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September 5, 2017

244268

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

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Dear Ms. Brown:

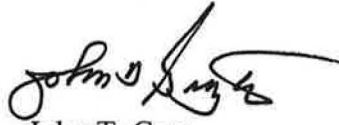
This submission is the AAR forecast of the fourth quarter 2017 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2017-4) *Quarterly Rail Cost Adjustment Factor*. The versions of RCAF-related indices covered in this filing are: the All-Inclusive Index (initiated 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 fourth quarter 2017 results on the fourth quarter 2012 base, and shows the percentage changes from the previous quarter.

	<u>2017Q3</u>	<u>2017Q4</u>	<u>% Change</u>
All-Inclusive Index	90.3	89.8	-0.6
Preliminary RCAF	0.903	0.898	-0.6
Forecast Error Adjustment	0.000	-0.009	
RCAF (Unadjusted)	0.903	0.889	-1.6
Productivity Adjustment Factor	2.4072	2.4192	
RCAF (Adjusted)	0.375	0.367	-2.1
PAF-5	2.5323	2.5412	
RCAF-5	0.357	0.350	-2.0

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 Clyde Crimmel (202 639-2309) of this office.

Sincerely,



John T. Gray

Attachments

**Fourth Quarter 2017
All-Inclusive Index**

Ex Parte No. 290 (Sub-No. 5) (2017-4)

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

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

September 5, 2017

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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 fourth quarter 2017. The All-Inclusive Index utilizes new weights (see page 2), which are based on 2016 Annual Report Form R-1 data. New annual report and wage statistics data have also been utilized to rebenchmark labor (see Appendix A), and the annual report data have also been used to update the Interest Index (see Appendix F).

Calculations for the Productivity Adjustment Factor (page 5) utilize the Surface Transportation Board's latest Productivity Adjustment decision, which was served on February 24, 2017. That decision said that the Board is "tentatively adopting 1.020 (2.0% per year) as the measure of average (geometric mean) change in railroad productivity for the 2011-2015 (five-year) period." The STB expressed concern that a "change in the way distances are measured" in the 2015 Waybill Sample would inappropriately skew the Output Index used in the productivity change calculation. Because of this concern, the STB developed a linking factor with the stated goal of eliminating changes to its Output Index caused by the methodology change. The Board also held a technical conference with interested parties on February 28. Comments on the Productivity Adjustment decision were due by March 16, and replies were due by April 5. In a decision served March 16, the deadline for comments was suspended pending further order of the Board. On April 11, the Board announced that issues involving the mileage portion of the Carload Waybill Sample were not resolved, causing delays for related products that rely on that data source.

At the time of this September 5 RCAF filing, there remain questions about the Board's new mileage methodology, its linking process, and the resulting Output Index and Productivity Change. Although the tentative productivity adjustment adopted in the Productivity decision became effective on March 1, the Board has not yet taken any further action to determine if its decision is final or requires modification. For the purposes of this filing, the RCAF (Adjusted) is affected by the Productivity decision, and the AAR has made its calculations as if the decision is final. The second productivity-adjusted RCAF, the RCAF-5, will not be affected by this decision until the beginning of 2018. Should the Productivity Change be adjusted by further Board action, the calculations in this filing would necessarily need to be adjusted also.

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 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 2016 (current) and 2015 (previous) weights are shown below. Weights calculated from 2015 data were used for the fourth quarter of 2016 through the third quarter of 2017. Beginning with the fourth quarter of 2017, weights calculated using 2016 data are used.

Traffic and fuel prices were down again in 2016, causing expenses for most categories to decline. The Fuel and Materials & Supplies categories had double-digit percentage decreases in expenses, and this caused them to be the two categories that had decreases in weights. Depreciation and Interest, the two categories with increased expenses in 2016, had increases in their weights. While Labor, Equipment Rents, and Other all had 5 to 6 percent decreases in expenses, their weights increased because of the larger drops for Fuel and Materials & Supplies. Weights for Labor and Other are the highest they have been since 2004, while Fuel's weight is the lowest it has been since 2003. Depreciation's weight, perhaps pushed by recent spending for Positive Train Control, is the highest it has ever been.

Weights for RCAF's All-Inclusive Index		
	2016	2015
Labor	35.6 %	35.0 %
Fuel	10.7	13.4
Materials & Supplies	5.0	5.4
Equipment Rents	5.9	5.8
Depreciation	15.6	13.9
Interest	2.2	1.9
Other	25.0	24.6
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 Fourth Quarter 2017

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		
	2016 Weights	Previous 2017Q3	Current 2017Q4	Percent Change
1. Labor	35.6%	422.8	415.1	-1.8 %
2. Fuel	10.7%	202.3	215.5	6.5
3. M&S	5.0%	252.6	254.8	0.9
4. Equipment Rents	5.9%	223.8	223.9	0.0
5. Depreciation	15.6%	225.1	226.3	0.5
6. Interest	2.2%	60.6	60.5	-0.2
7. Other	25.0%	224.3	221.4	-1.3
8. Weighted Average				
a. 1980 = 100		290.5	288.8	
b. 1980 = 100 (linked)		268.7	267.1 ¹	
c. 4Q12 = 100		90.3	89.8 ²	-0.6

Note: New weights are utilized. The linked index is always unchanged in this linking procedure. However, the 290.5 weighted average for 2017Q3 has been recalculated with 2016 weights to eliminate any changes in the fourth quarter index that would be caused by changing weights. The original Q3 weighted average with 2015 weights is 289.3.

$$\begin{aligned}
 ^1 \text{ Index80} &= (\text{Current Index} / \text{Previous Index}) * \text{the Previous Quarter Linked Index} \\
 &= (288.8 / 290.5) \times 268.7 \\
 &= 267.1
 \end{aligned}$$

² To calculate the 4Q12 = 100 index:

$$\begin{aligned}
 \text{Index4Q12} &= (\text{Current Linked Index} / 4\text{Q12 Basing Factor}) * 100 \\
 &= 267.1 \text{ divided by } 297.6 \text{ times } 100 \\
 &= 89.8
 \end{aligned}$$

Indexes based on other periods:

4Q07 based index	= 267.1 / 245.9 x 100 = 108.6
4Q02 based index	= 267.1 / 192.1 x 100 = 139.0
4Q97 based index	= 267.1 / 173.2 x 100 = 154.2
4Q92 based index	= 267.1 / 156.9 x 100 = 170.2
4Q87 based index	= 267.1 / 132.2 x 100 = 202.0

Forecast vs. Actual All-Inclusive Index Second Quarter 2017

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the second quarter actual index of 89.9 is 0.9 index points below the forecast value of 90.8. Therefore, the forecast error adjustment for fourth quarter 2017 is -0.9 index points.

	2015 Weights	Second Quarter 2017		Amt Difference
		Forecast	Actual	
1. Labor	35.0%	421.4	421.4	
2. Fuel	13.4%	218.2	205.7	
3. M&S	5.4%	264.8	264.8	
4. Equipment Rents ¹	5.8%	222.6	223.8	
5. Depreciation	13.9%	223.2	225.1	
6. Interest	1.9%	60.6	60.6	
7. Other	24.6%	222.3	223.5	
8. Weighted Average				
a. 1980 = 100		290.8	289.8	
b. 1980 = 100 (linked)		270.1	267.4 ²	
c. 4Q12 = 100 ³		90.8	89.9	-0.9

Forecast error **→ -0.9 index points**

¹	2015 Weights	Second Quarter 2017	
		Forecast	Actual
Car-Hire	58.2%	204.1	204.5
Lease Rentals	41.8%	222.3	223.5
Weighted Average		211.7	212.4
Weighted Average (linked)		222.6	223.8

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

$$267.4 = 289.8 / 289.9 \times 267.5$$

³ The 4Q12 based indexes are 1980 based indexes divided by the 4Q12 basing factor (297.6/100).
 Other basing factors are: 4Q07 = 245.9; 4Q02 = 192.1; 4Q97 = 173.2; 4Q92 = 156.9; and 4Q87 = 132.2.

Productivity

On February 24, 2017, the Surface Transportation Board (STB) served a decision in Ex Parte 290 (Sub-No. 4) which *tentatively* adopted 2.0 percent as the geometric average productivity change for the five most recent years available. Their calculation added the year 2015 and removed the year 2010. In addition, it should be noted that the Board was concerned enough with its decision to calculate a tentative value, sponsor a technical conference, solicit public comment, and to state that it would "take further action, as appropriate, to determine whether the tentative productivity adjustment is final or requires modification". At the time (September 5) of this filing, there are still questions about the 2015 Output Index, and it is possible that the Productivity Adjustment Factors used with the RCAF could change.

The components of this average annual value are shown on the following table in ratio format – therefore, 1.020 is the same as an increase of 2.0 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			
2011 - 2015			
Year	Output Index (1)	Input Index (2)	Productivity Changes (3)
2011	1.041	1.039	1.001
2012	1.007	0.999	1.008
2013	1.022	1.018	1.003 *
2014	1.055	1.036	1.018
2015	1.041	0.972	1.070
Average			1.020
Previous Average (2010-2014)			1.014

* The STB revised this number in its February 24, 2017, corrected decision.

Calculation of PAF and PAF-5			
For 2011-2015, use fourth root of avg. productivity change = 1.0050			
For 2010-2014, use fourth root of avg. productivity change = 1.0035			
Quarter	Year	PAF	PAF-5
Q1	2017	2.3833	2.5147
Q2	2017	2.3952	2.5235
Q3	2017	2.4072	2.5323
Q4	2017	2.4192	2.5412
Q1	2018	2.4313	2.5539

Rail Cost Adjustment Factor

Fourth Quarter 2017

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 2013Q1, the All-Inclusive Index is on a 2012Q4=100 basis.

	Previous 2017Q3	Current 2017Q4	Percent Change
All-Inclusive Index ¹	90.3	89.8	-0.6
Preliminary RCAF ²	0.903	0.898	-0.6
Forecast Error Adjustment ³	<u>0.000</u>	<u>-0.009</u>	
RCAF (Unadjusted) ⁴	0.903	0.889	-1.6
Productivity Adjustment Factor ⁵	<u>2.4072</u>	<u>2.4192</u>	
RCAF (Adjusted) ⁶	0.375	0.367	-2.1
PAF-5 ⁷	2.5323	2.5412	
RCAF-5 ⁸	0.357	0.350	-2.0

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

Fourth Quarter 2017

The fourth quarter 2017 Labor Index decreased 1.8 percent from the previous quarter. Rebenchmarking was the biggest contributor to the change.

Rebenchmarking and Reweighting: Rebenchmarking, as well as updating the internal weights (i.e., the proportion of labor costs represented by wages and supplements, respectively), is reflected each year in the fourth quarter filing. The Labor rate is basically a group of benchmarks from annual data that are updated each quarter using additional information such as labor agreements, payroll tax rates, health & welfare rates, and other data. By rebenchmarking to newer annual data, the number of quarterly updates (the "distance") from the benchmark year to the current quarter becomes smaller – increasing the probability that the updated values match reality. Therefore, the impact of rebenchmarking is captured in the Labor Index, and by itself can cause a change in the index.

The new benchmark year is 2016, and data for that year replaces data for 2015. One of the major data sources underlying the fourth quarter rebenchmarking is the Annual Report Form R-1 submitted to the Surface Transportation Board (STB) by each Class I railroad. The other major data source is the 112-Class Wage Statistics report received by the Association of American Railroads (AAR) from each Class I railroad. This report matches the totals in the less-detailed Wage Form A&B submitted to the STB. The extra detail allows the AAR to divide the wage statistics by labor union, which enables wage rate updates to be more accurate. Data from the two major sources are used for labor benchmarks, and the annual report data are also used to calculate index weights.

The source for the wage and supplements internal weights, like the external weights, is the Annual Report Form R-1 Summary. Unlike rebenchmarking, reweighting by itself is prevented from causing a change in the index. A linking process, where the previous quarter unlinked index is recalculated using the new weights, eliminates changes that would be caused solely by changing weights.

Wage Rate Index

The Wage Rate Index portion of the Labor Index declined 1.5 percent. Almost all of the change was caused by rebenchmarking to 2016 wage statistics. Lower non-union bonuses in 2016 (compared to 2015) were the significant contributor to a lower wage rate benchmark. Other possible contributors to the lower benchmark are changes in employee mix and age distribution.

Wage Increases: No wage increases are currently scheduled for the fourth quarter.

Lump Sums: The fourth quarter Lump Sum rate is 2.8 cents higher from the prior quarter. Most of the change (2.7 of 2.8 cents) was caused by rebenchmarking. One quarterly amount from last year became fully amortized and removed from the index.¹ A new quarterly bonus amount was added for a bonus paid in the third quarter 2017. This amount was slightly larger than the amount removed, which caused an increase of 0.1 cents.

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

Labor

Fourth Quarter 2017

Back Pay: The Back Pay rate increased by 0.1 cents. The entire change was caused by rebenchmarking. No new back pay amounts were added, and none became fully amortized and removed from the index.

Other: In wages, "Other" contains the amortization of incentive payments that a railroad makes each year to its dispatchers, yardmasters, and engineers. Rebenchmarking caused this rate to increase 1.1 cents. An increase of an additional 0.1 cents was caused by a higher Treasury bill rate used for amortization.

Supplements Index

The Supplements Index decreased 2.2 percent. The change was the net result of rebenchmarking, lower taxable earnings, and fewer 401(k) matches.

Health & Welfare: The Health & Welfare rate decreased 0.7 percent. This change was caused entirely by rebenchmarking.

Railroad Retirement: The Railroad Retirement rate decreased 2.4 percent because of a combination of rebenchmarking and lower taxable earnings.

Unemployment Insurance: The Unemployment Insurance tax rate increased by 0.2 cents because of rebenchmarking.

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 fourth quarter rate dropped 13.9 cents. The lower rate was the net result of rebenchmarking and fewer employer contributions for stock and 401(k) accounts.

Labor Index Calculation

As shown in Table A-1 on the next page, the 1.5 percent decrease in the Wage Rate Index and the 2.2 percent decline in the Supplements Index combined to cause the Labor Index to fall 1.8 percent from the previous quarter. The linked fourth quarter 2017 Labor Index is 415.1, which is 2.5 percent higher than one year ago. The linked fourth quarter 2017 index of 415.1 is determined by multiplying the third quarter linked index of 422.8 times the change between the fourth quarter Labor Index (435.4) and the original third quarter Labor Index recalculated (443.5) using the original third quarter Wage Rate and Supplements indexes weighted with the new 2016 weights. This method eliminates changes caused by the new weights, but captures changes caused by rebenchmarking. The purpose of the center "Updated to Reflect..." column in Table A-1 is only to enable the reader to discern the impact of rebenchmarking.

Labor
Fourth Quarter 2017
Table A-1 Labor Index

	2017Q3		2017Q4	
	Used in Previous Index Filing	Updated to Reflect New Benchmarks	Based on 2016 Data	Pct Chg From Prev. Filing
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$40.721	\$40.058	\$40.058	-1.6%
Adjustments:				
Lump Sum	0.284	0.311	0.312	9.9%
Back Pay	0.010	0.011	0.011	10.0%
Other	0.124	0.135	0.136	9.7%
Total Wages	<u>41.139</u>	<u>\$40.515</u>	<u>40.517</u>	-1.5%
Health & Welfare Benefits	8.851	8.793	8.793	-0.7%
RR Retirement & Medicare	8.554	8.344	8.345	-2.4%
Unemployment Insurance	0.321	0.323	0.323	0.6%
Other	0.275	0.301	0.136	-50.5%
Total Supplements	<u>\$18.001</u>	<u>\$17.761</u>	<u>\$17.597</u>	-2.2%
Total Labor (a check sum only)	\$59.140	\$58.276	\$58.114	
Wage Rate Index¹	352.1	346.7	346.7	-1.5%
Supplements Index²	665.2	656.4	650.3	-2.2%
Total labor Index, 2015 Weights ³	441.3			
Total labor Index, 2016 Weights ⁴	443.5	437.1	435.4	
Labor Index (linked)⁵	422.8		415.1	-1.8%

¹ 1980 wage rate \$11.685

² 1980 supplements rate \$2.706

³ 2015 weights: wages, supplements 71.5% 28.5%

⁴ 2016 weights: wages, supplements 70.8% 29.2%

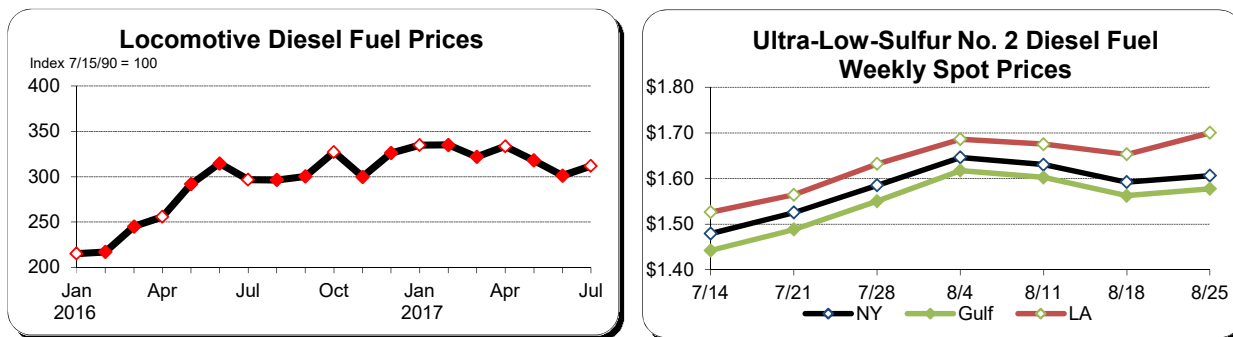
⁵ 2017Q4 linked Index = $2017Q3_{\text{linked}} \times (2017Q4_{\text{WT2016}} / 2016Q3_{\text{WT2016}})$
= 422.8 x 435.4 / 443.5

Fuel

Fourth Quarter 2017

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 for January 2016 was the lowest in over 10 years. Since that time, prices have trended upward. While average prices for locomotive diesel fuel are available only through July 2017, data through four weeks of August are available for related fuel types. According to the Energy Information Administration, weekly spot prices for Ultra-Low-Sulfur Diesel Fuel* increased for the week ended August 25, and are higher than they were in mid-July. The chart below (on left) shows the AAR's Monthly Locomotive Diesel Fuel Price Index from January 2016 through July 2017. The second chart (on right) shows recent spot prices for Ultra-Low-Sulfur No. 2 Diesel Fuel as reported by the Energy Information Administration.



On August 25, a Category 4 hurricane made landfall northeast of Corpus Christi, Texas. The slow-moving storm caused considerable flooding in the Corpus Christi-Houston area, affecting numerous refineries representing more than 30 percent of U.S. refining capacity. Area ports and a major pipeline that delivers fuel to the east coast were also affected, and the availability of their workforce is an unknown. As of August 28, daily spot prices for Ultra-Low-Sulfur No. 2 diesel fuel were already 8 to 12 percent higher than their July average. Railroads expect higher prices for fuel, and also have immediate concerns about fuel availability in the east. Locomotive diesel fuel prices for Q4 (October) are expected to be 6.5 percent higher than their forecast for Q3 (July). Because the July forecast was too high, the Q4 forecast is 11.9 percent higher than the average price railroads actually paid in July.

Forecast Fuel Index (1980 = 100)	215.5
Change from previous quarter forecast	6.5%
Change from previous quarter actual	11.9%

* 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

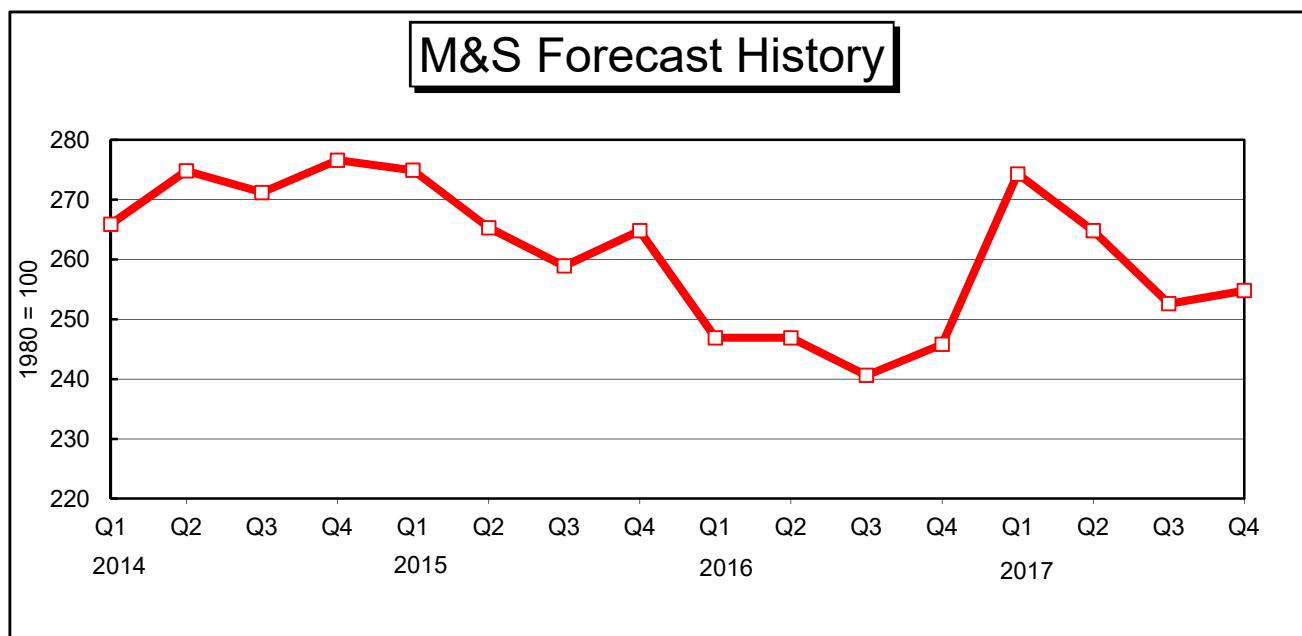
Fourth Quarter 2017

The fourth quarter 2017 Materials & Supplies Index is up 0.9 percent. The Index for Miscellaneous Products rose 3.2 percent, while the other two major components decreased. The Index for Forest Products fell 1.3 percent, while Metal Products dropped 0.7 percent. The Materials & Supplies Index continues to be lower than its values for all of 2014.

