766	2.827	2.843	2.712	2006-2024
U.S. Gulf Coast	Key ☐	2.542	2.650	2.675	2.773	2.790	2.649	2006-2024
Los Angeles	Key ☐	2.505	2.585	2.635	2.830	2.925	2.751	1996-2024
Kerosene-Type Jet Fuel								
U.S. Gulf Coast	Key ☐	2.579	2.654	2.695	2.748	2.754	2.642	1990-2024
Propane								
Mont Belvieu, Texas	Key ☐	0.888	0.882	0.917	0.922	0.937	0.885	1992-2024

[Key](#) Click on the source key icon to learn how to download series into Excel, or to embed a chart or map on your website.

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Release Date: 2/28/2024

Next Release Date: 3/6/2024

U.S.**Summary by Composition Category**

	MS-2022		Prev. Idx	2024Q1		Calculation		Relative of Change
	MS Amount	Weight		Cur Idx		Prev. Idx	Cur Idx	
Forest Products	800,288,707	0.1412	455.97	457.98		64.38	64.67	
Metal Products	3,377,322,405	0.5961	219.04	221.10		130.57	131.80	
Misc. Products	1,488,461,740	0.2627	477.18	578.25		125.36	151.91	
Total	5,666,072,852	1.0000	320.31	348.38				1.0876
Total Linked			318.13	346.00				
'77 = 100 Link Fact.= 1.423			452.70	492.36				
'80 = 100 Link Fact.= 1.061			337.54	367.11				

As info only	Change
Forest Products	0.44%
Metal Products	0.94%
Misc. Products	21.18%
Total ('80=100)	8.76%
Rounded 80 Indices	8.8%
Rounded 77 Indices	8.8%

Car Hire for RCAF - 2022 Weights

Car Hire Index used in RCAF's All-Inclusive Index (Forecast)

		1980	June 3Q/23	Sept. 4Q/23	Dec. 1Q/24	Mar. 2Q/24	June 3Q/24
RATE							
RR-OWNED TIME		31.00	65.00	65.00	66.00	67.00	--
RR-OWNED MILEAGE		4.69	6.50	6.50	6.50	6.60	--
PRIVATELY-OWNED CARS		25.47	58.62	60.19	60.29	65.49	--
AUTORACKS		47.00	90.83	94.51	98.49	98.05	--
INDEX							
RR-OWNED TIME		100.0	209.7	209.7	212.9	216.1	--
RR-OWNED MILEAGE		100.0	138.6	138.6	138.6	140.7	--
PRIVATELY-OWNED CARS		100.0	230.1	236.3	236.7	257.1	--
AUTORACKS		100.0	193.3	201.1	209.6	208.6	--
CAR HIRE INDEX (old wts)	2021	100.0	223.8	--	--	--	--
CAR HIRE INDEX (new wts)	2022	100.0	223.2	228.6	229.5	246.9	--
CAR HIRE INDEX (LINKED)		100.0	220.8	226.1	227.0	244.2	--

Note: The Car Hire Index for third quarter using *old weights* and *linked* should match that quarter's filing. The third quarter *new weights* version is used in the fourth quarter linked index calculation to ensure that the transition from old weights to new weights does not impact the linked index.

Note: Indexes are rounded, rates are full float.

Car Hire Data From CHARM

Car Hire Data From CHARM		2023 (first day of month)						2024 (first day of month)								
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Railroad Equipment																
No. of Cars (cars with rates only)																
Superstructures (Vehicular Flats)			10,806	10,781	10,754	10,752	10,558	11,030	11,149	11,347	11,572					
Rate (in cents)																
Superstructures #3 - Auto Rack			94.0	94.0	92.0	93.0	102.0	101.0	100.0	104.0	108.0					
All other #1 - Time			65.0	65.0	65.0	65.0	65.0	66.0	66.0	66.0	67.0					
All other #2 - Mileage			6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6					
Private Equipment																
No. of Cars (cars with rates only)																
Superstructures (Vehicular Flats)		1	54,982	55,341	55,671	55,831	55,901	55,934	56,159	56,255	56,293					
Covered Hoppers		2	436,434	436,409	436,760	436,661	437,326	437,706	438,622	439,726	440,444					
Tank Cars		3	424,449	423,688	423,896	424,288	424,695	424,602	424,575	424,985	425,066					
Others		4	300,679	300,801	300,882	301,421	301,024	300,428	300,619	301,805	302,453					
Rate (in cents)																
Superstructures #1 - Time			85.0	85.0	85.0	85.0	85.0	86.0	86.0	86.0	86.0					
Superstructures #2 - Mileage			1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.8					
Superstructures #3 - Auto Rack			92.0	93.0	95.0	96.0	97.0	98.0	95.0	96.0	96.0					
Covered Hoppers #2 - Mileage		2	45.3	45.3	45.4	45.5	45.5	45.6	44.6	44.6	44.7					
Tank Cars #2 - Mileage		3	96.1	96.1	100.5	100.5	100.5	100.5	100.0	100.1	116.3					
Others #1 -Time			105.0	105.0	105.0	105.0	105.0	105.0	107.0	106.0	106.0					
Others #2 - Mileage			8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.9	8.9					
AVERAGE RATES																
Private Superstructures		1	21.58	21.58	21.58	21.58	21.58	21.81	21.81	22.01	22.01	0.00	0.00	0.00	0.00	0.00
Private Others		4	32.01	32.01	32.01	32.01	32.01	32.01	32.45	32.43	32.43	0.00	0.00	0.00	0.00	0.00
Private Total			58.67	58.63	60.19	60.22	60.23	60.29	59.84	59.85	65.49	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Autoracks			92.33	93.16	94.51	95.52	97.79	98.49	95.83	97.34	98.05	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Car Hire Weights	"Old Wts" "New Wts"	
	2021	2022
For RCAF & RCR		
RR-owned Time	0.065	0.091
RR-owned Mileage	0.038	0.041
Privately-owned Cars	0.857	0.832
Autoracks	0.040	0.036
----- Check sum	1.000	1.000

