

ASSOCIATION  
OF AMERICAN  
RAILROADS

**John T. Gray**  
Senior Vice President - Policy & Economics

June 3, 2016

240858

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

ENTERED  
Office of Proceedings  
June 3, 2016  
Part of  
Public Record

Dear Ms. Brown:

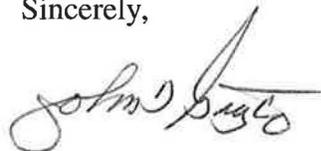
This submission is the AAR forecast of the third quarter 2016 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2016-3) *Quarterly Rail Cost Adjustment Factor*. The versions of RCAF-related indices covered in this filing are: the All-Inclusive Index (initiated 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 third quarter 2016 results on the fourth quarter 2012 base, and shows the percentage changes from the previous quarter.

	<u>2016Q2</u>	<u>2016Q3</u>	<u>% Change</u>
All-Inclusive Index	85.2	88.4	3.8
Preliminary RCAF	0.852	0.884	3.8
Forecast Error Adjustment	-0.012	-0.042	
RCAF (Unadjusted)	0.840	0.842	0.2
Productivity Adjustment Factor	2.3584	2.3667	
RCAF (Adjusted)	0.356	0.356	0.0
PAF-5	2.4974	2.5016	
RCAF-5	0.336	0.337	0.3

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,

A handwritten signature in cursive script, appearing to read "John T. Gray". The signature is written in dark ink and is positioned above the printed name.

John T. Gray

Attachments

**Third Quarter 2016  
All-Inclusive Index**

**Ex Parte No. 290 (Sub-No. 5) (2016-3)**

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

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

**June 3, 2016**

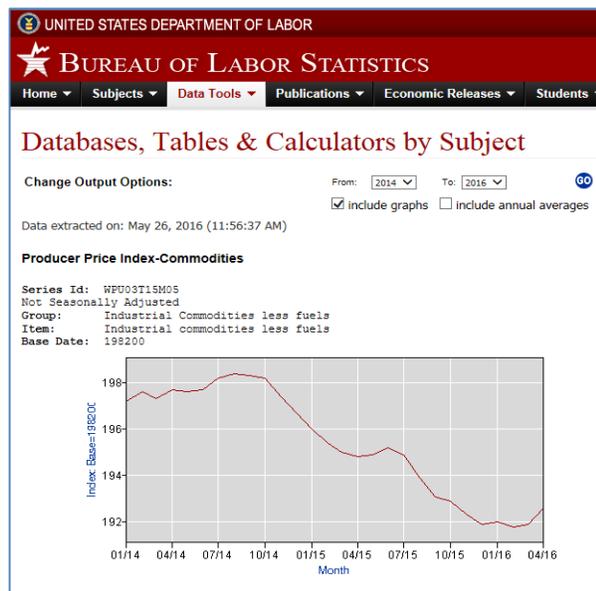
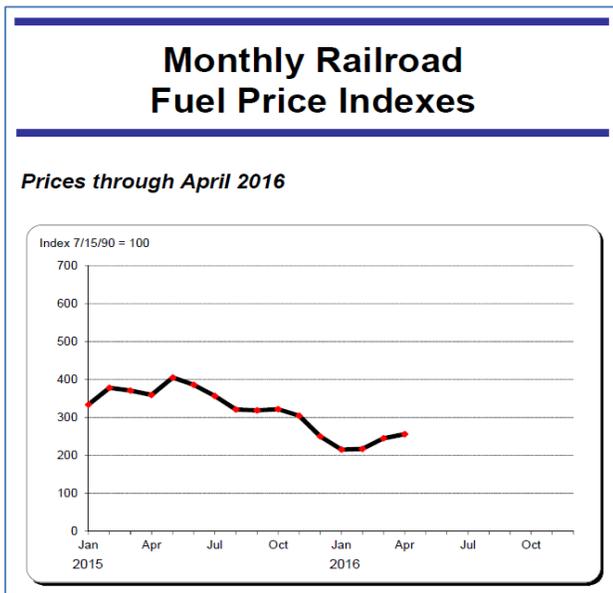
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# Introduction

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 third quarter 2016. Some trends to take note of – fuel prices and the PPI-Less Fuel (used for Other Expenses) are starting to go up after long declines.



## 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 2014 (current) and 2013 (previous) weights are shown below. Weights calculated from 2013 data were used for the fourth quarter of 2014 through the third quarter of 2015. Beginning with the fourth quarter of 2015, weights calculated using 2014 data are used. Fuel and Interest expenses were down in 2014, and those decreases are reflected in their lower weights. Depreciation expenses increased at about double the rate of total expenses, possibly caused by record capital expenditures for new equipment and infrastructure. The weight for Depreciation increased by 0.6 percentage points, as did the weight for Other – which consists of Purchased Services, Taxes (other than income and payroll), Casualties & Insurance, Loss & Damage, and General & Administrative expenses. Other increases were 0.3 for Materials & Supplies, and 0.1 for Labor. Expenses for Materials & Supplies were probably more affected by higher volumes than prices. The weight for Equipment Rents was unchanged.