2017Q4 Materials & Supplies Index = 254.8

2017Q3 Materials & Supplies Index = 252.6

Difference	2.2 basis points
	or
	0.9 %



Equipment Rents

Fourth Quarter 2017

The Equipment Rents Index consists of two components – car hire and lease rentals. The methodology 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. In each fourth quarter filing, new weights for the four categories are used based on annual report data. The standard linking procedure is used to eliminate any changes to the Car Hire Index that would be caused solely by changing weights.

Lease Rentals

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

Equipment Rents Index Calculation

The table below calculates the Equipment Rent Index, and features new weights based on 2016. To eliminate any changes caused by the new weights, the third quarter weighted average (but not the linked value) has been recalculated using the new weights. However, because the weights changed by only 0.1 percentage points, the third quarter weighted average rounds to the same number using 2015 and 2016 weights. The fourth quarter Car Hire portion of the Index rose 1.2 percent because of higher rates for privately-owned cars. Tank car rates had the biggest impact on the higher average. Auto rack rates were also higher. A 1.3 percent decrease for the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 1.2 percent increase for Car Hire, caused the Equipment Rents Index to increase by 0.1 index points. On a percentage basis, the increase is less than 0.05 percent, which rounds to 0.0 percent in the table below.

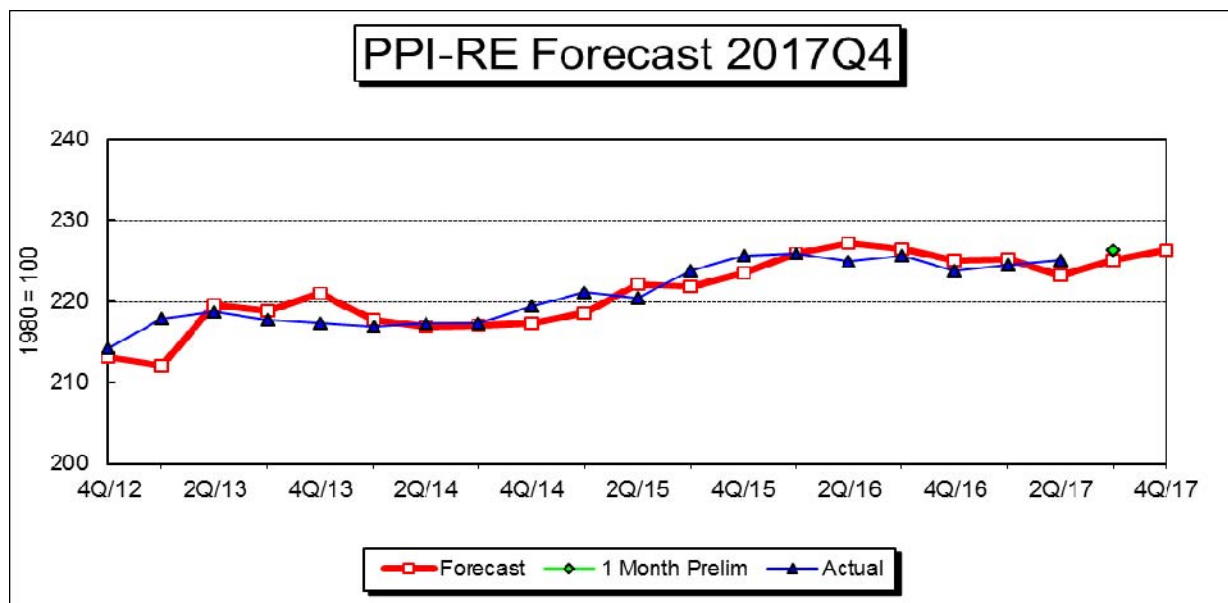
	2016 Weight	2017Q3	2017Q4	Percent Change
Car Hire	58.3%	204.5	206.9	1.2 %
Lease Rentals	41.7%	224.3	221.4	-1.3
Weighted Average		212.8	212.9	0.0
Weighted Average (Linked)		223.8	223.9	0.0

Depreciation

Fourth Quarter 2017

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 0.5 percent increase from the previous quarter's forecast, and matches the value for the most recent month available.

Forecast of Depreciation Index (1982=100)	204.6
Forecast of Depreciation Index (1980=100)	226.3
Change from previous quarter forecast	0.5%
Change from actual first month of previous quarter	0.0%
Change from same quarter of prior year (actual)	1.1%



Depreciation

Fourth Quarter 2017

PPI RAILROAD EQUIPMENT

Using rule-based logic, the program narrowed down the choice to exponential smoothing or Box-Jenkins. The program performed an out-of-sample test to select between these two approaches. The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method. The cumulative MAD for Exponential smoothing was 1.55, and for Box-Jenkins was 1.08.

Based on the lower Mean Absolute Deviation, Box-Jenkins was selected

Forecast Model for PPIRE

Box-Jenkins ARIMA(0, 1, 0)

Within-Sample Statistics

Sample size	72	No. parameters	0
Mean	197.92	Std. deviation	5.13
R-square	0.96	Adj. R-square	0.96
Durbin-Watson	2.44	Ljung-Box(18)	18.8 P=0.59
Forecast error	1.05	BIC	1.05
MAPE	0.38	SMAPE	0.38
RMSE	1.05	MAD	0.74
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Date	Actual
2017-Feb	204.1
2017-Mar	203.3
2017-Apr	203.5
2017-May	203.4
2017-Jun	203.5
2017-Jul	204.6

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2017-Aug	202.524	204.600	206.676
2017-Sep	201.664	204.600	207.536
2017-Oct	201.004	204.600	208.196
2017-Nov	200.447	204.600	208.753
2017-Dec	199.957	204.600	209.243
QTR AVG	200.469	204.600	208.731

Interest

Fourth Quarter 2017

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 2016 data, and was updated in the Q4 filing submitted on September 5, 2017. The Interest Index based on 2016 is at an all-time low. Although the index is based on embedded rates instead of entirely on current market conditions, it is no coincidence that rates for U.S. 20-year bonds are also at their lowest over the last 25 years.

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. Line numbers listed below will have some differences from previous years because the Surface Transportation Board changed some of the line numbers and account definitions.

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

2016	Interest Rate	4.75%
1980	Interest Rate	7.85%
2017Q4	Interest Index	60.5
2017Q3	Interest Index	60.6
	Percent Change	-0.2%

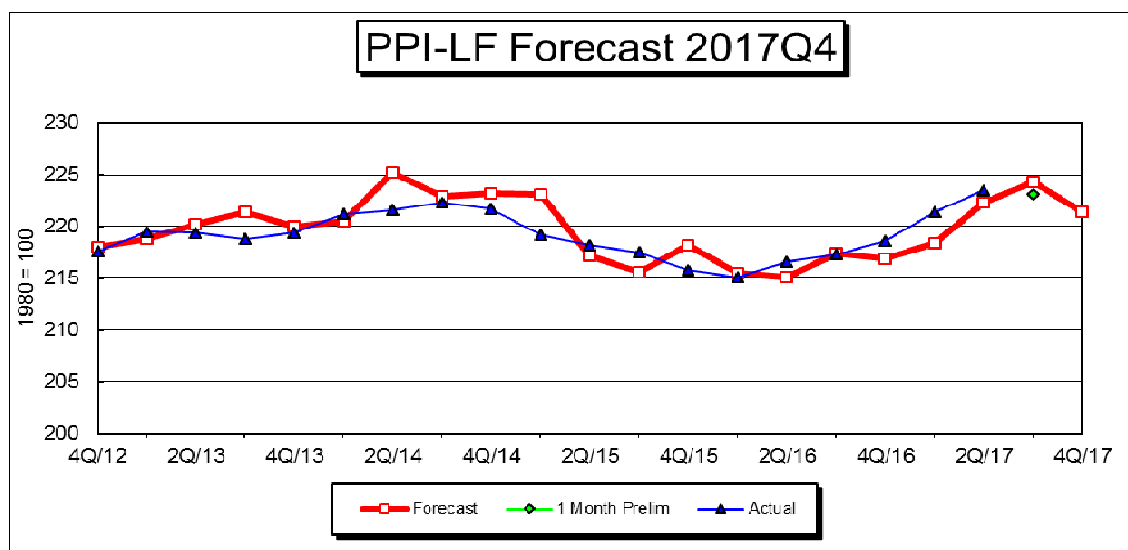
Other Expenses

Fourth Quarter 2017

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. Monthly PPI-LF figures had been trending upward since February 2016 after mostly decreasing since August 2014. They decreased in June and July. The forecast for 2017Q4 is 1.3 percent below the previous quarter forecast, which may have been too high.

Forecast of Other Expense Index (1982=100)	197.5
Forecast of Other Expense Index (1980=100)	221.4
Change from previous quarter forecast	-1.3%
Change from actual first month of previous quarter	-0.8%
Change from same quarter of prior year (actual)	1.3%



Other Expenses

Fourth Quarter 2017

PPI INDUSTRIAL COMMODITIES LESS FUELS AND RELATED PRODUCTS AND POWER

Using rule-based logic, the program narrowed down the choice to exponential smoothing or Box-Jenkins. An out-of-sample test was used to select between these two approaches.

A rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method.

Cumulative MAD: Exponential smoothing = 2.36; Box-Jenkins = 1.98.

Based on the lower Mean Absolute Deviation, Exponential Smoothing was selected.

Forecast Model for PPILF

Holt exponential smoothing: Linear trend, No seasonality

LN(1.000, 0.931)

Model Details

Component	Smoothing Wgt	Final Value
Level	1.0000	199
Trend	0.9306	-0.3772

Within-Sample Statistics

Sample size	72	No. parameters	2
Mean	195.31	Std. deviation	1.99
R-square	0.94	Adj. R-square	0.94
Durbin-Watson	1.97	Ljung-Box(18)	29.6 P=0.96
Forecast error	0.5	BIC	0.53
MAPE	0.2	SMAPE	0.2
RMSE	0.5	MAD	0.38
MAD/Mean Ratio	0		

Actual Values for the Most Recent 6 Periods:

Date	Actual
2017-Feb	197.8
2017-Mar	198.7
2017-Apr	199.2
2017-May	199.5
2017-Jun	199.4
2017-Jul	199.0

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2017-Aug	197.591	198.623	199.655
2017-Sep	196.002	198.246	200.489
2017-Oct	194.868	197.868	200.869
2017-Nov	193.890	197.491	201.093
2017-Dec	192.998	197.114	201.230
QTR AVG	193.919	197.491	201.064

Railroad and Union Abbreviations

Fourth Quarter 2017

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.)

Note: A portion of the DM&E was sold during 2014.

Note: The sale of the southern portion of the D&H received regulatory approval on May 15, 2015.

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	Sheet Metal Air Rail Transportation - Transportation Division*
SMW	Sheet Metal Workers' International Association
TCU	Transportation Communication International Union
TCU-Carmen	Brotherhood of Railway Carmen Division of the Transportation Communications International Union
UTU-Yard	United Transportation Union Yardmaster Department (also noted as UTU-YMD)

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)
UTU	United Transportation Union (merged into SMART)

* Typically represents employees formerly represented by the UTU (conductors and brakemen).

AAR Workpapers Sent to STB for 2017 Q4 RCAF

September 5, 2017

1. Index Calculation Spreadsheet (index_calc.xlsx, 2 pages)
2. Summary of ST and PFTNW Hourly Rates (Summary.xlsx)
3. National Contracts spreadsheet, 2 sections (2 and 5 pages)
4. U.S. 2016 Benchmark spreadsheet
5. National Increase Applicability spreadsheet for 2016 Benchmark (Public Version)
6. Wall Street Journal - 13 week Treasury Bill Rate from recent auction (a.k.a. 3-Mo. T-Bill)
7. 2017/Q4 RCAF Lump Sum Amortization summary, public version (1 page)
8. 2017/Q4 RCAF Back Pay Amortization summary, public version (1 page)
9. Health & Welfare worksheet (1 page), 3 ECS pages from NRLC
10. RCAF Taxable Wages adjustment calculation (TaxableRate.xlsx)
11. Railroad Retirement spreadsheet (5 pages)
12. Unemployment Insurance Tax worksheet (1 page)
13. 2-page SAS run for 2017 Q4 Unemployment Insurance Tax & 2-page run for restated 2017 Q3
14. 2 pages from EIA including spot prices and commentary, partial page from WSJ
15. Summary of Materials & Supplies - "U.S. Summary by Composition Category" (1 page)
16. RCAF Car Hire Forecast Spreadsheet for Equipment Rents (2 pages) plus source data page
17. 5 pages of PPI-RE for Depreciation including graph page, input/output, and BLS source data
18. Interest Index calculation using AAR's R-1 summary (1 page)
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 (10 pages: calc, index actual, fuel, 3 car hire, 2 deprec, 2 other)

Benchmarking Data

1. 2016 Wage Statistics Summary
2. RCAF Weights based on 2016 data (2 pages)
3. Railroad Retirement & Medicare 2016 Payroll Tax Calculation (2 pages)
4. Railroad Retirement & Medicare 2015 Earnings Distribution (2 pages, latest available from RRB)
5. 2015 and 2016 wage benchmarks for Railroad Retirement and Unemployment Insurance
6. Restated hourly rates for 2017Q1, Q2, and Q3 for wage rate benchmark.

RCAF All-Inclusive Index's Labor Index Based on 2016 Benchmarks

	16 Wts.	3Q/17	3Q/17 Rebenched As Info Only	% Chg	4Q/17	% Chg	1Q/18	% Chg	2Q/18	% Chg	3Q/18	% Chg
Straight Time		\$33.734	\$33.547	-0.6%	\$33.547	-0.6%		--		--		--
PFTNW		\$6.987	\$6.511	-6.8%	\$6.511	-6.8%		--		--		--
Total		\$40.721	\$40.058	-1.6%	\$40.058	-1.6%	\$0.000	--	\$0.000	--	\$0.000	--
Adjustments												
Lump Sum		\$0.284	\$0.311		\$0.312							
Back Pay		\$0.010	\$0.011		\$0.011							
Other		\$0.124	\$0.135		\$0.136							
Total Wages		\$41.139	\$40.515	-1.5%	\$40.517	-1.5%	\$0.000	--	\$0.000	--	\$0.000	--
Pre-Tax Reduction		(\$1.364)	(\$1.361)		(\$1.361)							
Taxable Wages		\$39.775	\$39.154		\$39.156		\$0.000		\$0.000		\$0.000	
H & W		\$8.851	\$8.793	-0.7%	\$8.793	-0.7%		--		--		--
RR Ret & Medicare		\$8.554	\$8.344	-2.5%	\$8.345	-2.4%		--		--		--
Unemp. Insurance		\$0.321	\$0.323	0.6%	\$0.323	0.6%		--		--		--
Other		\$0.275	\$0.301	9.5%	\$0.136	-50.5%		--		--		--
Total		\$18.001	\$17.761	-1.3%	\$17.597	-2.2%	\$0.000	--	\$0.000	--	\$0.000	--
Adjustments												
Total Supplements		\$18.001	\$17.761	-1.3%	\$17.597	-2.2%	\$0.000	--	\$0.000	--	\$0.000	--
Total Labor		\$59.140	\$58.276	-1.5%	\$58.114	-1.7%	\$0.000	--	\$0.000	--	\$0.000	--
Wage Rate Index	0.7080	352.1	346.7	-1.5%	346.7	-1.5%	0.0	--	0.0	--	0.0	--
Supplements Index	0.2920	665.2	656.4	-1.3%	650.3	-2.2%	0.0	--	0.0	--	0.0	--
Total Labor Index '15 Wts.		441.3										
Total Labor Index '16 Wts.		443.5	437.1	-1.4%	435.4	-1.8%	0.0	--	0.0	--	0.0	--
Labor Index (Linked)		422.8			415.1	-1.8%	0.0	#####	#DIV/0!	--	#DIV/0!	--

All Inclusive Index and RCAF using 2015 Benchmarks and Weights

	16 Wts.	3Q/17	16 Wts. 3Q/17	% Chg	4Q/17	% Chg	1Q/18	% Chg	2Q/18	% Chg	3Q/18	% Chg
Labor	0.356	422.80	422.8	0.0%	415.1	-1.8%	0.0	#####	#DIV/0!	--	#DIV/0!	--
Fuel	0.107	202.30	202.3	0.0%	215.5	6.5%		--		--		--
M&S	0.050	252.60	252.6	0.0%	254.8	0.9%		--		--		--
Equip. Rents	0.059	223.80	223.8	0.0%	223.9	0.0%	0.0	#####	#DIV/0!	--	#DIV/0!	--
Depreciation	0.156	225.10	225.1	0.0%	226.3	0.5%		--		--		--
Interest	0.022	60.60	60.6	0.0%	60.5	-0.2%	60.5	0.0%	60.5	0.0%	60.5	0.0%
Other	0.250	224.30	224.3	0.0%	221.4	-1.3%		--		--		--
Weighted Avg.	1.000	289.30	290.5	0.4%	288.8	-0.6%	1.3	-99.5%	#DIV/0!	--	#DIV/0!	--
Linked		268.70			267.1	-0.6%	1.2	-99.6%	#DIV/0!	--	#DIV/0!	--
Basing Factor												
10/1/80 basis	102.7	261.6			260.1	-0.6%	1.2	-99.5%	#DIV/0!	--	#DIV/0!	--
10/1/82	120.9	222.2			220.9	-0.6%	1.0	-99.5%	#DIV/0!	--	#DIV/0!	--
4Q/87	132.2	203.3			202.0	-0.6%	0.9	-99.6%	#DIV/0!	--	#DIV/0!	--
4Q/92	156.9	171.3			170.2	-0.6%	0.8	-99.5%	#DIV/0!	--	#DIV/0!	--
4Q/97	173.2	155.1			154.2	-0.6%	0.7	-99.5%	#DIV/0!	--	#DIV/0!	--
4Q/02	192.1	139.9			139.0	-0.6%	0.6	-99.6%	#DIV/0!	--	#DIV/0!	--
4Q/07	245.9	109.3			108.6	-0.6%	0.5	-99.5%	#DIV/0!	--	#DIV/0!	--
4Q/12 basis	297.6	90.3			89.8	-0.6%	0.4	-99.6%	#DIV/0!	--	#DIV/0!	--
Car Hire	0.583	204.50	204.5	0.0%	206.9	1.2%		--		--		--
Lease Rents	0.417	224.30	224.3	0.0%	221.4	-1.3%	0.0	--	0.0	--	0.0	--
Weighted Avg Eq Rents		212.80	212.8	0.0%	212.9	0.0%	0.0	--	0.0	--	0.0	--
Linked Equipment Rents		223.80			223.9	0.0%	0.0	#####	#DIV/0!	--	#DIV/0!	--
Preliminary RCAF		0.903			0.898	-0.55%	0.004	-99.6%	#DIV/0!	--	#DIV/0!	--
Forecast Error Adj.		0.000			(0.009)							
RCAF Unadjusted		0.903			0.889	-1.55%	0.004	-99.6%	#DIV/0!	--	#DIV/0!	--
PAF		2.4072			2.4192	0.50%		--		--		--
RCAF Adjusted		0.375			0.367	-2.13%	#DIV/0!	--	#DIV/0!	--	#DIV/0!	--
PAF-5		2.5323			2.5412	0.35%		--		--		--
RCAF-5		0.357			0.350	-1.96%	#DIV/0!	--	#DIV/0!	--	#DIV/0!	--

Hourly Rate for 2017 Q4

Straight Time and Time Paid For But Not Worked

2017Q4 Straight Time Hourly Rate (from national spreadsheet)

\$33.514

Rebenchmark to 2016 Wage Statistics, no other change

Adjustments to 2016 base:

Adjustments added 2017 Q1

CN Railroads	A few COLAs and GWIs	0.006
Misc. Indep BLET, dispatchers, yardmasters	No change	0.000
Soo Corp.	No change	0.000

Adjustments added 2017 Q2

CN Railroads	No change	0.000
Misc. Indep BLET, dispatchers, yardmasters	No change	0.000
Soo Corp.	No change	0.000

Adjustments added 2017 Q3

CN Railroads	A few COLAs and GWIs	0.001
Misc. Indep BLET, dispatchers, yardmasters	3% GWI for 1 RR's BLET	0.026
Soo Corp.	No change	0.000

Adjustments added 2017 Q4

CN Railroads	No change	0.000
Misc. Indep BLET, dispatchers, yardmasters	No change	0.000
Soo Corp.	No change	0.000

Adjusted STHR Total

\$33.547

Pay For Time Not Worked

PFTNW (from national spreadsheet)

\$6.505

Ratio Adj STHR to Nat STHR

33.547 /

33.514

=

1.00098

Adjusted Pay For Time Not Worked

\$6.511

Notes:

1. CN Railroads includes B&LE, CC&P, GTW, IC, and WC.
2. The Miscellaneous group consists of independent (for wages) BLET, and one railroad's dispatchers and yardmasters.
3. Soo Corp. includes SOO, D&H and DM&E although Soo Line participates in national agreements.

