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John T. Gray
Senior Vice President - Policy & Economics

December 5, 2018

The Honorable Cynthia T. Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street, SW
Washington, DC 20423-0001

Dear Ms. Brown:

This submission is the AAR forecast of the first quarter 2019 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2019-1) *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 first quarter 2019 results and compares to the previous quarter. Both quarters are shown on a 4Q\2017=100 base.

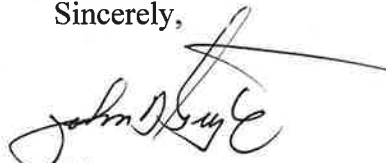
	<u>2018Q4</u>	<u>2019Q1</u>	<u>% Change</u>
All-Inclusive Index	108.1	107.1	-0.9
Preliminary RCAF	1.081	1.071	-0.9
Forecast Error Adjustment	-0.002	-0.013	
RCAF (Unadjusted)	1.079	1.058	-1.9
Productivity Adjustment Factor	2.3617	2.3593	
RCAF (Adjusted)	0.457	0.448	-2.0
PAF-5	2.5260	2.5235	
RCAF-5	0.427	0.419	-1.9

December 5, 2018

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 hand-delivered to Mr. Ramirez's Data Collection and Auditing Team. All work papers are available for STB inspection. Questions should be directed to me or Tiffany Placker (202 639-2381) of this office.

Sincerely,



John T. Gray

Attachments

**First Quarter 2019
All-Inclusive Index**

Ex Parte No. 290 (Sub-No. 5) (2019-1)

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

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

December 5, 2018

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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 first quarter 2019. Each year's first quarter calculation utilizes new health and welfare rates, which are listed in Appendix A on page 5. New payroll tax rates and maximum taxable earnings (Tier I, Tier II, and Unemployment Insurance) also become effective January 1, and are listed in Appendix A on page 4.

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 2017 (current) and 2016 (previous) weights are shown below. Weights calculated from 2016 data were used for the fourth quarter of 2017 through the third quarter of 2018. Beginning with the fourth quarter of 2018, weights calculated using 2017 data are used.

The weight for Fuel increased 2.3 percentage points, and Depreciation's was up 0.2 percentage points. The remaining component weights all decreased by 0.1 to 1.0 percentage points. Although expenses were higher in every category except Equipment Rents, Fuel and Depreciation had the highest percentage increases in expenses. Traffic and fuel prices were up in 2017, causing fuel expenses to be 27 percent higher. Depreciation expenses increased 6.2 percent, possibly caused by higher capital expenditures in recent years and spending on positive train control. Labor expenses were up 3.4 percent, but Labor's weight decreased.

Weights for RCAF's All-Inclusive Index		
	2017	2016
Labor	35.0 %	35.6 %
Fuel	13.0	10.7
Materials & Supplies	4.9	5.0
Equipment Rents	5.2	5.9
Depreciation	15.8	15.6
Interest	2.1	2.2
Other	24.0	25.0
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 First Quarter 2019

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.

		Forecast		
	2017 Weights	Previous 2018Q4	Current 2019Q1	Percent Change
1. Labor	35.0%	439.2	440.3	0.3 %
2. Fuel	13.0%	283.9	256.8	-9.5
3. M&S	4.9%	269.8	268.3	-0.6
4. Equipment Rents	5.2%	236.4	236.7	0.1
5. Depreciation	15.8%	223.8	226.1	1.0
6. Interest	2.1%	62.4	62.4	0.0
7. Other	24.0%	235.5	235.8	0.1
8. Weighted Average				
a. 1980 = 100		309.3	306.6	
b. 1980 = 100 (linked)		285.8	283.3 ¹	
c. 4Q17 = 100		108.1	107.1 ²	-0.9

¹ Index80 = (Current Index / Previous Index) * the Previous Quarter Linked Index
 = (306.6 / 309.3) x 285.8
 = 283.3

² To calculate the 4Q17 = 100 index:
 Index4Q17 = (Current Linked Index / 4Q17 Basing Factor) * 100
 = 283.3 divided by 264.5 times 100
 = 107.1

Indexes based on other periods:

4Q12 based index = 283.3 / 297.6 x 100 = 95.2
4Q07 based index = 283.3 / 245.9 x 100 = 115.2
4Q02 based index = 283.3 / 192.1 x 100 = 147.5
4Q97 based index = 283.3 / 173.2 x 100 = 163.6
4Q92 based index = 283.3 / 156.9 x 100 = 180.6

Forecast vs. Actual All-Inclusive Index Third Quarter 2018

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the third quarter actual index of 105.9 is 1.3 index points below the forecast value of 107.2. Therefore, the forecast error adjustment for first quarter 2019 is -1.3 index points.

	2016	Third Quarter 2018		Amt
	Weights	Forecast	Actual	Difference
1. Labor	35.6%	434.3	434.3	
2. Fuel	10.7%	291.0	274.0	
3. M&S	5.0%	263.7	263.7	
4. Equipment Rents ¹	5.9%	230.5	231.8	
5. Depreciation	15.6%	223.5	224.6	
6. Interest	2.2%	60.5	60.5	
7. Other	25.0%	231.5	232.5	
8. Weighted Average				
a. 1980 = 100		306.6	305.3	
b. 1980 = 100 (linked)		283.6	280.2 ²	
c. 4Q17 = 100 ³		107.2	105.9	-1.3

Forecast error —————→ **-1.3 index points**

¹	2016	Third Quarter 2018	
	Weights	Forecast	Actual
Car-Hire	58.3%	210.4	211.2
Lease Rentals	41.7%	231.5	232.5
Weighted Average		219.2	220.1
Weighted Average (linked)		230.5	231.8

² Linked actual index = (actual index / previous actual index) x previous linked actual index.
 280.2 = 305.3 / 298.8 x 274.2

³ The 4Q17 based indexes are 1980 based indexes divided by the 4Q17 basing factor (264.5/100).
 Other basing factors are: 4Q12 = 297.6; 4Q07 = 245.9; 4Q02 = 192.1; 4Q97 = 173.2; and 4Q92 = 156.9.

Productivity

On February 8, 2018, the Surface Transportation Board (STB) served a decision in Ex Parte 290 (Sub-No. 4) which proposed to adopt -0.4 percent as the geometric average productivity change for the five most recent years available. Their five year rolling geometric average calculation added the year 2016 and removed the year 2011. The components of this average annual value are shown on the following table in ratio format – therefore, 0.996 is the same as a decrease of 0.4 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			
2012 - 2016			
Year	Output Index (1)	Input Index (2)	Productivity Changes (3)
2012	1.007	0.999	1.008
2013	1.022	1.018	1.003
2014	1.055	1.036	1.018
2015	0.913	0.972	0.939
2016	0.955	0.941	1.015
Average			0.996
Previous Average (2011-2015)			0.994

Calculation of PAF and PAF-5			
For 2012-2016, use fourth root of avg. productivity change = 0.9990			
For 2011-2015, use fourth root of avg. productivity change = 0.9985			
Quarter	Year	PAF	PAF-5
Q1	2018	2.3689	2.5374
Q2	2018	2.3665	2.5336
Q3	2018	2.3641	2.5298
Q4	2018	2.3617	2.5260
Q1	2019	2.3593	2.5235

Rail Cost Adjustment Factor

First Quarter 2019

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 2018Q1 index, the All-Inclusive Index was rebased to a 2017Q4=100 basis as required in the applicable statute.

	Previous 2018Q4	Current 2019Q1	Percent Change
All-Inclusive Index ¹	108.1	107.1	-0.9
Preliminary RCAF ²	1.081	1.071	-0.9
Forecast Error Adjustment ³	<u>-0.002</u>	<u>-0.013</u>	
RCAF (Unadjusted) ⁴	1.079	1.058	-1.9
Productivity Adjustment Factor ⁵	<u>2.3617</u>	<u>2.3593</u>	
RCAF (Adjusted) ⁶	0.457	0.448	-2.0
PAF-5 ⁷	2.5260	2.5235	
RCAF-5 ⁸	0.427	0.419	-1.9

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

First Quarter 2019

The first quarter 2019 Labor Index increased 0.3 percent from the previous quarter. Although 1 new national labor agreement was added to the index, most of the increase was caused by an increase in supplements, such as Health and Welfare and fringe benefits.

Wage Rate Index

The Wage Rate Index portion of the Labor Index is lower by 0.4 percent. This was caused by a decrease in the amounts for lump sums and back pay.

New National Agreements: The IAM ratified their new national agreement, which has been added to this index.¹ It includes retroactive wage increases of 2 percent in July 2016 and July 2017, as well as 2.5 percent in July 2018.

Wage Increases: There are no national union wage increases scheduled for the first quarter 2019; however, non-union employees are being assigned a 2.5 percent general wage increase in January 2019, following past index procedure.² This matches the July 2018 wage increase received by unions that participate in national agreements.

Lump Sums: The first quarter lump sum rate is down by 0.1 cent. One amount was fully amortized and removed, and it was replaced by a bonus of a slightly smaller size for the new quarter.³

Back Pay: The back pay rate decreased 51 cents. Five amounts were fully amortized and removed, while only one new amount was added. This new amount was for retroactive wage increases due to the new IAM contract. As always, back pay amounts will be removed from the index after they have been amortized over four quarters.³

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. This rate is unchanged from the previous quarter.

¹ See Appendix H for union abbreviations.

² The Interstate Commerce Commission decided in 1987 that "it is appropriate" to assign a wage increase, similar to unionized employees, to employees not covered by a labor contract

³ 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 U.S. Treasury bills.

Labor

First Quarter 2019

Supplements Index

The Supplements Index increased 1.1 percent. Factors affecting supplements such as health and welfare premiums, payroll tax rates, and maximum taxable earnings, are typically adjusted on January 1. Increases in Health and Welfare, as well as fringe benefits, caused the increase.

Health & Welfare: The Health & Welfare rate increased 7.3 cents (0.9 percent). New employer contributions (premiums) will go into effect January 1. (See pages 4 and 5 of this appendix.) Although there were some small declines for early retirement major medical and supplemental sickness rates, the overall Group Health and Welfare rate increased.

Railroad Retirement: The Railroad Retirement rate increased 5.5 cents (or 0.6 percent). Taxable wages decreased slightly, but the maximum taxable earnings for Railroad Retirement's Tier I and Tier II increased for 2019. Tax rates (for employers) did not change. Page 4 of this appendix lists tax rates and maximum taxable earnings for 2017 through 2019.

Unemployment Insurance: The Unemployment Insurance rate is 7.5 percent lower than the previous quarter. Although maximum taxable earnings increased, the unemployment insurance tax rate went down. Basic tax rates range from a minimum of 0.65 percent to a maximum of 12 percent. However, if the Railroad Unemployment Insurance Account balance falls below a certain threshold, a surcharge can be imposed. For 2019 (like 2016 through 2018), a surcharge of 1.5 percent will be used - meaning that no railroad will have a tax rate less than 2.15 percent. The weighted average Class I railroad rate for 2019 is 3.38%, compared to 3.76% for 2018. Page 4 of this appendix lists tax rates and maximum taxable earnings for 2017 through 2019.

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 first quarter rate is 8.8 cents higher than last quarter. The higher rate was caused mostly by one railroad's annual stock awards.

Labor Index Calculation

As shown in Table A-1 on the next page, the 0.4 percent decrease in the Wage Rate Index and the 1.1 percent increase in the Supplements Index combined to cause the Labor Index to rise 0.3 percent from the previous quarter. The linked first quarter 2019 Labor index is 440.3, which is 3.9 percent higher than one year ago.

Labor

First Quarter 2019

Table A-1 Labor Index

	2018Q4	2019Q1	Change	
			Percent	Amount
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$42.473	\$42.813	0.8%	\$0.340
Adjustments:				
Lump Sum	0.400	0.399	-0.2%	-\$0.001
Back Pay	1.283	0.773	-39.8%	-\$0.510
Other	0.182	0.182	0.0%	\$0.000
Total Wages	<u>44.338</u>	<u>44.167</u>	-0.4%	-\$0.171
Health & Welfare Benefits	8.229	8.302	0.9%	\$0.073
RR Retirement & Medicare	9.069	9.124	0.6%	\$0.055
Unemployment Insurance	0.360	0.333	-7.5%	-\$0.027
Other	0.146	0.234	60.3%	\$0.088
Total Supplements	<u>\$17.804</u>	<u>\$17.993</u>	1.1%	\$0.189
Total Labor (as info only)	\$62.142	\$62.160		
Wage Index¹	379.4	378.0	-0.4%	
Supplements Index²	657.9	664.9	1.1%	
Total labor Index, 2017 Weights ³	464.3	465.5		
Labor Index (linked)⁴	439.2	440.3	0.3%	

¹ 1980 wage rate \$11.685

² 1980 supplements rate \$2.706

³ 2017 weights: wages, supplements 69.5% 30.5%

⁴ 2019Q1 linked Index = 2018Q4 linked x (2019Q1 / 2018Q4)
 = 439.2 x 465.5 / 464.3

Labor

First Quarter 2019

Supplement Comparisons

Health and Welfare Rates

Plan	Railroad Payment Per Employee Per Month				
	2017	2018	2019	Change	
				'17-'18	'18-'19
Group Health & Welfare	\$1,693.72	\$1,584.71	\$1,607.55	-6.4%	1.4%
Early Retirement Major Medical	166.75	135.96	129.38	-18.5%	-4.8%
Group Dental	65.12	63.67	63.67	-2.2%	0.0%
Group Vision	8.44	8.44	8.44	0.0%	0.0%
Supplemental Sickness					
Maintenance of Way	40.00	51.63	44.82	29.1%	-13.2%
Shop Crafts	60.00	75.48	67.87	25.8%	-10.1%
Signalmen	37.00	44.34	41.32	19.8%	-6.8%
Yardmasters	34.22	34.22	45.75	0.0%	33.7%

Railroad Retirement and Medicare

	Earnings Base			Employer Rate		
	2017	2018	2019	2017	2018	2019
Tier I	\$127,200	\$128,400	\$132,900	6.20%	6.20%	6.20%
Tier II	94,500	95,400	98,700	13.10%	13.10%	13.10%
Medicare	no limit	no limit	no limit	1.45%	1.45%	1.45%

Unemployment Insurance

Monthly Taxable Earnings Base			Weighted Avg. Class I Rate		
2017	2018	2019	2017	2018	2019
\$1,545	\$1,560	\$1,605	3.37%	3.76%	3.38%

Labor

First Quarter 2019

NATIONAL RAILWAY LABOR CONFERENCE EMPLOYEE BENEFITS DEPARTMENT

251 – 18th Street, South, Suite 750, Arlington, VA 22202 ~~~ PHONE: (571) 336-7600

David B. Marcus
Director Employee Benefits
(571) 336-7596
Email: dmarcus@rnlc.org

Susan E. Parks, CEBS
Benefits Administrator
(571) 336-7625
Email: sparks@rnlc.org

November 1, 2018

Ms. Tiffany Placker
Economist
Association of American Railroads
425 Third Street, SW, Suite 1000
Washington, D.C. 20024

Dear Ms. Placker:

The revised employer Payment Rates which are effective January 1, 2019 are as follows:

Railroad Employees National Health & Welfare Plan & National Railway Carriers/United Transportation Union H&W Plan Non-Hospital Road	\$1,607.55
Railroad Employees National Early Retirement Major Medical Benefit Plan Non-Hospital Road	\$ 129.38
Aetna - National Dental Plan	\$ 63.67
Aetna - Supplemental Sickness Plans	
ShopCrafts	\$ 67.87
Signalmen	\$ 41.32
Maintenance of Way	\$ 44.82
Trustmark - Supplemental Sickness Plans Yardmasters	\$ 45.75
EyeMed - National Vision Plan	\$ 8.44

If you have any questions or need clarification, please contact me.

Very truly yours,



Susan E. Parks

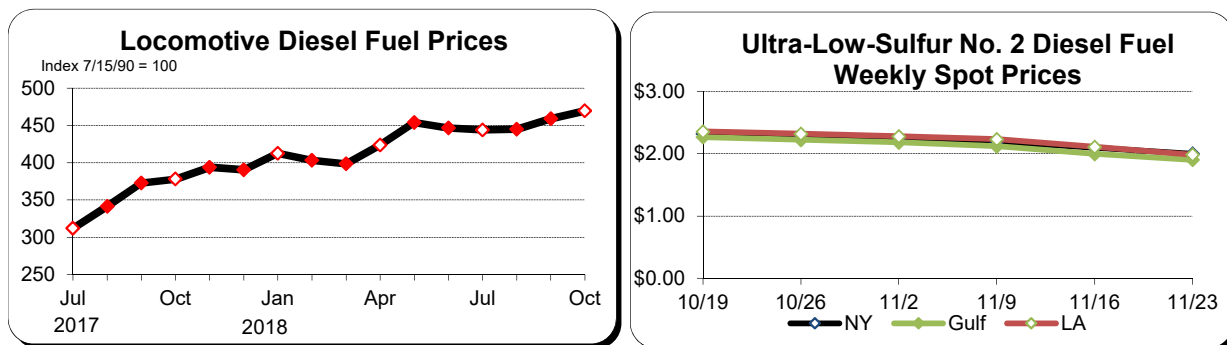
cc: Glen Williams

Fuel

First Quarter 2019

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 has been trending upward since June 2017, with increases in the last three months in a row. While average prices for locomotive diesel fuel are available only through October 2018, data through four weeks of November are available for related fuel types. According to the Energy Information Administration, the daily spot price as of November 26 for Ultra-Low-Sulfur Diesel Fuel* is about 20 percent lower than the average for October. The chart below (on left) shows the AAR's Monthly Locomotive Diesel Fuel Price Index from July 2017 through October 2018. The second chart (on right) shows recent spot prices for Ultra-Low-Sulfur No. 2 Diesel Fuel as reported by the Energy Information Administration.



In its *This Week in Petroleum* report released November 28, the U.S. Energy Information Administration said that U.S. average regular gasoline and diesel fuel prices have decreased in all U.S. regions. Railroads expect price decreases by January (Q1) compared to prices that actually occurred for October (Q4). The first quarter 2019 forecast is 9.5 percent lower than the previous quarter forecast, and 11.4 percent below the previous quarter actual.