<b>Weights for RCAF's All-Inclusive Index</b>		
	<b>2014</b>	<b>2013</b>
Labor	31.7 %	31.6 %
Fuel	20.9	22.1
Materials & Supplies	5.2	4.9
Equipment Rents	5.4	5.4
Depreciation	12.6	12.0
Interest	1.5	1.9
Other	22.7	22.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

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 Third Quarter 2016

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.

	2014 Weights	Forecast		Percent Change
		Previous 2016Q2	Current 2016Q3	
1. Labor	31.7%	416.4	415.2	-0.3 %
2. Fuel	20.9%	148.7	195.6	31.5
3. M&S	5.2%	246.9	240.6	-2.6
4. Equipment Rents	5.4%	215.1	216.8	0.8
5. Depreciation	12.6%	227.2	226.5	-0.3
6. Interest	1.5%	57.5	57.5	0.0
7. Other	22.7%	215.1	217.4	1.1
8. Weighted Average				
a. 1980 = 100		265.8	275.5	
b. 1980 = 100 (linked)		253.7	263.0 <sup>1</sup>	
c. 4Q12 = 100		85.2	88.4 <sup>2</sup>	3.8

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<sup>1</sup> Index80 = (Current Index / Previous Index) \* the Previous Quarter Linked Index  
= (275.5 / 265.8) x 253.7  
= 263.0

<sup>2</sup> To calculate the 4Q12 = 100 index:  
Index4Q12 = (Current Linked Index / 4Q12 Basing Factor) \* 100  
= 263.0 divided by 297.6 times 100  
= 88.4

Indexes based on other periods:

- 4Q07 based index = 263.0 / 245.9 x 100 = 107.0
- 4Q02 based index = 263.0 / 192.1 x 100 = 136.9
- 4Q97 based index = 263.0 / 173.2 x 100 = 151.8
- 4Q92 based index = 263.0 / 156.9 x 100 = 167.6
- 4Q87 based index = 263.0 / 132.2 x 100 = 198.9

## Forecast vs. Actual All-Inclusive Index First Quarter 2016

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the first quarter actual index of 84.0 is 4.2 index points below the forecast value of 88.2. Therefore, the forecast error adjustment for third quarter 2016 is -4.2 index points.

	2014 Weights	First Quarter 2016		Amt Difference
		Forecast	Actual	
1. Labor	31.7%	417.7	417.7	
2. Fuel	20.9%	191.2	132.7	
3. M&S	5.2%	246.9	246.9	
4. Equipment Rents <sup>1</sup>	5.4%	214.3	215.2	
5. Depreciation	12.6%	226.0	225.9	
6. Interest	1.5%	57.5	57.5	
7. Other	22.7%	215.5	215.1	
8. Weighted Average				
a. 1980 = 100		275.0	262.8	
b. 1980 = 100 (linked)		262.5	250.1 <sup>2</sup>	
c. 4Q12 = 100 <sup>3</sup>		88.2	84.0	-4.2

**Forecast error**       $\longrightarrow$  **-4.2 index points**

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1	2014 Weights	First Quarter 2016	
		Forecast	Actual
Car-Hire	56.5%	195.1	196.8
Lease Rentals	43.5%	215.5	215.1
Weighted Average		204.0	204.8
Weighted Average (linked)		214.3	215.2

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

$$250.1 = 262.8 / 273.0 \times 259.8$$

<sup>3</sup> 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 12, 2016, the Surface Transportation Board (STB) served a decision in Ex Parte 290 (Sub-No. 4) which added the year 2014 to the Productivity Adjustment Factor (PAF) and removed the year 2009. This creates a geometric average annual productivity change, for the five-year period 2010 through 2014, of 1.4 percent per year. The components of this average annual value are shown on the following table in ratio format – therefore, 1.014 is the same as an increase of 1.4 percent.

Productivity changes are calculated by multiplying each of the five productivity changes together and taking the result to the one-fifth power. The productivity adjustment factors (PAF) for each quarter are calculated by increasing the previous quarter's PAF by quarterly versions of the annual rate, which are the fourth root of the geometric average annual growth rate. The difference between the PAF and the PAF-5 is the timing of the five-year productivity trend.

<b>Comparison of Output, Input, &amp; Productivity</b>			
<b>2010 - 2014</b>			
Year	Output Index (1)	Input Index (2)	Productivity <sup>1</sup> Changes (3)
2010	1.109	1.070	1.037
2011	1.041	1.039	1.001
2012	1.007	0.999	1.008
2013	1.022	1.018	1.004
2014	1.055	1.036	1.018
<b>Average</b>			<b>1.014</b>
Previous Average (2009-2013)			1.007

<sup>1</sup> The values shown in Column 3 are based on full float calculations and may not exactly match numbers calculated using the rounded numbers displayed in Columns 1 and 2.