National Contracts U.S.

Straight Time Hourly Rate															Check
Weight	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Sum
	0.22141	0.03378	0.16351	0.00607	0.05113	0.14649	0.05876	0.01518	0.04268	0.00540	0.03574	0.01429	0.0113	0.19427	1.00000
2016 Avg.	29.073	29.233	32.388	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	454.658
12/31/16	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	454.710
1/1/17	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	
4/1/17	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	
7/1/17	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	
10/1/17	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	
1/1/18	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	
4/1/18	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	
7/1/18	29.073	29.233	32.441	30.323	31.540	27.934	30.046	25.063	30.523	29.630	30.774	41.405	39.629	47.094	

Weighted Straight Time Hourly Rate															
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Total
2016 Avg.	6.437	0.988	5.296	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.506
12/31/16	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514
1/1/17	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514
4/1/17	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514
7/1/17	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514
10/1/17	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514
1/1/18	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514
4/1/18	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514
7/1/18	6.437	0.988	5.304	0.184	1.613	4.092	1.765	0.380	1.303	0.160	1.100	0.592	0.448	9.149	33.514

Note: The 2016 Average and 12/31/16 Straight Time Hourly Rates are the industry rates, and include all Class I railroad employees. The rates for 1/1/17 through 7/1/18 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 2016 are not shown on this page and are handled separately.

National Contracts U.S.

Pay For Time Not Worked Hourly Rate															Check Sum
Weight	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAF	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	1.00000
2016 Avg.	10.055	5.553	11.616	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	79.491
12/31/16	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	
1/1/17	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	
4/1/17	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	
7/1/17	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	
10/1/17	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	
1/1/18	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	
4/1/18	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	
7/1/18	10.055	5.553	11.635	4.149	6.356	4.931	4.045	3.036	4.613	4.014	4.805	6.873	8.148	1.297	

Pay For Time Not Worked Hourly Rate																Total
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAF	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER		
2016 Avg.	2.226	0.188	1.899	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.502
12/31/16	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505
1/1/17	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505
4/1/17	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505
7/1/17	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505
10/1/17	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505
1/1/18	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505
4/1/18	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505
7/1/18	2.226	0.188	1.902	0.025	0.325	0.722	0.238	0.046	0.197	0.022	0.172	0.098	0.092	0.252		6.505

UTU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				29.07314	10.05469
12/31/16 Industry Rate				29.07327	10.05474
1/1/17			94.280%	29.07327	10.05474
4/1/17			94.280%	29.07327	10.05474
7/1/17			94.280%	29.07327	10.05474
10/1/17			94.280%	29.07327	10.05474
1/1/18			94.280%	29.07327	10.05474
4/1/18			94.280%	29.07327	10.05474
7/1/18			94.280%	29.07327	10.05474

TCU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				29.23338	5.55310
12/31/16 Industry Rate				29.23338	5.55310
1/1/17			82.842%	29.23338	5.55310
4/1/17			82.842%	29.23338	5.55310
7/1/17			82.842%	29.23338	5.55310
10/1/17			82.842%	29.23338	5.55310
1/1/18			82.842%	29.23338	5.55310
4/1/18			82.842%	29.23338	5.55310
7/1/18			82.842%	29.23338	5.55310

BLET

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				32.38830	11.61593
12/31/16 Industry Rate				32.44074	11.63474
1/1/17			2.230%	32.44074	11.63474
4/1/17			2.230%	32.44074	11.63474
7/1/17			2.230%	32.44074	11.63474
10/1/17			2.230%	32.44074	11.63474
1/1/18			2.230%	32.44074	11.63474
4/1/18			2.230%	32.44074	11.63474
7/1/18			2.230%	32.44074	11.63474

U.S. National Contract

SMWIA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				30.32327	4.14896
12/31/16 Industry Rate				30.32327	4.14896
1/1/17			98.301%	30.32327	4.14896
4/1/17			98.301%	30.32327	4.14896
7/1/17			98.301%	30.32327	4.14896
10/1/17			98.301%	30.32327	4.14896
1/1/18			98.301%	30.32327	4.14896
4/1/18			98.301%	30.32327	4.14896
7/1/18			98.301%	30.32327	4.14896

BRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				31.54047	6.35647
12/31/16 Industry Rate				31.54047	6.35647
1/1/17			93.309%	31.54047	6.35647
4/1/17			93.309%	31.54047	6.35647
7/1/17			93.309%	31.54047	6.35647
10/1/17			93.309%	31.54047	6.35647
1/1/18			93.309%	31.54047	6.35647
4/1/18			93.309%	31.54047	6.35647
7/1/18			93.309%	31.54047	6.35647

BMWE

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				27.93431	4.93131
12/31/16 Industry Rate				27.93431	4.93131
1/1/17			91.612%	27.93431	4.93131
4/1/17			91.612%	27.93431	4.93131
7/1/17			91.612%	27.93431	4.93131
10/1/17			91.612%	27.93431	4.93131
1/1/18			91.612%	27.93431	4.93131
4/1/18			91.612%	27.93431	4.93131
7/1/18			91.612%	27.93431	4.93131

TCU-Carmen

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				30.04585	4.04463
12/31/16 Industry Rate				30.04585	4.04463
1/1/17			93.082%	30.04585	4.04463
4/1/17			93.082%	30.04585	4.04463
7/1/17			93.082%	30.04585	4.04463
10/1/17			93.082%	30.04585	4.04463
1/1/18			93.082%	30.04585	4.04463
4/1/18			93.082%	30.04585	4.04463
7/1/18			93.082%	30.04585	4.04463

NCFO

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				25.06329	3.03622
12/31/16 Industry Rate				25.06329	3.03622
1/1/17			97.245%	25.06329	3.03622
4/1/17			97.245%	25.06329	3.03622
7/1/17			97.245%	25.06329	3.03622
10/1/17			97.245%	25.06329	3.03622
1/1/18			97.245%	25.06329	3.03622
4/1/18			97.245%	25.06329	3.03622
7/1/18			97.245%	25.06329	3.03622

IAM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				30.52312	4.61283
12/31/16 Industry Rate				30.52312	4.61283
1/1/17			96.130%	30.52312	4.61283
4/1/17			96.130%	30.52312	4.61283
7/1/17			96.130%	30.52312	4.61283
10/1/17			96.130%	30.52312	4.61283
1/1/18			96.130%	30.52312	4.61283
4/1/18			96.130%	30.52312	4.61283
7/1/18			96.130%	30.52312	4.61283

IBBM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				29.63043	4.01375
12/31/16 Industry Rate				29.63043	4.01375
1/1/17			93.061%	29.63043	4.01375
4/1/17			93.061%	29.63043	4.01375
7/1/17			93.061%	29.63043	4.01375
10/1/17			93.061%	29.63043	4.01375
1/1/18			93.061%	29.63043	4.01375
4/1/18			93.061%	29.63043	4.01375
7/1/18			93.061%	29.63043	4.01375

IBEW

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				30.77399	4.80515
12/31/16 Industry Rate				30.77399	4.80515
1/1/17			95.049%	30.77399	4.80515
4/1/17			95.049%	30.77399	4.80515
7/1/17			95.049%	30.77399	4.80515
10/1/17			95.049%	30.77399	4.80515
1/1/18			95.049%	30.77399	4.80515
4/1/18			95.049%	30.77399	4.80515
7/1/18			95.049%	30.77399	4.80515

ATDA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.				41.40520	6.87293
12/31/16 Industry Rate				41.40520	6.87293
1/1/17			64.908%	41.40520	6.87293
4/1/17			64.908%	41.40520	6.87293
7/1/17			64.908%	41.40520	6.87293
10/1/17			64.908%	41.40520	6.87293
1/1/18			64.908%	41.40520	6.87293
4/1/18			64.908%	41.40520	6.87293
7/1/18			64.908%	41.40520	6.87293

YDMSTRS

Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.			39.62949	8.14812
12/31/16 Industry Rate			39.62949	8.14812
1/1/17		66.322%	39.62949	8.14812
4/1/17		66.322%	39.62949	8.14812
7/1/17		66.322%	39.62949	8.14812
10/1/17		66.322%	39.62949	8.14812
1/1/18		66.322%	39.62949	8.14812
4/1/18		66.322%	39.62949	8.14812
7/1/18		66.322%	39.62949	8.14812

OTHER

Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2016 Industry Avg.			47.09367	1.29707
12/31/16 Industry Rate			47.09367	1.29707
1/1/17		100.000%	47.09367	1.29707
4/1/17		100.000%	47.09367	1.29707
7/1/17		100.000%	47.09367	1.29707
10/1/17		100.000%	47.09367	1.29707
1/1/18		100.000%	47.09367	1.29707
4/1/18		100.000%	47.09367	1.29707
7/1/18		100.000%	47.09367	1.29707

Check Sums

Increase	Applicable	ST HR	PFTNW HR
2016 AVG		454.65790	79.49118
12/31/16		454.71048	
	1168.372%		
Should match check sum on National Increase Applicability for U.S. Total page.	ok matches	ok matches	ok matches
		ok matches	

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

U.S. 2016 Benchmark

	From AAR 112-Class Wage Statistics & Survey				ST \$ Adjusted to Exclude Lump Sums	2016 Average Hourly Rates		12/31/2016 ST HR	ST Hrs. 2016 Weights
	ST Hrs.	ST \$	PFTNW \$	Union L. Sum		ST wo LS	PFTNW		
UTU	65,434,928	\$1,930,214,929	\$657,928,130	\$27,816,409	\$1,902,398,520	\$29.073	\$10.055	\$29.07327	0.22141
TCU	9,983,504	303,458,507	55,439,415	11,606,962	291,851,545	29.233	5.553	\$29.23338	0.03378
BLET	48,322,416	1,661,020,224	561,309,708	95,939,437	1,565,080,787	32.388	11.616	\$32.44074	0.16351
SMWIA	1,794,170	54,537,760	7,443,943	132,659	54,405,101	30.323	4.149	\$30.32327	0.00607
BRS	15,110,898	477,213,616	96,052,017	608,855	476,604,761	31.540	6.356	\$31.54047	0.05113
BMWE	43,292,779	1,212,183,410	213,490,210	2,829,436	1,209,353,974	27.934	4.931	\$27.93431	0.14649
TCU-CAR	17,364,916	522,500,618	70,234,689	757,029	521,743,589	30.046	4.045	\$30.04585	0.05876
NCFO	4,486,605	112,633,766	13,622,322	184,675	112,449,091	25.063	3.036	\$25.06329	0.01518
IAM	12,614,653	385,921,947	58,189,196	883,396	385,038,551	30.523	4.613	\$30.52312	0.04268
IBBM	1,596,069	47,384,556	6,406,219	92,346	47,292,210	29.630	4.014	\$29.63043	0.00540
IBEW	10,561,329	325,916,187	50,748,810	901,990	325,014,197	30.774	4.805	\$30.77399	0.03574
ATDA	4,223,985	179,651,185	29,031,172	4,756,226	174,894,959	41.405	6.873	\$41.40520	0.01429
UTU-YMD	3,339,853	134,496,978	27,213,519	2,140,292	132,356,686	39.629	8.148	\$39.62949	0.01130
OTHER	57,413,647	2,703,819,602	74,469,788	0	2,703,819,602	47.094	1.297	\$47.09367	0.19427
AAR 112 Total	295,539,752	10,050,953,285	1,921,579,138	148,649,712	9,902,303,573	33.506	6.502	33.514	1.00000
Sum (for proofing)						454.65790	79.49118	454.71048	

Year-End Figures are calculated, based on 2016 WS-112 and union contracts, in YearEnd2016.xlsx exhibited in document titled "Year-End 2016 ST Hourly Rates for U.S."

The ST Hours Weights and the Hourly Rates are full float.

National Increase Applicability for U.S. Total

Union	Year 2016 U.S. Total	Not Part of National Agreements*													U.S. National Increase	Percent National Contract
	ST Hours Pd	CSX	BLE	GTW	IC	CCP	WC	NS	BNSF	KCS	SOO	DH	DME	UP	ST Hours Pd	
UTU	65,434,928	--	X	X	X	X	X	--	--	--	X	X	X	--	61,691,884	94.280%
TCU	9,983,504	--	X	X	X	X	X	--	--	--	X	X	X	--	8,270,579	82.842%
BLET	48,322,416	X	X	X	X	X	X	X	X	--	X	X	X	X	1,077,576	2.230%
SMW	1,794,170	--	X	X	X	X	X	--	--	--	X	X	X	--	1,763,686	98.301%
BRS	15,110,898	--	X	X	X	X	X	--	--	--	X	X	X	--	14,099,828	93.309%
BMWE	43,292,779	--	X	X	X	X	X	--	--	--	X	X	X	--	39,661,350	91.612%
TCU-CAR	17,364,916	--	X	X	X	X	X	--	--	--	X	X	X	--	16,163,626	93.082%
NCFO	4,486,605	--	X	X	X	X	X	--	--	--	X	X	X	--	4,363,019	97.245%
IAM	12,614,653	--	X	X	X	X	X	--	--	--	X	X	X	--	12,126,497	96.130%
IBBM	1,596,069	--	X	X	X	X	X	--	--	--	X	X	X	--	1,485,311	93.061%
IBEW	10,561,329	--	X	X	X	X	X	--	--	--	X	X	X	--	10,038,485	95.049%
ATDA	4,223,985	--	X	X	X	X	X	--	--	--	X	X	X	X	2,741,720	64.908%
UTU-YMD	3,339,853	--	X	X	X	X	X	--	--	--	X	X	X	X	2,215,062	66.322%
OTHER	57,413,647	--	--	--	--	--	--	--	--	--	--	--	--	--	57,413,647	100.000%
TOTAL	295,539,752														233,112,270	
Sum (for proofing)																1168.372%

* In some cases, a union is part of the national agreement but is being benchmarked as independent in anticipation of future independent agreements or because of a variation in their interpretation of the agreement.

Percentages are full float.

CN's railroads continue to be benchmarked as independent, although they may participate in the national agreements.

SOO, D&H, and DM&E are benchmarked as independent, although they may participate with national H&W.

Borrowing Benchmarks | WSJ.com/bonds

Money Rates

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.

Inflation			
	0	Chg From (%)	
	level	May '17	June '16

U.S. consumer price index

All items	244.955	0.09	1.6
Core	252.014	0.07	1.7

International rates

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

Prime rates

U.S.	4.25	4.25	4.25	3.50
Canada	2.95	2.95	2.95	2.70
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

	Latest	Week ago	-52-Week-High	-52-Week-Low
Britain	0.25	0.25	0.25	0.25
Australia	1.50	1.50	1.50	1.50

Overnight repurchase

U.S.	1.02	1.13	1.38	0.15
------	------	------	------	------

U.S. government rates

Discount

	1.75	1.75	1.75	1.00
--	------	------	------	------

Federal funds

Effective rate	1.1700	1.1800	1.2000	0.3300
High	1.3125	1.3125	1.3125	0.5625
Low	1.0900	0.9700	1.1600	0.2000
Bid	1.1600	1.1600	1.1700	0.2800
Offer	1.1700	1.1700	1.1900	0.3000

	Latest	Week ago	-52-Week-High	-52-Week-Low
Treasury bill auction				
4 weeks	0.990	0.980	0.990	0.160
13 weeks	1.070	1.180	1.180	0.250
26 weeks	1.130	1.130	1.130	0.395

Secondary market

Fannie Mae

30-year mortgage yields				
30 days	3.438	3.543	3.865	2.808
60 days	3.465	3.575	3.899	2.837

Other short-term rates

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

Call money

	3.00	3.00	3.00	2.25
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Commercial paper (AA financial)

90 days	1.28	1.25	1.28	0.62
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Libor

One month	1.2289	1.23167	1.23389	0.50390
Three month	1.3114	1.31056	1.31667	0.79235
Six month	1.4444	1.45500	1.46544	1.16070
One year	1.7229	1.72900	1.82761	1.47510

Euro Libor

One month	-0.401	-0.398	-0.370	-0.405
Three month	-0.373	-0.377	-0.316	-0.378
Six month	-0.300	-0.299	-0.194	-0.308
One year	-0.190	-0.187	-0.069	-0.190

Euro interbank offered rate (Euribor)

One month	-0.372	-0.371	-0.366	-0.375
Three month	-0.329	-0.329	-0.297	-0.332
Six month	-0.271	-0.272	-0.185	-0.274
One year	-0.151	-0.152	-0.046	-0.163

	Latest	Value	Traded	-52-Week-High	-52-Week-Low
--	--------	-------	--------	---------------	--------------

DTCC GCF Repo Index

Treasury	1.060	28.400	1.366	0.244
MBS	1.064	85.958	1.506	0.257

	Settle	Change	Open Implied Interest	Rate
--	--------	--------	-----------------------	------

DTCC GCF Repo Index Futures

Treasury Aug	98.875	0.005	3335	1.125
Treasury Sep	98.850	0.015	2426	1.150
Treasury Oct	98.770	0.000	1842	1.230

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 June 15, 2017. **Other prime rates** aren't directly comparable; lending practices vary widely by location. **Discount rate** is effective March 16, 2017. **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; General Electric Capital Corp.; Tullett Prebon Information, Ltd.

Global Government Bonds: Map

Yields and spreads over or under U.S. Treasuries on selected other countries; arrows indicate whether

Coupon (%)	Maturity, in years	Country/	Latest (●) 0 20 40 60 80 100 120	Yield (%)	Prev
1.375	2	U.S.	1.350 ▲	1.3	1.3
2.250	10		2.155 ▼	2.1	2.1
2.750	2	Australia	1.869 ▲	1.8	1.8
2.750	10		2.674 ▲	2.6	2.6
0.000	2	France	-0.505 ▼	-0.1	-0.1
1.000	10		0.700 ▲	0.6	0.6
0.000	2	Germany	-0.740 ▼	-0.1	-0.1
0.500	10		0.390 ▲	0.3	0.3
0.050	2	Italy	-0.023 ▲	-0.1	-0.1
2.200	10		2.090 ▼	2.0	2.0
0.100	2	Japan	-0.155 ▲	-0.1	-0.1
0.100	10		0.008 ▼	0.0	0.0
2.750	2	Spain	-0.345 ▲	-0.1	-0.1
1.450	10		1.594 ▼	1.4	1.4
1.750	2	U.K.	0.179	0.1	0.1
4.250	10		1.054	1.0	1.0

Corporate Debt

in that same company's share price.

Investment-grade spreads that tightened

Issuer	Symbol	Coupon (%)	Maturity
American Express	AXP	2.600	Sept. 14
Electronic Arts	EA	3.700	March 1
Verizon Communications	VZ	2.625	Aug. 15
Duke Realty	DRE	3.875	Oct. 15
Glencore Canada	GLENLN	6.200	June 15
Alibaba Group Holding	BABA	2.500	Nov. 28
NBCUniversal Media	CMCSA	5.950	April 1
Microsoft	MSFT	3.700	Aug. 8

...And spreads that widened the most

Issuer	Symbol	Coupon (%)	Maturity
Kinder Morgan	KMI	3.050	Dec. 1
Apache	APA	4.750	April 15
AstraZeneca	AZN	2.375	Nov. 16
Bank of America	BAC	5.000	May 15
Hess	HES	5.800	April 1
Shire Acquisitions Investments Ireland DAC	SHPLN	1.900	Sept. 25
Coca-Cola	KO	2.200	May 25
Microsoft	MSFT	3.300	Feb. 6

High-yield issues with the biggest price

Issuer	Symbol	Coupon (%)	Maturity
Tops Holding	TOMA	8.000	June 15
McClatchy	MNI	6.875	March 15
Genworth Financial	GNW	7.700	June 15
RR Donnelley & Sons	RND	6.500	Nov. 15
CF Industries	CF	5.150	March 15
Tenet Healthcare	THC	6.000	Oct. 15
DISH DBS	DISH	5.875	Nov. 15
Foresight Energy	FELP	11.500	April 15

...And with the biggest price decrease

Issuer	Symbol	Coupon (%)	Maturity
Frontier Communications	FTR	11.000	Sept. 15
Fresh Market	TFM	9.750	May 15
Nabors Industries	NBR	5.500	Jan. 15
Sanchez Energy	SN	6.125	Jan. 15
Chesapeake Energy	CHK	8.000	June 15
Ingles Markets	IMKTA	5.750	June 15
AMC Entertainment Holdings	AMC	6.125	May 15
Hertz	HTZ	7.625	June 15

*Estimated spread over 2-year, 3-year, 5-year, 10-year or 30-year hot-r. Note: Data are for the most active issue of bonds with maturities of two

Key Interest Rates

Data are annualized on a 360-day basis. Treasury yields are per annum, on actively traded noninflation and inflation-indexed issues that are adjusted to constant maturities. Data are from weekly Federal Reserve release H.15.