Forecast Fuel Index (1980 = 100)	256.8
Change from previous quarter forecast	-9.5%
Change from previous quarter actual	-11.4%

* 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

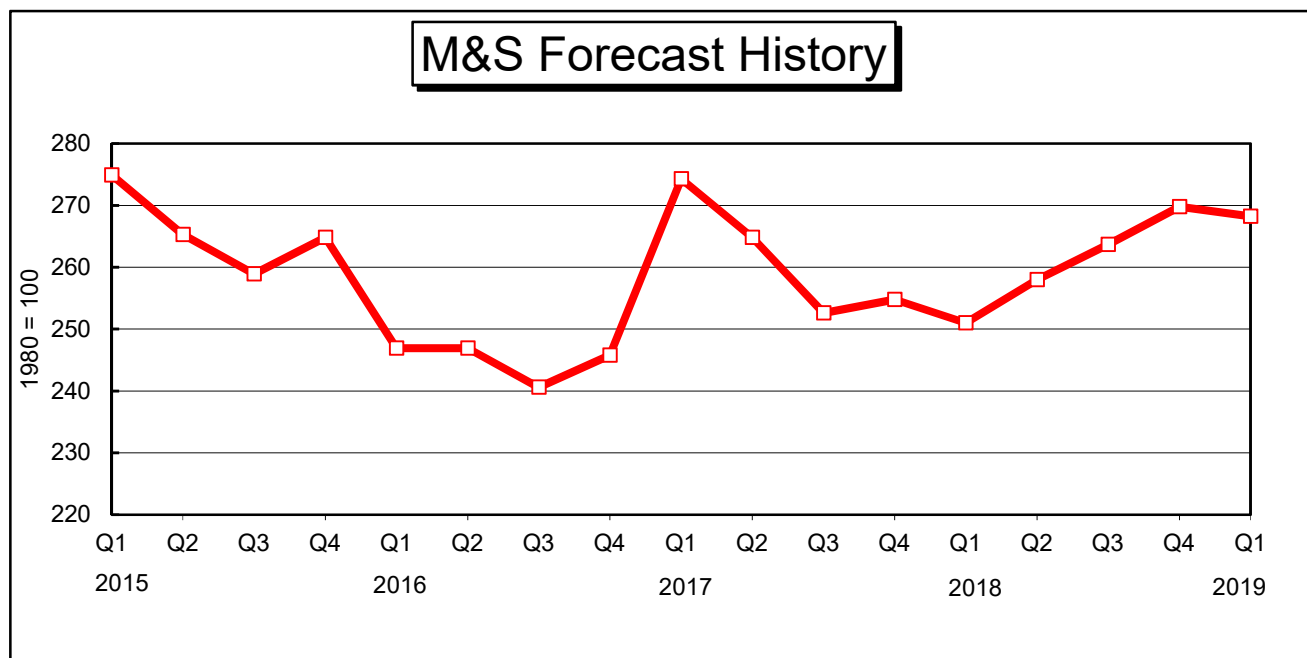
First Quarter 2019

The first quarter 2019 Materials & Supplies Index is down 0.6 percent from the previous quarter. Prices decreased for Metal Products and Miscellaneous Products.

2019Q1 Materials & Supplies Index = 268.3

2018Q4 Materials & Supplies Index = 269.8

Difference	-1.5 basis points
	or
	-0.6 %



Equipment Rents

First Quarter 2019

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 shows the results of the Equipment Rents Index calculation. The first quarter Car Hire portion of the Index rose 0.1 percent because of higher rates for tank cars. The projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, also rose 0.1 percent. Combined, these increases caused the Equipment Rents Index to rise 0.1 percent.

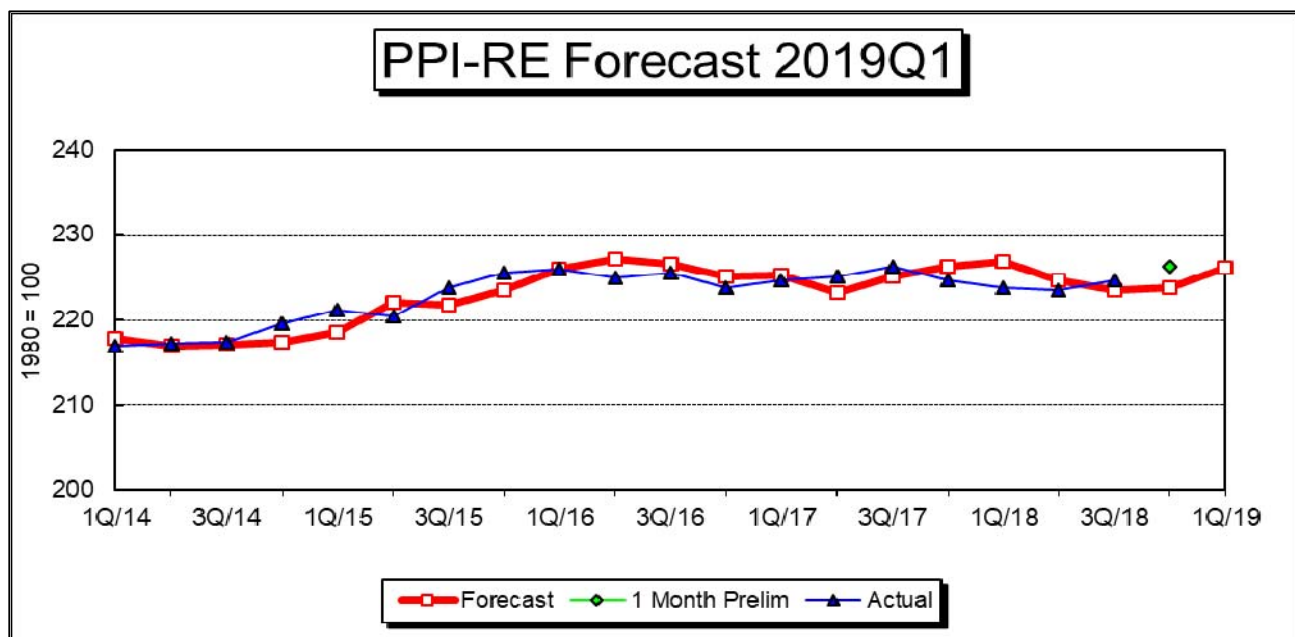
	2017			Percent
	Weight	2018Q4	2019Q1	Change
Car Hire	61.5%	216.9	217.2	0.1 %
Lease Rentals	38.5%	235.5	235.8	0.1
Weighted Average		224.1	224.4	0.1
Weighted Average (Linked)		236.4	236.7	0.1

Depreciation

First Quarter 2019

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 is a 1.0 percent increase from the previous quarter's forecast.

Forecast of Depreciation Index (1982=100)	204.4
Forecast of Depreciation Index (1980=100)	226.1
Change from previous quarter forecast	1.0%
Change from actual first month of previous quarter	-0.1% = -0.09%
Change from same quarter of prior year (actual)	1.0%



Depreciation

First Quarter 2019

PPI RAILROAD EQUIPMENT

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 0.89 and for Box-Jenkins was 0.90.
 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 Exponential Smoothing.

Model Details

Expert selection

**Simple exponential smoothing: No trend, No seasonality
 NN(0.806)**

Component	Smoothing Wgt	Final Value
Level	0.8062	204.4

Within-Sample Statistics

Sample size	72	No. parameters	1
Mean	200.51	Std. deviation	3.36
R-square	0.93	Adj. R-square	0.93
Durbin-Watson	2.05	Ljung-Box(18)	19.1 P=0.61
Forecast error	0.9	BIC	0.93
MAPE	0.33	SMAPE	0.33
RMSE	0.9	MAD	0.66
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Actual

2018-May	202.1
2018-Jun	202.1
2018-Jul	202.4
2018-Aug	202.4
2018-Sep	204.1
2018-Oct	204.6

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2018-Nov	202.625	204.439	206.252
2018-Dec	202.109	204.439	206.768
2019-Jan	201.689	204.439	207.189
2019-Feb	201.324	204.439	207.554
2019-Mar	200.998	204.439	207.880
QTR AVG	201.337	204.439	207.541

Interest

First Quarter 2019

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 2017 data, and was updated in the Q4 filing submitted on September 5, 2018. The Interest Index based on 2017 increased slightly from 2016's all-time low. Interest rates for 10- and 30-year U.S. Treasury Bonds, and Corporate AAA bonds, also increased from 2016 to 2017. Changes in the mix of maturities for the debt portfolio can also cause changes in the railroad average.

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

2017	Interest Rate	4.90%
1980	Interest Rate	7.85%
2019Q1	Interest Index	62.4
2018Q4	Interest Index	62.4
	Percent Change	0.0%

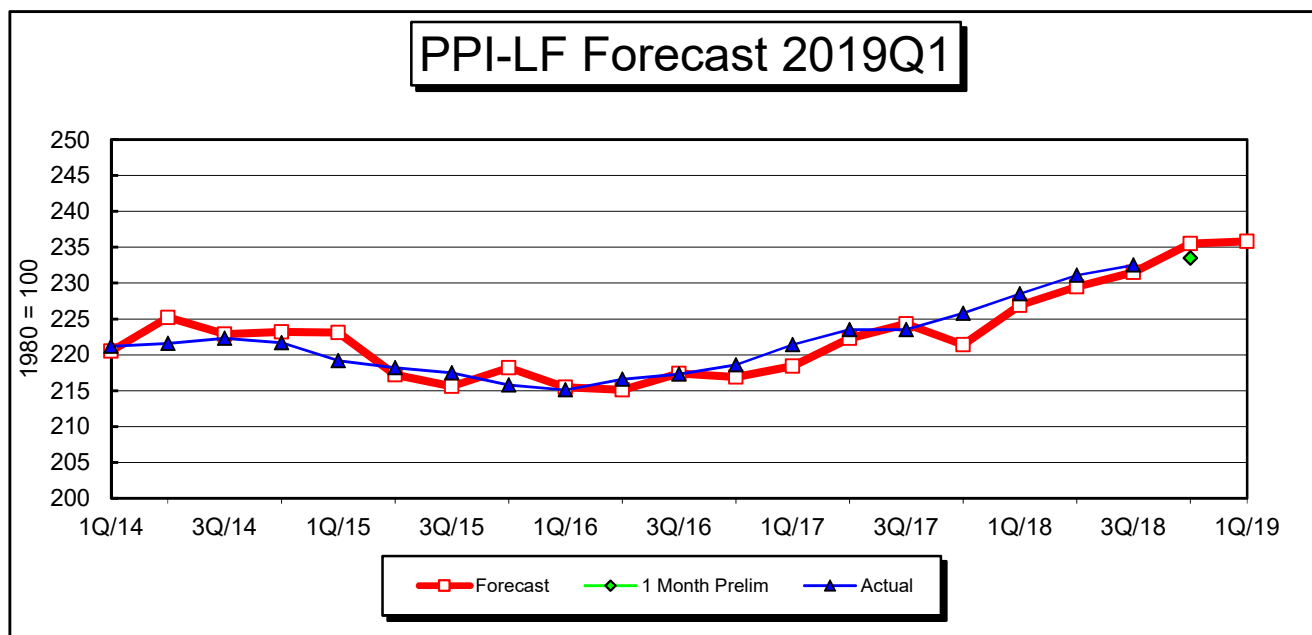
Other Expenses

First Quarter 2019

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 up only 0.1 percent from the prior quarter forecast.

Forecast of Other Expense Index (1982=100)	210.3
Forecast of Other Expense Index (1980=100)	235.8
Change from previous quarter forecast	0.1%
Change from actual first month of previous quarter	1.0%
Change from same quarter of prior year (actual)	3.2%



Other Expenses

First Quarter 2019

PPI INDUSTRIAL COMMODITIES LESS FUELS AND RELATED PRODUCTS AND POWER

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 1.34 and for Box-Jenkins was 1.97.
The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each metho
Based on the lower MAD, I will use Exponential Smoothing.

Forecast Model for PPILF

Multiplicative Winters: Linear trend, Multiplicative seasonality

LM(0.925, 0.870, 0.999)

Confidence limits proportional to indexes

Component	Smoothing Wgt		Final Value
Level	0.9255		208.1
Trend	0.87		0.557
Seasonal	0.9993		
Seasonal Indexes			
Jan - Mar	1.001	0.9999	0.9995
Apr - Jun	0.9996	0.9995	0.9998
Jul - Sep	0.9998	1	0.9996
Oct - Dec	1.001	1.001	0.9999

Within-Sample Statistics

Sample size	72	No. parameter:	3
Mean	197.43	Std. deviation	4.22
R-square	0.99	Adj. R-square	0.99
Durbin-Watson	1.7	Ljung-Box(18)	19.8 P=0.65
Forecast error	0.4	BIC	0.43
MAPE	0.16	SMAPE	0.16
RMSE	0.39	MAD	0.32
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Date	Actual
2018-May	206.3
2018-Jun	207.0
2018-Jul	207.5
2018-Aug	207.4
2018-Sep	207.4
2018-Oct	208.3

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2019-Jan	207.696	209.934	212.172
2019-Feb	207.644	210.318	212.993
2019-Mar	207.734	210.783	213.832
QTR AVG	207.691	210.345	212.999

Railroad and Union Abbreviations

First Quarter 2019

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.)
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 2019 Q1 RCAF

December 5, 2018

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. 2019/Q1 RCAF Lump Sum Amortization summary, public version (1 page)
7. 2019/Q1 RCAF Back Pay Amortization summary, public version (1 page)
8. Back Pay calculation for National IAM
Note: calculations for other unions not included herein because of individual RR data
9. Health & Welfare worksheet (1 page)
10. Railroad Retirement spreadsheet (5 pages)
11. 2019 Tax Rates and Maximum Taxable Earnings from Railroad Retirement Board
12. Unemployment Insurance Tax worksheet (1 page)
13. 2-page SAS run for 2019 Q1 Unemployment Insurance Tax
14. Unemployment Insurance Tax Rate for 2019 memo and RRB Maximum Taxable Earnings (2 pages)
15. 2 pages from EIA including spot prices for various distillates
16. Summary of Materials & Supplies - "U.S. Summary by Composition Category" (1 page)
17. RCAF Car Hire Forecast Spreadsheet for Equipment Rents (2 pages) plus source data page
18. 5 pages of PPI-RE for Depreciation including graph page, input/output, and BLS source data
19. 5 pages of PPI-LF for Other (and Lease Rentals) incl. graph page, input/output, BLS source data
20. Forecast Error calc. and workpapers (9 pages: calc, fuel, 3 car hire, 2 deprec, 2 other)
21. New National Labor Agreement pages (GWI, ECS, signatures, participants) 7 pages

RCAF All-Inclusive Index's Labor Index Based on 2017 Benchmarks

17 Wts.	3Q/18	3Q/18 Rebench As Info Only	% Chg	4Q/18	% Chg	1Q/19	% Chg	2Q/19	% Chg	3Q/19	% Chg
Straight Time	\$35.154	\$35.524	1.1%	\$35.537	1.1%	\$35.857	0.9%				
PFTNW	\$6.839	\$6.933	1.4%	\$6.936	1.4%	\$6.956	0.3%				
Total	\$41.993	\$42.457	1.1%	\$42.473	1.1%	\$42.813	0.8%	\$0.000		\$0.000	
Adjustments											
Lump Sum	\$0.390	\$0.401		\$0.400		\$0.399					
Back Pay	\$1.232	\$1.268		\$1.283		\$0.773					
Other	\$0.177	\$0.182		\$0.182		\$0.182					
Total Wages	\$43.792	\$44.308	1.2%	\$44.338	1.2%	\$44.167	-0.4%	\$0.000		\$0.000	
Pre-Tax Reduction	(\$1.361)	(\$1.362)		(\$1.362)		(\$1.362)					
Taxable Wages	\$42.431	\$42.946		\$42.976		\$42.805		\$0.000		\$0.000	
H & W	\$8.101	\$8.229	1.6%	\$8.229	1.6%	\$8.302	0.9%				
RR Ret & Medicare	\$8.867	\$9.064	2.2%	\$9.069	2.3%	\$9.124	0.6%				
Unemp. Insurance	\$0.365	\$0.360	-1.4%	\$0.360	-1.4%	\$0.333	-7.5%				
Other	\$0.288	\$0.297	3.1%	\$0.146	-49.3%	\$0.234	60.3%				
Total	\$17.621	\$17.950	1.9%	\$17.804	1.0%	\$17.993	1.1%	\$0.000		\$0.000	
Adjustments											
Total Supplements	\$17.621	\$17.950	1.9%	\$17.804	1.0%	\$17.993	1.1%	\$0.000		\$0.000	
Total Labor	\$61.413	\$62.258	1.4%	\$62.142	1.2%	\$62.160	0.0%	\$0.000		\$0.000	
Wage Rate Index	374.8	379.2	1.2%	379.4	1.2%	378.0	-0.4%	0.0		0.0	
Supplements Index	651.2	663.3	1.9%	657.9	1.0%	664.9	1.1%	0.0		0.0	
Total Labor Index '16 Wts.	455.5										
Total Labor Index '17 Wts.	459.1	465.9	1.5%	464.3	1.1%	465.5	0.3%	0.0		0.0	
Labor Index (Linked)	434.3			439.2	1.1%	440.3	0.3%	0.0	#####	#DIV/0!	

All Inclusive Index and RCAF using 2017 Benchmarks and Weights

17 Wts.

	17 Wts.	3Q/18	3Q/18	% Chg	4Q/18	% Chg	1Q/19	% Chg	2Q/19	% Chg	3Q/19	% Chg
Labor	0.350	434.30	434.3	0.0%	439.2	1.1%	440.3	0.3%	0.0	#####	#DIV/0!	--
Fuel	0.130	291.00	291.0	0.0%	283.9	-2.4%	256.8	-9.5%	--	--	--	--
M&S	0.049	263.70	263.7	0.0%	269.8	2.3%	268.3	-0.6%	--	--	--	--
Equip. Rents	0.052	230.50	230.5	0.0%	236.4	2.6%	236.7	0.1%	0.0	#####	#DIV/0!	--
Depreciation	0.158	223.50	223.5	0.0%	223.8	0.1%	226.1	1.0%	--	--	--	--
Interest	0.021	60.50	60.5	0.0%	62.4	3.1%	62.4	0.0%	62.4	0.0%	62.4	0.0%
Other	0.240	231.50	231.5	0.0%	235.5	1.7%	235.8	0.1%	--	--	--	--
Weighted Avg.	1.000	306.60	306.9	0.1%	309.3	0.8%	306.6	-0.9%	1.3	-99.6%	#DIV/0!	--
Linked		283.60			285.8	0.8%	283.3	-0.9%	1.2	-99.6%	#DIV/0!	--
10/1/80 basis	102.7	276.1			278.3	0.8%	275.9	-0.9%	1.2	-99.6%	#DIV/0!	--
10/1/82	120.9	234.6			236.4	0.8%	234.3	-0.9%	1.0	-99.6%	#DIV/0!	--
4Q/87	132.2	214.5			216.2	0.8%	214.3	-0.9%	0.9	-99.6%	#DIV/0!	--
4Q/92	156.9	180.8			182.2	0.8%	180.6	-0.9%	0.8	-99.6%	#DIV/0!	--
4Q/97	173.2	163.7			165.0	0.8%	163.6	-0.8%	0.7	-99.6%	#DIV/0!	--
4Q/02	192.1	147.6			148.8	0.8%	147.5	-0.9%	0.6	-99.6%	#DIV/0!	--
4Q/07	245.9	115.3			116.2	0.8%	115.2	-0.9%	0.5	-99.6%	#DIV/0!	--
4Q/12	297.6	95.3			96.0	0.7%	95.2	-0.8%	0.4	-99.6%	#DIV/0!	--
4Q/17 basis	264.5	107.2			108.1	0.8%	107.1	-0.9%	0.5	-99.5%	#DIV/0!	--
Car Hire	0.615	210.40	210.4	0.0%	216.9	3.1%	217.2	0.1%	--	--	--	--
Lease Rents	0.385	231.50	231.5	0.0%	235.5	1.7%	235.8	0.1%	0.0	--	0.0	--
Weighted Avg Eq Rents		219.20	218.5	-0.3%	224.1	2.6%	224.4	0.1%	0.0	--	0.0	--
Linked Equipment Rents		230.50			236.4	2.6%	236.7	0.1%	0.0	#####	#DIV/0!	--
Preliminary RCAF		1.072			1.081	0.84%	1.071	-0.9%	0.005	-99.5%	#DIV/0!	--
Forecast Error Adj.		(0.011)			(0.002)		(0.013)					
RCAF Unadjusted		1.061			1.079	1.70%	1.058	-1.9%	0.005	-99.5%	#DIV/0!	--
PAF		2.3641			2.3617	-0.10%	2.3593	-0.10%	--	--	--	--
RCAF Adjusted		0.449			0.457	1.78%	0.448	-2.0%	#DIV/0!	--	#DIV/0!	--
PAF-5		2.5298			2.5260	-0.15%	2.5235	-0.10%	--	--	--	--
RCAF-5		0.419			0.427	1.91%	0.419	-1.9%	#DIV/0!	--	#DIV/0!	--

Hourly Rate for 2019 Q1

Straight Time and Time Paid For But Not Worked

2019Q1 Straight Time Hourly Rate (from national spreadsheet) **\$35.750**
 New National Labor Agreements which include retroactive GWIs, one non-union increase

Adjustments to 2017 base:

Added 2018 Q1

Miscellaneous Independents	Non-Union GWI and COLAs	0.003
Soo Corp.	nothing	0.000

Added 2018 Q2

Miscellaneous Independents	retro increases for one railroad union	0.005
Soo Corp.	nothing	0.000

Added 2018 Q3

Miscellaneous Independents	GWIs and COLAs	0.080
Soo Corp.	nothing	0.000

Added 2018 Q4

Miscellaneous Independents	New agreements and non-union increases	0.011
Soo Corp.	New agreements	0.002

Added 2019 Q1

Miscellaneous Independents	One new agreement and non-union increase	0.006
Soo Corp.	Nothing	0.000

Adjusted STHR Total	\$35.857
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Pay For Time Not Worked

PFTNW (from national spreadsheet)					\$6.935
Ratio Adj STHR to Nat STHR	35.857	/	35.750	=	1.00299

Adjusted Pay For Time Not Worked	\$6.956
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Adjusted STHR + Adjusted Pay For Time Not Worked	\$42.813
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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 and DM&E.