<b>Calculation of PAF and PAF-5</b>			
For 2010-2014, use fourth root of avg. productivity change = 1.0035			
For 2009-2013, use fourth root of avg. productivity change = 1.0017			
Quarter	Year	PAF	PAF-5
Q1	2016	2.3502	2.4932
Q2	2016	2.3584	2.4974
Q3	2016	2.3667	2.5016
Q4	2016	2.3750	2.5059
Q1	2017	2.3833	2.5147

## Rail Cost Adjustment Factor Third Quarter 2016

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 2016Q2	Current 2016Q3	Percent Change
All-Inclusive Index <sup>1</sup>	85.2	88.4	3.8
Preliminary RCAF <sup>2</sup>	0.852	0.884	3.8
Forecast Error Adjustment <sup>3</sup>	<u>-0.012</u>	<u>-0.042</u>	
RCAF (Unadjusted) <sup>4</sup>	0.840	0.842	0.2
Productivity Adjustment Factor <sup>5</sup>	<u>2.3584</u>	<u>2.3667</u>	
RCAF (Adjusted) <sup>6</sup>	0.356	0.356	-
PAF-5 <sup>7</sup>	2.4974	2.5016	
RCAF-5 <sup>8</sup>	0.336	0.337	0.3

<sup>1</sup> See All-Inclusive Index on page 3.

<sup>2</sup> All-Inclusive Index divided by the All-Inclusive Index in the base period (100.0).

<sup>3</sup> 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.

<sup>4</sup> Preliminary RCAF plus the forecast error adjustment.

<sup>5</sup> See Productivity on page 5.

<sup>6</sup> RCAF (Unadjusted) divided by the Productivity Adjustment Factor (PAF).

<sup>7</sup> See Productivity on page 5.

<sup>8</sup> RCAF (Unadjusted) divided by the PAF-5.

# Appendixes

## Labor

### Third Quarter 2016

The third quarter 2016 Labor Index is forecast to decrease 0.3 percent from the previous quarter. A higher employee health & welfare cost sharing contribution rate, which lowers costs for employers, was the biggest contributor to the change.

#### Wage Rate Index

The Wage Rate Index portion of the Labor Index declined 0.1 percent. A drop in the back pay rate caused much of the decrease of 2.3 cents in the Total Wages rate.

**Wage Increases:** No wage increases are currently scheduled for the third quarter in any national labor agreements, and only two independent labor agreements have increases scheduled for July 1. A small group of independent unions receive cost-of-living adjustments (COLA) effective July 1. However, July's adjustment is zero because of the way the CPI changed between September 2015 and March 2016.

**Lump Sums:** The third quarter lump sum rate increased 1.3 cents from the prior quarter. Since no amounts became fully amortized and removed, the addition of one new bonus caused the entire change. The new bonus amount is one railroad's quarterly Professional Performance Incentive given to locomotive engineers that achieve availability and safety goals.

**Back Pay:** The third quarter back pay rate decreased by 4.9 cents. This change was the result of two amounts from last year being fully amortized and removed, plus a negative amount related to a "snap back" to the national agreement.

**Other:** In wages, "Other" contains the amortization of incentive payments that a railroad makes each year to its dispatchers, yardmasters, and engineers. Last year's payment has now been fully amortized and removed. It has been replaced by an amount paid in early 2016 for performance in 2015. This amount is a little smaller than the previous year, and results in a rate that is 0.8 cents lower.

#### Supplements Index

The Supplements Index dropped 0.6 percent. Lower health & welfare costs for employers were the major cause of the decrease.

**Health & Welfare:** The Health & Welfare rate decreased 13.6 cents. The change was caused by increased employee health & welfare cost sharing in the national agreements, which lowers employer costs. In addition to the full participants in the national labor agreements, many of the independent labor agreements participate in the national agreement sections related to health & welfare, despite differing for wages.

**Railroad Retirement:** The Railroad Retirement rate decreased 0.3 percent (or 2.6 cents). The decrease was caused by lower taxable earnings which resulted from a combination of slightly lower wages and more employee contributions in pre-tax dollars to health and welfare.

**Unemployment Insurance:** The Unemployment Insurance rate did not change from the previous quarter.

## **Labor**

### **Third Quarter 2016**

*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. For the third quarter, the rate is 5.6 cents higher. Much of the change in this rate was caused by one railroad's annual 401(k) match for its BLET employees, plus another railroad's stock awards, annual ESOP contribution, and bonus match.