Weights for Equipment Rents		
(not used in Car Hire calculation)		
	2021	2022
Car Hire - U.S.	0.681	0.681
Lease Rentals - U.S.	0.319	0.319
----- Check sum	1.000	1.000

Notes:
The Car Hire Index and Lease Rentals Index are weighed together to calculate the Equipment Rents Index
CHARM is the Car Hire Accounting Rate Master
The 4 bold lines are used for the Car Hire Rate. Private Total uses a weighted average of the Covered Hoppers, Tank Cars, Combined Private Superstructures, and Combined Private Others rates.
[The purpose of this page is to provide more insight on the calculation of the **private total rate.**] Beginning with 2012 data, only active cars are used.

CHARM Process - Car Hire Rate Report

Average Car Rental Rates for 03/24

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	11,572	107	0.057	108
Railroad	Number of Zero-Rated Vehicular Flats	232			
Railroad	All Other Cars	360,266	67	0.066	
Railroad	Number of Zero-Rated Other Cars	9,094			
Railroad	Total Railroad Equipment	381,164			
Private	Vehicular Flats	56,293	86	0.018	96
Private	Number of Zero-Rated Vehicular Flats	173			
Private	Covered Hoppers	440,444	0	0.447	
Private	Number of Zero-Rated Covered Hoppers	14,942			
Private	Tanks	425,066	0	1.163	
Private	Number of Zero-Rated Tanks	14,564			
Private	All Other Cars	302,453	106	0.089	
Private	Number of Zero-Rated Other Cars	22,138			
Private	Total Private Equipment	1,276,079			

This report excludes these car types: D (Locomotives), M (MoW, EOTs, etc.), U (Containers), Z (Trailers).

All TTX equipment (including ABOX, RBOX, GONX) is contained in the Private section of report.

Equipment can be zero rated due to owners supplying incorrect or insufficient information to the car accounting process.

Zero-rated equipment includes those with Umler Rate_Indicator of 6 and 0 (zero).

Zero-rated equipment is excluded from the averages shown in this report.

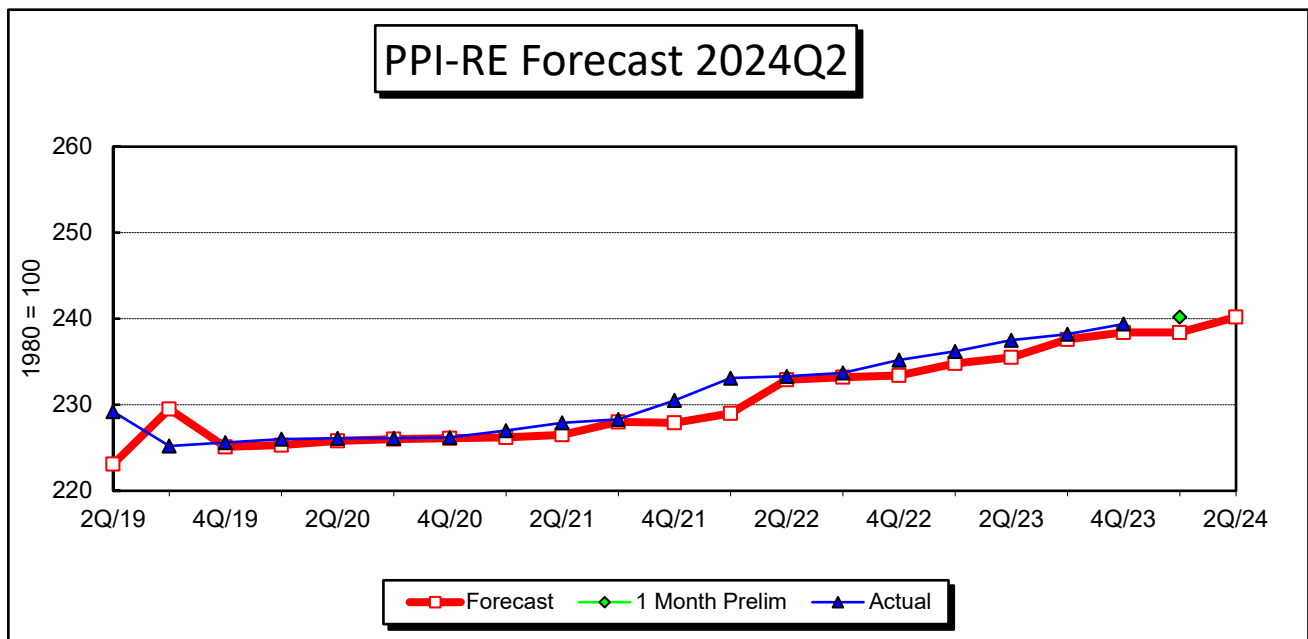
Equipment must be Active in Umler to be included in this report; Pre-registered and Inactive cars are excluded.