	Week Ended Aug 25	Week Ended Aug 18	-52-Week-High	-52-Week-Low
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Federal funds (effective)	1.16	1.16	1.16	0.35
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Commercial paper

AA financial	1.10	1.09	1.11	0.37
1-month	1.14	1.14	1.15	0.43
2-month	1.16	1.18	1.18	0.50

Financial	1.18	1.14	1.18	0.43
1-month	1.22	1.19	1.22	0.57
2-month	1.25	1.23	1.25	0.66

Discount window primary credit	1.75	1.75	1.75	1.00
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Conventional mortgages	n.a.	n.a.	3.50	3.42
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Treasury yields at constant maturities	0.97	0.96	1.00	0.13
1-month	1.01	1.02	1.13	0.24
3-month	1.11	1.13	1.15	0.43
6-month	1.23	1.24	1.24	0.57
1-year	1.33	1.33	1.41	0.75
2-year	1.47	1.48	1.64	0.87
3-year	1.77	1.78	2.08	1.13
5-year	2.01	2.04	2.37	1.40
7-year	2.19	2.22	2.55	1.57
10-year	2.52	2.57	2.91	1.90
20-year				

Treasury yields (secondary market)

1-month	0.95	0.95	0.98	0.12
3-month	0.99	1.00	1.11	0.24
6-month	1.09	1.11	1.13	0.43

TIPS

5-year	0.18	0.17	0.29	-0.30
7-year	0.37	0.35	0.49	-0.16
10-year	0.43	0.45	0.63	0.02
20-year	0.73	0.75	0.97	0.41
Long-term avg	0.77	0.80	0.97	0.44

Interest rate swaps

1-year	n.a.	n.a.	1.00	0.93
2-year	n.a.	n.a.	1.09	1.00
3-year	n.a.	n.a.	1.17	1.05
4-year	n.a.	n.a.	1.25	1.10
5-year	n.a.	n.a.	1.33	1.16
7-year	n.a.	n.a.	1.48	1.27
10-year	n.a.	n.a.	1.65	1.40
30-year	n.a.	n.a.	2.00	1.69

Corporate bonds, Moody's seasoned

Aaa	n.a.	n.a.	3.49	3.24
Baa	n.a.	n.a.	4.41	4.19

State and local bonds

	n.a.	n.a.	3.06	2.83
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Eurodollars

1 month	n.a.	n.a.	0.50	0.50
3 month	n.a.	n.a.	0.93	0.86
6 month	n.a.	n.a.	1.30	1.25

Notes on data:

Federal funds rate is an average for the seven days ended Wednesday, weighted according to rates on broker trades; **Commercial paper rates** are discounted offer rates interpolated from sales by discounted averages of dealer bid rates on nationally traded certificates of deposit; **Discount window primary credit rate** is charged for discounts made and advances extended under the Federal Reserve's primary credit discount window program; **rate** is average for seven days ended Wednesday; **Inflation-indexed long-term TIPS** average is indexed and is based on the unweighted average bid yields for all TIPS with remaining terms to maturity of 10 years or more; **Swap rates** are International Swaps and Derivatives Association (ISDA(R)) mid-market par rates for a fixed-rate payer, who in return receives three-month Libor, and are based on rates collected at 11:00 a.m. ET by Garban & Co. LLC; Source is Reuters; **Moody's triple-A** rates are averages of industrial bonds only; **ai rates** are Thursday quotes based on the Bond Buyer Index for general obligation, 20 years to maturity, mixed quality debt; **Mortgage rates** are contract rates on commitments for fixed-rate first mortgages

Sources: Federal Reserve; for additional information on these rate data and their derivation, please see, www.federalreserve.gov/releases/h15/data.htm

**RCAF Lump Sum Amortization
2017/Q4**

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hour	U.S. ST Hours	
NS - BLET 2016Q3 PPI	2016Q4	2017Q1				295,539,752	2016
NS - BLET 2016Q4 PPI	2017Q1	2017Q2				295,539,752	2016
NS - BLET 2017 Ave PP	2017Q1	2017Q2				295,539,752	2016
NS - BLET 2017 TPB	2017Q1	2017Q2				295,539,752	2016
CSX - BLET 2017	2017Q1	2017Q2				295,539,752	2016
NS - BLET 2017Q1 PPI	2017Q2	2017Q3				295,539,752	2016
NS - BLET 2017Q2 PPI	2017Q3	2017Q4				295,539,752	2016
Total			\$91,654,136	0.31012			

Should be slightly less
than amortized amount.

Fell out

NS - BLET 2016Q2 PPI	2016Q3	2016Q4				323,519,708	2016
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Interest Rate

2016/Q1	0.140
2016/Q2	0.320
2016/Q3	0.350
2016/Q4	0.310
2017/Q1	0.480
2017/Q2	0.540
2017/Q3	0.920
2017/Q4	1.070
2018/Q1	
2018/Q2	
2018/Q3	
2018/Q4	

Lump Sum Adjustment for 2017/Q4 → 0.311949
or
0.312

**RCAF Back Pay Amortization
2017/Q4**

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hr.	U.S. ST Hours	
CN - 2 YMD	2016Q1	2017Q1				295,539,752	2016
DME - all unions 2017	2017Q1	2017Q2				295,539,752	2016
Total			\$3,344,640	0.01131705			

Should be slightly less
than amortized amount.

Fell out

Interest Rate

2016/Q1	0.140
2016/Q2	0.320
2016/Q3	0.350
2016/Q4	0.310
2017/Q1	0.480
2017/Q2	0.540
2017/Q3	0.920
2017/Q4	1.070
2018/Q1	
2018/Q2	
2018/Q3	
2018/Q4	

Back Pay Adjustment for 2017/Q4

→ 0.01137
or
0.011

Health and Welfare 2017Q4

	Employees Receiving			Total	
	Pay 2016	Monthly Contribution 2016 Avg. 2017		2016 Avg.	2017
1. All Employees					
a. Group health	156,278	\$1,481.05	\$1,693.72	\$231,455,531.90	\$264,691,174.16
b. Group dental	156,278	56.97	65.12	8,903,157.66	10,176,823.36
c. Early retirement major medical	156,278	134.70	166.75	21,050,646.60	26,059,356.50
d. Group vision	156,278	8.41	8.44	1,314,297.98	1,318,986.32
2. Supplemental Sickness					
a. Signalmen	7,773	29.48	37.00	229,148.04	287,601.00
b. Shopcrafts	23,960	49.11	60.00	1,176,675.60	1,437,600.00
c. MOW	24,275	32.87	40.00	797,919.25	971,000.00
d. Yardmasters	1,874	34.22	34.22	64,128.28	64,128.28
3. Short-Term Disability					
a. Engineers (CSX, KCS, SOO, UP)	11,930	40.00	40.00	477,200.00	477,200.00
4. Monthly Total Premiums				265,468,705.31	305,483,869.62
5. Monthly Employee Contributions To H&W					
a. National BLET (BNSF, CSX, KCS, NS, SOO, UP)	23,363	(\$213.45)	(\$228.89)	(\$4,986,832.35)	(5,347,557.07)
b. National BMWE (BNSF, CSX, KCS, NS, SOO, UP)	22,734	(\$213.45)	(\$228.89)	(\$4,852,572.30)	(5,203,585.26)
c. National BRS (BNSF, CSX, KCS, NS, SOO, UP)	7,335	(\$213.45)	(\$228.89)	(\$1,565,655.75)	(1,678,908.15)
d. National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,691	(\$213.45)	(\$228.89)	(\$1,428,193.95)	(1,531,502.99)
e. National IBBM (BNSF, CSX, KCS, NS, SOO, UP)	863	(\$213.45)	(\$228.89)	(\$184,207.35)	(197,532.07)
f. National IBEW (BNSF, CSX, KCS, NS, SOO, UP)	5,522	(\$213.45)	(\$228.89)	(\$1,178,670.90)	(1,263,930.58)
g. National NCFO (BNSF, CSX, KCS, NS, SOO, UP)	2,395	(\$213.45)	(\$228.89)	(\$511,212.75)	(548,191.55)
h. National SMW (BNSF, CSX, KCS, NS, SOO, UP)	975	(\$213.45)	(\$228.89)	(\$208,113.75)	(223,167.75)
i. National TCU (BNSF, CSX, KCS, NS, SOO, UP)	4,766	(\$213.45)	(\$228.89)	(\$1,017,302.70)	(1,090,889.74)
j. National TCU-CAR (BNSF, CSX, KCS, NS, SOO, UP)	8,859	(\$213.45)	(\$228.89)	(\$1,890,953.55)	(2,027,736.51)
k. National UTU (BNSF, CSX, KCS, NS, SOO, UP)	35,162	(\$213.45)	(\$228.89)	(\$7,505,328.90)	(8,048,230.18)
l. Yardmasters (BNSF, CSX, KCS, NS, SOO, UP)	1,756	(\$213.45)	(\$228.89)	(\$374,818.20)	(401,930.84)
m. National ATDA (wt. avg. BNSF, CSX, KCS, NS, SOO)	1,718	(\$213.45)	(\$228.89)	(\$366,707.10)	(\$393,233.02)
n. Independent CNGT (wt avg all union categories)	6,110	(\$211.84)	(\$226.75)	(\$1,294,342.40)	(1,385,442.50)
o. Independent SLC (wt avg all DH & DME union categories)	655	(\$228.06)	(\$238.90)	(\$149,379.30)	(156,479.50)
p.					
Total Major Union	128,904			(\$27,514,291.25)	(\$29,498,317.71)
All Other Employee Contributions*				(\$4,016,163.08)	(\$4,016,163.08)
6. Net Employer Monthly Payments				\$233,938,250.98	\$271,969,388.83
7. Ratio Projected Year to Base Year, Based on Net Monthly Payments					1.16257
8. H&W hourly rate for base year 2016				\$7.563	
9. H&W hourly rate for projected quarter					\$8.793

* Non-union employee contributions net of opt-outs. The \$27,514,291.25 in major union contributions, plus \$4,016,163.08 in all other employee contributions, totals to the 12-month average of the total employee contributions reported to the AAR in its WF survey.

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JEFFREY F. RODGERS
Vice Chairman

JOANNA L. MOORHEAD
General Counsel

H. GLEN WILLIAMS, Jr.
Director of Economic Research

April 13, 2016

July 1, 2016 Health and Welfare Contributions
Under 2010 Round National Agreements

CIRCULAR NO. 504-41-55 (H&W)

The 2010-round national agreements provide for employee health and welfare cost sharing contributions to be adjusted on July 1, 2016. Effective that date, the new monthly employee contribution will be \$228.89, and will be applicable to all organizations covered by the National Health & Welfare plan and the NRC/UTU plan.

Yours truly,



H. Glen Williams, Jr.

NATIONAL RAILWAY LABOR CONFERENCE

ECONOMIC RESEARCH DEPARTMENT

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May 8, 2012

Health and Welfare Contributions Under 2010-Round National Agreements

Circular No. 504-101-30	(H&W)
Circular No. 858-3	(ATDA)
Circular No. 859-4	(BLET)
Circular No. 860-4	(BMWE)
Circular No. 861-3	(BRS)
Circular No. 863-3	(IBB)
Circular No. 864-3	(IBEW)
Circular No. 865-3	(NCFO)
Circular No. 866-3	(SMW)
Circular No. 867-3	(TCU)
Circular No. 868-3	(BRC)
Circular No. 869-4	(UTU, including YARDMASTERS)
Circular No. 843-10-14	(UTU H&W)

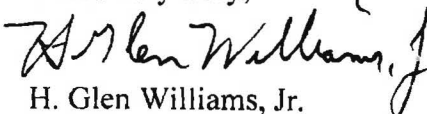
TO MEMBER ROADS:

This refers to previous NRLC Circulars which transmitted copies of the 2010-round national agreements involving the above-listed organizations.

Qualifying employees in each of those organizations are currently making a monthly health and welfare cost-share contribution of \$200.00. That amount is applicable through June 30, 2012.

Effective **July 1, 2012**, the employee monthly cost-share amount will be **\$198.00**. This amount will apply July 1, 2012 through June 30, 2016.

Yours very truly,


H. Glen Williams, Jr.

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May 8, 2012

Health and Welfare Contributions
Under the January 11, 2012 IAM National Agreement

Circular No. 504-101-31 (H&W)
Circular No. 862-3 (IAM)

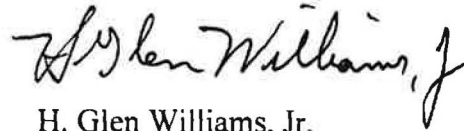
TO MEMBER ROADS:

This refers to NRLC Circular 504-101-29-1 / 848-1-1, in which we advised that NRLC would provide further guidance on proper employee cost-sharing once the employee monthly contribution amounts were set for 2012. Those rates have now been established.

Effective **January 1, 2012**, the employee monthly cost-share amount is **\$200.00**, as provided in Article IV, Part B, Section 1(c) of the January 11, 2012 IAM National Agreement. This amount is applicable January 1, 2012 through June 30, 2012. In the event that qualifying IAM-represented employees have contributed more than the monthly \$200.00 cost-sharing amount in 2012, that additional amount should be credited or refunded to those employees.

Effective **July 1, 2012**, the employee monthly cost-share amount will be **\$198.00**. This amount will apply July 1, 2012 through June 30, 2016.

Yours very truly,



H. Glen Williams, Jr.

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 4Q/2017

U.S. ST Hours =

295,539,752

Wage Statistics are for 2016

Union Group	Employees	Mo. Rate	Annual \$
National BLET (BNSF, CSX, KCS, NS, SOO, UP)	23,363	(\$228.89)	(\$64,170,684.84)
National BMWE (BNSF, CSX, KCS, NS, SOO, UP)	22,734	(\$228.89)	(\$62,443,023.12)
National BRS (BNSF, CSX, KCS, NS, SOO, UP)	7,335	(\$228.89)	(\$20,146,897.80)
National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,691	(\$228.89)	(\$18,378,035.88)
National IBBM (BNSF, CSX, KCS, NS, SOO, UP)	863	(\$228.89)	(\$2,370,384.84)
National IBEW (BNSF, CSX, KCS, NS, SOO, UP)	5,522	(\$228.89)	(\$15,167,166.96)
National NCFO (BNSF, CSX, KCS, NS, SOO, UP)	2,395	(\$228.89)	(\$6,578,298.60)
National SMW (BNSF, CSX, KCS, NS, SOO, UP)	975	(\$228.89)	(\$2,678,013.00)
National TCU (BNSF, CSX, KCS, NS, SOO, UP)	4,766	(\$228.89)	(\$13,090,676.88)
National TCU-CAR (BNSF, CSX, KCS, NS, SOO, UP)	8,859	(\$228.89)	(\$24,332,838.12)
National UTU (BNSF, CSX, KCS, NS, SOO, UP)	35,162	(\$228.89)	(\$96,578,762.16)
Yardmasters (BNSF, CSX, KCS, NS, SOO, UP)	1,756	(\$228.89)	(\$4,823,170.08)
National ATDA (wt. avg. BNSF, CSX, KCS, NS, SOO)	1,718	(\$228.89)	(\$4,718,796.24)
Independent CNGT (wt avg all union categories)	6,110	(\$226.75)	(\$16,625,310.00)
Independent SLC (wt avg all DH & DME union categories)	655	(\$238.90)	(\$1,877,754.00)
Total Union	128,904		(\$353,979,812.52)
All Other @ \$4,016,163.08 total per month			(\$48,193,956.96)
Total			(\$402,173,769.48)

Reduction in Wage Rate Per ST Hour	-\$1.36081108
Deduct this amount from the Wage Rate	-\$1.361

Railroad Retirement and Medicare for RCAF

Inputs:

RRB Earnings Distribution Year 2015
 Wage Statistics Year 2016
 Current Year 2017
 Employees Receiving Pay* 156,278

* from 2016 wage statistics

Tier I Maximum Taxable Earnings for 2017 127,200
 Tier II Maximum Taxable Earnings for 2017 94,500
 Medicare Maximum Taxable Earnings for 2017 no limit
 Tier I Employer Tax Rate for 2017 6.20%
 Tier II Employer Tax Rate for 2017 13.10%
 Medicare Employer Tax Rate for 2017 1.45%

USA RCAF	Wage Rate	Update Factor	Railroad Retirement Tax	Hourly Rate	
2015	\$39.887				
2016	\$39.231	0.98355	\$626,560,300	\$8.192	hourly rate from SUPPL2016.xlsx
1Q/2017	\$39.115	0.98065	\$637,737,829	\$8.338	Rate = Taxable Rate
2Q/2017	\$39.116	0.98067	\$637,749,751	\$8.338	
3Q/2017	\$39.154	0.98162	\$638,202,798	\$8.344	
4Q/2017	\$39.156	0.98167	\$638,226,643	\$8.345	

Railroad Retirement & Medicare, U.S.

From 2015 Earnings Distribution			1Q/2017 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$32,898	2.073	3,240	\$32,261	\$8,065	\$8,065	\$8,065	\$8,065	\$26,128,749	\$26,128,749	\$26,128,749	
41,700 - 43,699	\$43,084	0.612	956	42,250	10,563	10,563	10,563	10,563	10,102,230	10,102,230	10,102,230	
43,700 - 45,699	\$44,719	0.754	1,178	43,853	10,963	10,963	10,963	10,963	12,918,534	12,918,534	12,918,534	
45,700 - 47,699	\$46,516	0.942	1,472	45,616	11,404	11,404	11,404	11,404	16,788,159	16,788,159	16,788,159	
47,700 - 49,699	\$48,812	1.130	1,766	47,867	11,967	11,967	11,967	11,967	21,132,694	21,132,694	21,132,694	
49,700 - 51,699	\$50,602	1.178	1,841	49,623	12,406	12,406	12,406	12,406	22,838,248	22,838,248	22,838,248	
51,700 - 53,699	\$52,846	1.319	2,061	51,823	12,956	12,956	12,956	12,956	26,705,870	26,705,870	26,705,870	
53,700 - 55,699	\$54,776	1.743	2,724	53,716	13,429	13,429	13,429	13,429	36,579,479	36,579,479	36,579,479	
55,700 - 57,699	\$56,687	2.167	3,387	55,590	13,897	13,897	13,897	13,897	47,064,365	47,064,365	47,064,365	
57,700 - 59,699	\$58,718	1.790	2,797	57,582	14,395	14,395	14,395	14,395	40,269,302	40,269,302	40,269,302	
59,700 - 61,699	\$60,855	3.580	5,595	59,677	14,919	14,919	14,919	14,919	83,469,749	83,469,749	83,469,749	
61,700 - 63,699	\$62,705	4.710	7,361	61,491	15,373	15,373	15,373	15,373	113,154,777	113,154,777	113,154,777	
63,700 - 65,699	\$64,735	3.910	6,110	63,482	15,871	15,871	15,871	15,871	96,976,326	96,976,326	96,976,326	
65,700 - 67,699	\$66,581	3.957	6,184	65,292	16,323	16,323	16,323	16,323	100,940,669	100,940,669	100,940,669	
67,700 - 69,699	\$68,768	3.627	5,668	67,437	16,859	16,859	16,859	16,859	95,561,677	95,561,677	95,561,677	
69,700 - 71,699	\$70,711	3.721	5,815	69,342	17,336	17,336	17,336	17,336	100,808,340	100,808,340	100,808,340	
71,700 - 73,699	\$72,644	3.344	5,226	71,238	17,809	17,809	17,809	17,809	93,071,311	93,071,311	93,071,311	
73,700 - 75,699	\$74,617	3.721	5,815	73,173	18,293	18,293	18,293	18,293	106,376,885	106,376,885	106,376,885	
75,700 - 77,699	\$76,720	3.957	6,184	75,235	18,809	18,809	18,809	18,809	116,311,983	116,311,983	116,311,983	
77,700 - 79,699	\$78,703	2.826	4,416	77,180	19,295	19,295	19,295	19,295	85,214,453	85,214,453	85,214,453	
79,700 - 81,699	\$80,790	2.496	3,901	79,226	19,807	19,807	19,807	19,807	77,259,520	77,259,520	77,259,520	
81,700 - 83,699	\$82,667	2.826	4,416	81,067	20,267	20,267	20,267	20,267	89,506,412	89,506,412	89,506,412	
83,700 - 85,699	\$84,656	2.449	3,827	83,018	20,754	20,754	20,754	20,754	79,432,155	79,432,155	79,432,155	
85,700 - 87,699	\$86,571	3.109	4,859	84,895	21,224	21,224	21,224	21,224	103,120,016	103,120,016	103,120,016	
87,700 - 89,699	\$88,770	2.591	4,049	87,052	21,763	21,763	21,763	21,763	88,121,818	88,121,818	88,121,818	
89,700 - 91,699	\$90,664	2.638	4,123	88,909	22,227	22,227	22,227	22,227	91,634,599	91,634,599	91,634,599	
91,700 - 93,699	\$92,682	2.779	4,343	90,888	22,722	22,722	22,722	22,722	98,681,049	98,681,049	98,681,049	
93,700 - 95,699	\$94,776	2.025	3,165	92,942	23,235	23,235	23,235	23,235	73,531,465	73,531,465	73,531,465	
95,700 - 97,699	\$96,754	1.649	2,577	94,881	23,720	23,720	23,625	23,720	61,127,889	60,882,197	61,127,889	
97,700 - 99,699	\$98,799	3.015	4,712	96,887	24,222	24,222	23,625	24,222	114,127,336	111,315,843	114,127,336	
99,700 - 101,699	\$100,824	2.025	3,165	98,873	24,718	24,718	23,625	24,718	78,223,774	74,764,372	78,223,774	
101,700 - 103,699	\$102,818	1.083	1,692	100,828	25,207	25,207	23,625	25,207	42,662,610	39,985,094	42,662,610	
103,700 - 105,699	\$104,762	1.319	2,061	102,734	25,684	25,684	23,625	25,684	52,941,762	48,698,374	52,941,762	
105,700 - 107,699	\$106,724	2.355	3,680	104,658	26,165	26,165	23,625	26,165	96,294,797	86,948,196	96,294,797	
107,700 - 109,699	\$108,858	1.272	1,988	106,751	26,688	26,688	23,625	26,688	53,051,452	46,963,102	53,051,452	
109,700 - 111,699	\$110,533	1.696	2,650	108,394	27,098	27,098	23,625	27,098	71,823,675	62,617,469	71,823,675	
111,700 - 113,699	\$112,778	0.895	1,399	110,595	27,649	27,649	23,625	27,649	38,672,054	33,044,006	38,672,054	
113,700 - 115,699	\$114,802	1.083	1,692	112,580	28,145	28,145	23,625	28,145	47,635,171	39,985,094	47,635,171	
\$115,700 - over	\$165,875	11.634	18,181	162,665	40,666	31,800	23,625	40,666	578,167,964	429,535,162	739,366,569	
TOTAL	\$87,427	100.000	156,278									
Total Taxable Earnings									3,188,429,317	2,988,439,741	3,349,627,922	
Employer Tax Rate									6.20%	13.10%	1.45%	
Quarterly Payment									\$197,682,618	\$391,485,606	\$48,569,605	

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

\$637,737,829

Railroad Retirement & Medicare, U.S.