#### **Labor Index Calculation**

As shown in Table A-1 on the next page, the 0.1 percent decrease in the Wage Rate Index and the 0.6 percent decline in the Supplements Index combined to cause the Labor Index to be 0.3 percent lower. The linked third quarter 2016 index is 415.2 – its lowest level in 2016.

## Labor Third Quarter 2016

**Table A-1 Labor Index**

	2016Q2	2016Q3	Change	
			Percent	Amount
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$41.465	\$41.486	0.1%	\$0.021
Adjustments:				
Lump Sum	0.146	0.159	8.9%	\$0.013
Back Pay	0.158	0.109	-31.0%	-\$0.049
Other	0.157	0.149	-5.1%	-\$0.008
<b>Total Wages</b>	<u>41.926</u>	<u>41.903</u>	-0.1%	-\$0.023
Health & Welfare Benefits	8.042	7.906	-1.7%	-\$0.136
RR Retirement & Medicare	8.474	8.448	-0.3%	-\$0.026
Unemployment Insurance	0.240	0.240	0.0%	\$0.000
Other	0.150	0.206	37.3%	\$0.056
<b>Total Supplements</b>	<u>\$16.906</u>	<u>\$16.800</u>	-0.6%	-\$0.106
Total Labor (as info only)	\$58.832	\$58.703		
<b>Wage Index<sup>1</sup></b>	358.8	358.6	-0.1%	
<b>Supplements Index<sup>2</sup></b>	624.8	620.8	-0.6%	
Total labor Index, 2014 Weights <sup>3</sup>	433.0	431.8		
<b>Labor Index (linked)<sup>4</sup></b>	<b>416.4</b>	<b>415.2</b>	-0.3%	

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<sup>1</sup> 1980 wage rate \$11.685

<sup>2</sup> 1980 supplements rate \$2.706

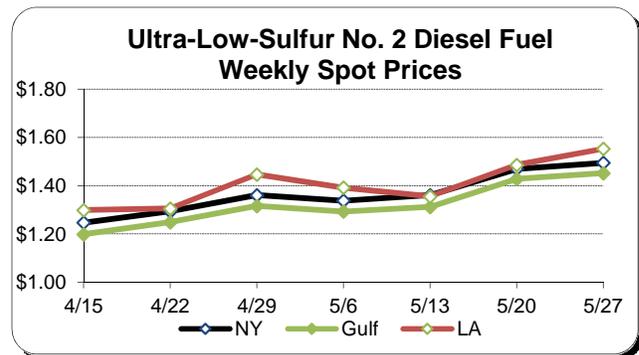
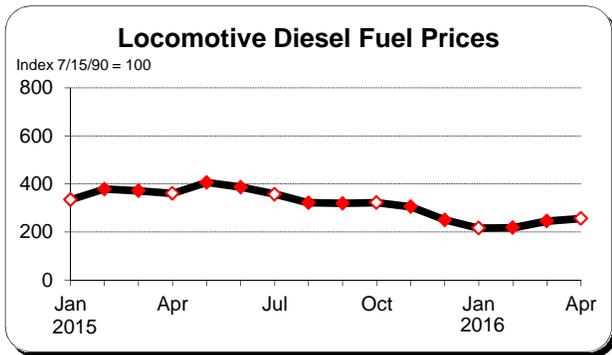
<sup>3</sup> 2014 weights: wages, supplements 72.1% 27.9%

<sup>4</sup> 2016Q3 linked Index = 2016Q2 linked x (2016Q3 / 2016Q2)  
= 416.4 x 431.8 / 433.0

## Fuel Third Quarter 2016

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 been rising. The chart below shows the AAR's Monthly Locomotive Diesel Fuel Price Index from January 2015 through April 2016. The second chart shows recent spot prices for Ultra-Low-Sulfur No. 2 Diesel Fuel as reported by the Energy Information Administration, which are already up 20 percent from mid-April.



While average prices for locomotive diesel fuel are available only through April 2016, data through most of May are available for related fuel types. According to the Energy Information Administration, weekly spot prices for Ultra-Low-Sulfur Diesel Fuel\* are still trending upward. Continuing the trend, railroads expect Q3 (July 2016) locomotive diesel fuel prices to be higher than the price they paid for Q2 (April). Therefore, the Q3 forecast is 24 percent higher than the price railroads actually paid in April, and 32 percent higher than the Q2 forecast (which was too low).

Forecast Fuel Index (1980 = 100)	195.6
Change from previous quarter forecast	31.5%
Change from previous quarter actual	23.9%

\* 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

### Third Quarter 2016

The third quarter 2016 Materials & Supplies Index is down 2.6 percent. The decrease was caused by lower prices in the Forest Products and Miscellaneous Products categories. Ballast, creosote, lube oil, batteries, and more items are included in Miscellaneous Products. Increases in prices in the Metals Products category kept the Materials & Supplies Index from declining by a higher percentage.