PPI-RE Forecast (for Depreciation Component)

	Forecast	Actual	1 Month Prelim
2Q/19	223.1	229.2	
3Q/19	229.5	225.2	
4Q/19	225.1	225.6	
1Q/20	225.3	226	
2Q/20	225.8	226.1	
3Q/20	226.0	226.1	
4Q/20	226.1	226.2	
1Q/21	226.2	227	
2Q/21	226.5	227.9	
3Q/21	228.0	228.3	
4Q/21	227.9	230.5	
1Q/22	229.0	233.1	
2Q/22	232.9	233.3	
3Q/22	233.2	233.7	
4Q/22	233.4	235.2	
1Q/23	234.8	236.2	
2Q/23	235.5	237.5	
3Q/23	237.6	238.2	
4Q/23	238.4	239.4	
1Q/24	238.4		240.2
2Q/24	240.2		

1980 Base

	PPI-RE Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2024Q2						
Low	213.9	236.6	-0.4%			
Midpoint	217.1	240.2	1.1%	0.0%	0.3%	0.8%
High	220.3	243.7	2.6%			



PPI RAILROAD EQUIPMENT

Expert Analysis

Using rule-based logic I have narrowed down the choice to exponential smoothing or Box-Jenkins.
I will perform an out-of-sample test to select between these two approaches.

The cumulative MAD for Exponential smoothing was 1.54 and for Box-Jenkins was 1.51.
The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method.

Based on the lower MAD, I will use Box-Jenkins.

Model Details

Expert selection

Box-Jenkins

ARIMA(0, 1, 0)

Within-Sample Statistics

Sample size	72	No. parameters	0
Mean	207.41	Std. deviation	4.81
R-square	0.97	Adj. R-square	0.97
Durbin-Watson	2.13	Ljung-Box(18)	18.5 P=0.58
Forecast error	0.83	BIC	0.83
MAPE	19.00%	SMAPE	19.00%
RMSE	0.83	MAD	0.39
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Actual

2023-Aug	215.4
2023-Sep	215.5
2023-Oct	215.3
2023-Nov	217
2023-Dec	217.0
2024-Jan	217.1

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2024-Feb	215.470	217.100	218.73
2024-Mar	214.795	217.100	219.405
2024-Apr	214.278	217.100	219.922
2024-May	213.841	217.100	220.359
2024-Jun	213.456	217.100	220.744
QTR AVG	213.858	217.100	220.342

Depreciation

Forecast Report for PPIRE

Description: PPIRE

Expert Analysis

Using rule-based logic I have narrowed down the choice to exponential smoothing or Box-Jenkins.
I will perform an out-of-sample test to select between these two approaches.

The cumulative MAD for Exponential smoothing was 1.54 and for Box-Jenkins was 1.51.
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R-square	0.97	Adj. R-square	0.97
Durbin-Watson	2.13	Ljung-Box(18)	18.5 P=0.58
Forecast error	0.83	BIC	0.83
MAPE	0.19	SMAPE	0.19
RMSE	0.83	MAD	0.39
MAD/Mean Ratio	0		

Historic Data

Date	Historic
2018-Feb	202.1
2018-Mar	202
2018-Apr	202.1
2018-May	202.1
2018-Jun	202.1
2018-Jul	204.1
2018-Aug	204.1
2018-Sep	201.1
2018-Oct	201.3
2018-Nov	201.3
2018-Dec	201.3
2019-Jan	202.1
2019-Feb	203.1
2019-Mar	206.5
2019-Apr	203.4
2019-May	203.4
2019-Jun	203.4