From 2015 Earnings Distribution			2Q/2017 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$32,898	2.073 %	3,240	\$32,262	\$8,066	\$8,066	\$8,066	\$8,066	\$26,129,417	\$26,129,417	\$26,129,417	
41,700 - 43,699	\$43,084	0.612	956	42,251	10,563	10,563	10,563	10,563	10,102,488	10,102,488	10,102,488	
43,700 - 45,699	\$44,719	0.754	1,178	43,855	10,964	10,964	10,964	10,964	12,918,865	12,918,865	12,918,865	
45,700 - 47,699	\$46,516	0.942	1,472	45,617	11,404	11,404	11,404	11,404	16,788,588	16,788,588	16,788,588	
47,700 - 49,699	\$48,812	1.130	1,766	47,868	11,967	11,967	11,967	11,967	21,133,234	21,133,234	21,133,234	
49,700 - 51,699	\$50,602	1.178	1,841	49,624	12,406	12,406	12,406	12,406	22,838,832	22,838,832	22,838,832	
51,700 - 53,699	\$52,846	1.319	2,061	51,825	12,956	12,956	12,956	12,956	26,706,553	26,706,553	26,706,553	
53,700 - 55,699	\$54,776	1.743	2,724	53,717	13,429	13,429	13,429	13,429	36,580,414	36,580,414	36,580,414	
55,700 - 57,699	\$56,687	2.167	3,387	55,591	13,898	13,898	13,898	13,898	47,065,568	47,065,568	47,065,568	
57,700 - 59,699	\$58,718	1.790	2,797	57,583	14,396	14,396	14,396	14,396	40,270,331	40,270,331	40,270,331	
59,700 - 61,699	\$60,855	3.580	5,595	59,679	14,920	14,920	14,920	14,920	83,471,883	83,471,883	83,471,883	
61,700 - 63,699	\$62,705	4.710	7,361	61,493	15,373	15,373	15,373	15,373	113,157,670	113,157,670	113,157,670	
63,700 - 65,699	\$64,735	3.910	6,110	63,484	15,871	15,871	15,871	15,871	96,978,805	96,978,805	96,978,805	
65,700 - 67,699	\$66,581	3.957	6,184	65,294	16,324	16,324	16,324	16,324	100,943,250	100,943,250	100,943,250	
67,700 - 69,699	\$68,768	3.627	5,668	67,439	16,860	16,860	16,860	16,860	95,564,120	95,564,120	95,564,120	
69,700 - 71,699	\$70,711	3.721	5,815	69,344	17,336	17,336	17,336	17,336	100,810,917	100,810,917	100,810,917	
71,700 - 73,699	\$72,644	3.344	5,226	71,240	17,810	17,810	17,810	17,810	93,073,691	93,073,691	93,073,691	
73,700 - 75,699	\$74,617	3.721	5,815	73,175	18,294	18,294	18,294	18,294	106,379,605	106,379,605	106,379,605	
75,700 - 77,699	\$76,720	3.957	6,184	75,237	18,809	18,809	18,809	18,809	116,314,956	116,314,956	116,314,956	
77,700 - 79,699	\$78,703	2.826	4,416	77,182	19,295	19,295	19,295	19,295	85,216,631	85,216,631	85,216,631	
79,700 - 81,699	\$80,790	2.496	3,901	79,228	19,807	19,807	19,807	19,807	77,261,495	77,261,495	77,261,495	
81,700 - 83,699	\$82,667	2.826	4,416	81,069	20,267	20,267	20,267	20,267	89,508,701	89,508,701	89,508,701	
83,700 - 85,699	\$84,656	2.449	3,827	83,020	20,755	20,755	20,755	20,755	79,434,186	79,434,186	79,434,186	
85,700 - 87,699	\$86,571	3.109	4,859	84,898	21,224	21,224	21,224	21,224	103,122,652	103,122,652	103,122,652	
87,700 - 89,699	\$88,770	2.591	4,049	87,054	21,764	21,764	21,764	21,764	88,124,071	88,124,071	88,124,071	
89,700 - 91,699	\$90,664	2.638	4,123	88,912	22,228	22,228	22,228	22,228	91,636,941	91,636,941	91,636,941	
91,700 - 93,699	\$92,682	2.779	4,343	90,890	22,723	22,723	22,723	22,723	98,683,572	98,683,572	98,683,572	
93,700 - 95,699	\$94,776	2.025	3,165	92,944	23,236	23,236	23,236	23,236	73,533,345	73,533,345	73,533,345	
95,700 - 97,699	\$96,754	1.649	2,577	94,884	23,721	23,721	23,625	23,721	61,129,452	60,882,197	61,129,452	
97,700 - 99,699	\$98,799	3.015	4,712	96,889	24,222	24,222	23,625	24,222	114,130,254	111,315,843	114,130,254	
99,700 - 101,699	\$100,824	2.025	3,165	98,875	24,719	24,719	23,625	24,719	78,225,774	74,764,372	78,225,774	
101,700 - 103,699	\$102,818	1.083	1,692	100,831	25,208	25,208	23,625	25,208	42,663,701	39,985,094	42,663,701	
103,700 - 105,699	\$104,762	1.319	2,061	102,737	25,684	25,684	23,625	25,684	52,943,115	48,698,374	52,943,115	
105,700 - 107,699	\$106,724	2.355	3,680	104,661	26,165	26,165	23,625	26,165	96,297,258	86,948,196	96,297,258	
107,700 - 109,699	\$108,858	1.272	1,988	106,754	26,688	26,688	23,625	26,688	53,052,809	46,963,102	53,052,809	
109,700 - 111,699	\$110,533	1.696	2,650	108,396	27,099	27,099	23,625	27,099	71,825,511	62,617,469	71,825,511	
111,700 - 113,699	\$112,778	0.895	1,399	110,598	27,650	27,650	23,625	27,650	38,673,043	33,044,006	38,673,043	
113,700 - 115,699	\$114,802	1.083	1,692	112,583	28,146	28,146	23,625	28,146	47,636,388	39,985,094	47,636,388	
\$115,700 - over	\$165,875	11.634	18,181	162,669	40,667	31,800	23,625	40,667	578,167,964	429,535,162	739,385,472	
TOTAL		100.000	156,278						3,188,496,050	2,988,489,688	3,349,713,557	
Total Taxable Earnings									3,188,496,050	2,988,489,688	3,349,713,557	
Employer Tax Rate									6.20%	13.10%	1.45%	
Quarterly Payment									\$197,686,755	\$391,492,149	\$48,570,847	

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

\$637,749,751

Railroad Retirement & Medicare, U.S.

From 2015 Earnings Distribution			3Q/2017 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$32,898	2.073	%	3,240	\$32,293	\$8,073	\$8,073	\$8,073	\$8,073	\$26,154,801	\$26,154,801	\$26,154,801
41,700 - 43,699	\$43,084	0.612		956	42,292	10,573	10,573	10,573	10,573	10,112,303	10,112,303	10,112,303
43,700 - 45,699	\$44,719	0.754		1,178	43,897	10,974	10,974	10,974	10,974	12,931,415	12,931,415	12,931,415
45,700 - 47,699	\$46,516	0.942		1,472	45,661	11,415	11,415	11,415	11,415	16,804,898	16,804,898	16,804,898
47,700 - 49,699	\$48,812	1.130		1,766	47,915	11,979	11,979	11,979	11,979	21,153,764	21,153,764	21,153,764
49,700 - 51,699	\$50,602	1.178		1,841	49,672	12,418	12,418	12,418	12,418	22,861,019	22,861,019	22,861,019
51,700 - 53,699	\$52,846	1.319		2,061	51,875	12,969	12,969	12,969	12,969	26,732,497	26,732,497	26,732,497
53,700 - 55,699	\$54,776	1.743		2,724	53,769	13,442	13,442	13,442	13,442	36,615,951	36,615,951	36,615,951
55,700 - 57,699	\$56,687	2.167		3,387	55,645	13,911	13,911	13,911	13,911	47,111,291	47,111,291	47,111,291
57,700 - 59,699	\$58,718	1.790		2,797	57,639	14,410	14,410	14,410	14,410	40,309,453	40,309,453	40,309,453
59,700 - 61,699	\$60,855	3.580		5,595	59,737	14,934	14,934	14,934	14,934	83,552,973	83,552,973	83,552,973
61,700 - 63,699	\$62,705	4.710		7,361	61,553	15,388	15,388	15,388	15,388	113,267,599	113,267,599	113,267,599
63,700 - 65,699	\$64,735	3.910		6,110	63,545	15,886	15,886	15,886	15,886	97,073,017	97,073,017	97,073,017
65,700 - 67,699	\$66,581	3.957		6,184	65,357	16,339	16,339	16,339	16,339	101,041,313	101,041,313	101,041,313
67,700 - 69,699	\$68,768	3.627		5,668	67,504	16,876	16,876	16,876	16,876	95,656,958	95,656,958	95,656,958
69,700 - 71,699	\$70,711	3.721		5,815	69,412	17,353	17,353	17,353	17,353	100,908,852	100,908,852	100,908,852
71,700 - 73,699	\$72,644	3.344		5,226	71,309	17,827	17,827	17,827	17,827	93,164,109	93,164,109	93,164,109
73,700 - 75,699	\$74,617	3.721		5,815	73,246	18,311	18,311	18,311	18,311	106,482,949	106,482,949	106,482,949
75,700 - 77,699	\$76,720	3.957		6,184	75,310	18,828	18,828	18,828	18,828	116,427,953	116,427,953	116,427,953
77,700 - 79,699	\$78,703	2.826		4,416	77,257	19,314	19,314	19,314	19,314	85,299,417	85,299,417	85,299,417
79,700 - 81,699	\$80,790	2.496		3,901	79,305	19,826	19,826	19,826	19,826	77,336,552	77,336,552	77,336,552
81,700 - 83,699	\$82,667	2.826		4,416	81,148	20,287	20,287	20,287	20,287	89,595,656	89,595,656	89,595,656
83,700 - 85,699	\$84,656	2.449		3,827	83,100	20,775	20,775	20,775	20,775	79,511,353	79,511,353	79,511,353
85,700 - 87,699	\$86,571	3.109		4,859	84,980	21,245	21,245	21,245	21,245	103,222,833	103,222,833	103,222,833
87,700 - 89,699	\$88,770	2.591		4,049	87,139	21,785	21,785	21,785	21,785	88,209,681	88,209,681	88,209,681
89,700 - 91,699	\$90,664	2.638		4,123	88,998	22,249	22,249	22,249	22,249	91,725,964	91,725,964	91,725,964
91,700 - 93,699	\$92,682	2.779		4,343	90,979	22,745	22,745	22,745	22,745	98,779,440	98,779,440	98,779,440
93,700 - 95,699	\$94,776	2.025		3,165	93,034	23,259	23,259	23,259	23,259	73,604,780	73,604,780	73,604,780
95,700 - 97,699	\$96,754	1.649		2,577	94,976	23,744	23,744	23,625	23,744	61,188,837	60,882,197	61,188,837
97,700 - 99,699	\$98,799	3.015		4,712	96,983	24,246	24,246	23,625	24,246	114,241,128	111,315,843	114,241,128
99,700 - 101,699	\$100,824	2.025		3,165	98,971	24,743	24,743	23,625	24,743	78,301,768	74,764,372	78,301,768
101,700 - 103,699	\$102,818	1.083		1,692	100,929	25,232	25,232	23,625	25,232	42,705,147	39,985,094	42,705,147
103,700 - 105,699	\$104,762	1.319		2,061	102,837	25,709	25,709	23,625	25,709	52,994,548	48,698,374	52,994,548
105,700 - 107,699	\$106,724	2.355		3,680	104,763	26,191	26,191	23,625	26,191	96,390,808	86,948,196	96,390,808
107,700 - 109,699	\$108,858	1.272		1,988	106,858	26,714	26,714	23,625	26,714	53,104,348	46,963,102	53,104,348
109,700 - 111,699	\$110,533	1.696		2,650	108,502	27,125	27,125	23,625	27,125	71,895,287	62,617,469	71,895,287
111,700 - 113,699	\$112,778	0.895		1,399	110,705	27,676	27,676	23,625	27,676	38,710,612	33,044,006	38,710,612
113,700 - 115,699	\$114,802	1.083		1,692	112,692	28,173	28,173	23,625	28,173	47,682,666	39,985,094	47,682,666
\$115,700 - over	\$165,875	11.634		18,181	162,827	40,707	31,800	23,625	40,707	578,167,964	429,535,162	740,103,762
TOTAL		100.000		156,278								
						Total Taxable Earnings			3,191,031,904	2,990,387,698	3,352,967,702	
						Employer Tax Rate			6.20%	13.10%	1.45%	
						Quarterly Payment			\$197,843,978	\$391,740,788	\$48,618,032	
Total Tier I, Tier II, and Medicare Paid this Quarter												\$638,202,798

Railroad Retirement & Medicare, U.S.

From 2015 Earnings Distribution			4Q/2017 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
			Recvg. Pay						Tier I	Tier II	Medicare	
\$0 - 41,699	\$32,898	2.073 %	3,240	\$32,295	\$8,074	\$8,074	\$8,074	\$8,074	\$26,156,137	\$26,156,137	\$26,156,137	
41,700 - 43,699	\$43,084	0.612	956	42,294	10,574	10,574	10,574	10,574	10,112,819	10,112,819	10,112,819	
43,700 - 45,699	\$44,719	0.754	1,178	43,899	10,975	10,975	10,975	10,975	12,932,075	12,932,075	12,932,075	
45,700 - 47,699	\$46,516	0.942	1,472	45,664	11,416	11,416	11,416	11,416	16,805,756	16,805,756	16,805,756	
47,700 - 49,699	\$48,812	1.130	1,766	47,917	11,979	11,979	11,979	11,979	21,154,845	21,154,845	21,154,845	
49,700 - 51,699	\$50,602	1.178	1,841	49,675	12,419	12,419	12,419	12,419	22,862,187	22,862,187	22,862,187	
51,700 - 53,699	\$52,846	1.319	2,061	51,878	12,969	12,969	12,969	12,969	26,733,863	26,733,863	26,733,863	
53,700 - 55,699	\$54,776	1.743	2,724	53,772	13,443	13,443	13,443	13,443	36,617,821	36,617,821	36,617,821	
55,700 - 57,699	\$56,687	2.167	3,387	55,648	13,912	13,912	13,912	13,912	47,113,697	47,113,697	47,113,697	
57,700 - 59,699	\$58,718	1.790	2,797	57,642	14,410	14,410	14,410	14,410	40,311,512	40,311,512	40,311,512	
59,700 - 61,699	\$60,855	3.580	5,595	59,740	14,935	14,935	14,935	14,935	83,557,241	83,557,241	83,557,241	
61,700 - 63,699	\$62,705	4.710	7,361	61,556	15,389	15,389	15,389	15,389	113,273,385	113,273,385	113,273,385	
63,700 - 65,699	\$64,735	3.910	6,110	63,549	15,887	15,887	15,887	15,887	97,077,975	97,077,975	97,077,975	
65,700 - 67,699	\$66,581	3.957	6,184	65,361	16,340	16,340	16,340	16,340	101,046,474	101,046,474	101,046,474	
67,700 - 69,699	\$68,768	3.627	5,668	67,508	16,877	16,877	16,877	16,877	95,661,844	95,661,844	95,661,844	
69,700 - 71,699	\$70,711	3.721	5,815	69,415	17,354	17,354	17,354	17,354	100,914,007	100,914,007	100,914,007	
71,700 - 73,699	\$72,644	3.344	5,226	71,313	17,828	17,828	17,828	17,828	93,168,868	93,168,868	93,168,868	
73,700 - 75,699	\$74,617	3.721	5,815	73,250	18,312	18,312	18,312	18,312	106,488,388	106,488,388	106,488,388	
75,700 - 77,699	\$76,720	3.957	6,184	75,314	18,828	18,828	18,828	18,828	116,433,900	116,433,900	116,433,900	
77,700 - 79,699	\$78,703	2.826	4,416	77,261	19,315	19,315	19,315	19,315	85,303,774	85,303,774	85,303,774	
79,700 - 81,699	\$80,790	2.496	3,901	79,309	19,827	19,827	19,827	19,827	77,340,502	77,340,502	77,340,502	
81,700 - 83,699	\$82,667	2.826	4,416	81,152	20,288	20,288	20,288	20,288	89,600,232	89,600,232	89,600,232	
83,700 - 85,699	\$84,656	2.449	3,827	83,105	20,776	20,776	20,776	20,776	79,515,415	79,515,415	79,515,415	
85,700 - 87,699	\$86,571	3.109	4,859	84,984	21,246	21,246	21,246	21,246	103,228,105	103,228,105	103,228,105	
87,700 - 89,699	\$88,770	2.591	4,049	87,143	21,786	21,786	21,786	21,786	88,214,186	88,214,186	88,214,186	
89,700 - 91,699	\$90,664	2.638	4,123	89,002	22,251	22,251	22,251	22,251	91,730,649	91,730,649	91,730,649	
91,700 - 93,699	\$92,682	2.779	4,343	90,983	22,746	22,746	22,746	22,746	98,784,486	98,784,486	98,784,486	
93,700 - 95,699	\$94,776	2.025	3,165	93,039	23,260	23,260	23,260	23,260	73,608,540	73,608,540	73,608,540	
95,700 - 97,699	\$96,754	1.649	2,577	94,981	23,745	23,745	23,625	23,745	61,191,963	60,882,197	61,191,963	
97,700 - 99,699	\$98,799	3.015	4,712	96,988	24,247	24,247	23,625	24,247	114,246,963	111,315,843	114,246,963	
99,700 - 101,699	\$100,824	2.025	3,165	98,976	24,744	24,744	23,625	24,744	78,305,768	74,764,372	78,305,768	
101,700 - 103,699	\$102,818	1.083	1,692	100,934	25,233	25,233	23,625	25,233	42,707,329	39,985,094	42,707,329	
103,700 - 105,699	\$104,762	1.319	2,061	102,842	25,711	25,711	23,625	25,711	52,997,255	48,698,374	52,997,255	
105,700 - 107,699	\$106,724	2.355	3,680	104,768	26,192	26,192	23,625	26,192	96,395,732	86,948,196	96,395,732	
107,700 - 109,699	\$108,858	1.272	1,988	106,863	26,716	26,716	23,625	26,716	53,107,060	46,963,102	53,107,060	
109,700 - 111,699	\$110,533	1.696	2,650	108,507	27,127	27,127	23,625	27,127	71,898,959	62,617,469	71,898,959	
111,700 - 113,699	\$112,778	0.895	1,399	110,711	27,678	27,678	23,625	27,678	38,712,590	33,044,006	38,712,590	
113,700 - 115,699	\$114,802	1.083	1,692	112,698	28,175	28,175	23,625	28,175	47,685,101	39,985,094	47,685,101	
\$115,700 - over	\$165,875	11.634	18,181	162,835	40,709	31,800	23,625	40,709	578,167,964	429,535,162	740,141,567	
TOTAL		100.000	156,278						Total Taxable Earnings	3,191,165,370	2,990,487,593	3,353,138,973
									Employer Tax Rate	6.20%	13.10%	1.45%
									Quarterly Payment	\$197,852,253	\$391,753,875	\$48,620,515