2016Q3 Materials & Supplies Index = 240.6

2016Q2 Materials & Supplies Index = 246.9

Difference	-6.3 basis points
	or
	-2.6 %

## Equipment Rents Third Quarter 2016

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 month available. For the first quarter, December 1 of the previous year is used. For the second, third and fourth quarters; March 1, June 1, and September 1 are used, respectively. Using data retrieved from the latest CHARM file, an average rate per car is developed. Next, those average rates are grouped into car type categories to create an overall summary of car hire rates. The summary rates are then compared from quarter to quarter to determine the Car Hire Index.

### Lease Rentals

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

### Equipment Rents Index Calculation

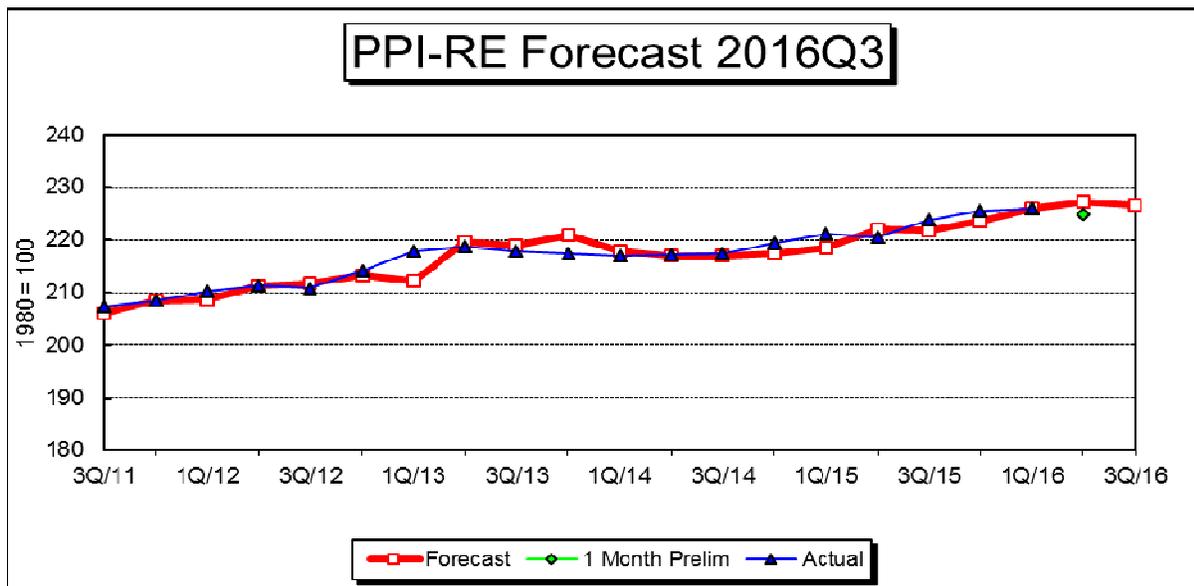
The table below calculates the Equipment Rents Index. The second quarter Car Hire portion of the Index increased 0.6 percent because of increases in rates that occurred over the last three months for autoracks and privately-owned cars. A 1.1 percent increase in the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 0.6 percent increase for Car Hire, caused the Equipment Rents Index to increase 0.8 percent.

	2014	2016Q2	2016Q3	Percent
	Weight			Change
Car Hire	56.5%	196.9	198.0	0.6 %
Lease Rentals	43.5%	215.1	217.4	1.1
Weighted Average		204.8	206.4	0.8
Weighted Average (Linked)		215.1	216.8	0.8

## Depreciation Third Quarter 2016

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, a 0.3 percent decrease from the previous quarter's forecast, reflects a monthly PPI-RE figure that dropped in April, and possibly a forecast for Q2 that was too high.

Forecast of Depreciation Index (1982=100)	204.8
Forecast of Depreciation Index (1980=100)	226.5
Change from previous quarter forecast	-0.3%
Change from actual first month of previous quarter	0.7%
Change from same quarter of prior year (actual)	1.2%



## Depreciation Third Quarter 2016

### PPI RAILROAD EQUIPMENT

Exponential smoothing outperforms Box-Jenkins by 1.161 to 1.790 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12. For Box-Jenkins, I used a log transform.

Series is trended and seasonal.

Recommended model: Exponential Smoothing

Forecast Model for PPIRE

Holt exponential smoothing: Linear trend, No seasonality

Component	Smoothing Weight	Final Value
Level	0.65115	203.78
Trend	0.01892	0.24863

### Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 194.2	Standard deviation 6.315
R-square 0.9787	Adjusted R-square 0.9784
Durbin-Watson 1.959	Ljung-Box(18)=22.91 P=0.8059
Forecast error 0.9278	BIC 0.9709
MAPE 0.003225	RMSE 0.9149
MAD 0.6299	

### Actual Values for the Most Recent 6 Periods:

Date	Actual
2015-11	203.9
2015-12	204.5
2016-01	204.2
2016-02	204.2
2016-03	204.3
2016-04	203.3

### Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2016-05	202.127	204.030	205.933
2016-06	201.995	204.279	206.562
2016-07	201.918	204.527	207.137
2016-08	201.877	204.776	207.675
2016-09	201.863	205.025	208.186
<b>QTR AVG</b>	201.886	204.776	207.666

## Interest Third Quarter 2016

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 2014 data, and was updated in the Q4 filing submitted on September 4, 2015.