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/2019

U.S. ST Hours =

287,199,489

Wage Statistics are for 2017

Union Group	Employees	Mo. Rate	Annual \$
National ATDA (BNSF, CSX, KCS, NS, SOO, GTW, WC)	1,712	(\$228.89)	(\$4,702,316.16)
National BLET (BNSF, CSX, KCS, NS, UP, SOO, DH)	23,736	(\$228.89)	(\$65,195,196.48)
National BMW (All except SOO, DME, DH)	22,484	(\$228.89)	(\$61,756,353.12)
National BRS (All except DME)	7,429	(\$228.89)	(\$20,405,085.72)
National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,402	(\$228.89)	(\$17,584,245.36)
National IBBM (BNSF, CSX, KCS, NS, SOO, UP, IC)	836	(\$228.89)	(\$2,296,224.48)
National IBEW (All except DME)	5,550	(\$228.89)	(\$15,244,074.00)
National NCFO (All except DME and WC)	2,322	(\$228.89)	(\$6,377,790.96)
National SMW (BNSF, CSX, KCS, NS, UP, IC)	906	(\$228.89)	(\$2,488,492.08)
National TCU (All except DME and DH)	5,043	(\$228.89)	(\$13,851,507.24)
National TCU-CAR (All except DME)	8,861	(\$228.89)	(\$24,338,331.48)
National UTU (BNSF, CSX, KCS, NS, UP, SOO, DH)	34,615	(\$228.89)	(\$95,076,328.20)
Yardmasters (BNSF, CSX, KCS, NS, UP, SOO, DH)	1,609	(\$228.89)	(\$4,419,408.12)
Misc Indep (DME, portions of DH & SOO, portions of CN)	3,696	(\$237.13)	(\$10,517,277.24)
Total Union	125,201		(\$344,252,630.64)
All Other @ \$3,918,543.88 total per month			(\$47,022,526.56)
Total			(\$391,275,157.20)

Reduction in Wage Rate Per ST Hour	-\$1.36238111
Deduct this amount from the Wage Rate	-\$1.362

National Contracts U.S.

Straight Time Hourly Rate															Check
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Sum
Weight	0.23292	0.03167	0.17443	0.00564	0.05048	0.14303	0.05703	0.01457	0.04204	0.00513	0.03523	0.01431	0.01047	0.18304	1.00000
2017 Avg.	28.982	29.972	32.461	30.384	31.721	28.054	29.913	25.319	30.386	29.362	30.787	41.791	40.528	49.879	459.540
12/31/17	28.982	29.980	32.538	30.384	31.723	28.054	29.916	25.321	30.388	29.364	30.787	41.791	40.528	49.879	459.635
1/1/18	30.086	29.980	33.361	30.384	32.975	28.054	29.916	25.321	30.388	29.364	30.787	42.916	41.616	50.876	
4/1/18	30.086	31.111	33.361	30.384	32.975	28.054	31.086	26.329	30.388	29.364	30.787	42.916	41.616	50.876	
7/1/18	30.795	31.871	33.883	32.396	33.786	29.870	31.853	26.984	30.388	31.208	32.810	43.630	42.307	50.876	
10/1/18	30.795	31.871	33.883	32.396	33.786	29.870	31.853	26.984	30.388	31.208	32.810	43.630	42.307	50.876	
1/1/19	30.795	31.871	33.883	32.396	33.786	29.870	31.853	26.984	32.312	31.208	32.810	43.630	42.307	52.148	
4/1/19	30.795	31.871	33.883	32.396	33.786	29.870	31.853	26.984	32.312	31.208	32.810	43.630	42.307	52.148	
7/1/19	30.795	31.871	33.883	32.396	33.786	29.870	31.853	26.984	32.312	31.208	32.810	43.630	42.307	52.148	

Weighted Straight Time Hourly Rate														
UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Total
2017 Avg.	6.750	0.949	5.662	0.171	1.601	4.013	1.706	0.369	1.278	0.151	0.598	0.424	9.130	33.887
12/31/17	6.751	0.949	5.676	0.171	1.601	4.013	1.706	0.369	1.278	0.151	0.598	0.424	9.130	33.901
1/1/18	7.008	0.949	5.819	0.171	1.665	4.013	1.706	0.369	1.278	0.151	0.614	0.436	9.312	34.575
4/1/18	7.008	0.985	5.819	0.171	1.665	4.013	1.773	0.384	1.278	0.151	0.614	0.436	9.312	34.692
7/1/18	7.173	1.009	5.910	0.183	1.705	4.272	1.817	0.393	1.278	0.160	0.625	0.443	9.312	35.436
10/1/18	7.173	1.009	5.910	0.183	1.705	4.272	1.817	0.393	1.278	0.160	0.625	0.443	9.312	35.436
1/1/19	7.173	1.009	5.910	0.183	1.705	4.272	1.817	0.393	1.359	0.160	0.625	0.443	9.545	35.750
4/1/19	7.173	1.009	5.910	0.183	1.705	4.272	1.817	0.393	1.359	0.160	0.625	0.443	9.545	35.750
7/1/19	7.173	1.009	5.910	0.183	1.705	4.272	1.817	0.393	1.359	0.160	0.625	0.443	9.545	35.750

Note: The 2017 Average and 12/31/17 Straight Time Hourly Rates are the industry rates, and include all Class I railroad employees. The rates for 1/1/18 through 7/1/19 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 2017 are not shown on this page and are handled separately.

National Contracts U.S.

Pay For Time Not Worked Hourly Rate														Check	
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Sum
Weight	0.23292	0.03167	0.17443	0.00564	0.05048	0.14303	0.05703	0.01457	0.04204	0.00513	0.03523	0.01431	0.01047	0.18304	1.00000
2017 Avg.	9.679	4.424	11.164	4.546	6.659	5.243	4.325	3.364	4.923	4.483	5.037	6.588	7.827	1.264	79.527
12/31/17	9.679	4.425	11.191	4.547	6.660	5.243	4.325	3.364	4.924	4.484	5.037	6.588	7.827	1.264	
1/1/18	10.048	4.425	11.473	4.547	6.922	5.243	4.325	3.364	4.924	4.484	5.037	6.765	8.037	1.289	
4/1/18	10.048	4.592	11.473	4.547	6.922	5.243	4.495	3.499	4.924	4.484	5.037	6.765	8.037	1.289	
7/1/18	10.284	4.704	11.653	4.848	7.093	5.582	4.605	3.586	4.924	4.765	5.368	6.877	8.170	1.289	
10/1/18	10.284	4.704	11.653	4.848	7.093	5.582	4.605	3.586	4.924	4.765	5.368	6.877	8.170	1.289	
1/1/19	10.284	4.704	11.653	4.848	7.093	5.582	4.605	3.586	5.236	4.765	5.368	6.877	8.170	1.321	
4/1/19	10.284	4.704	11.653	4.848	7.093	5.582	4.605	3.586	5.236	4.765	5.368	6.877	8.170	1.321	
7/1/19	10.284	4.704	11.653	4.848	7.093	5.582	4.605	3.586	5.236	4.765	5.368	6.877	8.170	1.321	

Pay For Time Not Worked Hourly Rate														
UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Total
2017 Avg.	2.254	0.140	1.947	0.336	0.750	0.247	0.049	0.207	0.023	0.177	0.094	0.082	0.231	6.564
12/31/17	2.254	0.140	1.952	0.336	0.750	0.247	0.049	0.207	0.023	0.177	0.094	0.082	0.231	6.569
1/1/18	2.340	0.140	2.001	0.349	0.750	0.247	0.049	0.207	0.023	0.177	0.097	0.084	0.236	6.727
4/1/18	2.340	0.145	2.001	0.349	0.750	0.256	0.051	0.207	0.023	0.177	0.097	0.084	0.236	6.744
7/1/18	2.395	0.149	2.033	0.358	0.798	0.263	0.052	0.207	0.024	0.189	0.098	0.086	0.236	6.916
10/1/18	2.395	0.149	2.033	0.358	0.798	0.263	0.052	0.207	0.024	0.189	0.098	0.086	0.236	6.916
1/1/19	2.395	0.149	2.033	0.358	0.798	0.263	0.052	0.220	0.024	0.189	0.098	0.086	0.242	6.935
4/1/19	2.395	0.149	2.033	0.358	0.798	0.263	0.052	0.220	0.024	0.189	0.098	0.086	0.242	6.935
7/1/19	2.395	0.149	2.033	0.358	0.798	0.263	0.052	0.220	0.024	0.189	0.098	0.086	0.242	6.935

U.S. National Contract

UTU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				28.98227	9.67903
12/31/17 Industry Rate				28.98240	9.67907
1/1/18	4.04%		94.268%	30.08618	10.04769
4/1/18			94.268%	30.08618	10.04769
7/1/18	2.50%		94.268%	30.79522	10.28449
10/1/18			94.268%	30.79522	10.28449
1/1/19			94.268%	30.79522	10.28449
4/1/19			94.268%	30.79522	10.28449
7/1/19			94.268%	30.79522	10.28449

The 4.04% GWI combines two retroactive GWIs of 2% for 7/1/2016 and 7/1/2017 in the new labor agreement.

TCU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				29.97179	4.42391
12/31/17 Industry Rate				29.97976	4.42509
1/1/18			97.817%	29.97976	4.42509
4/1/18	4.04%		97.817%	31.11058	4.59200
7/1/18	2.50%		97.817%	31.87136	4.70430
10/1/18			97.817%	31.87136	4.70430
1/1/19			97.817%	31.87136	4.70430
4/1/19			97.817%	31.87136	4.70430
7/1/19			97.817%	31.87136	4.70430

\$31.164 adjusted to remove COLAs received by 5 RRs.

BLET

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				32.46149	11.16408
12/31/17 Industry Rate				32.53834	11.19051
1/1/18	4.04%		62.576%	33.36094	11.47341
4/1/18			62.576%	33.36094	11.47341
7/1/18	2.50%		62.576%	33.88284	11.65291
10/1/18			62.576%	33.88284	11.65291
1/1/19			62.576%	33.88284	11.65291
4/1/19			62.576%	33.88284	11.65291
7/1/19			62.576%	33.88284	11.65291

U.S. National Contract

SMWIA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.		\$32.402 adjusted to remove COLAs received by 1 RR.		30.38359	4.54644
12/31/17 Industry Rate				30.38444	4.54657
1/1/18			100.000%	30.38444	4.54657
4/1/18			100.000%	30.38444	4.54657
7/1/18	6.641%		100.000%	32.39626	4.84761
10/1/18			100.000%	32.39626	4.84761
1/1/19			100.000%	32.39626	4.84761
4/1/19			100.000%	32.39626	4.84761
7/1/19			100.000%	32.39626	4.84761

The 6.641% combines 2.0% GWIs retroactive to 7/1/2016 and 7/1/2017 and 2.5% GWI 7/1/2018.

BRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.		\$32.983 adjusted to remove COLAs received by 2 RRs.		31.72130	6.65928
12/31/17 Industry Rate				31.72271	6.65957
1/1/18	4.04%		98.368%	32.97506	6.92248
4/1/18			98.368%	32.97506	6.92248
7/1/18	2.50%		98.368%	33.78598	7.09272
10/1/18			98.368%	33.78598	7.09272
1/1/19			98.368%	33.78598	7.09272
4/1/19			98.368%	33.78598	7.09272
7/1/19			98.368%	33.78598	7.09272

BMWE

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				28.05381	5.24311
12/31/17 Industry Rate				28.05381	5.24311
1/1/18			97.469%	28.05381	5.24311
4/1/18			97.469%	28.05381	5.24311
7/1/18	6.641%		97.469%	29.86971	5.58250
10/1/18			97.469%	29.86971	5.58250
1/1/19			97.469%	29.86971	5.58250
4/1/19			97.469%	29.86971	5.58250
7/1/19			97.469%	29.86971	5.58250

U.S. National Contract

TCU-Carmen

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.		\$31.108 adjusted to remove COLAs received by 5 RRs.		29.91308	4.32501
12/31/17 Industry Rate				29.91616	4.32546
1/1/18			98.637%	29.91616	4.32546
4/1/18	4.04%		98.637%	31.08611	4.49462
7/1/18	2.50%		98.637%	31.85267	4.60545
10/1/18			98.637%	31.85267	4.60545
1/1/19			98.637%	31.85267	4.60545
4/1/19			98.637%	31.85267	4.60545
7/1/19			98.637%	31.85267	4.60545

NCFO

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.		\$26.338 adjusted to remove COLAs received by 3 RRs.		25.31937	3.36430
12/31/17 Industry Rate				25.32063	3.36447
1/1/18			99.477%	25.32063	3.36447
4/1/18	4.04%		99.477%	26.32949	3.49852
7/1/18	2.50%		99.477%	26.98428	3.58553
10/1/18			99.477%	26.98428	3.58553
1/1/19			99.477%	26.98428	3.58553
4/1/19			99.477%	26.98428	3.58553
7/1/19			99.477%	26.98428	3.58553

IAM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				30.38573	4.92337
12/31/17 Industry Rate				30.38767	4.92368
1/1/18			95.374%	30.38767	4.92368
4/1/18			95.374%	30.38767	4.92368
7/1/18			95.374%	30.38767	4.92368
10/1/18			95.374%	30.38767	4.92368
1/1/19	6.641%		95.374%	32.31237	5.23554
4/1/19			95.374%	32.31237	5.23554
7/1/19			95.374%	32.31237	5.23554

The 6.641% combines 2.0% GWIs retroactive to 7/1/2016 and 7/1/2017 and 2.5% GWI 7/1/2018.

U.S. National Contract

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				29.36225	4.48340
12/31/17 Industry Rate		\$31.225 adjusted to remove COLAs received by 1 RR.		29.36371	4.48362
1/1/18			95.453%	29.36371	4.48362
4/1/18			95.453%	29.36371	4.48362
7/1/18	6.641%		95.453%	31.20784	4.76520
10/1/18			95.453%	31.20784	4.76520
1/1/19			95.453%	31.20784	4.76520
4/1/19			95.453%	31.20784	4.76520
7/1/19			95.453%	31.20784	4.76520

IBEW

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				30.78745	5.03687
12/31/17 Industry Rate				30.78745	5.03687
1/1/18			98.937%	30.78745	5.03687
4/1/18			98.937%	30.78745	5.03687
7/1/18	6.641%		98.937%	32.81030	5.36781
10/1/18			98.937%	32.81030	5.36781
1/1/19			98.937%	32.81030	5.36781
4/1/19			98.937%	32.81030	5.36781
7/1/19			98.937%	32.81030	5.36781

ATDA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				41.79089	6.58753
12/31/17 Industry Rate				41.79089	6.58753
1/1/18	4.04%		66.619%	42.91565	6.76483
4/1/18			66.619%	42.91565	6.76483
7/1/18	2.50%		66.619%	43.63040	6.87750
10/1/18			66.619%	43.63040	6.87750
1/1/19			66.619%	43.63040	6.87750
4/1/19			66.619%	43.63040	6.87750
7/1/19			66.619%	43.63040	6.87750

YDMSTRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				40.52842	7.82686
12/31/17 Industry Rate				40.52842	7.82686
1/1/18	4.04%		66.411%	41.61580	8.03686
4/1/18			66.411%	41.61580	8.03686
7/1/18	2.50%		66.411%	42.30674	8.17029
10/1/18			66.411%	42.30674	8.17029
1/1/19			66.411%	42.30674	8.17029
4/1/19			66.411%	42.30674	8.17029
7/1/19			66.411%	42.30674	8.17029

OTHER

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2017 Industry Avg.				49.87891	1.26398
12/31/17 Industry Rate				49.87891	1.26398
1/1/18	2.00%		100.000%	50.87649	1.28926
4/1/18			100.000%	50.87649	1.28926
7/1/18			100.000%	50.87649	1.28926
10/1/18			100.000%	50.87649	1.28926
1/1/19	2.50%		100.000%	52.14840	1.32149
4/1/19			100.000%	52.14840	1.32149
7/1/19			100.000%	52.14840	1.32149

Check Sums

	Increase	Applicable	ST HR	PFTNW HR
2017 AVG			459.54035	79.52719
12/31/17			459.63529	
		1271.406%		
		ok matches	ok matches	ok matches
			ok matches	

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

1271.406%

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

-1.5	U.S.	1.740	1.470	1.900
-6.7	Emerging Markets **	7.326	5.507	7.326

100 largest bonds * In local currency \$ Euro-zone bonds
Sources: ICE Data Services; Bloomberg Barclays; J.P.Morgan

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wo-year and 10-year government bonds in
(▲) or fell (▼) in the latest session

Year ago	Spread Under/Over U.S. Treasuries, in basis points	Latest	Prev	Year ago
1,744				
2,344				
1.775	-80.7		-77.6	3.1
2.516	-42.5		-37.8	17.2
-0.558			-326.5	-230.3
0.705			-231.5	-163.8
-0.686			-339.6	-243.0
0.364			-269.6	-198.0
-0.271			-154.3	-201.5
1.823	19.2		37.4	-52.1
-0.186			-296.1	-193.0
0.028			-294.4	-231.5
-0.344			-287.0	-208.8
1.498	-151		-140.5	-84.6
0.463	-206.4		-207.7	-128.1
1.253	-180.5		-180.3	-109.1

Source: Tullett Prebon

is mirror and sometimes anticipate, moves in

st...