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

\$638,226,643

RCAF Unemployment Insurance Tax

	<u>Unemployment Ins.</u>			RRB	Factor	Avg. Ann.	Un. Ins.
	<u>Tax</u>	<u>Earnings</u>	<u>Hourly</u>	<u>Sample</u>	<u>To Update</u>	<u>Taxable</u>	<u>Hourly</u>
	<u>Rate</u>	<u>Base</u>	<u>Earnings</u>	<u>Year</u>	<u>RRB Sample</u>	<u>Earnings</u>	<u>Rate</u>
			\$36.269	(2012)			
2013 Avg.	0.67%	\$16,860	\$36.760		1.013538	\$15,578.13	\$0.057
3Q/14 reb.	0.68%	\$17,280	\$38.308		1.056219	\$15,976.08	\$0.059
4Q/14	0.68%	\$17,280	\$38.319		1.056522	\$15,976.25	\$0.059
1Q/15	2.31%	\$17,460	\$39.385		1.085914	\$16,152.67	\$0.204
2Q/15	2.31%	\$17,460	\$39.595		1.091704	\$16,155.78	\$0.204
3Q/15	2.31%	\$17,460	\$39.581		1.091318	\$16,155.57	\$0.204
			\$36.760	(2013)			
2014 Avg.	0.68%	\$17,280	\$38.866		1.057291	\$16,395.26	\$0.059
3Q/15 reb.	2.31%	\$17,460	\$40.503		1.101823	\$16,583.82	\$0.203
4Q/15	2.31%	\$17,460	\$40.590		1.104189	\$16,585.04	\$0.203
1Q/16	2.73%	\$17,460	\$40.888		1.112296	\$16,589.15	\$0.240
2Q/16	2.73%	\$17,460	\$40.731		1.108025	\$16,586.99	\$0.240
3Q/16	2.73%	\$17,460	\$40.545		1.102965	\$16,584.41	\$0.240
			\$38.866	(2014)			
2015 Avg.	2.31%	\$17,460	\$39.887		1.026257	\$16,460.37	\$0.208
3Q/16 reb.	2.73%	\$17,460	\$39.731		1.022244	\$16,458.00	\$0.246
4Q/16	2.73%	\$17,460	\$39.703		1.021523	\$16,457.57	\$0.246
1Q/17	3.37%	\$18,540	\$39.736		1.022372	\$17,436.31	\$0.321
2Q/17	3.37%	\$18,540	\$39.738		1.022424	\$17,436.34	\$0.321
3Q/17	3.37%	\$18,540	\$39.775		1.023376	\$17,436.97	\$0.321
			\$39.887	(2015)			
2016 Avg.	2.73%	\$17,460	\$39.231		0.983554	\$16,664.96	\$0.247
3Q/17 reb.	3.37%	\$18,540	\$39.154		0.981623	\$17,655.72	\$0.323
4Q/17	3.37%	\$18,540	\$39.156		0.981673	\$17,655.75	\$0.323
1Q/18					0.000000		\$0.000
2Q/18					0.000000		\$0.000
3Q/18					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.

Factors and Caps 2016 and 2017Q4

The MEANS Procedure

Variable	N	Sum	Mean
FactorA	2752	2706.74	0.9835540
FactorQ	2752	2701.56	0.9816730
Capa	2752	48049920.00	17460.00
Capq	2752	51022080.00	18540.00

TOTAL GROSS EARNINGS AND AVERAGE GROSS EARNINGS-2015 RRB File

The MEANS procedure

Variable	N	Sum	Mean
ANUAL_US	2752	45861976.95	16664.96
QTRLY_US	2752	48588626.89	17655.75

Factors and Caps 2016 and 2017Q3 Rebase

The MEANS procedure

Variable	N	Sum	Mean
FactorA	2752	2706.74	0.9835540
FactorQ	2752	2701.43	0.9816230
Capa	2752	48049920.00	17460.00
Capq	2752	51022080.00	18540.00

TOTAL GROSS EARNINGS AND AVERAGE GROSS EARNINGS-2015 RRB File

The MEANS procedure

Variable	N	Sum	Mean
ANUAL_US	2752	45861976.95	16664.96
QTRLY_US	2752	48588536.48	17655.72



U.S. Energy Information
Administration

PETROLEUM & OTHER LIQUIDS

OVERVIEW **DATA** ANALYSIS & PROJECTIONS

[GLOSSARY](#) [FAQS](#)

Spot Prices

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

Period: **Weekly** ▼

Product by Area	 	07/21/17	07/28/17	08/04/17	08/11/17	08/18/17	08/25/17	View History
Crude Oil								
WTI - Cushing, Oklahoma	☐	46.41	48.27	49.52	49.08	47.52	47.68	1986-2017
Brent - Europe	☐	47.99	49.95	52.04	51.96	50.58	52.03	1987-2017
Conventional Gasoline								
New York Harbor, Regular	☐	1.591	1.610	1.664	1.635	1.609	1.657	1986-2017
U.S. Gulf Coast, Regular	☐	1.530	1.560	1.627	1.601	1.563	1.603	1986-2017
RBOB Regular Gasoline								
Los Angeles	☐	1.638	1.712	1.736	1.720	1.707	1.782	2003-2017
No. 2 Heating Oil								
New York Harbor	☐	1.422	1.482	1.542	1.530	1.489	1.497	1986-2017
Ultra-Low-Sulfur No. 2 Diesel Fuel								
New York Harbor	☐	1.525	1.585	1.646	1.630	1.592	1.606	2006-2017
U.S. Gulf Coast	☐	1.488	1.550	1.617	1.602	1.562	1.577	2006-2017
Los Angeles	☐	1.564	1.632	1.686	1.675	1.653	1.700	1996-2017
Kerosene-Type Jet Fuel								
U.S. Gulf Coast	☐	1.425	1.497	1.551	1.536	1.501	1.546	1990-2017
Propane								
Mont Belvieu, Texas	☐	0.658	0.701	0.738	0.751	0.752	0.764	1992-2017

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: 8/30/2017

Next Release Date: 9/7/2017



U.S. Energy Information
Administration

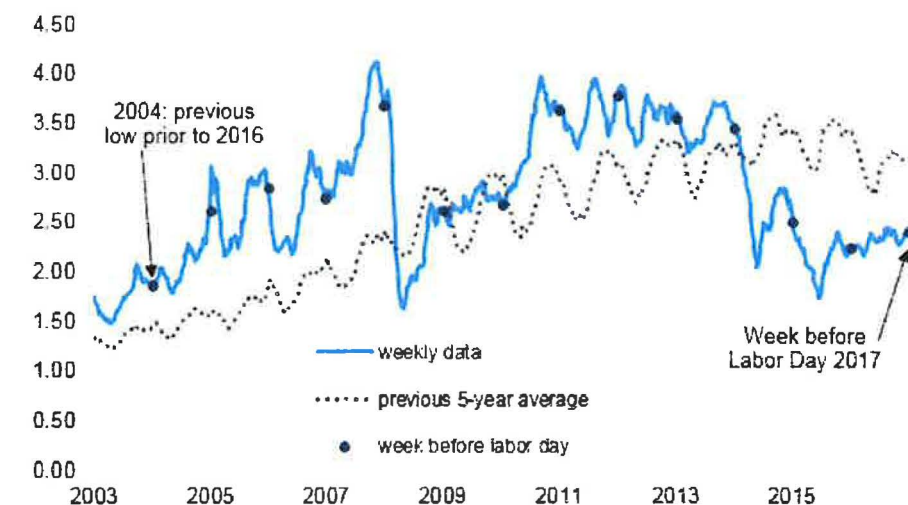
This Week in Petroleum

Release date: August 30, 2017 | Next release date: September 7, 2017

Hurricane Harvey adds considerable uncertainty surrounding gasoline prices for the upcoming Labor Day weekend

EIA has traditionally published a gasoline supply and price TWIP prior to the Labor Day weekend, but the devastation caused by Hurricane Harvey casts a great deal of uncertainty regarding what may happen over the next few weeks. On August 28, the U.S. average retail gasoline price was \$2.40 per gallon (gal), the second-lowest price on the Monday before Labor Day since 2004. While the average Monday price was up 4 cents/gal over the previous week, prices on that date do not yet reflect the full effects of Hurricane Harvey.

Figure 1: Weekly U.S. average regular gasoline prices
dollars per gallon



Source: U.S. Energy Information Administration

Retail gasoline prices vary significantly within the United States as a result of regional supply and demand balances, gasoline specification requirements, and taxes (Figure 2). As of August 28, regular retail gasoline prices were \$2.34/gal on the East Coast, \$2.31/gal in the Midwest, \$2.16/gal on the Gulf Coast, \$2.47/gal in the Rocky Mountains, and \$2.90/gal on the West Coast. [West Coast](#) retail gasoline prices are often above the U.S. average because of the region's isolation from

THE WALL STREET JOURNAL

1103022 WallStJournal Mon-Fri
ASSOC OF AMER RAILROAD
425 3RD ST SW APT 1000

THURSDAY, AUGUST 31, 2017 ~ VOL. CCLXX NO.

★★★ \$4.00

27.06 0.1% NASDAQ 6368.31 ▲ 1.1% STOXX 600 371.01 ▲ 0.7% 10-YR. TREAS. ▼ 3/32, yield 2.145% OIL \$45.96 ▼ \$0.40 GOLD \$1,308.10 ▼ \$5.00 EURO \$1.1884 YEN 110.24

Refining Shutdown Reverberates

Record flooding from Harvey is straining the global superhighway of the energy trade

BY CHRISTOPHER M. MATTHEWS
AND ALISON SIDER

Tropical Storm Harvey's crippling of Gulf Coast refineries, ports and pipelines is being felt across the country and even globally, a result of a U.S. energy boom that has made the country and the world increasingly reliant on Texas.

Harvey shut down a third Gulf Coast refining center Wednesday, and is knocking on the door of a fourth. More than a dozen refineries are affected—including the country's two biggest, Saudi Arabian Oil Co.'s Motiva facility in Port Arthur and Exxon Mobil Corp.'s Baytown facility—cumulatively representing more than 30% of U.S. refining capacity, according to IHS Markit.

More than 3 million barrels a day of refining capacity in Texas remained shut Wednesday morning, according to an-

alysts, more than Brazil's daily national consumption of petroleum products. Three shuttered refineries said on Wednesday they were either starting up or planning to start up again.

Port closures are compounding the refineries' woes. Port Houston has warned shippers it is likely to be closed to large vessels at least through

Please see *ENERGY* page A4

- ◆ Struggling hospitals brace for wave of new patients..... A4
- ◆ Need for federal funds may top amount for Katrina..... A4

Lone Star Slowdown

Harvey has shut down a sizable portion of oil activity in Texas, which makes up nearly a third of U.S. refining capacity.

Texas refinery capacity as of Wednesday

In barrels per day

Shut down 2.7 million

●●●●●●●● 8 refineries

Partially shut down 500,000

●● 2 refineries

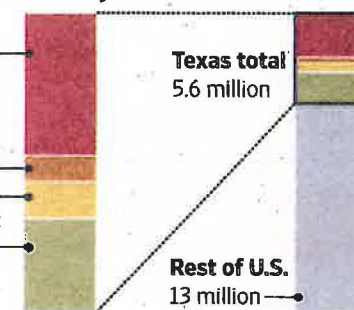
Restarting* 700,000

●●● 3 refineries *Or trying to restart

Open 1.8 million

●●●●●●●●●●●●●● 15 refineries

Source: Energy Information Administration



THE WALL STREET JOURNAL

'Worst Is Not Yet Over' as Floodwaters Spread in Southeast Texas



Katrina Survivors Relive Ordeal

BY ARIAN CAMPO-FLORES
AND ERIN AILWORTH

U.S.

Summary by Composition Category

	MS-2016		Prev. Idx	2017Q3		Calculation		Relative of Change
	MS Amount	Weight		Cur Idx		Prev. Idx	Cur Idx	
Forest Products	778,802,463	0.1337	319.77	315.68		42.75	42.21	
Metal Products	3,300,469,719	0.5666	171.25	170.05		97.03	96.35	
Misc. Products	1,745,997,298	0.2997	355.23	366.70		106.46	109.90	
Total	5,825,269,480	1.0000	246.24	248.46				1.0090
Total Linked			238.05	240.19				
'77 = 100 Link Fact.= 1.423			338.75	341.79				
'80 = 100 Link Fact.= 1.061			252.57	254.84				

As info only	Change
Forest Products	-1.28%
Metal Products	-0.70%
Misc. Products	<u>3.23%</u>
Total ('80=100)	0.90%
Rounded 80 Indices	0.9%
Rounded 77 Indices	0.9%

RCAF (Forecast)

	1980	June 3Q/17	Sept. 4Q/17	Dec. 1Q/18	Mar. 2Q/18	June 3Q/18
RATE						
RR-OWNED TIME	31.00	64.00	64.00	--	--	--
RR-OWNED MILEAGE	4.69	6.70	6.70	--	--	--
PRIVATELY-OWNED CARS	25.47	53.60	54.31	--	--	--
AUTORACKS	47.00	83.56	84.81	--	--	--
INDEX						
RR-OWNED TIME	100.0	206.5	206.5	--	--	--
RR-OWNED MILEAGE	100.0	142.9	142.9	--	--	--
PRIVATELY-OWNED CARS	100.0	210.4	213.2	--	--	--
AUTORACKS	100.0	177.8	180.4	--	--	--
CAR HIRE INDEX (old wts) 2015	100.0	204.5	--	--	--	--
CAR HIRE INDEX (new wts) 2016	100.0	203.2	205.6	--	--	--
CAR HIRE INDEX (LINKED)	100.0	204.5	206.9	--	--	--

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.

Equipment Rents 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)														
Superstructures (Vehicular Flats)	8,341	8,815	9,030											
Rate (in cents)														
Superstructures #3 - Auto Rack	54.0	62.0	65.0											
All other #1 - Time	64.0	64.0	64.0											
All other #2 - Mileage	6.7	6.7	6.7											
Private Equipment														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	56,048	56,095	56,066											
Covered Hoppers	397,633	400,103	402,279											
Tank Cars	405,127	405,272	405,476											
Others	291,842	291,943	291,843											
Rate (in cents)														
Superstructures #1 - Time	84.0	84.0	84.0											
Superstructures #2 - Mileage	1.4	1.4	1.4											
Superstructures #3 - Auto Rack	88.0	88.0	88.0											
Covered Hoppers #2 - Mileage	45.5	45.6	45.7											
Tank Cars #2 - Mileage	85.2	85.3	86.8											
Others #1 - Time	87.0	87.0	87.0											
Others #2 - Mileage	8.1	8.1	8.1											
AVERAGE RATES														
Private Superstructures	21.14	21.14	21.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Others	27.41	27.41	27.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Total	53.70	53.76	54.31	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Autoracks	83.60	84.47	84.81	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

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
Autoracks	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

Note: 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 - () Hire Rate Report

Average Car Rental Rates for 09/2017

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	9,030	115	0.076	65
Railroad	Number of Zero-Rated Vehicular Flats	57	.	.	.
Railroad	All Other Cars	429,709	64	0.067	.
Railroad	Number of Zero-Rated Other Cars	17,099	.	.	.
Railroad	Total Railroad Equipment	455,895	.	.	.
		.	.	.	.
Private	Vehicular Flats	56,066	84	0.014	88
Private	Number of Zero-Rated Vehicular Flats	28	.	.	.
Private	Covered Hoppers	402,279	0	0.457	.
Private	Number of Zero-Rated Covered Hoppers	13,362	.	.	.
Private	Tanks	405,476	0	0.868	.
Private	Number of Zero-Rated Tanks	8,517	.	.	.
Private	All Other Cars	291,843	87	0.081	.
Private	Number of Zero-Rated Other Cars	23,794	.	.	.
Private	Total Private Equipment	1,201,365	.	.	.

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.

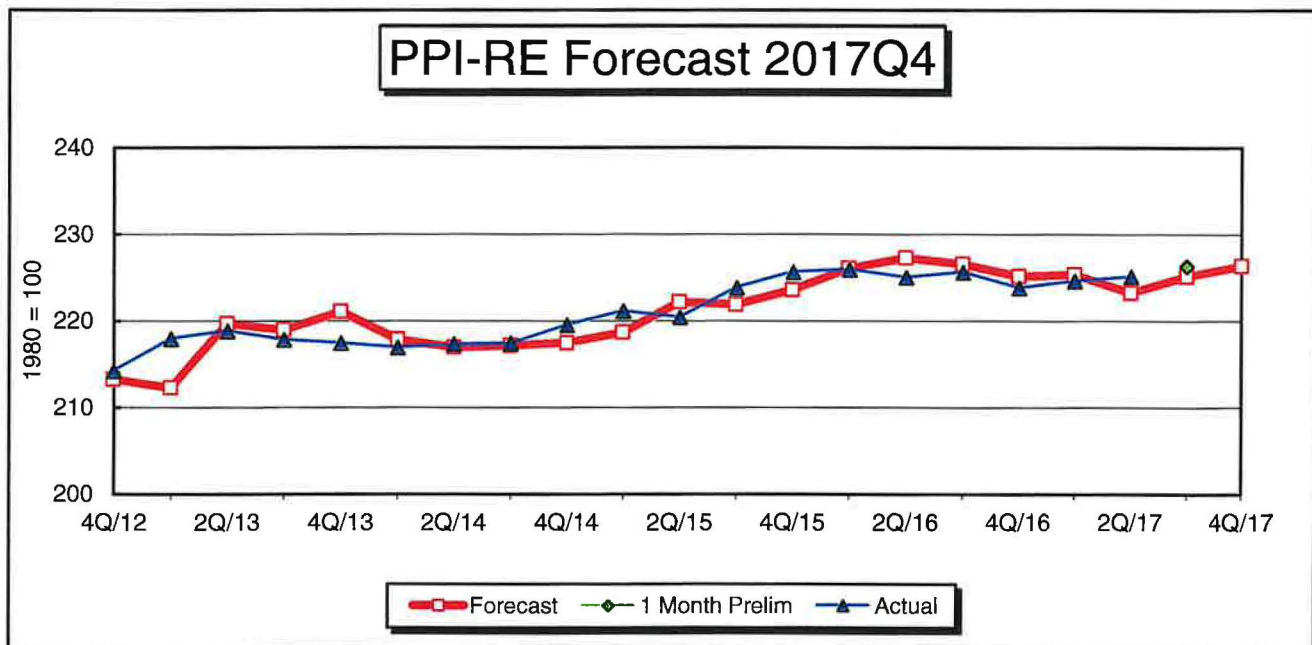
Equipment must be Active in Umler to be included in this report; Pre-registered and Inactive cars are excluded.

PPI-RE Forecast (for Depreciation Component)

	Forecast	Actual	1 Month Prelim
4Q/12	213.2	214.2	
1Q/13	212.2	217.9	
2Q/13	219.6	218.8	
3Q/13	218.9	217.8	
4Q/13	221.0	217.4	
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		

1980 Base

	PPI-RE Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2017Q4						
Low	200.5	221.8	-0.9%			
Midpoint	204.6	226.3	1.1%	0.0%	0.5%	0.5%
High	208.7	230.9	3.2%			



Forecast Report for PPIRE

Description: PPIRE

Expert Analysis

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

The cumulative MAD for Exponential smoothing was 1.55 and for Box-Jenkins was 1.08.
The rolling out-of-sample test used a maximum horizon of 12 and generated 78 forecasts for each method.