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

### 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	
30	Current Loans and Notes Payable
39	Equipment Obligations and Other Long Term Debt Due Within One Year
41	Funded Debt Unmatured - Non-Current
42	Equipment Obligations - Non-Current
43	Capitalized Lease Obligations - Non-Current
44	Debt in Default - Non-Current
45	Accounts Payable: Affiliated Companies - Non-Current
46	Unamortized Debt Premium - Non-Current

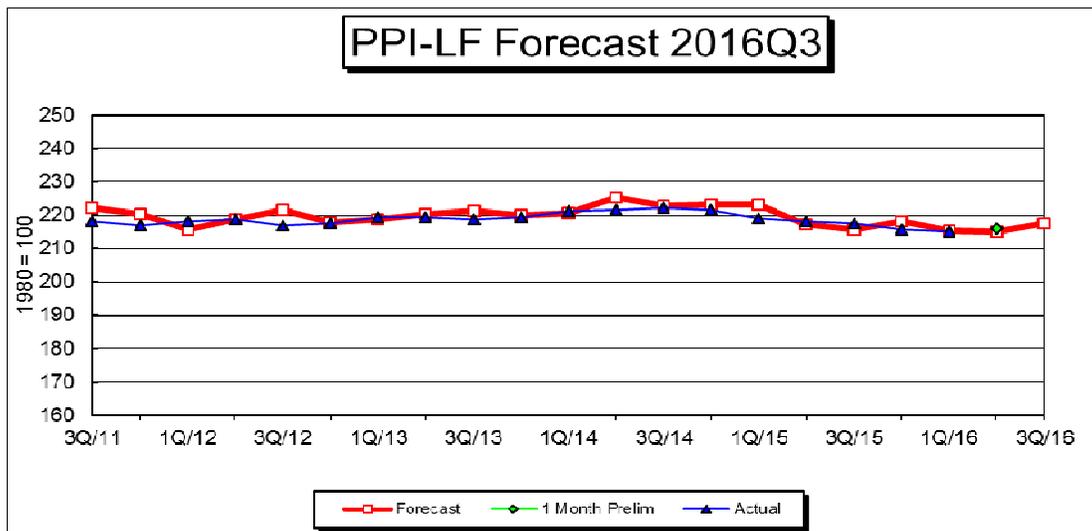
2014	Interest Rate	4.51%
1980	Interest Rate	7.85%
<b>2016Q3</b>	<b>Interest Index</b>	<b>57.5</b>
2016Q2	Interest Index	57.5
	Percent Change	0.0%

## Other Expenses Third Quarter 2016

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 have increased in three of the last four months, and the index for April increased by the largest amount in years. The forecast for 2016Q3 is 1.1 percent above the previous quarter.

Forecast of Other Expense Index (1982=100)	193.9
Forecast of Other Expense Index (1980=100)	217.4
Change from previous quarter forecast	1.1%
Change from actual first month of previous quarter	0.7%
Change from same quarter of prior year (actual)	0.0%



## Other Expenses Third Quarter 2016

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

Box-Jenkins outperforms exponential smoothing by 1.430 to 1.649 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is stationary and nonseasonal.

Recommended model: Box-Jenkins  
Forecast Model for PPILF  
ARIMA(2,0,0)

Term	Coefficient	Std. Error	t-Statistic	Significance
a[1]	1.6829	0.0804	20.9324	1.0000
a[2]	-0.6968	0.0800	-8.7067	1.0000
_CONST	2.6957			

Sample size 72	Number of parameters 2
Mean 193.6	Standard deviation 3.901
R-square 0.9825	Adjusted R-square 0.9823
Durbin-Watson 2.075	Ljung-Box(18)=32.22 P=0.9793
Forecast error 0.5193	BIC 0.5434
MAPE 0.001985	RMSE 0.5121
MAD 0.3839	

**Actual Values for the Most Recent 6 Periods:**

Date	Actual
2015-11	192.3
2015-12	191.9
2016-01	192.0
2016-02	191.8
2016-03	191.9
2016-04	192.6

**Forecasted Values**

Date	2.5 Lower	Forecast	97.5 Upper
2016-05	192.097	193.101	194.105
2016-06	191.492	193.456	195.421
2016-07	190.798	193.706	196.613
2016-08	190.088	193.877	197.666
2016-09	189.399	193.992	198.584
QTR AVG	190.095	193.858	197.621

## Railroad and Union Abbreviations

### Third Quarter 2016

#### ***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: A proposal was made in November 2014 to sell a portion of the D&H pending regulatory approval.