Spread*, in basis points	One-day change	Last week	Stock Performance	Close (\$)	% chg
-117		n.a.	7.58	0.13	
-20		367	...	...	...
-16		323	...	...	...
-16		189	...	...	...
-12		n.a.	...	...	...
-11		217	...	...	...
-10		383	43.17	3.43	
-9		234	...	...	...
21		170	194.34	2.77	
14		389	12.09	2.54	
10		n.a.	110.64	1.79	
7		n.a.	...	...	...
6		235	...	...	...
6		249	53.10	-1.03	
5		80	86.24	0.71	
5		74	1581.33	5.28	

Price as % of face value	One-day change	Last week	Stock Performance	Close (\$)	% chg
2.00		80.501	...	...	...
1.63		100.807	67.21	2.22	
1.31		83.520	...	...	...
1.31		65.250	0.66	1.26	
1.23		88.000	5.30	-4.50	
1.03		96.750	135.51	0.43	
1.00		98.375	16.68	6.17	
1.00		n.a.	9.20	2.11	

0.00	n.a.	...	...	...	...
-1.50	87.375	...	...	...	...
-0.74	91.375	3.32	-2.64		
-0.50	98.970	54.86	3.65		
-0.49	n.a.	17.28	3.85		
-0.42	85.500	31.99	6.74		
-0.38	102.355	67.49	0.63		
-0.35	98.552	26.12	3.20		

ts=one percentage pt; change in spread shown is for Z-spread.

Other metals	LBMA Platinum Price PM	*838.0	Soybean Meal, Cent IL, rail, ton 48%-u	306.50	Tallow, bleached, Chicago-h	0.2650
			Soybeans, No. 1 yllw IL-bp, u	8.1150	Tallow, edible, Chicago-u	n.a.

KEY TO CODES: A=ask; B=bid; BP=country elevator bids to producers; C=corrected; E=Manfra, Tordella & Brooks; G=ICE; H=Hurley Brokerage; M=monthly; N=nominal; n.a.=not quoted or not available; R=SNL Energy; S=Platts-TSI; T=Cotlook Limited; U=USDA; W=weekly; Z=not quoted. *Data as of 11/23
Source: Dow Jones Market Data

Borrowing Benchmarks WSJ.com/bonds

Money Rates

November 26, 2018

Key annual interest rates paid to borrow or lend money in U.S. and international markets. Rates below are a guide to general levels but don't always represent actual transactions.

Oct. index level	Chg From (%)	Sept. '18	Oct. '17

U.S. consumer price index

All items	252.885	0.18	2.5
Core	259.063	0.25	2.1

International rates

Latest	Week ago	-52-Week-High	-52-Week-Low

Prime rates

U.S.	5.25	5.25	5.25	4.25
Canada	3.95	3.95	3.95	3.20
Japan	1.475	1.475	1.475	1.475

Policy Rates

Euro zone	0.00	0.00	0.00	0.00
Switzerland	0.50	0.50	0.50	0.50
Britain	0.75	0.75	0.75	0.50
Australia	1.50	1.50	1.50	1.50

Overnight repurchase

U.S.	2.27	2.28	2.36	1.05
------	------	------	------	------

U.S. government rates

Discount

2.75	2.75	2.75	1.75
------	------	------	------

Federal funds

Effective rate	2.2400	2.2300	2.2500	1.1100
High	2.2000	2.4000	2.4500	1.3125
Low	2.1900	2.1000	2.1900	1.0000
Bid	2.2000	2.1800	2.2000	1.1600
Offer	2.4000	2.2000	2.4000	1.1700

Treasury bill auction

4 weeks	2.200	2.200	2.200	1.130
13 weeks	2.370	2.345	2.370	1.285
26 weeks	2.475	2.455	2.475	1.435

Secondary market

Fannie Mae

30-year mortgage yields				
30 days	4.489	4.463	4.607	3.448
60 days	4.510	4.484	4.632	3.468

Other short-term rates

Latest	Week ago	-52-Week-high	-52-Week-low

Call money

4.00	4.00	4.00	3.00
------	------	------	------

Commercial paper (AA financial)

90 days	n.a.	2.49	2.80	1.33
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Libor

One month	2.33675	2.30025	2.33675	1.34676
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Notes on data:

U.S. prime rate is the base rate on corporate loans posted by at least 70% of the 10 largest U.S. banks, and is effective September 27, 2018. **Other prime rates** aren't directly comparable; lending practices vary widely by location. **Discount rate** is effective September 27, 2018. **DTCC GCF Repo Index** is Depository Trust & Clearing Corp.'s weighted average for overnight trades in applicable CUSIPs. Value traded is in billions of U.S. dollars. **Federal funds rates** are Tullett Prebon rates as of 5:30 p.m. ET. **Futures on the DTCC GCF Repo Index** are traded on NYSE Liffe US.

Sources: Federal Reserve; Bureau of Labor Statistics; DTCC; SIX Financial Information.



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**RCAF Lump Sum Amortization
2019/Q1**

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hour	U.S. ST Hours
CSX - BLET 2018	2018Q1	2018Q2				287,199,489
KCS 2018Q2	2017Q4	2018Q2				287,199,489
NS - BLET 2017Q4 PPI	2018Q1	2018Q2				287,199,489
NS - BLET 2018 Ave PPI	2018Q1	2018Q2				287,199,489
NS - BLET 2018 TPB	2018Q1	2018Q2				287,199,489
NS - BLET 2018Q1 PPI	2018Q2	2018Q3				287,199,489
NS - BLET 2018Q2 PPI	2018Q3	2018Q4				287,199,489
NS - BLET 2018Q3 PPI	2018Q4	2019Q1				287,199,489
Total			\$113,257,573	0.39435		

Should be slightly less
than amortized amount.

Fell out

NS - BLET 2017Q3 PPI	2017Q4	2018Q1				287,199,489
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Interest Rate

2017/Q1	0.480
2017/Q2	0.540
2017/Q3	0.920
2017/Q4	1.070
2018/Q1	1.285
2018/Q2	1.570
2018/Q3	1.880
2018/Q4	2.080
2019/Q1	2.370
2019/Q2	
2019/Q3	
2019/Q4	

Lump Sum Adjustment for 2019/Q1 → **0.399493**
or
0.399

**RCAF Back Pay Amortization
2019/Q1**

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hr.	U.S. ST Hours	
National BRC (TCU-CAR) 2018	2018Q2	2018Q2	\$28,888,465	0.10058676	0.40235	287,199,489	2017
National TCU 2018	2018Q2	2018Q2	\$16,365,434	0.05698281	0.22793	287,199,489	2017
National NCFO 2017	2018Q2	2018Q2	\$6,257,945	0.02178954	0.08716	287,199,489	2017
DME - all unions 2018	2018Q1	2018Q2				287,199,489	2017
UP Yardmasters 2018	2018Q2	2018Q2				287,199,489	2017
National IBBM 2018	2018Q2	2018Q3	\$2,965,203	0.01032454	0.04130	287,199,489	2017
CSX BLET 2017	2018Q1	2018Q3				287,199,489	2017
National IBEW 2018	2018Q2	2018Q3	\$22,468,731	0.07823388	0.31294	287,199,489	2017
National SMW 2018	2018Q2	2018Q3	\$3,424,677	0.01192438	0.04770	287,199,489	2017
National BMW 2018	2018Q2	2018Q3	\$76,685,654	0.26701180	1.06805	287,199,489	2017
Nat. IBEW 2018 offset	2018Q3	2018Q4	(\$1,613,331)	-0.00561746	-0.02247	287,199,489	2017
CN Railroads (5 amounts)	2018Q3	2018Q4				287,199,489	2017
CP Railroads (6 amounts)	2018Q3	2018Q4				287,199,489	2017
National IAM 2018	2018Q4	2019Q1	\$35,282,327	0.12284955	0.49140	287,199,489	2017
Total			\$218,900,039	0.76218812			

Should be slightly less
than amortized amount.

Fell out

National UTU-YMD 2017	2018Q1	2018Q1					2017
National UTU 2017	2018Q1	2018Q1					2017
National BRS 2017	2018Q1	2018Q1					2017
National BLET 2017	2018Q1	2018Q1					2017
National ATDA 2017	2018Q1	2018Q1					2017

Notes:

"UTU" is now called SMART-TD (Transportation Division), and SMW is now called SMART-MD (Mechanical Division)
 CN railroads 2018Q4 = IC BLET, CCP BLET, GTW UTU, GTW UTU-YMD, WC UTU-YMD
 CP railroads 2018Q4 = DH BRC, DH IAM, SOO NCFO, SOO IBEW, SOO BRS, SOO UTU-YDM

Interest Rate

2017/Q1	0.480
2017/Q2	0.540
2017/Q3	0.920
2017/Q4	1.070
2018/Q1	1.285
2018/Q2	1.570
2018/Q3	1.880
2018/Q4	2.080
2019/Q1	2.370
2019/Q2	
2019/Q3	
2019/Q4	

Back Pay Adjustment for 2019/Q1

→ 0.77271
or
0.773

Back Pay for National IAM Added to RCAF 2019Q1

National IAM New Contract Signed 9/26/2018

Employees Paid 6,368
 ST Hours Paid 11,516,206 2017 Wage Statistics and benchmark
 2017 ST Hourly Rate \$30.60714 2017 Wage Statistics and benchmark
 2017 PFTNW Hry Rt \$5.00929 2017 Wage Statistics and benchmark
 Ratio PFTNW/STHR 0.1636642 calc. from wage statistics
 STHR 12/31/2017 \$30.60714 from YearEnd2017.xlsx (no increase in 2017)

Includes all railroads benchmarked as "national" in the RCAF labor benchmarks (BNSF, CSX, KCS, NS, & UP). CN roads are benchmarked as independent although they are now in this national agreement, so backpay for them is calculated separately.

7/1/16 G.W.I. 2.00% new contract, ARTICLE I Section 2
 7/1/17 G.W.I. 2.00% new contract, ARTICLE I Section 3
 7/1/18 G.W.I. 2.50% new contract, ARTICLE I Section 4

No H&W offset since the cost sharing amounts are the same at the end of the old contract and in this new contract.

Qtr.	Total Hourly Rate in 2017 Contract			Total Hourly Rate Paid			Difference	Wage		H&W Offset \$	Net Back Pay \$
	ST	PFTNW	Total	ST	PFTNW	Total		Back Pay \$			
2016Q1	\$30.6071	\$5.0093	\$35.6164	\$30.6071	\$5.0093	\$35.6164	\$0.0000	\$0.00	\$0.00	\$0.00	\$0.00
2016Q2	30.6071	5.0093	35.6164	30.6071	5.0093	35.6164	0.0000	\$0.00	\$0.00	\$0.00	0.00
2016Q3	31.2193	5.1095	36.3288	30.6071	5.0093	35.6164	0.7123	\$2,050,830.61	\$0.00	\$0.00	2,050,830.61
2016Q4	31.2193	5.1095	36.3288	30.6071	5.0093	35.6164	0.7123	\$2,050,830.61	\$0.00	\$0.00	2,050,830.61
2017Q1	31.2193	5.1095	36.3288	30.6071	5.0093	35.6164	0.7123	\$2,050,830.61	\$0.00	\$0.00	2,050,830.61
2017Q2	31.2193	5.1095	36.3288	30.6071	5.0093	35.6164	0.7123	\$2,050,830.61	\$0.00	\$0.00	2,050,830.61
2017Q3	31.8437	5.2117	37.0553	30.6071	5.0093	35.6164	1.4389	\$4,142,677.82	\$0.00	\$0.00	4,142,677.82
2017Q4	31.8437	5.2117	37.0553	30.6071	5.0093	35.6164	1.4389	\$4,142,677.82	\$0.00	\$0.00	4,142,677.82
2018Q1	31.8437	5.2117	37.0553	30.6071	5.0093	35.6164	1.4389	\$4,142,677.82	\$0.00	\$0.00	4,142,677.82
2018Q2	31.8437	5.2117	37.0553	30.6071	5.0093	35.6164	1.4389	\$4,142,677.82	\$0.00	\$0.00	4,142,677.82
2018Q3	32.6398	5.3420	37.9817	30.6071	5.0093	35.6164	2.3653	\$6,809,783.02	\$0.00	\$0.00	6,809,783.02
2018Q4	32.6398	5.3420	37.9817	30.6071	5.0093	35.6164	2.3653	\$6,809,783.02	\$0.00	\$0.00	6,809,783.02
Total											\$38,393,599.76
Article II Part F reduce back pay by \$585.92 per employee: (\$585.92 x 6368 employees)											
Net Back Pay 3,731,138.56											
\$34,662,461.20											

Article II Part F reduce back pay by \$585.92 per employee: (\$585.92 x 6368 employees)

Net Back Pay

Health and Welfare 2019Q1

	Employees Receiving			Total	
	Pay 2017	Monthly Contribution 2017 Avg. 2019		2017 Avg.	2019
1. All Employees					
a. Group health	150,320	\$1,693.72	\$1,607.55	\$254,599,990.40	\$241,646,916.00
b. Group dental	150,320	65.12	63.67	9,788,838.40	9,570,874.40
c. Early retirement major medical	150,320	166.75	129.38	25,065,860.00	19,448,401.60
d. Group vision	150,320	8.44	8.44	1,268,700.80	1,268,700.80
2. Supplemental Sickness					
a. Signalmen	7,462	37.00	41.32	276,094.00	308,329.84
b. Shopcrafts	22,837	60.00	67.87	1,370,220.00	1,549,947.19
c. MOW	23,077	40.00	44.82	923,080.00	1,034,311.14
d. Yardmasters	1,714	34.22	45.75	58,653.08	78,415.50
3. Short-Term Disability					
a. Engineers (CSX, KCS, SOO, UP)	11,805	40.00	40.00	472,200.00	472,200.00
4. Monthly Total Premiums				293,823,636.68	275,378,096.47
5. Monthly Employee Contributions To H&W					
a. National ATDA (BNSF, CSX, KCS, NS, SOO, GTW, WC)	1,712	(\$228.89)	(\$228.89)	(\$391,859.68)	(391,859.68)
b. National BLET (BNSF, CSX, KCS, NS, UP, SOO, DH)	23,736	(\$228.89)	(\$228.89)	(\$5,432,933.04)	(5,432,933.04)
c. National BMWE (All except SOO, DME, DH)	22,484	(\$228.89)	(\$228.89)	(\$5,146,362.76)	(5,146,362.76)
d. National BRS (All except DME)	7,429	(\$228.89)	(\$228.89)	(\$1,700,423.81)	(1,700,423.81)
e. National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,402	(\$228.89)	(\$228.89)	(\$1,465,353.78)	(1,465,353.78)
f. National IBBM (BNSF, CSX, KCS, NS, SOO, UP, IC)	836	(\$228.89)	(\$228.89)	(\$191,352.04)	(191,352.04)
g. National IBEW (All except DME)	5,550	(\$228.89)	(\$228.89)	(\$1,270,339.50)	(1,270,339.50)
h. National NCFO (All except DME and WC)	2,322	(\$228.89)	(\$228.89)	(\$531,482.58)	(531,482.58)
i. National SMW (BNSF, CSX, KCS, NS, UP, IC)	906	(\$228.89)	(\$228.89)	(\$207,374.34)	(207,374.34)
j. National TCU (All except DME and DH)	5,043	(\$228.89)	(\$228.89)	(\$1,154,292.27)	(1,154,292.27)
k. National TCU-CAR (All except DME)	8,861	(\$228.89)	(\$228.89)	(\$2,028,194.29)	(2,028,194.29)
l. National UTU (BNSF, CSX, KCS, NS, UP, SOO, DH)	34,615	(\$228.89)	(\$228.89)	(\$7,923,027.35)	(7,923,027.35)
m. Yardmasters (BNSF, CSX, KCS, NS, UP*, SOO, DH)	1,609	(\$228.89)	(\$228.89)	(\$368,284.01)	(368,284.01)
n. Misc Indep (DME, portions of DH & SOO, portions of CN)	3,696	(\$231.73)	(\$237.13)	(\$856,458.59)	(876,439.77)
Total Major Union	125,201			(\$28,667,738.04)	(\$28,687,719.22)
All Other Employee Contributions*				(\$3,918,543.88)	(\$3,918,543.88)
6. Net Employer Monthly Payments				\$261,237,354.76	\$242,771,833.37
7. Ratio Projected Year to Base Year, Based on Net Monthly Payments					0.92932
8. H&W hourly rate for base year 2017				\$8.933	
9. H&W hourly rate for projected quarter					\$8.302

* Non-union employee contributions net of opt-outs. The \$28,667,738.04 in major union contributions, plus \$3,918,543.88 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	2016	Tier I Maximum Taxable Earnings for 2019	132,900
Wage Statistics Year	2017	Tier II Maximum Taxable Earnings for 2019	98,700
Current Year	2019	Medicare Maximum Taxable Earnings for 2019	no limit
Employees Receiving Pay*	150,320	Tier I Employer Tax Rate for 2019	6.20%
* from 2017 final wage statistics		Tier II Employer Tax Rate for 2019	13.10%
		Medicare Employer Tax Rate for 2019	1.45%

USA RCAF	Wage		Update Factor	Railroad Retirement Tax		Hourly Rate	
	Rate			Rate		Rate	
2016	\$39.231						
2017	\$39.599	1.00938		\$607,976,250		\$8.514	hourly rate from SUPPL2016.xlsx
1Q/2019	\$42.805	1.09110		\$651,543,798		\$9.124	Rate = Taxable Rate
2Q/2019		0.00000		--		\$0.000	
3Q/2019		0.00000		--		\$0.000	
4Q/2019		0.00000		--		\$0.000	

Railroad Retirement & Medicare, U.S.