Depreciation

2019-Jul	203.5
2019-Aug	203.5
2019-Sep	203.7
2019-Oct	203.7
2019-Nov	203.9
2019-Dec	204
2020-Jan	204.3
2020-Feb	204.3
2020-Mar	204.3
2020-Apr	204.4
2020-May	204.4
2020-Jun	204.4
2020-Jul	204.4
2020-Aug	204.4
2020-Sep	204.4
2020-Oct	204.4
2020-Nov	204.4
2020-Dec	204.6
2021-Jan	204.9
2021-Feb	204.9
2021-Mar	205.8
2021-Apr	206
2021-May	206
2021-Jun	206.1
2021-Jul	206.4
2021-Aug	206.4
2021-Sep	206.5
2021-Oct	207.2
2021-Nov	208.7
2021-Dec	209.4
2022-Jan	210.6
2022-Feb	210.7
2022-Mar	210.7
2022-Apr	210.8
2022-May	210.9
2022-Jun	211
2022-Jul	211.1
2022-Aug	211.7
2022-Sep	212.3
2022-Oct	212.4
2022-Nov	212.7
2022-Dec	212.7
2023-Jan	212.9
2023-Feb	213
2023-Mar	214.7
2023-Apr	214.7
2023-May	214.7
2023-Jun	214.7
2023-Jul	215.4
2023-Aug	215.4
2023-Sep	215.5

Depreciation

2023-Oct	215.3
2023-Nov	217
2023-Dec	217
2024-Jan	217.1

Forecast Data

Date	2.5 Lower	Forecast	97.5 Upper
2024-Feb	215.47	217.1	218.73
2024-Mar	214.795	217.1	219.405
2024-Apr	214.278	217.1	219.922
2024-May	213.841	217.1	220.359
2024-Jun	213.456	217.1	220.744
2024-Jul	213.108	217.1	221.092
2024-Aug	212.789	217.1	221.411
2024-Sep	212.491	217.1	221.709
2024-Oct	212.211	217.1	221.989
2024-Nov	211.947	217.1	222.253
2024-Dec	211.695	217.1	222.505
2025-Jan	211.455	217.1	222.745

Databases, Tables & Calculators by Subject

Change Output Options:

From: 2023

To: 2024

GO

☐ include graphs

☐ include annual averages

More Formatting Options

Special Notices

12/05/2023

Data extracted on: March 4, 2024 (10:47:31 AM)

PPI Commodity Data

Series Id:

WPU144

Not Seasonally Adjusted

Series Title:

PPI Commodity data for Transportation equipment-Railroad equipment, not seasonally adjusted

Group:

Transportation equipment

Item:

Railroad equipment

Base Date:

198200

Download:  [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	212.860	213.003	214.710	214.684	214.684	214.703	215.418	215.418	215.507	215.308(P)	217.011(P)	217.021(P)
2024	217.131(P)											

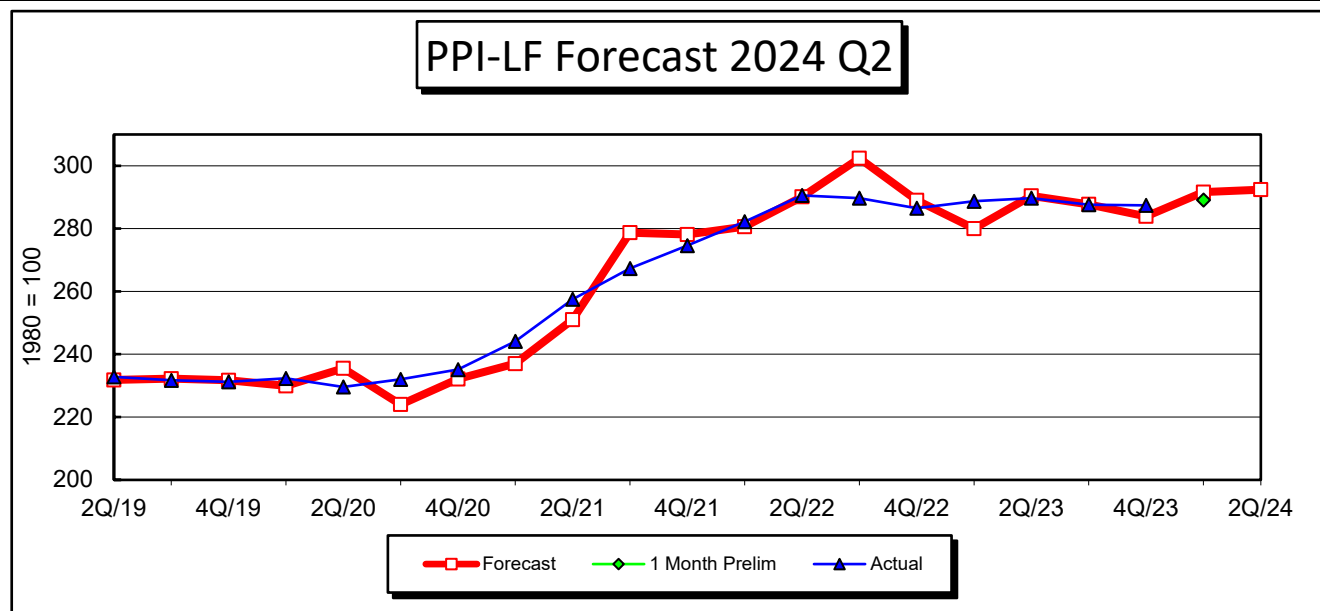
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