#### ***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 2016 Q3 RCAF**

June 3, 2016

## **Standard Work Papers**

1. Index Calculation Spreadsheet (index\_calc.xlsx, 2 pages)
2. Summary of ST and PFTNW Hourly Rates (Summary.xls)
3. RCAF Taxable Wages adjustment calculation (TaxableRate.xls)
4. National Contracts spreadsheet, 2 sections (2 and 5 pages )
5. Wall Street Journal - 13 week Treasury Bill Rate from latest auction (a.k.a. 3-Mo. T-Bill)
6. 2016/Q3 RCAF Lump Sum Amortization summary, public version (1 page)
7. 2016/Q3 RCAF Back Pay Amortization summary, public version (1 page)
8. Health & Welfare worksheet (3 pages) and 1-page circular from NRLC
9. Railroad Retirement spreadsheet (5 pages)
10. Unemployment Insurance worksheet (1 page)
11. 2-page SAS run for 2016 Q3 Unemployment Insurance
12. EIA's Spot Prices for Petroleum & Other Liquids (2 pages)
13. Summary of Materials & Supplies - "U.S. Summary by Composition Category" (1 page)
14. Car Hire Spreadsheet for Equipment Rents (2 pages) plus source data page
15. 5 pages of PPI-RE for Depreciation including graph, input/output, and BLS source data
16. 5 pages of PPI-LF for Other (and Lease Rentals) incl. graph, input/output, BLS source data
17. Forecast Error calc. and workpapers (10 pages: calc, index actual, fuel, 3 car hire, 2 deprec, 2 other)

**All Inclusive Index and RCAF using 2014 Benchmarks and Weights**

		14 Wts.										
	14 Wts.	3Q/15	3Q/15	% Chg	4Q/15	% Chg	1Q/16	% Chg	2Q/16	% Chg	3Q/16	% Chg
Labor	0.317	404.30	404.3	0.0%	403.6	-0.2%	417.7	3.5%	416.4	-0.3%	415.2	-0.3%
Fuel	0.209	246.10	246.1	0.0%	210.8	-14.3%	191.2	-9.3%	148.7	-22.2%	195.6	31.5%
M&S	0.052	258.90	258.9	0.0%	264.8	2.3%	246.9	-6.8%	246.9	0.0%	240.6	-2.6%
Equip. Rents	0.054	212.20	212.2	0.0%	214.7	1.2%	214.3	-0.2%	215.1	0.4%	216.8	0.8%
Depreciation	0.126	221.80	221.8	0.0%	223.5	0.8%	226.0	1.1%	227.2	0.5%	226.5	-0.3%
Interest	0.015	70.60	70.6	0.0%	57.5	-18.6%	57.5	0.0%	57.5	0.0%	57.5	0.0%
Other	0.227	215.60	215.6	0.0%	218.2	1.2%	215.5	-1.2%	215.1	-0.2%	217.4	1.1%
<b>Weighted Avg.</b>	<b>1.000</b>	<b>281.90</b>	<b>282.5</b>	<b>0.2%</b>	<b>275.9</b>	<b>-2.3%</b>	<b>275.0</b>	<b>-0.3%</b>	<b>265.8</b>	<b>-3.3%</b>	<b>275.5</b>	<b>3.6%</b>
<b>Linked</b>		<b>269.70</b>			<b>263.4</b>	<b>-2.3%</b>	<b>262.5</b>	<b>-0.3%</b>	<b>253.7</b>	<b>-3.4%</b>	<b>263.0</b>	<b>3.7%</b>
	Basing Factor											
10/1/80 basis	102.7	262.6			256.5	-2.3%	255.6	-0.4%	247.0	-3.4%	256.1	3.7%
10/1/82	120.9	223.1			217.9	-2.3%	217.1	-0.4%	209.8	-3.4%	217.5	3.7%
4Q/87	132.2	204.0			199.2	-2.4%	198.6	-0.3%	191.9	-3.4%	198.9	3.6%
4Q/92	156.9	171.9			167.9	-2.3%	167.3	-0.4%	161.7	-3.3%	167.6	3.6%
4Q/97	173.2	155.7			152.1	-2.3%	151.6	-0.3%	146.5	-3.4%	151.8	3.6%
4Q/02	192.1	140.4			137.1	-2.4%	136.6	-0.4%	132.1	-3.3%	136.9	3.6%
4Q/07	245.9	109.7			107.1	-2.4%	106.8	-0.3%	103.2	-3.4%	107.0	3.7%
4Q/12 basis	297.6	90.6			88.5	-2.3%	88.2	-0.3%	85.2	-3.4%	88.4	3.8%
Car Hire	0.565	191.60	191.6	0.0%	193.8	1.1%	195.1	0.7%	196.9	0.9%	198.0	0.6%
Lease Rents	0.435	215.60	215.6	0.0%	218.2	1.2%	215.5	-1.2%	215.1	-0.2%	217.4	1.1%
Weighted Avg Eq Rents		202.90	202.0	-0.4%	204.4	1.2%	204.0	-0.2%	204.8	0.4%	206.4	0.8%
Linked Equipment Rents		212.20			214.7	1.2%	214.3	-0.2%	215.1	0.4%	216.8	0.8%
Preliminary RCAF		0.906			0.885	-2.32%	0.882	-0.3%	0.852	-3.4%	0.884	3.8%
Forecast Error Adj.		(0.077)			(0.023)		(0.018)		(0.012)		(0.042)	
RCAF Unadjusted		0.829			0.862	3.98%	0.864	0.2%	0.840	-2.8%	0.842	0.2%
PAF		2.3422			2.3462	0.17%	2.3502	0.17%	2.3584	0.35%	2.3667	0.4%
RCAF Adjusted		0.354			0.367	3.67%	0.368	0.3%	0.356	-3.3%	0.356	0.0%
PAF-5		2.4828			2.4890	0.25%	2.4932	0.17%	2.4974	0.17%	2.5016	0.17%
RCAF-5		0.334			0.346	3.59%	0.347	0.3%	0.336	-3.2%	0.337	0.3%