1Q/2019 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
From 2016 Earnings Distribution					Total Taxable Earnings (Taxable x Employees)				
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees	Recvg. Pay	Annual Earnings	Avg Qlty Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable
\$0 - 41,699	\$30,262	2.166 %	3,256	\$33,019	\$8,255	\$8,255	\$8,255	\$8,255	\$26,876,826
41,700 - 43,699	\$42,903	0.591	888	46,812	11,703	11,703	11,703	11,703	10,396,737
43,700 - 45,699	\$44,763	0.935	1,405	48,841	12,210	12,210	12,210	12,210	17,161,399
45,700 - 47,699	\$46,647	1.379	2,073	50,897	12,724	12,724	12,724	12,724	26,376,058
47,700 - 49,699	\$48,750	1.034	1,554	53,191	13,298	13,298	13,298	13,298	20,668,885
49,700 - 51,699	\$50,730	2.068	3,109	55,352	13,838	13,838	13,838	13,838	43,016,720
51,700 - 53,699	\$52,751	1.379	2,073	57,557	14,389	14,389	14,389	14,389	29,827,501
53,700 - 55,699	\$54,804	1.723	2,590	59,797	14,949	14,949	14,949	14,949	38,718,581
55,700 - 57,699	\$56,791	2.806	4,218	61,965	15,491	15,491	15,491	15,491	65,341,497
57,700 - 59,699	\$58,815	3.299	4,959	64,173	16,043	16,043	16,043	16,043	79,559,550
59,700 - 61,699	\$60,675	4.628	6,957	66,203	16,551	16,551	16,551	16,551	115,139,684
61,700 - 63,699	\$62,661	4.628	6,957	68,370	17,092	17,092	17,092	17,092	118,908,410
63,700 - 65,699	\$64,649	4.825	7,253	70,539	17,635	17,635	17,635	17,635	127,903,087
65,700 - 67,699	\$66,673	4.530	6,809	72,747	18,187	18,187	18,187	18,187	123,842,610
67,700 - 69,699	\$68,534	3.447	5,182	74,778	18,694	18,694	18,694	18,694	96,865,531
69,700 - 71,699	\$70,724	3.988	5,995	77,167	19,292	19,292	19,292	19,292	115,649,528
71,700 - 73,699	\$72,852	2.905	4,367	79,489	19,872	19,872	19,872	19,872	86,777,976
73,700 - 75,699	\$74,718	2.462	3,701	81,525	20,381	20,381	20,381	20,381	75,428,450
75,700 - 77,699	\$76,600	3.644	5,478	83,578	20,895	20,895	20,895	20,895	114,453,489
77,700 - 79,699	\$78,723	3.151	4,737	85,895	21,474	21,474	21,474	21,474	101,711,940
79,700 - 81,699	\$80,708	3.299	4,959	88,061	22,015	22,015	22,015	22,015	109,174,396
81,700 - 83,699	\$82,622	2.757	4,144	90,149	22,537	22,537	22,537	22,537	93,401,611
83,700 - 85,699	\$84,690	2.314	3,478	92,405	23,101	23,101	23,101	23,101	80,355,829
85,700 - 87,699	\$86,732	2.905	4,367	94,633	23,658	23,658	23,658	23,658	103,311,198
87,700 - 89,699	\$88,666	3.348	5,033	96,744	24,186	24,186	24,186	24,186	121,720,707
89,700 - 91,699	\$90,699	2.708	4,071	98,962	24,740	24,740	24,740	24,740	100,443,674
91,700 - 93,699	\$92,738	1.526	2,294	101,187	25,297	25,297	25,297	25,297	58,027,540
93,700 - 95,699	\$94,689	1.822	2,739	103,315	25,829	25,829	25,829	25,829	67,580,640
95,700 - 97,699	\$96,618	1.428	2,147	105,420	26,355	26,355	26,355	26,355	56,572,862
97,700 - 99,699	\$98,600	1.822	2,739	107,583	26,896	26,896	26,896	26,896	73,662,624
99,700 - 101,699	\$100,896	1.871	2,812	110,088	27,522	27,522	27,522	27,522	69,398,122
101,700 - 103,699	\$102,684	1.526	2,294	112,039	28,010	28,010	28,010	28,010	56,601,568
103,700 - 105,699	\$104,566	1.231	1,850	114,092	28,523	28,523	28,523	28,523	45,659,587
105,700 - 107,699	\$106,714	1.625	2,443	116,436	29,109	29,109	29,109	29,109	60,273,623
107,700 - 109,699	\$108,748	1.329	1,998	118,655	29,664	29,664	29,664	29,664	49,294,550
109,700 - 111,699	\$110,767	0.788	1,185	120,858	30,215	30,215	30,215	30,215	35,789,737
111,700 - 113,699	\$112,607	0.886	1,332	122,866	30,716	30,716	30,716	30,716	32,863,034
113,700 - 115,699	\$114,747	1.034	1,554	125,201	31,300	31,300	31,300	31,300	48,650,104
\$115,700 - over	\$168,229	10.193	15,322	183,555	33,225	33,225	33,225	33,225	378,073,252
TOTAL	\$84,275	100.000	150,320						
					Total Taxable Earnings	3,261,529,964	3,047,505,702	3,047,505,702	3,455,565,054
					Employer Tax Rate	6.20%	13.10%	13.10%	1.45%
					Quarterly Payment	\$202,214,858	\$399,223,247	\$399,223,247	\$50,105,693
					Total Tier I, Tier II, and Medicare Paid this Quarter				\$651,543,798

Railroad Retirement & Medicare, U.S.

From 2016 Earnings Distribution				2Q/2019 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtrly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
					\$0	\$0	\$0	\$0	\$0	Tier I	Tier II	Medicare	
\$0 - 41,699	\$30,262	2.166	%	3,256	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
41,700 - 43,699	\$42,903	0.591		888	0	0	0	0	0	0	0	0	
43,700 - 45,699	\$44,763	0.935		1,405	0	0	0	0	0	0	0	0	
45,700 - 47,699	\$46,647	1.379		2,073	0	0	0	0	0	0	0	0	
47,700 - 49,699	\$48,750	1.034		1,554	0	0	0	0	0	0	0	0	
49,700 - 51,699	\$50,730	2.068		3,109	0	0	0	0	0	0	0	0	
51,700 - 53,699	\$52,751	1.379		2,073	0	0	0	0	0	0	0	0	
53,700 - 55,699	\$54,804	1.723		2,590	0	0	0	0	0	0	0	0	
55,700 - 57,699	\$56,791	2.806		4,218	0	0	0	0	0	0	0	0	
57,700 - 59,699	\$58,815	3.299		4,959	0	0	0	0	0	0	0	0	
59,700 - 61,699	\$60,675	4.628		6,957	0	0	0	0	0	0	0	0	
61,700 - 63,699	\$62,661	4.628		6,957	0	0	0	0	0	0	0	0	
63,700 - 65,699	\$64,649	4.825		7,253	0	0	0	0	0	0	0	0	
65,700 - 67,699	\$66,673	4.530		6,809	0	0	0	0	0	0	0	0	
67,700 - 69,699	\$68,534	3.447		5,182	0	0	0	0	0	0	0	0	
69,700 - 71,699	\$70,724	3.988		5,995	0	0	0	0	0	0	0	0	
71,700 - 73,699	\$72,852	2.905		4,367	0	0	0	0	0	0	0	0	
73,700 - 75,699	\$74,718	2.462		3,701	0	0	0	0	0	0	0	0	
75,700 - 77,699	\$76,600	3.644		5,478	0	0	0	0	0	0	0	0	
77,700 - 79,699	\$78,723	3.151		4,737	0	0	0	0	0	0	0	0	
79,700 - 81,699	\$80,708	3.299		4,959	0	0	0	0	0	0	0	0	
81,700 - 83,699	\$82,622	2.757		4,144	0	0	0	0	0	0	0	0	
83,700 - 85,699	\$84,690	2.314		3,478	0	0	0	0	0	0	0	0	
85,700 - 87,699	\$86,732	2.905		4,367	0	0	0	0	0	0	0	0	
87,700 - 89,699	\$88,666	3.348		5,033	0	0	0	0	0	0	0	0	
89,700 - 91,699	\$90,699	2.708		4,071	0	0	0	65	0	0	266,433	0	
91,700 - 93,699	\$92,738	1.526		2,294	0	0	0	622	0	0	1,425,972	0	
93,700 - 95,699	\$94,689	1.822		2,739	0	0	0	1,154	0	0	3,160,133	0	
95,700 - 97,699	\$96,618	1.428		2,147	0	0	0	1,680	0	0	3,606,257	0	
97,700 - 99,699	\$98,600	1.822		2,739	0	0	0	2,221	0	0	6,081,984	0	
99,700 - 101,699	\$100,896	1.871		2,812	0	0	0	2,847	0	0	8,006,989	0	
101,700 - 103,699	\$102,684	1.526		2,294	0	0	0	3,335	0	0	7,649,331	0	
103,700 - 105,699	\$104,566	1.231		1,850	0	0	0	3,848	0	0	7,120,542	0	
105,700 - 107,699	\$106,714	1.625		2,443	0	0	0	4,434	0	0	10,830,808	0	
107,700 - 109,699	\$108,748	1.329		1,998	0	0	0	4,989	0	0	9,966,338	0	
109,700 - 111,699	\$110,767	0.788		1,185	0	0	0	5,540	0	0	6,561,667	0	
111,700 - 113,699	\$112,607	0.886		1,332	0	0	0	6,041	0	0	8,046,169	0	
113,700 - 115,699	\$114,747	1.034		1,554	0	0	0	6,625	0	0	10,297,535	0	
\$115,700 - over	\$168,229	10.193		15,322	0	0	12,664	21,214	0	194,035,090	325,039,195	0	
TOTAL		100.000		150,320				Total Taxable Earnings Employer Tax Rate		194,035,090 6.20%	408,059,353 13.10%	0 1.45%	
								Quarterly Payment		\$12,030,176	\$53,455,775	\$0	

Railroad Retirement & Medicare, U.S.

From 2016 Earnings Distribution				3Q/2019 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtrly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
					\$0	\$0	\$0	\$0	\$0	Tier I	Tier II	Medicare	
\$0 - 41,699	\$30,262	2.166	%	3,256	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
41,700 - 43,699	\$42,903	0.591		888	0	0	0	0	0	0	0	0	
43,700 - 45,699	\$44,763	0.935		1,405	0	0	0	0	0	0	0	0	
45,700 - 47,699	\$46,647	1.379		2,073	0	0	0	0	0	0	0	0	
47,700 - 49,699	\$48,750	1.034		1,554	0	0	0	0	0	0	0	0	
49,700 - 51,699	\$50,730	2.068		3,109	0	0	0	0	0	0	0	0	
51,700 - 53,699	\$52,751	1.379		2,073	0	0	0	0	0	0	0	0	
53,700 - 55,699	\$54,804	1.723		2,590	0	0	0	0	0	0	0	0	
55,700 - 57,699	\$56,791	2.806		4,218	0	0	0	0	0	0	0	0	
57,700 - 59,699	\$58,815	3.299		4,959	0	0	0	0	0	0	0	0	
59,700 - 61,699	\$60,675	4.628		6,957	0	0	0	0	0	0	0	0	
61,700 - 63,699	\$62,661	4.628		6,957	0	0	0	0	0	0	0	0	
63,700 - 65,699	\$64,649	4.825		7,253	0	0	0	0	0	0	0	0	
65,700 - 67,699	\$66,673	4.530		6,809	0	0	0	0	0	0	0	0	
67,700 - 69,699	\$68,534	3.447		5,182	0	0	0	0	0	0	0	0	
69,700 - 71,699	\$70,724	3.988		5,995	0	0	0	0	0	0	0	0	
71,700 - 73,699	\$72,852	2.905		4,367	0	0	0	0	0	0	0	0	
73,700 - 75,699	\$74,718	2.462		3,701	0	0	0	0	0	0	0	0	
75,700 - 77,699	\$76,600	3.644		5,478	0	0	0	0	0	0	0	0	
77,700 - 79,699	\$78,723	3.151		4,737	0	0	0	0	0	0	0	0	
79,700 - 81,699	\$80,708	3.299		4,959	0	0	0	0	0	0	0	0	
81,700 - 83,699	\$82,622	2.757		4,144	0	0	0	0	0	0	0	0	
83,700 - 85,699	\$84,690	2.314		3,478	0	0	0	0	0	0	0	0	
85,700 - 87,699	\$86,732	2.905		4,367	0	0	0	0	0	0	0	0	
87,700 - 89,699	\$88,666	3.348		5,033	0	0	0	0	0	0	0	0	
89,700 - 91,699	\$90,699	2.708		4,071	0	0	0	0	0	0	0	0	
91,700 - 93,699	\$92,738	1.526		2,294	0	0	0	0	0	0	0	0	
93,700 - 95,699	\$94,689	1.822		2,739	0	0	0	0	0	0	0	0	
95,700 - 97,699	\$96,618	1.428		2,147	0	0	0	0	0	0	0	0	
97,700 - 99,699	\$98,600	1.822		2,739	0	0	0	0	0	0	0	0	
99,700 - 101,699	\$100,896	1.871		2,812	0	0	0	0	0	0	0	0	
101,700 - 103,699	\$102,684	1.526		2,294	0	0	0	0	0	0	0	0	
103,700 - 105,699	\$104,566	1.231		1,850	0	0	0	0	0	0	0	0	
105,700 - 107,699	\$106,714	1.625		2,443	0	0	0	0	0	0	0	0	
107,700 - 109,699	\$108,748	1.329		1,998	0	0	0	0	0	0	0	0	
109,700 - 111,699	\$110,767	0.788		1,185	0	0	0	0	0	0	0	0	
111,700 - 113,699	\$112,607	0.886		1,332	0	0	0	0	0	0	0	0	
113,700 - 115,699	\$114,747	1.034		1,554	0	0	0	0	0	0	0	0	
\$115,700 - over	\$168,229	10.193		15,322	0	0	0	0	0	0	0	0	
TOTAL		100.000		150,320			Total Taxable Earnings			0	0	0	
							Employer Tax Rate			6.20%	13.10%	1.45%	
							Quarterly Payment			\$0	\$0	\$0	

Railroad Retirement & Medicare, U.S.

From 2016 Earnings Distribution

Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees
\$0 - 41,699	\$30,262	2.166	%
41,700 - 43,699	\$42,903	0.591	
43,700 - 45,699	\$44,763	0.935	
45,700 - 47,699	\$46,647	1.379	
47,700 - 49,699	\$48,750	1.034	
49,700 - 51,699	\$50,730	2.068	
51,700 - 53,699	\$52,751	1.379	
53,700 - 55,699	\$54,804	1.723	
55,700 - 57,699	\$56,791	2.806	
57,700 - 59,699	\$58,815	3.299	
59,700 - 61,699	\$60,675	4.628	
61,700 - 63,699	\$62,661	4.628	
63,700 - 65,699	\$64,649	4.825	
65,700 - 67,699	\$66,673	4.530	
67,700 - 69,699	\$68,534	3.447	
69,700 - 71,699	\$70,724	3.988	
71,700 - 73,699	\$72,852	2.905	
73,700 - 75,699	\$74,718	2.462	
75,700 - 77,699	\$76,600	3.644	
77,700 - 79,699	\$78,723	3.151	
79,700 - 81,699	\$80,708	3.299	
81,700 - 83,699	\$82,622	2.757	
83,700 - 85,699	\$84,690	2.314	
85,700 - 87,699	\$86,732	2.905	
87,700 - 89,699	\$88,666	3.348	
89,700 - 91,699	\$90,699	2.708	
91,700 - 93,699	\$92,738	1.526	
93,700 - 95,699	\$94,689	1.822	
95,700 - 97,699	\$96,618	1.428	
97,700 - 99,699	\$98,600	1.822	
99,700 - 101,699	\$100,896	1.871	
101,700 - 103,699	\$102,684	1.526	
103,700 - 105,699	\$104,566	1.231	
105,700 - 107,699	\$106,714	1.625	
107,700 - 109,699	\$108,748	1.329	
109,700 - 111,699	\$110,767	0.788	
111,700 - 113,699	\$112,607	0.886	
113,700 - 115,699	\$114,747	1.034	
\$115,700 - over	\$168,229	10.193	
TOTAL		100.000	

4Q/2019 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info

Earnings Groups	Annual Earnings	Avg Qtrly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)		
						Tier I	Tier II	Medicare
\$0 - 41,699	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41,700 - 43,699	0	0	0	0	0	0	0	0
43,700 - 45,699	0	0	0	0	0	0	0	0
45,700 - 47,699	0	0	0	0	0	0	0	0
47,700 - 49,699	0	0	0	0	0	0	0	0
49,700 - 51,699	0	0	0	0	0	0	0	0
51,700 - 53,699	0	0	0	0	0	0	0	0
53,700 - 55,699	0	0	0	0	0	0	0	0
55,700 - 57,699	0	0	0	0	0	0	0	0
57,700 - 59,699	0	0	0	0	0	0	0	0
59,700 - 61,699	0	0	0	0	0	0	0	0
61,700 - 63,699	0	0	0	0	0	0	0	0
63,700 - 65,699	0	0	0	0	0	0	0	0
65,700 - 67,699	0	0	0	0	0	0	0	0
67,700 - 69,699	0	0	0	0	0	0	0	0
69,700 - 71,699	0	0	0	0	0	0	0	0
71,700 - 73,699	0	0	0	0	0	0	0	0
73,700 - 75,699	0	0	0	0	0	0	0	0
75,700 - 77,699	0	0	0	0	0	0	0	0
77,700 - 79,699	0	0	0	0	0	0	0	0
79,700 - 81,699	0	0	0	0	0	0	0	0
81,700 - 83,699	0	0	0	0	0	0	0	0
83,700 - 85,699	0	0	0	0	0	0	0	0
85,700 - 87,699	0	0	0	0	0	0	0	0
87,700 - 89,699	0	0	0	0	0	0	0	0
89,700 - 91,699	0	0	0	0	0	0	0	0
91,700 - 93,699	0	0	0	0	0	0	0	0
93,700 - 95,699	0	0	0	0	0	0	0	0
95,700 - 97,699	0	0	0	0	0	0	0	0
97,700 - 99,699	0	0	0	0	0	0	0	0
99,700 - 101,699	0	0	0	0	0	0	0	0
101,700 - 103,699	0	0	0	0	0	0	0	0
103,700 - 105,699	0	0	0	0	0	0	0	0
105,700 - 107,699	0	0	0	0	0	0	0	0
107,700 - 109,699	0	0	0	0	0	0	0	0
109,700 - 111,699	0	0	0	0	0	0	0	0
111,700 - 113,699	0	0	0	0	0	0	0	0
113,700 - 115,699	0	0	0	0	0	0	0	0
\$115,700 - over	0	0	0	0	0	0	0	0
TOTAL	150,320							
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

**Tax Rates and Maximum Taxable Earnings Under Social Security,
Railroad Retirement and Railroad Unemployment Insurance Programs, Continued**

Period	Maximum annual taxable earnings		Tax rate (percent)							
			Employer and employee, each				Self-employed person			
	OASDI	HI	Total	OASI	DI	HI	Total	OASI	DI	HI
2005	90,000	No Limit	7.65	5.3	0.9	1.45	15.3	10.6	1.8	2.9
2006	94,200	No Limit	7.65	5.3	0.9	1.45	15.3	10.6	1.8	2.9
2007	97,500	No Limit	7.65	5.3	0.9	1.45	15.3	10.6	1.8	2.9
2008	102,000	No Limit	7.65	5.3	0.9	1.45	15.3	10.6	1.8	2.9
2009	106,800	No Limit	7.65	5.3	0.9	1.45	15.3	10.6	1.8	2.9
2010	106,800	No Limit	7.65	5.3	0.9	1.45	15.3	10.6	1.8	2.9
2011	106,800	No Limit	² 7.65	5.3	0.9	1.45	² 15.3	10.6	1.8	2.9
2012	110,100	No Limit	² 7.65	5.3	0.9	1.45	² 15.3	10.6	1.8	2.9
2013	113,700	No Limit	7.65	5.3	0.9	³ 1.45	15.3	10.6	1.8	³ 2.9
2014	117,000	No Limit	7.65	5.3	0.9	³ 1.45	15.3	10.6	1.8	³ 2.9
2015	118,500	No Limit	7.65	5.3	0.9	³ 1.45	15.3	10.6	1.8	³ 2.9
2016	118,500	No Limit	7.65	5.015	1.185	³ 1.45	15.3	10.03	2.37	³ 2.9
2017	127,200	No Limit	7.65	5.015	1.185	³ 1.45	15.3	10.03	2.37	³ 2.9
2018	128,400	No Limit	7.65	5.015	1.185	³ 1.45	15.3	10.03	2.37	³ 2.9
2019	132,900	No Limit	7.65	5.3	0.9	³ 1.45	15.3	10.6	1.8	³ 2.9
2020	¹⁴	No Limit	7.65	5.3	0.9	³ 1.45	15.3	10.6	1.8	³ 2.9
2021 and later	¹⁴	No Limit	7.65	5.3	0.9	³ 1.45	15.3	10.6	1.8	³ 2.9

See footnotes at end of table.