PPI-LF Forecast (for Other and Lease Rentals Components)

	Forecast	Actual	1 Month Prelim
2Q/19	231.8	232.8	
3Q/19	232.2	231.7	
4Q/19	231.7	231.2	
1Q/20	229.9	232.3	
2Q/20	235.5	229.6	
3Q/20	224.0	232.0	
4Q/20	232.1	235.1	
1Q/21	237.0	244.1	
2Q/21	251.0	257.5	
3Q/21	278.7	267.3	
4Q/21	278.1	274.6	
1Q/22	280.6	282.2	
2Q/22	290.1	290.6	
3Q/22	302.4	289.7	
4Q/22	289.0	286.5	
1Q/23	280.0	288.7	
2Q/23	290.4	289.7	
3Q/23	287.7	287.6	
4Q/23	283.9	287.4	
1Q/24	291.6		289.1
2Q/24	292.4		

1980 Base

	PPI-LF Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2024Q2						
Low	251.6	282.0	-2.7%			
Midpoint	260.8	292.4	0.9%	1.1%	1.7%	0.3%
High	270.0	302.7	4.5%			



**PPI INDUSTRIAL COMMODITIES LESS FUEL
AND RELATED PRODUCTS AND POWER**

Expert Analysis

Using rule-based logic I have narrowed down the choice to exponential smoothing or Box-Jenkins.
I will perform an out-of-sample test to select between these two approaches.

The cumulative MAD for Exponential smoothing was 4.14 and for Box-Jenkins was 3.37.
The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method.

Based on the lower MAD, I will use Box-Jenkins.

Model Details

Expert selection

Box-Jenkins

ARIMA(0, 2, 0)*(1, 0, 0)

Term	Coefficient	Std. Error	t-Statistic	Significance
A[12]	0.3936	0.1104	3.564	0.9993

Within-Sample Statistics

Sample size	72	No. parameters	1
Mean	228.65	Std. deviation	23.08
R-square	1	Adj. R-square	1
Durbin-Watson	2.16	Ljung-Box(18)	21.4 P=0.74
Forecast error	0.84	BIC	0.86
MAPE	0.27	SMAPE	0.27
RMSE	0.84	MAD	0.62
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Actual

2023-Aug	256.4
2023-Sep	256.5
2023-Oct	256.4
2023-Nov	256.3
2023-Dec	256.6
2024-Jan	257.9

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2024-Feb	257.145	258.806	260.468
2024-Mar	255.800	259.516	263.232
2024-Apr	254.087	260.304	266.522
2024-May	251.794	260.896	269.997
2024-Jun	248.81	261.133	273.457
QTR AVG	251.564	260.778	269.992

2/27/2024

Forecast Report for PPILF

Description: PPILF

Expert Analysis

Using rule-based logic I have narrowed down the choice to exponential smoothing or Box-Jenkins.
I will perform an out-of-sample test to select between these two approaches.

The cumulative MAD for Exponential smoothing was 4.14 and for Box-Jenkins was 3.37.
The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method.

Based on the lower MAD, I will use Box-Jenkins.

Model Details

Expert selection

Box-Jenkins

ARIMA(0, 2, 0)*(1, 0, 0)

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Forecast error	0.84	BIC	0.86
MAPE	0.27	SMAPE	0.27
RMSE	0.84	MAD	0.62
MAD/Mean Ratio	0		

Historic Data

Date	Historic
2018-Feb	203.8
2018-Mar	204.8
2018-Apr	205.4
2018-May	206.3
2018-Jun	207
2018-Jul	207.4
2018-Aug	207.6
2018-Sep	207.9
2018-Oct	208.7
2018-Nov	208.5
2018-Dec	207.8
2019-Jan	208.3
2019-Feb	208.2
2019-Mar	208.4
2019-Apr	208.2