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

Model Details

Expert selection

Box-Jenkins

ARIMA(0, 1, 0)

Within-Sample Statistics

Sample size	72	No. parameters	0
Mean	197.92	Std. deviation	5.13
R-square	0.96	Adj. R-square	0.96
Durbin-Watson	2.44	Ljung-Box(18)	18.8 P=0.59
Forecast error	1.05	BIC	1.05
MAPE	0.38	SMAPE	0.38
RMSE	1.05	MAD	0.74
MAD/Mean Ratio	0		

Historic Data

Date	Historic
2011-Aug	187.4
2011-Sep	187.5
2011-Oct	187.5
2011-Nov	187.7
2011-Dec	189.9
2012-Jan	190.1
2012-Feb	190.1
2012-Mar	190.6
2012-Apr	191.8
2012-May	191.6
2012-Jun	191.5
2012-Jul	192
2012-Aug	190.4
2012-Sep	190.9
2012-Oct	194.9
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	203.5
2017-May	203.4
2017-Jun	203.5
2017-Jul	204.6

Forecast Data

Date	2.5 Lower	Forecast	97.5 Upper
2017-Aug	202.524	204.6	206.676
2017-Sep	201.664	204.6	207.536
2017-Oct	201.004	204.6	208.196
2017-Nov	200.447	204.6	208.753
2017-Dec	199.957	204.6	209.243
2018-Jan	199.514	204.6	209.686
2018-Feb	199.107	204.6	210.093
2018-Mar	198.727	204.6	210.473
2018-Apr	198.371	204.6	210.829
2018-May	198.034	204.6	211.166
2018-Jun	197.714	204.6	211.486
2018-Jul	197.407	204.6	211.793

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PPI Commodity Data

Series Id: WPU144

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
2016	204.0	204.2	203.3	203.0	203.5	203.5	203.5	204.4	203.7	203.7	201.5	201.8
2017	201.9	204.1	203.3	203.5(P)	203.4(P)	203.5(P)	204.6(P)					

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

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**Calculation of Interest Rate Index
for RCAF's All-Inclusive Index
(\$000)**

Schedule 210		2016
Line	Item	Col. (b)
42	Total Fixed Charges	\$996,415
44	Contingent interest on funded debt	7,604
22	Less: Release of Premiums on funded debt	5,787
Total Interest		\$998,232

Green cells designate new line numbers in 2016

Schedule 200		(close of year)	(beg. of year)
Line	Item	Col. (b)	Col. (c)
29	Current Liabilities, Loans and Notes Payable	\$100,000	\$200,000
38	Equip. Obs & Other LT Debt due Within One Yr	349,855	460,746
40	Funded Debt Unmatured	1,764,639	2,130,277
41	Equipment Obligations	1,771,531	1,712,985
42	Capitalized Lease Obligations	1,467,790	1,705,328
43	Debt in Default	0	0
44	Accounts Payable: Affiliated Companies	15,741,962	14,665,798
45	Unamortized Debt Premium	-5,697	4,438
Total Debt		\$21,190,080	\$20,879,572

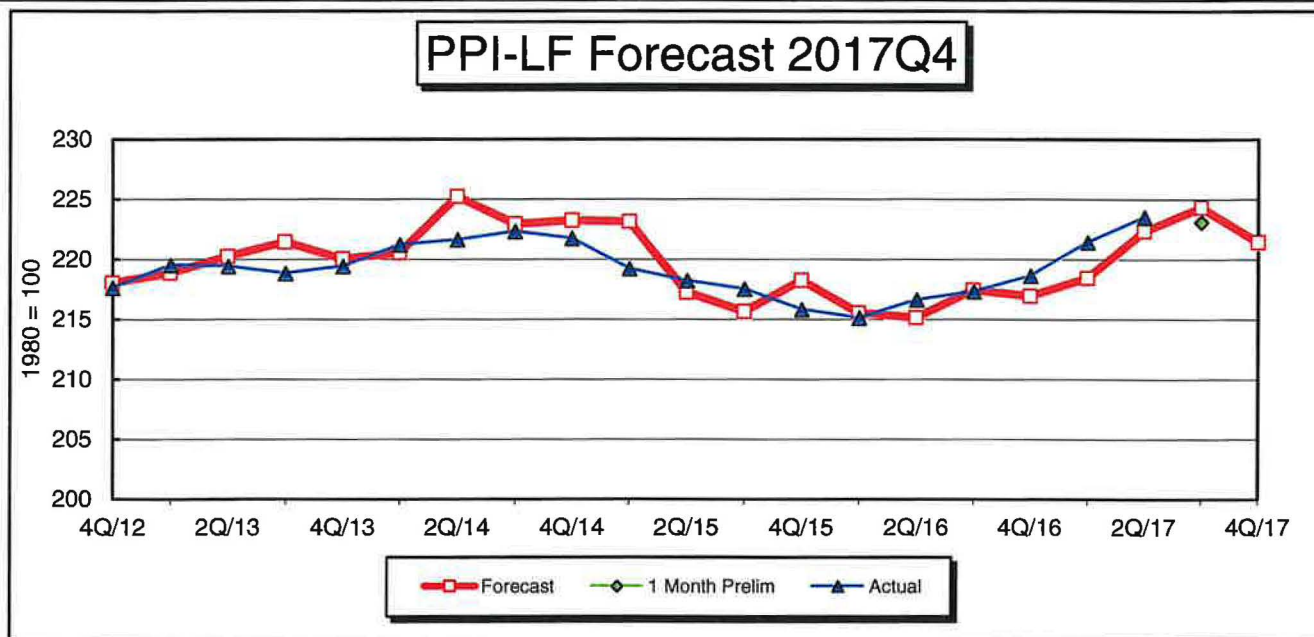
Total Interest for 2016	\$998,232
Average Debt for 2016	\$21,034,826
Embedded Interest Rate for 2016	4.75%
Embedded Interest Rate for 1980	7.85%
Interest Rate Index (1980 = 100)	60.5

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

	Forecast	Actual	1 Month Prelim
4Q/12	218.0	217.6	
1Q/13	218.8	219.5	
2Q/13	220.2	219.4	
3Q/13	221.4	218.8	
4Q/13	220.0	219.4	
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		223.1
4Q/17	221.4		

1980 Base

	PPI-LF Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2017Q4						
Low	193.9	217.4	-0.5%			
Midpoint	197.5	221.4	1.3%	-0.8%	-0.9%	-1.3%
High	201.1	225.4	3.1%			



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 1.98 and for Box-Jenkins was 2.38. 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

Holt exponential smoothing: Linear trend, No seasonality

LN(1.000, 0.931)

Component	Smoothing Wgt	Final Value
Level	1	199
Trend	0.9306	-0.3772

Within-Sample Statistics

Sample size	72	No. parameters	2
Mean	195.31	Std. deviation	1.99
R-square	0.94	Adj. R-square	0.94
Durbin-Watson	1.97	Ljung-Box(18)	29.6 P=0.96
Forecast error	0.5	BIC	0.53
MAPE	0.2	SMAPE	0.2
RMSE	0.5	MAD	0.38
MAD/Mean Ratio	0		

Historic Data

Date	Historic
2011-Aug	194.5
2011-Sep	194.6
2011-Oct	193.9
2011-Nov	193.2
2011-Dec	192.7
2012-Jan	193.8
2012-Feb	194.7
2012-Mar	195.7
2012-Apr	195.8
2012-May	195.4
2012-Jun	193.7
2012-Jul	193.3
2012-Aug	193.3

2012-Sep	193.7
2012-Oct	193.9
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	199.2 ✓
2017-May	199.5 ✓
2017-Jun	199.4
2017-Jul	199 ✓

Forecast Data

Date	2.5 Lower	Forecast	97.5 Upper
2017-Aug	197.591	198.623	199.655
2017-Sep	196.002	198.246	200.489
2017-Oct	194.868	197.868	200.869
2017-Nov	193.89	197.491	201.093
2017-Dec	192.998	197.114	201.23
2018-Jan	192.164	196.737	201.31
2018-Feb	191.372	196.36	201.347
2018-Mar	190.612	195.982	201.353
2018-Apr	189.877	195.605	201.334
2018-May	189.163	195.228	201.293
2018-Jun	188.467	194.851	201.235
2018-Jul	187.786	194.474	201.161

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PPI Commodity Data

Series Id: WPU03T15M05

Not Seasonally Adjusted

Group: Industrial Commodities less fuels

Item: Industrial commodities less fuels

Base Date: 198200

Download:  [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	191.9	191.8	192.1	192.8	193.4	193.7	193.7	194.0	193.9	194.3	194.9	195.6
2017	196.8	197.8	198.7	199.2(P)	199.5(P)	199.4(P)	199.0(P)					

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

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Forecast Error Calculation

	2015	Second Quarter 2017		Difference		Notes			
	Weight	2017Q2 Forecast	2017Q2 Actual	Pt.	Pct.				
Labor	35.0%	421.4	421.4	0.0	0%	* actual=forecast			
Fuel	13.4%	218.2	205.7	-12.5	-6%	from 1st month of quarter			
M&S	5.4%	264.8	264.8	0.0	0%	* actual=forecast			
Equip Rents	5.8%	222.6	223.8	1.2	1%	from Equipment Rents below			
Depreciation	13.9%	223.2	225.1	1.9	1%	PPI-RE <table><tr><td>203.50</td><td>203.40</td><td>203.50</td></tr></table> 0.9040	203.50	203.40	203.50
203.50	203.40	203.50							
Interest	1.9%	60.6	60.6	0.0	0%	* actual=forecast			
Other	24.6%	222.3	223.5	1.2	1%	PPI-LF <table><tr><td>199.20</td><td>199.50</td><td>199.40</td></tr></table> 0.8920	199.20	199.50	199.40
199.20	199.50	199.40							
Weighted Avg	100.0%								
1980 = 100		290.8	289.8			calculated			
1980 = 100 (linked)		270.1	267.4			calculated			
4Q12r = 100	2.976	90.8	89.9			calculated			
4Q07 = 100	2.459	109.8	108.7			calculated			
4Q02 = 100	1.921	140.6	139.2			calculated			
4Q97 = 100	1.732	155.9	154.4			calculated			
4Q92 = 100	1.569	172.1	170.4			calculated			
Forecast Error		-0.9				calculated -0.009 = RCAF adj.			
Prior Quarter									
1980 = 100		287.9	289.9 **						
1980 = 100 (linked)		267.4	267.5						
4Q12r = 100		89.9	89.9			calculated			
4Q07 = 100		108.7	108.8			calculated			
4Q02 = 100		139.2	139.3			calculated			
4Q97 = 100		154.4	154.4			calculated			
4Q92 = 100		170.4	170.5			calculated			
Equipment Rents									
Car Hire	58.2%	204.1	204.5			from Equipment Rents/CHARM			
Lease Rentals	41.8%	222.3	223.5			(equals PPI-LF from above)			
Weighted Average		211.7	212.4			calculated			
Linked		222.6	223.8			calculated			
Prior Quarter									
Weighted Average		213.3	214.8 **						
Linked		224.3	226.3						
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

All-Inclusive Index (Actual)

	15 Wts	3Q/16 14 Wts	3Q/16 15 Wts	% Chg.	4Q/16 15 Wts	% Chg.	1Q/17 15 Wts	% Chg.	2Q/17 15 Wts	% Chg.	3Q/17 15 Wts	% Chg.
Labor	35.0%	415.2	415.2	0.0%	405.1	-2.4%	421.2	4.0%	421.4	0.0%		NA
Fuel	13.4%	183.1	183.1	0.0%	201.9	10.3%	206.5	2.3%	205.7	-0.4%		NA
M&S	5.4%	240.6	240.6	0.0%	245.8	2.2%	274.3	11.6%	264.8	-3.5%		NA
Equipment Rents	5.8%	217.6	217.6	0.0%	224.8	3.3%	226.3	0.7%	223.8	-1.1%	0.0	NA
Depreciation	13.9%	225.6	225.6	0.0%	223.8	-0.8%	224.6	0.4%	225.1	0.2%		NA
Interest	1.9%	57.5	57.5	0.0%	60.6	5.4%	60.6	0.0%	60.6	0.0%	60.6	0.0%
Other	24.6%	217.3	217.3	0.0%	218.6	0.6%	221.4	1.3%	223.5	0.9%		NA
	1.0000											
Weighted Avg.		272.8	281.4	3.2%	281.2	-0.1%	289.9	3.1%	289.8	0.0%	1.2	NA
Linked		259.7			259.5	-0.1%	267.5	3.1%	267.4	0.0%	1.1	NA
10/1/80	1.027	252.9			252.7	-0.1%	260.5	3.1%	260.4	0.0%	1.1	NA
10/1/82	1.209	214.8			214.6	-0.1%	221.3	3.1%	221.2	0.0%	0.9	NA
4Q/87	1.322	196.4			196.3	-0.1%	202.3	3.1%	202.3	0.0%	0.8	NA
4Q/92	1.569	165.5			165.4	-0.1%	170.5	3.1%	170.4	-0.1%	0.7	NA
4Q/97	1.732	149.9			149.8	-0.1%	154.4	3.1%	154.4	0.0%	0.6	NA
4Q/02	1.921	135.2			135.1	-0.1%	139.3	3.1%	139.2	-0.1%	0.6	NA
4Q/07	2.459	105.6			105.5	-0.1%	108.8	3.1%	108.7	-0.1%	0.4	NA
4Q/12	2.976	87.3			87.2	-0.1%	89.9	3.1%	89.9	0.0%	0.4	NA
Equipment Rents												
Car Hire	58.2%	199.0	199.0	0.0%	209.6	5.3%	210.1	0.2%	204.5	-2.7%		NA
Lease Rentals	41.8%	217.3	217.3	0.0%	218.6	0.6%	221.4	1.3%	223.5	0.9%	0.0	NA
	1.0000											
ER Weighted Avg		207.0	206.6	-0.2%	213.4	3.3%	214.8	0.7%	212.4	-1.1%	0.0	NA
ER Linked		217.6			224.8	3.3%	226.3	0.7%	223.8	-1.1%	0.0	NA

Impact/Check of weight change	14 Wts	15 Wts
Labor	131.618	145.320
Fuel	38.268	24.535
Material & Supplies	12.511	12.992
Equipment Rents	11.750	12.621
Depreciation	28.426	31.358
Interest	0.863	1.093
Other	49.327	53.456
Weighted Avg.	272.763	281.375
ER Weighted Avg.	206.9605	206.6494

As info only

RCAF Fuel (Actual All-Inclusive Index)

April 2017

Monthly Report

	April 2017 Price (cents) (1)	1/1/81 Price (cents) (2)	1/91 New Method Linking Factors (3)	April 2017 Index 1/1/81=100 (4)	Linking Factor 1980=100 (5)	April 2017 1980=100 Current Index (6)
U.S.	168.36	89.34	99.415	187.35	1.096	205.33

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

(6) = (4) x (5)

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

	April 2017 1980=100 Current Index	Adjustment Factor	April 2017 1980=100 Linked Index
U.S.	205.33	1.00192	205.72 ←

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

RCAF (Actual)

		1980	Aug 3Q/16	Nov 4Q/16	Feb 1Q/17	May 2Q/17	Aug 3Q/17
RATE							
RR-OWNED TIME		31.00	64.00	64.00	64.00	64.00	--
RR-OWNED MILEAGE		4.69	6.70	6.70	6.70	6.70	--
PRIVATELY-OWNED CARS		25.47	51.76	55.20	55.44	53.57	--
AUTORACKS		47.00	83.37	85.43	81.82	83.62	--
INDEX							
RR-OWNED TIME		100.0	206.5	206.5	206.5	206.5	--
RR-OWNED MILEAGE		100.0	142.9	142.9	142.9	142.9	--
PRIVATELY-OWNED CARS		100.0	203.2	216.7	217.7	210.3	--
AUTORACKS		100.0	177.4	181.8	174.1	177.9	--
CAR HIRE INDEX (old wts)	2014	100.0	199.4	--	--	--	--
CAR HIRE INDEX (new wts)	2015	100.0	198.9	209.5	210.0	204.4	--
CAR HIRE INDEX (LINKED)		100.0	199.0	209.6	210.1	204.5	--

Note: Indexes are rounded, rates are full float.

Equipment Rents Data From CHARM

	2016 (first day of month)						2017 (first day of month)							
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Railroad Equipment														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	8,221	8,230	8,223	8,360	8,469	8,474	8,557	8,512	8,655	8,726	8,742	8,548		
Rate (in cents)														
Superstructures #3 - Auto Rack	59.0	59.0	59.0	60.0	62.0	61.0	62.0	61.0	62.0	62.0	62.0	61.0		
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		
All other #2 - Mileage	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7		
Private Equipment														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	55,135	55,284	55,495	55,461	55,557	55,700	55,769	55,751	55,736	55,937	55,968	56,018		
Covered Hoppers	384,653	386,864	388,061	388,522	390,438	392,048	393,488	394,008	395,193	396,320	397,125	397,304		
Tank Cars	401,942	402,781	403,243	403,552	404,110	404,703	404,987	405,072	405,140	405,503	405,420	404,967		
Others	289,832	289,264	289,515	290,003	290,971	291,569	292,302	292,750	292,543	293,026	293,126	292,362		
Rate (in cents)														
Superstructures #1 - Time	83.0	83.0	83.0	83.0	83.0	83.0	84.0	84.0	84.0	84.0	84.0	84.0		
Superstructures #2 - Mileage	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4	1.4		
Superstructures #3 - Auto Rack	87.0	87.0	88.0	88.0	89.0	90.0	84.0	85.0	85.0	86.0	87.0	87.0		
Covered Hoppers #2 - Mileage	45.2	45.3	45.3	45.3	45.3	45.2	45.3	45.4	45.5	45.5	45.6	45.5		
Tank Cars #2 - Mileage	80.4	80.6	89.7	89.9	90.0	90.1	90.3	90.4	84.8	84.9	85.0	85.1		
Others #1 - Time	82.0	82.0	83.0	83.0	84.0	84.0	86.0	86.0	86.0	86.0	86.0	86.0		
Others #2 - Mileage	7.8	7.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.1		
AVERAGE RATES														
Private Superstructures	21.11	21.11	21.11	21.11	21.11	21.11	21.34	21.34	21.34	21.34	21.14	21.14	0.00	0.00
Private Others	26.00	26.10	26.43	26.43	26.65	26.65	27.09	27.09	27.09	27.09	27.09	27.19	0.00	0.00
Private Total	51.61	51.76	55.07	55.13	55.20	55.18	55.39	55.44	53.50	53.52	53.57	53.60	#DIV/0!	#DIV/0!
Autoracks	83.37	83.37	84.26	84.33	85.43	86.17	81.07	81.82	81.91	82.76	83.62	83.56	#DIV/0!	#DIV/0!

WEIGHTS	"Old Wts" "New Wts"	
	2014	2015
For RCAF & RCR		
RR-owned Time	0.156	0.124
RR-owned Mileage	0.060	0.062
Privately-owned Cars	0.758	0.776
Autoracks	0.026	0.038
----- Check sum	1.000	1.000

Weights for Equipment Rents (not used in Car Hire calculation)		
	2014	2015
Car Hire - U.S.	0.565	0.582
Lease Rentals - U.S.	0.435	0.418
----- Check sum	1.000	1.000

Note: 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 05/2017

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	8,742	116	0.079	62
Railroad	Number of Zero-Rated Vehicular Flats	57	.	.	.
Railroad	All Other Cars	434,421	64	0.067	.
Railroad	Number of Zero-Rated Other Cars	17,238	.	.	.
Railroad	Total Railroad Equipment	460,458	.	.	.
		.	.	.	.
Private	Vehicular Flats	55,968	84	0.014	87
Private	Number of Zero-Rated Vehicular Flats	56	.	.	.
Private	Covered Hoppers	397,125	0	0.456	.
Private	Number of Zero-Rated Covered Hoppers	12,977	.	.	.
Private	Tanks	405,420	0	0.850	.
Private	Number of Zero-Rated Tanks	8,603	.	.	.
Private	All Other Cars	293,126	86	0.080	.
Private	Number of Zero-Rated Other Cars	24,208	.	.	.
Private	Total Private Equipment	1,197,483	.	.	.

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 2017			
		As reported at end of month 82=100			
		Nov.	Feb.	May	Aug.
For Forecast	→	17Q1	17Q2	17Q3	17Q4
For Actual	→	16Q3	16Q4	17Q1	17Q2
January	2016	204.0	204.0	204.0	204.0
February	2016	204.2	204.2	204.2	204.2
March	2016	203.3	203.3	203.3	203.3
April	2016	203.0	203.0	203.0	203.0
May	2016	203.5	203.5	203.5	203.5
June	2016	203.5	203.5	203.5	203.5
July	2016	203.5	203.5	203.5	203.5
August	2016	203.5	204.4	204.4	204.4
September	2016	204.8	203.7	203.7	203.7
October	2016	203.7	203.7	203.7	203.7
November	2016		201.5	201.5	201.5
December	2016		201.6	201.8	201.8
January	2017		201.8	201.8	201.9
February	2017			204.1	204.1
March	2017			203.1	203.3
April	2017			203.5	203.5
May	2017				203.4
June	2017				203.5
July	2017				204.6
Actual Qtr.		203.9	202.3	203.0	203.5

1980=100

Actual Qtr.	225.6	223.8	224.6	225.1
First Mo. next qtr.	225.3	223.2	225.1	226.3

0.904 =1980

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PPI Commodity Data

Series Id: WPU144

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
2016	204.0	204.2	203.3	203.0	203.5	203.5	203.5	204.4	203.7	203.7	201.5	201.8
2017	201.9	204.1	203.3	203.5(P)	203.4(P)	203.5(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 2017			
		As reported at end of month 82=100			
		Nov.	Feb.	May	Aug.
For Forecast	→	17Q1	17Q2	17Q3	17Q4
For Actual	→	16Q3	16Q4	17Q1	17Q2
January	2016	191.9	191.9	191.9	191.9
February	2016	191.8	191.8	191.8	191.8
March	2016	192.1	192.1	192.1	192.1
April	2016	192.8	192.8	192.8	192.8
May	2016	193.4	193.4	193.4	193.4
June	2016	193.7	193.7	193.7	193.7
July	2016	193.5	193.7	193.7	193.7
August	2016	193.8	194.0	194.0	194.0
September	2016	194.0	193.9	193.9	193.9
October	2016	194.5	194.5	194.3	194.3
November	2016		195.0	194.9	194.9
December	2016		195.5	195.6	195.6
January	2017		196.7	196.7	196.8
February	2017			197.4	197.8
March	2017			198.5	198.7
April	2017			199.2	199.2
May	2017				199.5
June	2017				199.4
July	2017				199.0
Actual Qtr.		193.8	195.0	197.5	199.4

1980=100

Actual Qtr.

First Mo. next qtr.