**Tax Rates and Maximum Taxable Earnings Under Social Security,
Railroad Retirement and Railroad Unemployment Insurance Programs, Continued**

Period	Railroad Retirement					Railroad Unemployment Insurance				Unemployment Repayment	
	Maximum earnings base [5]		Tax rate (percent) [5]			Maximum monthly taxable earnings	Employer tax rate [7] (percent)	Surcharge or (pooled credit)	New employer tax rate (percent)	Tax [6]	
			Tier I	Tier II						Maximum taxable earnings	Employer tax rate (percent)
	Tier I [8]	Tier II	Employer & employee each	Employer	Employee						
1991	53,400	39,800	7.65	16.1	4.9	765	5.55 - 12.0	---	8.00	765	4.0
1992	55,500	41,400	7.65	16.1	4.9	785	3.10 - 12.0	(3.12)	8.00	785	4.0
1993	57,600	42,900	7.65	16.1	4.9	810	0.65 - 12.0	(5.31)	7.30	810	4.0
1994	60,600	45,000	7.65	16.1	4.9	840	0.65 - 12.0	(0.22)	6.06		
1995	61,200	45,300	7.65	16.1	4.9	850	0.65 - 12.0	---	4.15		
1996	62,700	46,500	7.65	16.1	4.9	865	0.65 - 12.0	---	2.31		
1997	65,400	48,600	7.65	16.1	4.9	890	0.65 - 12.0	---	1.16		
1998	68,400	50,700	7.65	16.1	4.9	925	2.15 - 12.0	1.5	0.85		
1999	72,600	53,700	7.65	16.1	4.9	970	2.15 - 12.0	1.5	0.92		
2000	76,200	56,700	7.65	16.1	4.9	1,005	0.65 - 12.0	---	1.67		
2001	80,400	59,700	7.65	16.1	4.9	1,050	2.15 - 12.0	1.5	2.59		
2002	84,900	63,000	7.65	15.6	4.9	1,100	3.15 - 12.0	2.5	2.71		
2003	87,000	64,500	7.65	14.2	4.9	1,120	3.15 - 12.0	2.5	2.36		
2004	87,900	65,100	7.65	13.1	4.9	1,130	2.15 - 12.0	1.5	2.38		
2005	90,000	66,900	7.65	12.6	4.4	1,150	2.15 - 12.0	1.5	3.43		
2006	94,200	69,900	7.65	12.6	4.4	1,195	2.15 - 12.0	1.5	4.03		
2007	97,500	72,800	7.65	12.1	3.9	1,230	2.15 - 12.0	1.5	3.75		
2008	102,000	75,900	7.65	12.1	3.9	1,280	2.15 - 12.0	1.5	3.02		
2009	106,800	79,200	7.65	12.1	3.9	1,330	2.15 - 12.0	1.5	2.61		
2010	106,800	79,200	7.65	12.1	3.9	1,330	2.15 - 12.0	1.5	2.51		
2011	106,800	79,200	[2] 7.65	12.1	3.9	1,330	3.15 - 12.0	2.5	2.50		
2012	110,100	81,900	[2] 7.65	12.1	3.9	1,365	2.15 - 12.0	1.5	2.65		
2013	113,700	84,300	[3] 7.65	12.6	4.4	1,405	0.65 - 12.0	---	3.69		
2014	117,000	87,000	[3] 7.65	12.6	4.4	1,440	0.65 - 12.0	---	4.53		
2015	118,500	88,200	[3] 7.65	13.1	4.9	1,455	2.15 - 12.0	1.5	4.09		
2016	118,500	88,200	[3] 7.65	13.1	4.9	1,455	2.15 - 12.0	1.5	2.52		
2017	127,200	94,500	[3] 7.65	13.1	4.9	1,545	2.15 - 12.0	1.5	1.62		
2018	128,400	95,400	[3] 7.65	13.1	4.9	1,560	2.15 - 12.0	1.5	1.97		
2019	132,900	98,700	[3] 7.65	13.1	4.9	1,605	2.15 - 12.0	1.5	2.75		
2020 and later	[4]	[4]	[3] 7.65	[10]	[10]	[4]	[7]	[7]	[7]		

See footnotes at end of table.

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
			\$36.760	(2013)			
2014 Avg.	0.68%	\$17,280	\$38.866		0.999988	\$16,395.26	\$0.059
3Q/15 reb.	2.31%	\$17,460	\$40.503		1.042107	\$16,583.82	\$0.203
4Q/15	2.31%	\$17,460	\$40.590		1.044345	\$16,585.04	\$0.203
1Q/16	2.73%	\$17,460	\$40.888		1.052012	\$16,589.15	\$0.240
2Q/16	2.73%	\$17,460	\$40.731		1.047973	\$16,586.99	\$0.240
3Q/16	2.73%	\$17,460	\$40.545		1.043187	\$16,584.41	\$0.240
			\$38.866	(2014)			
2015 Avg.	2.31%	\$17,460	\$39.887		1.000000	\$16,460.37	\$0.208
3Q/16 reb.	2.73%	\$17,460	\$39.731		0.996089	\$16,458.00	\$0.246
4Q/16	2.73%	\$17,460	\$39.703		0.995387	\$16,457.57	\$0.246
1Q/17	3.37%	\$18,540	\$39.736		0.996214	\$17,436.31	\$0.321
2Q/17	3.37%	\$18,540	\$39.738		0.996264	\$17,436.34	\$0.321
3Q/17	3.37%	\$18,540	\$39.775		0.997192	\$17,436.97	\$0.321
			\$39.887	(2015)			
2016 Avg.	2.73%	\$17,460	\$39.231		1.000000	\$16,664.96	\$0.247
3Q/17 reb.	3.37%	\$18,540	\$39.154		0.998037	\$17,655.72	\$0.323
4Q/17	3.37%	\$18,540	\$39.156		0.998088	\$17,655.75	\$0.323
1Q/18	3.76%	\$18,720	\$40.555		1.033749	\$17,843.78	\$0.364
2Q/18	3.76%	\$18,720	\$40.961		1.044098	\$17,850.31	\$0.364
3Q/18	3.76%	\$18,720	\$42.431		1.081568	\$17,873.30	\$0.365
			\$39.231	(2016)			
2017 Avg.	3.37%	\$18,540	\$39.599		1.009380	\$17,625.49	\$0.319
3Q/18 reb.	3.76%	\$18,720	\$42.946		1.094696	\$17,832.94	\$0.360
4Q/18	3.76%	\$18,720	\$42.976		1.095460	\$17,833.29	\$0.360
1Q/19	3.38%	\$19,260	\$42.805		1.091101	\$18,330.97	\$0.333
2Q/19					0.000000		\$0.000
3Q/19					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 09:53 Wednesday, November 28, 2018 3
TOTAL GROSS EARNINGS AND AVERAGE GROSS EARNINGS-2016 RRB File

The MEANS Procedure

Variable	N	Sum	Mean
ANUAL_US	2573	45350374.36	17625.49
QTRLY_US	2573	47165577.84	18330.97

The MEANS Procedure

Variable	N	Sum	Mean
FactorA	2573	2597.13	1.0093800
FactorQ	2573	2807.40	1.0911010
Capa	2573	47703420.00	18540.00
Capq	2573	49555980.00	19260.00



ASSOCIATION OF
AMERICAN RAILROADS

MEMORANDUM

TO: File
FROM: Tiffany Placker
DATE: November 28, 2018
RE: Unemployment Insurance Tax Rate for 2019

Unemployment Insurance rates for 2019 can range from a minimum of 0.65 percent to a maximum of 12 percent on monthly earnings up to \$1,605. A 1.5 percentage point surcharge will be in effect for 2019, meaning the minimum tax rate is effectively 2.15 percent. Michael Rizzo at the Railroad Retirement Board said in his November e-mail that the weighted average 2019 Unemployment Insurance rate for Class I railroads is **3.38 percent** which includes Delaware and Hudson Railway (D&H) and Dakota, Minnesota & Eastern Railroad Corporation (DME).

**Tax Rates and Maximum Taxable Earnings Under Social Security,
Railroad Retirement and Railroad Unemployment Insurance Programs, Continued**

Period	Railroad Retirement					Railroad Unemployment Insurance				Unemployment Repayment	
	Maximum earnings base [5]		Tax rate (percent) [5]			Maximum monthly taxable earnings	Employer tax rate [7] (percent)	Surcharge or (pooled credit)	New employer tax rate (percent)	Tax [5]	
			Tier I	Tier II						Maximum taxable earnings	Employer tax rate (percent)
	Tier I [9]	Tier II	Employer & employee each	Employer	Employee						
1991	53,400	39,800	7.65	16.1	4.9	765	5.55 - 12.0	...	8.00	765	4.0
1992	55,500	41,400	7.65	16.1	4.9	785	3.10 - 12.0	(3.12)	8.00	785	4.0
1993	57,600	42,900	7.65	16.1	4.9	810	0.65 - 12.0	(5.31)	7.30	810	4.0
1994	60,800	45,000	7.65	16.1	4.9	840	0.65 - 12.0	(0.22)	6.06		
1995	61,200	45,300	7.65	16.1	4.9	850	0.65 - 12.0	...	4.15		
1996	62,700	46,500	7.65	16.1	4.9	865	0.65 - 12.0	...	2.31		
1997	65,400	48,800	7.65	16.1	4.9	890	0.65 - 12.0	...	1.16		
1998	68,400	50,700	7.65	16.1	4.9	925	2.15 - 12.0	1.5	0.85		
1999	72,600	53,700	7.65	16.1	4.9	970	2.15 - 12.0	1.5	0.92		
2000	76,200	56,700	7.65	16.1	4.9	1,005	0.65 - 12.0	...	1.67		
2001	80,400	59,700	7.65	16.1	4.9	1,050	2.15 - 12.0	1.5	2.59		
2002	84,900	63,000	7.65	15.6	4.9	1,100	3.15 - 12.0	2.5	2.71		
2003	87,000	64,500	7.65	14.2	4.9	1,120	3.15 - 12.0	2.5	2.36		
2004	87,900	65,100	7.65	13.1	4.9	1,130	2.15 - 12.0	1.5	2.38		
2005	90,000	66,900	7.65	12.6	4.4	1,150	2.15 - 12.0	1.5	3.43		
2006	94,200	69,900	7.65	12.6	4.4	1,195	2.15 - 12.0	1.5	4.03		
2007	97,500	72,800	7.65	12.1	3.9	1,230	2.15 - 12.0	1.5	3.75		
2008	102,000	75,900	7.65	12.1	3.9	1,280	2.15 - 12.0	1.5	3.02		
2009	106,800	79,200	7.65	12.1	3.9	1,330	2.15 - 12.0	1.5	2.81		
2010	108,800	79,200	7.65	12.1	3.9	1,330	2.15 - 12.0	1.5	2.51		
2011	106,800	79,200	[2] 7.65	12.1	3.9	1,330	3.15 - 12.0	2.5	2.50		
2012	110,100	81,900	[2] 7.65	12.1	3.9	1,365	2.15 - 12.0	1.5	2.65		
2013	113,700	84,300	[3] 7.65	12.6	4.4	1,405	0.65 - 12.0	...	3.99		
2014	117,000	87,000	[3] 7.65	12.6	4.4	1,440	0.65 - 12.0	...	4.53		
2015	118,500	88,200	[3] 7.65	13.1	4.9	1,455	2.15 - 12.0	1.5	4.09		
2016	118,500	88,200	[3] 7.65	13.1	4.9	1,455	2.15 - 12.0	1.5	2.52		
2017	127,200	94,500	[3] 7.65	13.1	4.9	1,545	2.15 - 12.0	1.5	1.62		
2018	128,400	95,400	[3] 7.65	13.1	4.9	1,580	2.15 - 12.0	1.5	1.97		
2019	132,900	98,700	[3] 7.65	[10]	[10]	1,605	2.15 - 12.0	1.5	2.75		
2020 and later	[4]	[4]	[3] 7.65	[10]	[10]	[4]	[7]	[7]	[7]		

See footnotes at end of table.



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PETROLEUM & OTHER LIQUIDS

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Spot Prices

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

Period: Weekly ▾

Product by Area	Graph Clear	10/19/18	10/26/18	11/02/18	11/09/18	11/16/18	11/23/18	View History
Crude Oil								
WTI - Cushing, Oklahoma		70.24	67.43	65.06	61.57	56.92	54.75	1986-2018
Brent - Europe		80.41	78.23	74.09	70.34	66.21	61.22	1987-2018
Conventional Gasoline								
New York Harbor, Regular		2.008	1.911	1.830	1.720	1.634	1.587	1986-2018
U.S. Gulf Coast, Regular		1.941	1.831	1.772	1.655	1.533	1.503	1986-2018
RBOB Regular Gasoline								
Los Angeles		2.300	2.131	1.886	1.815	1.654	1.809	2003-2018
No. 2 Heating Oil								
New York Harbor		2.299	2.261	2.215	2.173	2.075	1.985	1986-2018
Ultra-Low-Sulfur No. 2 Diesel Fuel								
New York Harbor		2.318	2.277	2.231	2.189	2.092	1.999	2006-2018
U.S. Gulf Coast		2.266	2.222	2.178	2.121	1.997	1.902	2006-2018
Los Angeles		2.355	2.320	2.280	2.234	2.107	1.983	1996-2018
Kerosene-Type Jet Fuel								
U.S. Gulf Coast		2.234	2.196	2.144	2.098	1.974	1.889	1990-2018
Propane								
Mont Belvieu, Texas		0.970	0.860	0.842	0.777	0.730	0.739	1992-2018

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: 11/28/2018

Next Release Date: 12/5/2018



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Spot Prices

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

Period: Monthly ▾

Product by Area	Graph Clear	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	View History
Crude Oil								
WTI - Cushing, Oklahoma		69.98	67.87	70.98	68.06	70.23	70.75	1986-2018
Brent - Europe		76.98	74.40	74.25	72.53	78.89	81.03	1987-2018
Conventional Gasoline								
New York Harbor, Regular		2.129	2.030	2.074	2.077	2.093	2.028	1986-2018
U.S. Gulf Coast, Regular		2.091	2.002	2.043	2.053	2.045	1.969	1986-2018
RBOB Regular Gasoline								
Los Angeles		2.295	2.136	2.140	2.078	2.224	2.254	2003-2018
No. 2 Heating Oil								
New York Harbor		2.187	2.112	2.108	2.125	2.225	2.313	1986-2018
Ultra-Low-Sulfur No. 2 Diesel Fuel								
New York Harbor		2.230	2.146	2.140	2.153	2.252	2.332	2006-2018
U.S. Gulf Coast		2.181	2.102	2.098	2.114	2.210	2.282	2006-2018
Los Angeles		2.288	2.185	2.177	2.205	2.293	2.369	1996-2018
Kerosene-Type Jet Fuel								
U.S. Gulf Coast		2.155	2.090	2.098	2.118	2.189	2.249	1990-2018
Propane								
Mont Belvieu, Texas		0.917	0.880	0.938	0.974	1.057	0.959	1992-2018

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: 11/28/2018

Next Release Date: 12/5/2018

U.S.

Summary by Composition Category

	MS-2017 MS Amount	Weight	Prev. Idx	2018Q4 Cur Idx	Calculation		Relative of Change
					Prev. Idx	Cur Idx	
Forest Products	630,135,452	0.1217	319.04	322.68	38.83	39.27	
Metal Products	3,250,749,429	0.6278	178.99	177.00	112.37	111.12	
Misc. Products	1,296,926,484	0.2505	397.17	394.75	99.49	98.88	
Total	5,177,811,365	1.0000	250.69	249.27			0.9943
Total Linked			254.28	252.83			
'77 = 100 Link Fact.= 1.423			361.84	359.78			
'80 = 100 Link Fact.= 1.061			269.79	268.25			

As info only	Change
Forest Products	1.14%
Metal Products	-1.11%
Misc. Products	<u>-0.61%</u>
Total ('80=100)	-0.57%
Rounded 80 Indices	-0.6%
Rounded 77 Indices	-0.6%

Car Hire for RCAF

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

	1980	June 3Q/18	Sept. 4Q/18	Dec. 1Q/19	Mar. 2Q/19	June 3Q/19
RATE						
RR-OWNED TIME	31.00	64.00	64.00	64.00	--	--
RR-OWNED MILEAGE	4.69	6.60	6.70	6.70	--	--
PRIVATELY-OWNED CARS	25.47	55.51	57.27	57.30	--	--
AUTORACKS	47.00	84.84	87.00	87.67	--	--
INDEX						
RR-OWNED TIME	100.0	206.5	206.5	206.5	--	--
RR-OWNED MILEAGE	100.0	140.7	142.9	142.9	--	--
PRIVATELY-OWNED CARS	100.0	217.9	224.8	225.0	--	--
AUTORACKS	100.0	180.5	185.1	186.5	--	--
CAR HIRE INDEX (old wts) 2016	100.0	209.1	--	--	--	--
CAR HIRE INDEX (new wts) 2017	100.0	211.5	218.0	218.3	--	--
CAR HIRE INDEX (LINKED)	100.0	210.4	216.9	217.2	--	--

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

2018 (first day of month)						2019 (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)	10,741	10,849	10,867	10,873	10,859	10,867							
Superstructures (Vehicular Flats)													
Rate (in cents)	86.0	87.0	87.0	87.0	86.0	86.0							
Superstructures #3 - Auto Rack	64.0	64.0	64.0	64.0	64.0	64.0							
All other #1 - Time	6.6	6.7	6.7	6.7	6.7	6.7							
All other #2 - Mileage													

Private Equipment

No. of Cars (cars with rates only)	55,504	55,500	55,392	55,268	55,162	55,158							
Superstructures (Vehicular Flats)	421,139	422,430	423,225	424,175	425,349	426,465							
Covered Hoppers	405,718	405,541	405,949	406,278	406,924	407,122							
Tank Cars	291,908	291,714	292,215	292,904	295,029	295,548							
Others													
Rate (in cents)	84.0	84.0	84.0	84.0	84.0	84.0							
Superstructures #1 - Time	1.4	1.4	1.4	1.4	1.4	1.4							
Superstructures #2 - Mileage	86.0	86.0	87.0	87.0	88.0	88.0							
Superstructures #3 - Auto Rack	46.2	46.2	46.2	46.3	46.3	46.3							
Covered Hoppers #2 - Mileage	89.9	90.0	94.6	94.7	94.7	94.8							
Tank Cars #2 - Mileage	89.0	90.0	90.0	90.0	90.0	90.0							
Others #1 - Time	8.2	8.2	8.3	8.3	8.3	8.3							
Others #2 - Mileage													

AVERAGE RATES

Private Superstructures	21.14	21.14	21.14	21.14	21.14	21.14							
Private Others	27.96	28.18	28.28	28.28	28.28	28.28							
Private Total	55.58	55.66	57.27	57.33	57.29	57.30							
Autoracks	86.00	86.16	87.00	87.00	87.67	87.67							

"Old Wts" New Wts"		
	2016	2017
For RCAF & RCR	0.091	0.004
RR-owned Time	0.058	0.053
RR-owned Mileage	0.762	0.883
Privately-owned Cars	0.089	0.060
Autoracks	1.000	1.000
----- Check sum		

Weights for Equipment Rents		
(not used in Car Hire calculation)		
	2016	2017
Car Hire - U.S.	0.583	0.615
Lease Rentals - U.S.	0.417	0.385
----- 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.