Other

2019-May	207.7
2019-Jun	207.1
2019-Jul	206.9
2019-Aug	206.5
2019-Sep	206.1
2019-Oct	206.5
2019-Nov	206.4
2019-Dec	206.3
2020-Jan	207.2
2020-Feb	207.1
2020-Mar	207.1
2020-Apr	205.2
2020-May	204.4
2020-Jun	205
2020-Jul	205.8
2020-Aug	207
2020-Sep	208.1
2020-Oct	208.7
2020-Nov	209.2
2020-Dec	211.5
2021-Jan	214.9
2021-Feb	217.5
2021-Mar	221.5
2021-Apr	225.9
2021-May	230.5
2021-Jun	234
2021-Jul	236.5
2021-Aug	238.5
2021-Sep	240
2021-Oct	242.8
2021-Nov	245.5
2021-Dec	246.5
2022-Jan	249.774
2022-Feb	251.33
2022-Mar	254.556
2022-Apr	257.425
2022-May	260.128
2022-Jun	260.449
2022-Jul	259.5
2022-Aug	258.7
2022-Sep	257.1
2022-Oct	255.9
2022-Nov	255.7
2022-Dec	255.2
2023-Jan	257
2023-Feb	257.8
2023-Mar	258.1
2023-Apr	258.6
2023-May	258.6
2023-Jun	257.7
2023-Jul	256.7

Other

2023-Aug	256.4
2023-Sep	256.5
2023-Oct	256.4
2023-Nov	256.3
2023-Dec	256.6
2024-Jan	257.9

Forecast Data

Date	2.5 Lower	Forecast	97.5 Upper
2024-Feb	257.145	258.806	260.468
2024-Mar	255.8	259.516	263.232
2024-Apr	254.087	260.304	266.522
2024-May	251.794	260.896	269.997
2024-Jun	248.81	261.133	273.457
2024-Jul	245.479	261.331	277.183
2024-Aug	242.143	261.805	281.466
2024-Sep	238.702	262.435	286.169
2024-Oct	234.935	262.988	291.04
2024-Nov	230.935	263.54	296.145
2024-Dec	226.87	264.249	301.628
2025-Jan	222.987	265.353	307.718

Databases, Tables & Calculators by Subject

Change Output Options:

From: 2023

To: 2024

GO

☐ include graphs ☐ include annual averages

[More Formatting Options](#)

Special Notices

12/05/2023

Data extracted on: March 4, 2024 (10:47:31 AM)

PPI Commodity Data

Series Id:

WPU144

Not Seasonally Adjusted

Series Title:

PPI Commodity data for Transportation equipment-Railroad equipment, not seasonally adjusted

Group:

Transportation equipment

Item:

Railroad equipment

Base Date:

198200

Download:  [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	212.860	213.003	214.710	214.684	214.684	214.703	215.418	215.418	215.507	215.308(P)	217.011(P)	217.021(P)
2024	217.131(P)											

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

Forecast Error Calculation

	Fourth Quarter 2023			Difference		Notes
	2022	2023Q4	2023Q4	Pt.	Pct.	
Weight		Forecast	Actual			
Labor	29.4%	581.2	581.2	0.0	0%	* actual=forecast
Fuel	20.4%	387.9	402.2	14.3	4%	* from 1st month of quarter
M&S	4.7%	342.5	342.5	0.0	0%	* actual=forecast
Equip Rents	4.4%	263.6	261.4	-2.2	-1%	
Depreciation	15.2%	238.4	239.4	1.0	0%	
Interest	2.1%	51.0	51.0	0.0	0%	
Other	23.8%	283.9	287.4	3.5	1%	
Weighted Avg	100.0%	382.6	386.4			
1980 = 100		352.7	355.2			calculated
1980 = 100 (linked)	3.423	103.0	103.8			calculated
4Q22 = 100	2.645	133.3	134.3			calculated
4Q17 = 100						
4Q12 = 100	2.976	118.5	119.4			calculated
4Q07 = 100	2.459	143.4	144.4			calculated
4Q02 = 100	1.921	183.6	184.9			calculated
4Q97 = 100	1.732	203.6	205.1			calculated

Factors to change from 1982=100 to 1980 = 100

PPI-RE	215.30	217.00	217.00
* actual=forecast	256.40	256.30	256.60
PPI-LF			

0.9040
0.8920

Weighted Avg	100.0%	382.6	386.4			calculated
1980 = 100		352.7	355.2			calculated
1980 = 100 (linked)	3.423	103.0	103.8			calculated
4Q22 = 100	2.645	133.3	134.3			calculated
4Q17 = 100						
4Q12 = 100	2.976	118.5	119.4			calculated
4Q07 = 100	2.459	143.4	144.4			calculated
4Q02 = 100	1.921	183.6	184.9			calculated
4Q97 = 100	1.732	203.6	205.1			calculated

Forecast Error 0.8 calculated 0.008 = RCAF adj.