217.3	218.6	221.4	223.5
218.0	220.5	223.3	223.1

0.892 =1980



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PPI Commodity Data

Series Id: WPU03T15M05

Not Seasonally Adjusted

Group: Industrial Commodities less fuels

Item: Industrial commodities less fuels

Base Date: 198200

Download: [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	191.9	191.8	192.1	192.8	193.4	193.7	193.7	194.0	193.9	194.3	194.9	195.6
2017	196.8	197.8	198.7	199.2(P)	199.5(P)	199.4(P)	199.0(P)					

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

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**AAR 2016 8/10/2017
U.S.**

Union	Employees	Straight Time		PFTNW	Union Lump
	Paid	Hours	Comp.	Comp.	Sums
UTU	36,630	65,434,928	1,930,214,929	657,928,130	27,816,409
TCU	5,584	9,983,504	303,458,507	55,439,415	11,606,962
BLET	24,546	48,322,416	1,661,020,224	561,309,708	95,939,437
SMW	992	1,794,170	54,537,760	7,443,943	132,659
BRS	7,773	15,110,898	477,213,616	96,052,017	608,855
BMWE	24,275	43,292,779	1,212,183,410	213,490,210	2,829,436
TCU-CAR	9,409	17,364,916	522,500,618	70,234,689	757,029
NCFO	2,453	4,486,605	112,633,766	13,622,322	184,675
IAM	6,916	12,614,653	385,921,947	58,189,196	883,396
IBBM	886	1,596,069	47,384,556	6,406,219	92,346
IBEW	5,757	10,561,329	325,916,187	50,748,810	901,990
ATDA	2,346	4,223,985	179,651,185	29,031,172	4,756,226
UTU-YMD	1,874	3,339,853	134,496,978	27,213,519	2,140,292
OTHER	26,837	57,413,647	2,703,819,602	74,469,788	
Total	156,278	295,539,752	\$10,050,953,285	\$1,921,579,138	\$148,649,712
ST Comp less Union Lump Sums			\$9,902,303,573		

Checks

OK Match	OK Match	OK Match	OK Match
Total including non-union			\$487,108,836

US less E+W s.b. 0

0 0 0 0 0

RCAF Weights

	U.S.	2016	2015	Amt Chg	2014	2013	2012
Labor	\$16,245,065	35.6%	35.0%	0.6%	31.7%	31.6%	31.2%
Fuel	4,900,656	10.7%	13.4%	-2.7%	20.9%	22.1%	22.3%
Mat & Sup.	2,281,039	5.0%	5.4%	-0.4%	5.2%	4.9%	4.9%
Equip. Rents	2,702,986	5.9%	5.8%	0.1%	5.4%	5.4%	5.6%
Depreciation	7,136,874	15.6%	13.9%	1.7%	12.6%	12.0%	11.9%
Interest	995,743	2.2%	1.9%	0.3%	1.5%	1.9%	2.0%
Other	11,440,545	25.0%	24.6%	0.4%	22.7%	22.1%	22.1%
Total	\$45,702,908	100.0%	100.0%		100.0%	100.0%	100.0%

Check

410 620f	44,707,165	key this cell only
Interest	995,743	
Total	45,702,908	
	ok	

Bolded number was adjusted to force rounded numbers to add to 100.0%.

Other	U.S.	2016	2015	Amt Chg.
Purch Service	\$7,545,633	16.5%	16.2%	0.3%
Taxes	1,344,208	2.9%	2.6%	0.3%
Cas & Insuran	592,730	1.3%	1.3%	0.0%
Loss & Dam	92,090	0.2%	0.2%	0.0%
Gen & Admn	1,865,884	4.1%	4.4%	-0.3%
Total	\$11,440,545	25.0%	24.6%	0.4%

RCAF Internal Weights

	U.S.	2016	2015	Diff
Labor				
Wages	11,507,425	70.8%	71.5%	-0.7%
Wage Supplem	4,737,640	29.2%	28.5%	0.7%
Total	16,245,065	100.0%	100.0%	
Check	ok			

Equip. Rents				
Car Hire	1,574,723	58.3%	58.2%	0.1%
Lease Rents	1,128,263	41.7%	41.8%	-0.1%
Total	2,702,986	100.0%	100.0%	
Check	ok			

Car Hire				
RR Time excl Autork	145,870	9.1%	12.4%	-3.3%
RR Mileage excl Auto	92,830	5.8%	6.2%	-0.4%
Private excl Autorack	1,221,979	76.2%	77.6%	-1.4%
Autorack	143,255	8.9%	3.8%	5.1%
Total	1,603,934	100.0%	100.0%	
from Sch. 414	ok			

Car Hire, Adjusted to eliminate negative numbers				
RR Time excl Autork	145,870	9.1%	12.4%	-3.3%
RR Mileage excl Auto	92,830	5.8%	6.2%	-0.4%
Private excl Autorack	1,221,979	76.2%	77.6%	-1.4%
Autorack	143,255	8.9%	3.8%	5.1%
Total	1,603,934	100.0%	100.0%	

Note: These numbers are all rounded to 3 digits after the decimal or 1 digit after the decimal for a percentage. In the event that the rounded percentages do not sum to 100.0%, the number that is closest to rounding in the other direction will be changed to force a 100.0% total. The number is identified by a **bold** font.

Railroad Retirement and Medicare Benchmark for U.S.

Inputs:

RRB Earnings Distribution Year	2015	RR Retirement Tier I Maximum Taxable Earnings for 2016	\$118,500
Wage Statistics Year	2016	RR Retirement Tier II Maximum Taxable Earnings for 2016	\$88,200
Employees Receiving Pay	156,278	Medicare Maximum Taxable Earnings for 2016	no limit
		Tier I Employer Tax Rate for 2016	6.20%
		Tier II Employer Tax Rate for 2016	13.10%
		Medicare Employer Tax Rate for 2016	1.45%

(Info Only)

USA	Taxable Rate	Update Factor	RR Ret. Tax Paid	Hourly Rate
2015	\$39.887			
2016	\$39.231	0.98355	\$626,560,300	\$8.192

Railroad Retirement and Medicare Benchmark for U.S.

From 2015 RRB Earnings Distribution			Quarterly Average for Benchmark Year 2016 (using updated 2015 Earnings Distribution with data for 2016)								
Earnings Groups	Avg Annual Earnings	% of Total Employees	Employees Receivg. Pay	Avg. 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	\$32,898	2.073	3,240	\$32,357	\$8,089	8,089	\$8,089	\$8,089	\$26,206,237	\$26,206,237	\$26,206,237
41,700 - 43,699	\$43,084	0.612	956	\$42,375	10,594	10,594	10,594	10,594	10,132,189	10,132,189	10,132,189
43,700 - 45,699	\$44,719	0.754	1,178	\$43,984	10,996	10,996	10,996	10,996	12,956,846	12,956,846	12,956,846
45,700 - 47,699	\$46,516	0.942	1,472	\$45,751	11,438	11,438	11,438	11,438	16,837,946	16,837,946	16,837,946
47,700 - 49,699	\$48,812	1.130	1,766	\$48,009	12,002	12,002	12,002	12,002	21,195,365	21,195,365	21,195,365
49,700 - 51,699	\$50,602	1.178	1,841	\$49,770	12,442	12,442	12,442	12,442	22,905,978	22,905,978	22,905,978
51,700 - 53,699	\$52,846	1.319	2,061	\$51,977	12,994	12,994	12,994	12,994	26,785,069	26,785,069	26,785,069
53,700 - 55,699	\$54,776	1.743	2,724	\$53,875	13,469	13,469	13,469	13,469	36,687,960	36,687,960	36,687,960
55,700 - 57,699	\$56,687	2.167	3,387	\$55,755	13,939	13,939	13,939	13,939	47,203,939	47,203,939	47,203,939
57,700 - 59,699	\$58,718	1.790	2,797	\$57,752	14,438	14,438	14,438	14,438	40,388,725	40,388,725	40,388,725
59,700 - 61,699	\$60,855	3.580	5,595	\$59,854	14,964	14,964	14,964	14,964	83,717,288	83,717,288	83,717,288
61,700 - 63,699	\$62,705	4.710	7,361	\$61,674	15,418	15,418	15,418	15,418	113,490,351	113,490,351	113,490,351
63,700 - 65,699	\$64,735	3.910	6,110	\$63,670	15,918	15,918	15,918	15,918	97,263,920	97,263,920	97,263,920
65,700 - 67,699	\$66,581	3.957	6,184	\$65,486	16,371	16,371	16,371	16,371	101,240,020	101,240,020	101,240,020
67,700 - 69,699	\$68,768	3.627	5,668	\$67,637	16,909	16,909	16,909	16,909	95,845,076	95,845,076	95,845,076
69,700 - 71,699	\$70,711	3.721	5,815	\$69,548	17,387	17,387	17,387	17,387	101,107,299	101,107,299	101,107,299
71,700 - 73,699	\$72,644	3.344	5,226	\$71,449	17,862	17,862	17,862	17,862	93,347,325	93,347,325	93,347,325
73,700 - 75,699	\$74,617	3.721	5,815	\$73,390	18,347	18,347	18,347	18,347	106,692,358	106,692,358	106,692,358
75,700 - 77,699	\$76,720	3.957	6,184	\$75,458	18,865	18,865	18,865	18,865	116,656,919	116,656,919	116,656,919
77,700 - 79,699	\$78,703	2.826	4,416	\$77,409	19,352	19,352	19,352	19,352	85,467,166	85,467,166	85,467,166
79,700 - 81,699	\$80,790	2.496	3,901	\$79,461	19,865	19,865	19,865	19,865	77,488,642	77,488,642	77,488,642
81,700 - 83,699	\$82,667	2.826	4,416	\$81,307	20,327	20,327	20,327	20,327	89,771,854	89,771,854	89,771,854
83,700 - 85,699	\$84,656	2.449	3,827	\$83,264	20,816	20,816	20,816	20,816	79,667,720	79,667,720	79,667,720
85,700 - 87,699	\$86,571	3.109	4,859	\$85,147	21,287	21,287	21,287	21,287	103,425,830	103,425,830	103,425,830
87,700 - 89,699	\$88,770	2.591	4,049	\$87,310	21,828	21,828	21,828	21,828	88,383,153	88,383,153	88,383,153
89,700 - 91,699	\$90,664	2.638	4,123	\$89,173	22,293	22,293	22,050	22,293	91,906,351	90,903,631	91,906,351
91,700 - 93,699	\$92,682	2.779	4,343	\$91,158	22,789	22,789	22,050	22,789	98,973,699	95,762,392	98,973,699
93,700 - 95,699	\$94,776	2.025	3,165	\$93,217	23,304	23,304	22,050	23,304	73,749,531	69,780,080	73,749,531
95,700 - 97,699	\$96,754	1.649	2,577	\$95,163	23,791	23,791	22,050	23,791	61,309,171	56,823,384	61,309,171
97,700 - 99,699	\$98,799	3.015	4,712	\$97,174	24,294	24,294	22,050	24,294	114,465,794	103,894,786	114,465,794
99,700 - 101,699	\$100,824	2.025	3,165	\$99,166	24,791	24,791	22,050	24,791	78,455,756	69,780,080	78,455,756
101,700 - 103,699	\$102,818	1.083	1,692	\$101,127	25,282	25,282	22,050	25,282	42,789,131	37,319,421	42,789,131
103,700 - 105,699	\$104,762	1.319	2,061	\$103,039	25,760	25,760	22,050	25,760	53,098,767	45,451,815	53,098,767
105,700 - 107,699	\$106,724	2.355	3,680	\$104,969	26,242	26,242	22,050	26,242	96,580,370	81,151,649	96,580,370
107,700 - 109,699	\$108,858	1.272	1,988	\$107,068	26,767	26,767	22,050	26,767	53,208,782	43,832,228	53,208,782
109,700 - 111,699	\$110,533	1.696	2,650	\$108,715	27,179	27,179	22,050	27,179	72,036,676	58,442,971	72,036,676
111,700 - 113,699	\$112,778	0.895	1,399	\$110,923	27,731	27,731	22,050	27,731	38,786,740	30,841,073	38,786,740
113,700 - 115,699	\$114,802	1.083	1,692	\$112,914	28,228	28,228	22,050	28,228	47,776,438	37,319,421	47,776,438
\$115,700 - over	\$165,875	11.634	18,181	\$163,147	40,787	29,625	22,050	40,787	538,623,457	400,899,485	741,559,246
TOTAL		100.000	156,278								
									Total Taxable Earn'gs.		
									\$3,156,625,838		
									Employer Tax Rate		
									6.20%		
									Employer Payment		
									\$195,710,802		
									Total Tier I & II & Medicare		
									\$382,135,855		
									\$48,713,644		
									\$626,560,300		

RRB 2015 EMPLOYMENTS DATA

Annual Salary Range	Number of Employees	Gross Salary	Average Salary (Group)	Group Employment % Total Employment	Cumulative Employees	Cumulative Salary	Average Salary (Cumulative)	Cumulative % Total Employment
\$ 0 TO \$41,699	44	\$1,447,493	\$32,898	2.073	44	\$1,447,493	\$32,898	2.073
\$41,700 TO \$43,699	13	\$560,094	\$43,084	0.612	57	\$2,007,587	\$35,221	2.685
\$43,700 TO \$45,699	16	\$715,496	\$44,719	0.754	73	\$2,723,083	\$37,303	3.439
\$45,700 TO \$47,699	20	\$930,320	\$46,516	0.942	93	\$3,653,403	\$39,284	4.381
\$47,700 TO \$49,699	24	\$1,171,496	\$48,812	1.130	117	\$4,824,899	\$41,238	5.511
\$49,700 TO \$51,699	25	\$1,265,039	\$50,602	1.178	142	\$6,089,938	\$42,887	6.689
\$51,700 TO \$53,699	28	\$1,479,701	\$52,846	1.319	170	\$7,569,639	\$44,527	8.008
\$53,700 TO \$55,699	37	\$2,026,698	\$54,776	1.743	207	\$9,596,337	\$46,359	9.750
\$55,700 TO \$57,699	46	\$2,607,616	\$56,687	2.167	253	\$12,203,953	\$48,237	11.917
\$57,700 TO \$59,699	38	\$2,231,272	\$58,718	1.790	291	\$14,435,225	\$49,606	13.707
\$59,700 TO \$61,699	76	\$4,624,973	\$60,855	3.580	367	\$19,060,198	\$51,935	17.287
\$61,700 TO \$63,699	100	\$6,270,541	\$62,705	4.710	467	\$25,330,739	\$54,241	21.997
\$63,700 TO \$65,699	83	\$5,373,019	\$64,735	3.910	550	\$30,703,758	\$55,825	25.907
\$65,700 TO \$67,699	84	\$5,592,801	\$66,581	3.957	634	\$36,296,559	\$57,250	29.863
\$67,700 TO \$69,699	77	\$5,295,161	\$68,768	3.627	711	\$41,591,720	\$58,497	33.490
\$69,700 TO \$71,699	79	\$5,586,154	\$70,711	3.721	790	\$47,177,874	\$59,719	37.211
\$71,700 TO \$73,699	71	\$5,157,734	\$72,644	3.344	861	\$52,335,608	\$60,785	40.556
\$73,700 TO \$75,699	79	\$5,894,708	\$74,617	3.721	940	\$58,230,316	\$61,947	44.277
\$75,700 TO \$77,699	84	\$6,444,451	\$76,720	3.957	1,024	\$64,674,767	\$63,159	48.234
\$77,700 TO \$79,699	60	\$4,722,201	\$78,703	2.826	1,084	\$69,396,968	\$64,019	51.060
\$79,700 TO \$81,699	53	\$4,281,896	\$80,790	2.496	1,137	\$73,678,864	\$64,801	53.556
\$81,700 TO \$83,699	60	\$4,960,022	\$82,667	2.826	1,197	\$78,638,886	\$65,697	56.382
\$83,700 TO \$85,699	52	\$4,402,103	\$84,656	2.449	1,249	\$83,040,989	\$66,486	58.832
\$85,700 TO \$87,699	66	\$5,713,687	\$86,571	3.109	1,315	\$88,754,676	\$67,494	61.941
\$87,700 TO \$89,699	55	\$4,882,350	\$88,770	2.591	1,370	\$93,637,026	\$68,348	64.531
\$89,700 TO \$91,699	56	\$5,077,211	\$90,664	2.638	1,426	\$98,714,237	\$69,225	67.169
\$91,700 TO \$93,699	59	\$5,468,237	\$92,682	2.779	1,485	\$104,182,474	\$70,157	69.948
\$93,700 TO \$95,699	43	\$4,075,358	\$94,776	2.025	1,528	\$108,257,832	\$70,849	71.974
\$95,700 TO \$97,699	35	\$3,386,375	\$96,754	1.649	1,563	\$111,644,207	\$71,429	73.622
\$97,700 TO \$99,699	64	\$6,323,105	\$98,799	3.015	1,627	\$117,967,312	\$72,506	76.637
\$99,700 TO \$101,699	43	\$4,335,434	\$100,824	2.025	1,670	\$122,302,746	\$73,235	78.662
\$101,700 TO \$103,699	23	\$2,364,823	\$102,818	1.083	1,693	\$124,667,569	\$73,637	79.746
\$103,700 TO \$105,699	28	\$2,933,326	\$104,762	1.319	1,721	\$127,600,895	\$74,143	81.065

RRB 2015 E.A. .INGS DATA

Annual Salary Range	Number of Employees	Gross Salary	Average Salary (Group)	Group Employment % Total Employment	Cumulative Employees	Cumulative Salary	Average Salary (Cumulative)	Cumulative % Total Employment
\$105,700 TO \$107,699	50	\$5,336,209	\$106724	2.355	1,771	\$132,937,104	\$75,063	83.420
\$107,700 TO \$109,699	27	\$2,939,175	\$108858	1.272	1,798	\$135,876,279	\$75,571	84.691
\$109,700 TO \$111,699	36	\$3,979,181	\$110533	1.696	1,834	\$139,855,460	\$76,257	86.387
\$111,700 TO \$113,699	19	\$2,142,784	\$112778	0.895	1,853	\$141,998,244	\$76,632	87.282
\$113,700 TO \$115,699	23	\$2,640,436	\$114802	1.083	1,876	\$144,638,680	\$77,100	88.366
\$115,700 AND OVER	247	\$40,971,018	\$165875	11.634	2,123	\$185,609,698	\$87,428	100.000
TOTAL	2,123	\$185,609,698	\$87,428	100.000	2,123	\$185,609,698	\$87,428	100.000

2016 RR Retirement Benchmarking

From "Wage Statistics"

	U.S.
2016 ST Comp. Incl. Lump Sums	\$10,050,953,285
2016 PFTNW	<u>\$1,921,579,138</u>
TOTAL	\$11,972,532,423
Pre Tax Emp H&W Cost Sharing	<u>\$378,365,452</u>
ST Hours Paid For	295,539,752
ST Hourly Rate	\$34.009
PFTNW Hourly Rate	\$6.502
ST + PFTNW Hourly Rate	\$40.511
Pre-Tax Contributions	(\$1.280)
Taxable Rate	\$39.231

Figures are from Wage Statistics, Year 2016.

The hourly rate is used both in Railroad Retirement and Unemployment Insurance.

Pre-Tax Employee H&W Cost Sharing is from the railroads in the new WF.

2015 RR Retirement Benchmarking

From "Wage Statistics"

	U.S.
2015 ST Comp. Incl. Lump Sums	\$11,038,588,108
2015 PFTNW	<u>\$2,253,409,101</u>
TOTAL	\$13,291,997,209
Pre Tax Emp H&W Cost Sharing	<u>\$387,420,049</u>
ST Hours Paid For	323,519,708
ST Hourly Rate	\$34.120
PFTNW Hourly Rate	\$6.965
ST + PFTNW Hourly Rate	\$41.085
Pre-Tax Contributions	(\$1.198)
Taxable Rate	\$39.887

Figures are from Wage Statistics, Year 2015, and WF Form.

The hourly rate is used both in Railroad Retirement and Unemployment Insurance.

Pre-Tax Employee H&W Cost Sharing is from the railroads in the new WF.

Restated Hourly Rate to New Wage Rate Benchmark

U.S.	STHR + PFTNW = Wages			Lump Sums	Back Pay	Other	Adjusted Wages	Pre-Tax Wages	Taxable Wages
1Q/17	\$33.520	\$6.506	\$40.026	\$0.202	\$0.086	\$0.162	\$40.476	\$1.361	\$39.115
2Q/17	\$33.520	\$6.506	\$40.026	\$0.310	(\$0.021)	\$0.162	\$40.477	\$1.361	\$39.116
3Q/17	\$33.547	\$6.511	\$40.058	\$0.311	\$0.011	\$0.135	\$40.515	\$1.361	\$39.154

1Q, 2Q & 3Q STHR & PFTNW (adjustments included) are from the SUMMARY_restated.xlsx in the Labor Restatement folder.

Adjustments are the same ones that went into the filings but restated to use new Wage Statistics.

See RCAFlumpsum_restated.xlsx, RCAFbackpay_restated.xlsx, BNSFProfitSharing_restated.xlsx, and TaxableRate_restated.xlsx.

The Taxable Wages (hourly rate) is used both in Railroad Retirement and Unemployment Insurance.