CHARM Process - Car Hire Rate Report

Average Car Rental Rates for 12/2018

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	10,867	110	0.064	86
Railroad	Number of Zero-Rated Vehicular Flats	64	.	.	.
Railroad	All Other Cars	412,500	64	0.067	.
Railroad	Number of Zero-Rated Other Cars	15,821	.	.	.
Railroad	Total Railroad Equipment	439,252	.	.	.
		.	.	.	.
Private	Vehicular Flats	55,158	84	0.014	88
Private	Number of Zero-Rated Vehicular Flats	123	.	.	.
Private	Covered Hoppers	426,465	0	0.463	.
Private	Number of Zero-Rated Covered Hoppers	13,495	.	.	.
Private	Tanks	407,122	0	0.948	.
Private	Number of Zero-Rated Tanks	9,441	.	.	.
Private	All Other Cars	295,548	90	0.083	.
Private	Number of Zero-Rated Other Cars	24,821	.	.	.
Private	Total Private Equipment	1,232,173	.	.	.

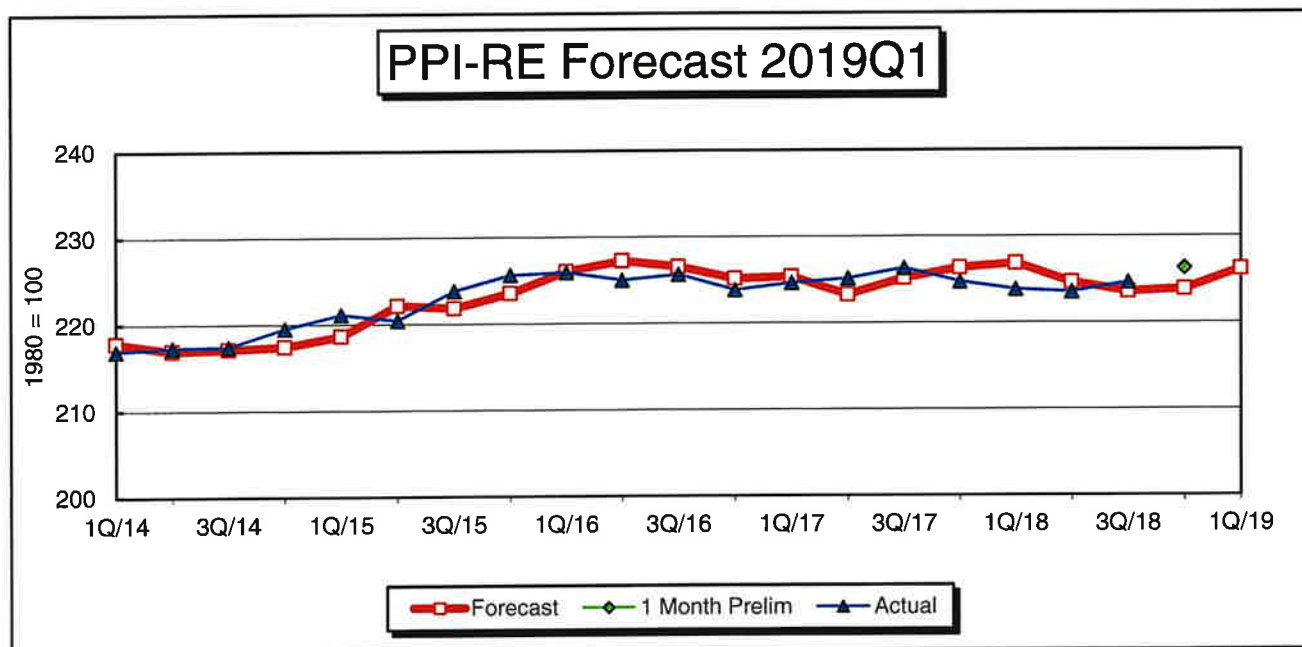
Notes
This report excludes these car types: D (Locomotives), M (MoW, EOTs, etc.), U (Containers), Z (Trailers).
All TTX equipment (including ABOX, RBOX, GONX) is contained in the Private section of report.
Equipment can be zero rated due to owners supplying incorrect or insufficient information to the 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
1Q/14	217.8	216.9	
2Q/14	216.9	217.3	
3Q/14	217.1	217.4	
4Q/14	217.4	219.5	
1Q/15	218.6	221.1	
2Q/15	222.1	220.4	
3Q/15	221.8	223.8	
4Q/15	223.5	225.6	
1Q/16	226.0	225.9	
2Q/16	227.2	225.0	
3Q/16	226.5	225.6	
4Q/16	225.1	223.8	
1Q/17	225.3	224.6	
2Q/17	223.2	225.1	
3Q/17	225.1	226.3	
4Q/17	226.3	224.7	
1Q/18	226.8	223.8	
2Q/18	224.6	223.5	
3Q/18	223.5	224.6	
4Q/18	223.8		226.3
1Q/19	226.1		

1980 Base

	PPI-RE Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2019Q1						
Low	201.3	222.7	-0.5%			
Midpoint	204.4	226.1	1.0%	-0.1%	0.7%	1.0%
High	207.5	229.5	2.5%			



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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
2017	201.9	204.1	203.3	203.4	203.5	204.6	203.6	204.5	203.8	202.8	201.7	201.6
2018	202.1	202.1	202.0	202.1	202.1	202.1	202.4(P)	202.4(P)	204.1(P)	204.6(P)		

P : Preliminary. All indexes are subject to revision four months after original publication.

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11/13/2018

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 0.89 and for Box-Jenkins was 0.90.
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 Exponential Smoothing.

Model Details**Expert selection**

Simple exponential smoothing: No trend, No seasonality
NN(0.806)

Component	Smoothing Wgt	Final Value
Level	0.8062	204.4

Within-Sample Statistics

Sample size	72	No. parameters	1
Mean	200.51	Std. deviation	3.36
R-square	0.93	Adj. R-square	0.93
Durbin-Watson	2.05	Ljung-Box(18)	19.1 P=0.61
Forecast error	0.9	BIC	0.93
MAPE	0.33	SMAPE	0.33
RMSE	0.9	MAD	0.66
MAD/Mean Ratio	0		

Historic Data

Date	Historic
2012-Nov	193.9
2012-Dec	194.1
2013-Jan	196
2013-Feb	195.2
2013-Mar	195.8
2013-Apr	195.2
2013-May	198.1
2013-Jun	196.3
2013-Jul	195.4
2013-Aug	194.5
2013-Sep	194.6
2013-Oct	195.1
2013-Nov	195.2
2013-Dec	196.9
2014-Jan	196
2014-Feb	197.4
2014-Mar	196.8
2014-Apr	196.2
2014-May	196.7
2014-Jun	196.8

2014-Jul	197.8
2014-Aug	197.9
2014-Sep	198.3
2014-Oct	199.3
2014-Nov	199.9
2014-Dec	199.5
2015-Jan	200.8
2015-Feb	200.5
2015-Mar	199.5
2015-Apr	200.5
2015-May	200
2015-Jun	201.4
2015-Jul	201.6
2015-Aug	202.8
2015-Sep	202.8
2015-Oct	204.4
2015-Nov	203.9
2015-Dec	204.5
2016-Jan	204
2016-Feb	204.2
2016-Mar	203.3
2016-Apr	203
2016-May	203.5
2016-Jun	203.5
2016-Jul	203.5
2016-Aug	204.4
2016-Sep	203.7
2016-Oct	203.7
2016-Nov	201.5
2016-Dec	201.8
2017-Jan	201.9
2017-Feb	204.1
2017-Mar	203.3
2017-Apr	203.4
2017-May	203.5
2017-Jun	204.6
2017-Jul	203.6
2017-Aug	204.5
2017-Sep	203.8
2017-Oct	202.8
2017-Nov	201.7
2017-Dec	201.6
2018-Jan	202.1
2018-Feb	202.1
2018-Mar	202
2018-Apr	202.1
2018-May	202.1
2018-Jun	202.1
2018-Jul	202.4
2018-Aug	202.4
2018-Sep	204.1
2018-Oct	204.6

Forecast Data

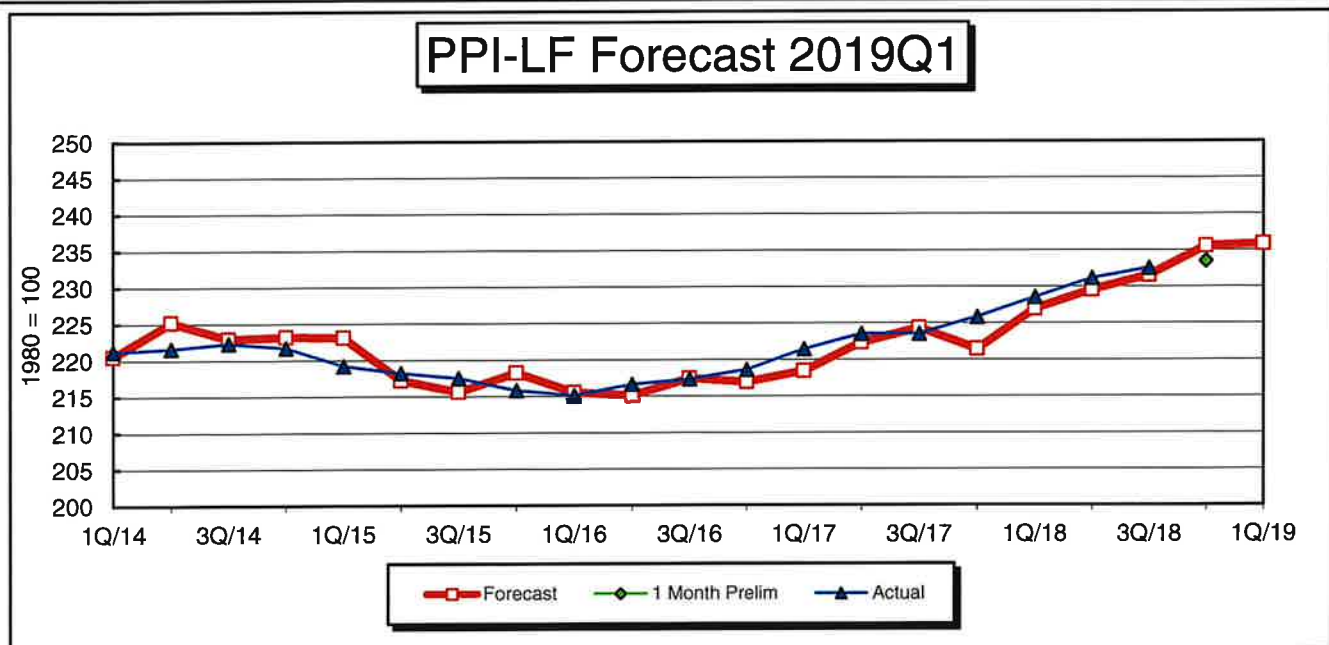
Date	2.5 Lower	Forecast	97.5 Upper
2018-Nov	202.625	204.439	206.252
2018-Dec	202.109	204.439	206.768
2019-Jan	201.689	204.439	207.189
2019-Feb	201.324	204.439	207.554
2019-Mar	200.998	204.439	207.88
2019-Apr	200.7	204.439	208.178
2019-May	200.424	204.439	208.453
2019-Jun	200.166	204.439	208.711
2019-Jul	199.923	204.439	208.955
2019-Aug	199.692	204.439	209.185
2019-Sep	199.472	204.439	209.405
2019-Oct	199.262	204.439	209.616

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

	Forecast	Actual	1 Month Prelim
1Q/14	220.5	221.2	
2Q/14	225.2	221.6	
3Q/14	222.9	222.3	
4Q/14	223.2	221.7	
1Q/15	223.1	219.2	
2Q/15	217.2	218.2	
3Q/15	215.6	217.5	
4Q/15	218.2	215.8	
1Q/16	215.5	215.1	
2Q/16	215.1	216.6	
3Q/16	217.4	217.3	
4Q/16	216.9	218.6	
1Q/17	218.4	221.4	
2Q/17	222.3	223.5	
3Q/17	224.3	223.5	
4Q/17	221.4	225.8	
1Q/18	226.9	228.5	
2Q/18	229.5	231.1	
3Q/18	231.5	232.5	
4Q/18	235.5		233.5
1Q/19	235.8		

1980 Base

	PPI-LF Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2019Q1						
Low	207.7	232.8	1.9%			
Midpoint	210.3	235.8	3.2%	1.0%	1.4%	0.1%
High	213.0	238.8	4.5%			



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PPI Commodity Data

Series Id: WPU03T15M05
Not Seasonally Adjusted
Series Title: PPI Commodity data for Industrial commodities less fuels, not seasonally adjusted
Group: Industrial Commodities less fuels
Item: Industrial commodities less fuels
Base Date: 198200

Download:  [Excel](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	196.8	197.8	198.7	199.3	199.2	199.4	199.2	199.7	200.0	200.9	201.5	201.7
2018	203.0	203.8	204.8	205.4	206.3	207.0	207.5(P)	207.4(P)	207.4(P)	208.3(P)		

P: Preliminary. All indexes are subject to revision four months after original publication.

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11/13/2018

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 1.34 and for Box-Jenkins was 1.97.
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 Exponential Smoothing.

Model Details**Expert selection**

Multiplicative Winters: Linear trend, Multiplicative seasonality

LM(0.925, 0.870, 0.999)

Confidence limits proportional to indexes

Component	Smoothing Wgt		Final Value
Level	0.9255		208.1
Trend	0.87		0.557
Seasonal	0.9993		
Seasonal Indexes			
Jan - Mar	1.001	0.9999	0.9995
Apr - Jun	0.9996	0.9995	0.9998
Jul - Sep	0.9998	1	0.9996
Oct - Dec	1.001	1.001	0.9999

Within-Sample Statistics

Sample size	72	No. parameters	3
Mean	197.43	Std. deviation	4.22
R-square	0.99	Adj. R-square	0.99
Durbin-Watson	1.7	Ljung-Box(18)	19.8 P=0.65
Forecast error	0.4	BIC	0.43
MAPE	0.16	SMAPE	0.16
RMSE	0.39	MAD	0.32
MAD/Mean Ratio	0		

Historic Data

Date	Historic
2012-Nov	194
2012-Dec	194.2
2013-Jan	195.3
2013-Feb	196.1
2013-Mar	196.1
2013-Apr	195.9
2013-May	195.5
2013-Jun	195.4
2013-Jul	195.2
2013-Aug	195.3
2013-Sep	195.1
2013-Oct	195.4

2013-Nov	195.5
2013-Dec	195.9
2014-Jan	197.2
2014-Feb	197.6
2014-Mar	197.3
2014-Apr	197.7
2014-May	197.6
2014-Jun	197.7
2014-Jul	198.2
2014-Aug	198.4
2014-Sep	198.3
2014-Oct	198.2
2014-Nov	197.4
2014-Dec	196.7
2015-Jan	196
2015-Feb	195.4
2015-Mar	195
2015-Apr	194.8
2015-May	194.9
2015-Jun	195.2
2015-Jul	194.9
2015-Aug	193.9
2015-Sep	193.1
2015-Oct	192.9
2015-Nov	192.3
2015-Dec	191.9
2016-Jan	191.9
2016-Feb	191.8
2016-Mar	192.1
2016-Apr	192.8
2016-May	193.4
2016-Jun	193.7
2016-Jul	193.7
2016-Aug	194
2016-Sep	193.9
2016-Oct	194.3
2016-Nov	194.9
2016-Dec	195.6
2017-Jan	196.8
2017-Feb	197.8
2017-Mar	198.7
2017-Apr	199.3
2017-May	199.2
2017-Jun	199.4
2017-Jul	199.2
2017-Aug	199.7
2017-Sep	200
2017-Oct	200.9
2017-Nov	201.5
2017-Dec	201.7
2018-Jan	203
2018-Feb	203.8
2018-Mar	204.8
2018-Apr	205.4
2018-May	206.3
2018-Jun	207
2018-Jul	207.5
2018-Aug	207.4
2018-Sep	207.4
2018-Oct	208.3

Forecast Data

Date	2.5 Lower	Forecast	97.5 Upper
2018-Nov	207.951	208.798	209.644
2018-Dec	207.513	209.205	210.897
2019-Jan	207.696	209.934	212.172
2019-Feb	207.644	210.318	212.993
2019-Mar	207.734	210.783	213.832
2019-Apr	207.982	211.364	214.747
2019-May	208.216	211.902	215.587
2019-Jun	208.557	212.522	216.487
2019-Jul	208.865	213.092	217.319
2019-Aug	209.257	213.73	218.204
2019-Sep	209.442	214.149	218.856
2019-Oct	210.06	214.99	219.92