Prior Quarter		372.0	370.6	**	Re-calculated using new weights
1980 = 100		342.9	340.7		
1980 = 100 (linked)		129.6	128.8		calculated
4Q17 = 100					
4Q12 = 100		115.2	114.5		calculated
4Q07 = 100		139.4	138.6		calculated
4Q02 = 100		178.5	177.4		calculated
4Q97 = 100		198.0	196.7		calculated

Equipment Rents	68.1%	226.1	226.2		from Equipment Rents/CHARM
Car Hire	31.9%	283.9	287.4		(equals PPI-LF from above)
Lease Rentals		244.5	245.7		calculated
Weighted Average		263.6	261.4		calculated
Linked					
Prior Quarter		242.1	242.4	**	
Weighted Average		261.0	257.9		Re-calculated using new weights
Linked					

Sum of Weights ok
Sum of ER Wt. ok
** if fourth quarter (2nd quarter filing), only weighted avg for prior needs weights, linked is ok (found in 3Q index calc)

RCAF Fuel (Actual All-Inclusive Index)

January 2024

Monthly Report

January 2024 Price (cents) (1)	1/1/81 Price (cents) (2)	1/91 New Method Linking Factors (3)	January 2024 Index 1/1/81=100 (4)	Linking Factor 1980=100 (5)	January 2024 1980=100 Current Index (6)
U.S.	258.25	89.34	99.415	287.37	1.096
					314.96

(4) = (1) / (2) x (3)

(6) = (4) x (5)

Final Actual All-inclusive Index Used for RCAF's Forecast Error Adjustment

January 2024 1980=100 Current Index	Adjustment Factor	January 2024 1980=100 Linked Index
U.S.	314.96	1.00192
		315.56 ←

January	=	Q1
April	=	Q2
July	=	Q3
October	=	Q4

Car Hire for RCAF - 2022 Weights

Car Hire Index used in RCAF's All-Inclusive Index (Actual)

		1980	Aug 3Q/23	Nov 4Q/23	Feb 1Q/24	May 2Q/24	Aug 3Q/24
RATE							
RR-OWNED TIME		31.00	66.00	65.00	66.00	--	--
RR-OWNED MILEAGE		4.69	6.60	6.50	6.60	--	--
PRIVATELY-OWNED CARS		25.47	54.49	60.23	59.85	--	--
AUTORACKS		47.00	85.28	97.79	97.34	--	--
INDEX							
RR-OWNED TIME		100.0	212.9	209.7	212.9	--	--
RR-OWNED MILEAGE		100.0	140.7	138.6	140.7	--	--
PRIVATELY-OWNED CARS		100.0	214.0	236.5	235.0	--	--
AUTORACKS		100.0	181.4	208.1	207.1	--	--
CAR HIRE INDEX (old wts)	2021	100.0	209.8	--	--	--	--
CAR HIRE INDEX (new wts)	2022	100.0	209.7	229.0	228.1	--	--
CAR HIRE INDEX (LINKED)		100.0	207.1	226.2	225.3	--	--

Note: Indexes are rounded, rates are full float.

Car Hire Data From CHARM

Car Hire Data From CHARM		2023 (first day of month)						2024 (first day of month)							
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Railroad Equipment															
No. of Cars (cars with rates only)															
Superstructures (Vehicular Flats)			10,806	10,781	10,754	10,752	10,558	11,030							
Rate (in cents)															
Superstructures #3 - Auto Rack			94.0	94.0	92.0	93.0	102.0	101.0							
All other #1 - Time			65.0	65.0	65.0	65.0	65.0	66.0							
All other #2 - Mileage			6.5	6.5	6.5	6.5	6.5	6.5							
Private Equipment															
No. of Cars (cars with rates only)															
Superstructures (Vehicular Flats)		1	54,982	55,341	55,671	55,831	55,901	55,934							
Covered Hoppers		2	436,434	436,409	436,760	436,661	437,326	437,706							
Tank Cars		3	424,449	423,688	423,896	424,288	424,695	424,602							
Others		4	300,679	300,801	300,882	301,421	301,024	300,428							
Rate (in cents)															
Superstructures #1 - Time			85.0	85.0	85.0	85.0	85.0	86.0							
Superstructures #2 - Mileage			1.6	1.6	1.6	1.6	1.6	1.6							
Superstructures #3 - Auto Rack			92.0	93.0	95.0	96.0	97.0	98.0							
Covered Hoppers #2 - Mileage		2	45.3	45.3	45.4	45.5	45.5	45.6							
Tank Cars #2 - Mileage		3	96.1	96.1	100.5	100.5	100.5	100.5							
Others #1 -Time			105.0	105.0	105.0	105.0	105.0	105.0							
Others #2 - Mileage			8.7	8.7	8.7	8.7	8.7	8.7							
AVERAGE RATES															
Private Superstructures		1	21.58	21.58	21.58	21.58	21.58	21.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Others		4	32.01	32.01	32.01	32.01	32.01	32.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Total			58.67	58.63	60.19	60.22	60.23	60.29	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Autoracks			92.33	93.16	94.51	95.52	97.79	98.49	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Car Hire Weights	"Old Wts"	"New Wts"
	2021	2022
For RCAF & RCR		
RR-owned Time	0.065	0.091
RR-owned Mileage	0.038	0.041
Privately-owned Cars	0.857	0.832
Autoracks	0.040	0.036
----- Check sum	1.000	1.000

Weights for Equipment Rents		
(not used in Car Hire calculation)		
	2021	2022
Car Hire - U.S.	0.681	0.681
Lease Rentals - U.S.	0.319	0.319
----- Check sum	1.000	1.000

Notes:
The Car Hire Index and Lease Rentals Index are weighed together to calculate the Equipment Rents Index
CHARM is the Car Hire Accounting Rate Master
The 4 bold lines are used for the Car Hire Rate. Private Total uses a weighted average of the Covered Hoppers, Tank Cars, Combined Private Superstructures, and Combined Private Others rates.
[The purpose of this page is to provide more insight on the calculation of the **private total rate**.] Beginning with 2012 data, only active cars are used.

CHARM Process - Car Hire Rate Report

Average Car Rental Rates for 11/23

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	10,558	106	0.057	102
Railroad	Number of Zero-Rated Vehicular Flats	649			
Railroad	All Other Cars	362,250	65	0.065	
Railroad	Number of Zero-Rated Other Cars	11,089			
Railroad	Total Railroad Equipment	384,546			
Private	Vehicular Flats	55,901	85	0.016	97
Private	Number of Zero-Rated Vehicular Flats	240			
Private	Covered Hoppers	437,326	0	0.455	
Private	Number of Zero-Rated Covered Hoppers	15,188			
Private	Tanks	424,695	0	1.005	
Private	Number of Zero-Rated Tanks	14,492			
Private	All Other Cars	301,024	105	0.087	
Private	Number of Zero-Rated Other Cars	22,580			
Private	Total Private Equipment	1,271,446			

This report excludes these car types: D (Locomotives), M (MoW, EOTs, etc.), U (Containers), Z (Trailers).

All TTX equipment (including ABOX, RBOX, GONX) is contained in the Private section of report.

Equipment can be zero rated due to owners supplying incorrect or insufficient information to the car accounting process.

Zero-rated equipment includes those with Umler Rate_Indicator of 6 and 0 (zero).

Zero-rated equipment is excluded from the averages shown in this report.

Equipment must be Active in Umler to be included in this report; Pre-registered and Inactive cars are excluded.

RCAF - Other

Series ID : wpu03t15m05

Not Seasonally Adjusted

Group : Industrial Commodities less fuels

Item : Industrial commodities less fuels

Forecast Year 2024					
As reported at end of month 82=100					
	Nov.	Feb.	May	Aug.	
For Forecast	→	→			
For Actual	→				
January	2023	257.0	257.0		
February	2023	257.8	257.8		
March	2023	258.1	258.1		
April	2023	258.6	258.6		
May	2023	258.6	258.6		
June	2023	257.7	257.7		
July	2023	256.7	256.7		
August	2023	256.4	256.4		
September	2023	256.3	256.5		
October	2023	256.5	256.4		
November	2023		256.3		
December	2023		256.6		
January	2024		257.9		
February	2024				
March	2024				
April	2024				
May	2024				
June	2024				
July	2024				
Actual Qtr.		256.5	256.4	NA	NA
1980=100					
Actual Qtr.		287.6	287.4	NA	NA
First Mo. next qtr.		287.6	289.1	NA	NA
0.892 =1980					

RCAF - Other

Series ID : wpu03t15m05

Not Seasonally Adjusted

Group : Industrial Commodities less fuels

Item : Industrial commodities less fuels

Forecast Year 2024					
As reported at end of month 82=100					
	Nov.	Feb.	May	Aug.	
For Forecast	→	→			
For Actual	→				
January	2023	257.0	257.0		
February	2023	257.8	257.8		
March	2023	258.1	258.1		
April	2023	258.6	258.6		
May	2023	258.6	258.6		
June	2023	257.7	257.7		
July	2023	256.7	256.7		
August	2023	256.4	256.4		
September	2023	256.3	256.5		
October	2023	256.5	256.4		
November	2023		256.3		
December	2023		256.6		
January	2024		257.9		
February	2024				
March	2024				
April	2024				
May	2024				
June	2024				
July	2024				
Actual Qtr.		256.5	256.4	NA	NA
1980=100					
Actual Qtr.		287.6	287.4	NA	NA
First Mo. next qtr.		287.6	289.1	NA	NA
0.892 =1980					