Forecast Error Calculation

	Third Quarter 2018			Difference		Notes
	2016 Weight	2018Q3 Forecast	2018Q3 Actual	Pt.	Pct.	
Labor	35.6%	434.3	434.3	0.0	0%	* actual=forecast
Fuel	10.7%	291.0	274.0	-17.0	-6%	from 1st month of quarter
M&S	5.0%	263.7	263.7	0.0	0%	* actual=forecast
Equip Rents	5.9%	230.5	231.8	1.3	1%	from Equipment Rents below
Depreciation	15.6%	223.5	224.6	1.1	0%	PPI-RE
Interest	2.2%	60.5	60.5	0.0	0%	* actual=forecast
Other	25.0%	231.5	232.5	1.0	0%	PPI-LF
Weighted Avg	100.0%					
1980 = 100		306.6	305.3			calculated
1980 = 100 (linked)		283.6	280.2			calculated
4Q17 = 100	2.645	107.2	105.9			calculated
4Q12 = 100	2.976	95.3	94.2			calculated
4Q07 = 100	2.459	115.3	113.9			calculated
4Q02 = 100	1.921	147.6	145.9			calculated
4Q97 = 100	1.732	163.7	161.8			calculated
Forecast Error		-1.3				calculated
						-0.013 = RCAF adj.
Prior Quarter						
1980 = 100		297.2	298.8 **			
1980 = 100 (linked)		274.9	274.2			
4Q17 = 100		103.9	103.7			calculated
4Q12 = 100		92.4	92.1			calculated
4Q07 = 100		111.8	111.5			calculated
4Q02 = 100		143.1	142.7			calculated
4Q97 = 100		158.7	158.3			calculated
Equipment Rents						
Car Hire		210.4	211.2			from Equipment Rents/CHARM
Lease Rentals	58.3% 41.7%	231.5	232.5			(equals PPI-LF from above)
Weighted Average		219.2	220.1			calculated
Linked		230.5	231.8			calculated
Prior Quarter						
Weighted Average		217.7	218.8 **			
Linked		228.9	230.4			
Sum of Weights	ok					** if fourth quarter, weighted avg for prior needs to use new weights, linked is ok
Sum of ER Wt.	ok					

Factors to change from
1982=100 to 1980 = 100

0.9040	202.40	202.40	204.10
0.8920	207.50	207.40	207.40

RCAF Fuel (Actual All-Inclusive Index)

July 2018

Monthly Report

	July 2018 Price (cents) (1)	1/1/81 Price (cents) (2)	1/91 New Method Linking Factors (3)	July 2018 Index 1/1/81=100 (4)	Linking Factor 1980=100 (5)	July 2018 1980=100 Current Index (6)
U.S.	224.21	89.34	99.415	249.49	1.096	273.45

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

(6) = (4) x (5)

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

	July 2018 1980=100 Current Index	Adjustment Factor	July 2018 1980=100 Linked Index
U.S.	273.45	1.00192	273.98 ←

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

Car Hire for RCAF

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

		1980	Aug 3Q/17	Nov 4Q/17	Feb 1Q/18	May 2Q/18	Aug 3Q/18
RATE							
RR-OWNED TIME		31.00	64.00	64.00	64.00	64.00	64.00
RR-OWNED MILEAGE		4.69	6.70	6.70	6.70	6.60	6.70
PRIVATELY-OWNED CARS		25.47	53.76	54.42	54.45	55.37	55.66
AUTORACKS		47.00	84.47	86.38	83.50	84.84	86.16
INDEX							
RR-OWNED TIME		100.0	206.5	206.5	206.5	206.5	206.5
RR-OWNED MILEAGE		100.0	142.9	142.9	142.9	140.7	142.9
PRIVATELY-OWNED CARS		100.0	211.1	213.6	213.8	217.4	218.5
AUTORACKS		100.0	179.7	183.8	177.7	180.5	183.3
CAR HIRE INDEX (old wts)	2015	100.0	205.1	--	--	--	--
CAR HIRE INDEX (new wts)	2016	100.0	203.9	206.2	205.8	208.7	209.9
CAR HIRE INDEX (LINKED)		100.0	205.2	207.5	207.1	210.0	211.2

Note: Indexes are rounded, rates are full float.

Car Hire Data From CHARM

Car Hire Data From CHARM	2017 (first day of month)						2018 (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)	8,341	8,815	9,030	9,254	9,520	9,614	9,796	9,891	10,098	10,461	10,544	10,629	10,741	10,849
Superstructures (Vehicular Flats)														
Rate (in cents)														
Superstructures #3 - Auto Rack	54.0	62.0	65.0	67.0	71.0	73.0	75.0	75.0	77.0	81.0	84.0	84.0	86.0	87.0
All other #1 - Time	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0
All other #2 - Mileage	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.7
Private Equipment														
No. of Cars (cars with rates only)	56,048	56,095	56,066	55,978	55,842	55,875	55,956	55,925	55,813	55,698	55,640	55,590	55,504	55,500
Superstructures (Vehicular Flats)	397,633	400,103	402,279	403,818	405,332	407,888	411,930	413,529	415,267	416,736	417,748	419,280	421,139	422,430
Covered Hoppers														
Tank Cars	405,127	405,272	405,476	405,805	405,481	405,753	406,074	406,011	406,019	405,210	405,431	405,733	405,718	405,541
Others	291,842	291,943	291,843	292,787	292,671	293,501	293,142	293,781	294,358	294,080	292,168	290,938	291,908	291,714
Rate (in cents)														
Superstructures #1 - Time	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0
Superstructures #2 - Mileage	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Superstructures #3 - Auto Rack	88.0	88.0	88.0	89.0	89.0	89.0	89.0	85.0	85.0	85.0	85.0	85.0	86.0	86.0
Covered Hoppers #2 - Mileage	45.5	45.6	45.7	45.8	45.9	45.9	46.0	46.0	45.9	46.0	46.1	46.1	46.2	46.2
Tank Cars #2 - Mileage	85.2	85.3	86.8	86.9	87.0	87.0	87.1	87.2	89.4	89.5	89.6	89.7	89.9	90.0
Others #1 - Time	87.0	87.0	87.0	87.0	87.0	87.0	88.0	87.0	87.0	88.0	88.0	89.0	89.0	90.0
Others #2 - Mileage	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.2	8.2	8.2
AVERAGE RATES														
Private Superstructures	21.14	21.14	21.14	21.14	21.14	21.14	21.14	21.14	21.14	21.14	21.14	21.14	21.14	21.14
Private Others	27.41	27.41	27.41	27.41	27.41	27.41	27.64	27.41	27.41	27.64	27.64	27.96	27.96	28.18
Private Total	53.70	53.76	54.31	54.36	54.42	54.38	54.50	54.45	55.15	55.25	55.37	55.51	55.58	55.66
Autotracks	83.60	84.47	84.81	85.88	86.38	86.65	86.91	83.50	83.77	84.37	84.84	84.84	86.00	86.16

Car Hire Weights	"Old Wts" New Wts"	
	2015	2016
For RCAF & RCR		
RR-owned Time	0.124	0.091
RR-owned Mileage	0.062	0.058
Privately-owned Cars	0.776	0.762
Autotracks	0.038	0.089
----- Check sum	1.000	1.000

Weights for Equipment Rents (not used in Car Hire calculation)		
	2015	2016
Car Hire - U.S.	0.582	0.583
Lease Rentals - U.S.	0.418	0.417
----- 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.

CHARM Process - Car Hire Rate Report

Average Car Rental Rates for 08/2018

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	10,849	110	0.064	87
Railroad	Number of Zero-Rated Vehicular Flats	78	.	.	.
Railroad	All Other Cars	416,706	64	0.067	.
Railroad	Number of Zero-Rated Other Cars	15,952	.	.	.
Railroad	Total Railroad Equipment	443,585	.	.	.
		.	.	.	.
Private	Vehicular Flats	55,500	84	0.014	86
Private	Number of Zero-Rated Vehicular Flats	114	.	.	.
Private	Covered Hoppers	422,430	0	0.462	.
Private	Number of Zero-Rated Covered Hoppers	13,517	.	.	.
Private	Tanks	405,541	0	0.900	.
Private	Number of Zero-Rated Tanks	8,924	.	.	.
Private	All Other Cars	291,714	90	0.082	.
Private	Number of Zero-Rated Other Cars	26,798	.	.	.
Private	Total Private Equipment	1,224,538	.	.	.

Notes
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 - Depreciation

Series ID : wpu144

Not Seasonally Adjusted

Group : Transportation equipment

Item : Railroad equipment

		Forecast Year 2019			
		As reported at end of month 82=100			
		Nov.	Feb.	May	Aug.
For Forecast	→	19Q1	19Q2	19Q3	19Q4
For Actual	→	18Q3	18Q4	19Q1	19Q2
January	2018	202.1	202.1	202.1	202.1
February	2018	202.1	202.1	202.1	202.1
March	2018	202.0	202.0	202.0	202.0
April	2018	202.1			
May	2018	202.1			
June	2018	202.1			
July	2018	202.4			
August	2018	202.4			
September	2018	204.1			
October	2018	204.6			
November	2018				
December	2018				
January	2019				
February	2019				
March	2019				
April	2019				
May	2019				
June	2019				
July	2019				
Actual Qtr.		203.0	NA	NA	NA

1980=100

Actual Qtr.	224.6	NA	NA	NA
First Mo. next qtr.	226.3	NA	NA	NA

0.904 =1980

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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

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Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	201.9	204.1	203.3	203.4	203.5	204.6	203.6	204.5	203.8	202.8	201.7	201.6
2018	202.1	202.1	202.0	202.1	202.1	202.1	202.4(P)	202.4(P)	204.1(P)	204.6(P)		

P : Preliminary. All indexes are subject to revision four months after original publication.

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RCAF - Other

Series ID : wpu03t15m05

Not Seasonally Adjusted

Group : Industrial Commodities less fuels

Item : Industrial commodities less fuels

		Forecast Year 2019			
		As reported at end of month 82=100			
		Nov.	Feb.	May	Aug.
For Forecast	→	19Q1	19Q2	19Q3	19Q4
For Actual	→	18Q3	18Q4	19Q1	19Q2
January	2018	203.0	203.0	203.0	203.0
February	2018	203.8	203.8	203.8	203.8
March	2018	204.8	204.8	204.8	204.8
April	2018	205.4			
May	2018	206.3			
June	2018	207.0			
July	2018	207.5			
August	2018	207.4			
September	2018	207.4			
October	2018	208.3			
November	2018				
December	2018				
January	2019				
February	2019				
March	2019				
April	2019				
May	2019				
June	2019				
July	2019				
Actual Qtr.		207.4	NA	NA	NA

1980=100

Actual Qtr.

First Mo. next qtr.

232.5	NA	NA	NA
233.5	NA	NA	NA

0.892 =1980

Databases, Tables & Calculators by Subject



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PPI Commodity Data

Series Id: WPU03T15M05

Not Seasonally Adjusted

Series Title: PPI Commodity data for Industrial commodities less fuels, not seasonally adjusted

Group: Industrial Commodities less fuels

Item: Industrial commodities less fuels

Base Date: 198200

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Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	196.8	197.8	198.7	199.3	199.2	199.4	199.2	199.7	200.0	200.9	201.5	201.7
2018	203.0	203.8	204.8	205.4	206.3	207.0	207.5(P)	207.4(P)	207.4(P)	208.3(P)		

P : Preliminary. All indexes are subject to revision four months after original publication.

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ARBITRATED AGREEMENT

THIS ARBITRATED AGREEMENT, effective [Date of Award], pursuant to the Award of Arbitration Board No. ____, by and between the participating carriers listed in Exhibit A attached hereto and represented by the National Carriers' Conference Committee, and the employees shown thereon and represented by the International Association of Machinists and Aerospace Workers, witnesseth:

IT IS HEREBY AGREED:

ARTICLE I – WAGES

Section 1 - First General Wage Increase

Effective January 1, 2015, all hourly, daily, weekly, and monthly rates of pay in effect on December 31, 2014 for employees represented by the IAM were increased by three (3) percent pursuant to Article I, Section 6 of the January 11, 2012 National IAM Agreement. This 3% general wage increase was mutually negotiated to apply as the first-year increase of this five-year Agreement, the term of which runs from January 1, 2015 through December 31, 2019.

Section 2 – Second General Wage Increase

Effective July 1, 2016, all hourly, daily, weekly, and monthly rates of pay in effect on June 30, 2016 for employees covered by this Agreement shall be increased in the amount of two (2) percent applied so as to give effect to this increase in pay irrespective of the method of payment. The increase provided for in this Section 2 shall be applied as follows:

(a) **Hourly Rates -**

Add 2 percent to the existing hourly rates of pay.

(b) **Daily Rates -**

Add 2 percent to the existing daily rates of pay.

(c) **Weekly Rates -**

Add 2 percent to the existing weekly rates of pay.

(d) **Monthly Rates -**

Add 2 percent to the existing monthly rates of pay.

(e) **Disposition of Fractions -**

Rates of pay resulting from application of paragraphs (a) to (d), inclusive, above which end in fractions of a cent shall be rounded to the nearest whole cent, fractions less than one-half cent shall be dropped, and fractions of one-half cent or more shall be increased to the nearest full cent.

(f) **Application of Wage Increase -**

The increase in wages provided for in this Section 2 shall be applied in accordance with the wage or working conditions agreement in effect between each carrier and the labor organization party hereto. Special allowances not included in fixed hourly, daily, weekly or monthly rates of pay for all services rendered, and arbitraries representing duplicate time payments, will not be increased. Overtime hours will be computed in accordance with individual schedules for all overtime hours paid for.

Section 3 – Third General Wage Increase

Effective July 1, 2017 all hourly, daily, weekly and monthly rates of pay in effect on June 30, 2017 for employees covered by this Agreement shall be increased by two (2) percent applied in the same manner as provided for in Section 2 hereof and applied so as to give effect to this increase irrespective of the method of payment.

Section 4 – Fourth General Wage Increase

Effective July 1, 2018, all hourly, daily, weekly and monthly rates of pay in effect on June 30, 2018 for employees covered by this Agreement shall be increased in the amount of two-and-one-half (2.5) percent applied in the same manner as provided for in Section 2 hereof and applied so as to give effect to this increase irrespective of the method of payment.

Section 4 - Fifth General Wage Increase

Effective July 1, 2019, all hourly, daily, weekly and monthly rates of pay in effect on June 30, 2019 for employees covered by this Agreement shall be increased in the amount of three (3) percent applied in the same manner as provided for in Section 2 hereof and applied so as to give effect to this increase irrespective of the method of payment.

ARTICLE II - HEALTH AND WELFARE

Part A – Employee Sharing of Plan Costs

Section 1 – Monthly Employee Cost-Sharing Contributions

The employee monthly cost-sharing contribution amount shall be \$228.89 until such time as otherwise mutually agreed by the parties during negotiations commencing when this Agreement becomes amendable pursuant to Article III.

Section 2 – Other Terms

Existing arrangements regarding the method of making employee cost-sharing contributions on a pre-tax basis shall be continued subject to the provisions of the Railway Labor Act.

ARTICLE II - HEALTH AND WELFARE

Part A – Employee Sharing of Plan Costs

Section 1 – Monthly Employee Cost-Sharing Contributions

The employee monthly cost-sharing contribution amount shall be \$228.89 until

EXHIBIT A
(IAM)

RAILROADS REPRESENTED BY THE NATIONAL CARRIERS' CONFERENCE COMMITTEE IN CONNECTION WITH NOTICES SERVED ON OR SUBSEQUENT TO NOVEMBER 1, 2014 BY AND ON BEHALF OF SUCH CARRIERS UPON THE INTERNATIONAL ASSOCIATION OF MACHINISTS & AEROSPACE WORKERS AND NOTICES SERVED ON OR SUBSEQUENT TO NOVEMBER 1, 2014 BY THE GENERAL CHAIRMEN, OR OTHER RECOGNIZED REPRESENTATIVES, OF THE INTERNATIONAL ASSOCIATION OF MACHINISTS & AEROSPACE WORKERS UPON SUCH CARRIERS.

Subject to indicated footnotes, this authorization is co-extensive with notices filed and with provisions of current schedule agreements applicable to employees represented by the International Association of Machinists & Aerospace Workers.

Alton & Southern Railway Company
The Belt Railway Company of Chicago
Bessemer and Lake Erie Railroad Company d.b.a. C.N.
BNSF Railway Company
Consolidated Rail Corporation
CSX Transportation, Inc.
Delaware & Hudson Railroad Company d.b.a. C.P. - 2
Gary Railway Company - 1
Grand Trunk Western Railroad Company d.b.a. C.N.
Illinois Central Railroad Company and Chicago, Central & Pacific Railroad Company d.b.a. C.N.
Indiana Harbor Belt Railroad Company
The Kansas City Southern Railway Company
 Kansas City Southern Railway
 Louisiana and Arkansas Railway
 MidSouth Rail Corporation
 Gateway Western Railway
 SouthRail Corporation

The Texas Mexican Railway Company
 Joint Agency
 New Orleans Public Belt Railroad
 Norfolk Southern Railway Company
 The Alabama Great Southern Railroad Company
 Central of Georgia Railroad Company
 The Cincinnati, New Orleans & Texas Pacific Railway Company
 Georgia Southern and Florida Railway Company
 Interstate Railroad Company
 Tennessee, Alabama and Georgia Railway Company
 Tennessee Railway Company
 Northeast Illinois Regional Commuter Railroad Corporation (METRA) - 2
 Port Terminal Railroad Association
 Soo Line Railroad Company d.b.a. C.P. - 2
 Terminal Railroad Association of St. Louis
 Union Pacific Railroad Company
 Wisconsin Central Ltd. d.b.a. C.N.

* * * * *

Notes:

- 1 - Health & Welfare only
- 2 - Health & Welfare and Supplemental Sickness only

(b) Any terms used in this Article that are defined in the Plan shall be given the same meaning, unless otherwise provided. A "Specialty Drug", for purposes of the Medical Channel Management Program described in Exhibit C hereto, or its equivalent, shall include any Prescription Drug classified by the Plan's Pharmacy Benefit Manager for its general book of business as a specialty drug.

Part F – Adjustment for Implementation Delay

The retroactive portion of wage increases payable to each eligible employee under the Arbitrated Agreement shall be reduced by the amount of \$585.92 for the eight-month delay (February 2018 through September 2018) in H&W Plan benefits design implementation.

ARTICLE III - GENERAL PROVISIONS

Section 1 - Court Approval

This Agreement is subject to approval of the courts with respect to participating carriers in the hands of receivers or trustees.

Section 2 - Effect of this Agreement

(a) The purpose of this Agreement is to settle the disputes growing out of the notices served upon the organization by the carriers listed in Exhibit A on or subsequent to November 1, 2014 (including any notices outstanding as of that date), and the notices served by the organization signatory hereto upon such carriers on or subsequent to November 1, 2014 (including any notices outstanding as of that date).

(b) This Agreement shall be construed as a separate agreement by and on behalf of each of said carriers and their employees represented by the organization signatory hereto and shall remain in effect through December 31, 2019 and thereafter until changed or modified in accordance with the provisions of the Railway Labor Act, as amended.

In this latter regard, the Board here is not privy to the negotiations that took place resulting in that Agreement and cannot comment on possible tradeoffs that may have been made in order to bring about that benefit. Thus, the rationale for that increase is not clear.

One thing, however, is clear. The membership of the IAM is composed of highly skilled, able individuals who take pride in their work and their involvement in the rail industry. This much was evident from the testimony at the hearing of four Local Chairmen. While the Union, in advancing this case, was faced with a difficult challenge, it succeeded in one important respect. It made sure that the very real concerns of the membership were heard at the highest level. This can only be a benefit as the parties move forward in future negotiations.

It is thus respectfully concluded as follows:

Award

The terms proposed by the Carriers as set forth in Appendix B shall be the Parties' collective bargaining agreement.

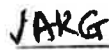

Charlotte Gold, Neutral Arbitrator and Chairperson


Mike Perry,
Union Member

consent


dissent


A. Kenneth Gradia,
Carrier Member


consent

dissent

Date of Award: September 26, 2018