**RCAF All-Inclusive Index's Labor Index Based on 2014 Benchmarks**

	14 Wts.	3Q/15	3Q/15 Rebenched As Info Only	% Chg	4Q/15	% Chg	1Q/16	% Chg	2Q/16	% Chg	3Q/16	% Chg
Straight Time		\$33.155	\$33.927	2.3%	\$33.966	2.4%	\$34.259	0.9%	\$34.311	0.2%	\$34.328	0.0%
PFTNW		\$6.966	\$7.126	2.3%	\$7.135	2.4%	\$7.143	0.1%	\$7.154	0.2%	\$7.158	0.1%
<b>Total</b>		<b>\$40.121</b>	<b>\$41.053</b>	<b>2.3%</b>	<b>\$41.101</b>	<b>2.4%</b>	<b>\$41.402</b>	<b>0.7%</b>	<b>\$41.465</b>	<b>0.2%</b>	<b>\$41.486</b>	<b>0.1%</b>
<b>Adjustments</b>												
Lump Sum		\$0.405	\$0.395		\$0.395		\$0.392		\$0.146		\$0.159	
Back Pay		\$0.094	\$0.092		\$0.131		\$0.131		\$0.158		\$0.109	
Other		\$0.161	\$0.157		\$0.157		\$0.157		\$0.157		\$0.149	
<b>Total Wages</b>		<b>\$40.781</b>	<b>\$41.697</b>	<b>2.2%</b>	<b>\$41.784</b>	<b>2.5%</b>	<b>\$42.082</b>	<b>0.7%</b>	<b>\$41.926</b>	<b>-0.4%</b>	<b>\$41.903</b>	<b>-0.1%</b>
Pre-Tax Reduction		(\$1.200)	(\$1.194)		(\$1.194)		(\$1.194)		(\$1.195)		(\$1.358)	
<b>Taxable Wages</b>		<b>\$39.581</b>	<b>\$40.503</b>		<b>\$40.590</b>		<b>\$40.888</b>		<b>\$40.731</b>		<b>\$40.545</b>	
H & W		\$7.612	\$6.909	-9.2%	\$6.909	-9.2%	\$8.043	16.4%	\$8.042	0.0%	\$7.906	-1.7%
RR Ret & Medicare		\$8.242	\$8.442	2.4%	\$8.454	2.6%	\$8.496	0.5%	\$8.474	-0.3%	\$8.448	-0.3%
Unemp. Insurance		\$0.204	\$0.203	-0.5%	\$0.203	-0.5%	\$0.240	18.2%	\$0.240	0.0%	\$0.240	0.0%
Other		\$0.296	\$0.289	-2.4%	\$0.124	-58.1%	\$0.164	32.3%	\$0.150	-8.5%	\$0.206	37.3%
<b>Total</b>		<b>\$16.354</b>	<b>\$15.843</b>	<b>-3.1%</b>	<b>\$15.690</b>	<b>-4.1%</b>	<b>\$16.943</b>	<b>8.0%</b>	<b>\$16.906</b>	<b>-0.2%</b>	<b>\$16.800</b>	<b>-0.6%</b>
<b>Adjustments</b>												
<b>Total Supplements</b>		<b>\$16.354</b>	<b>\$15.843</b>	<b>-3.1%</b>	<b>\$15.690</b>	<b>-4.1%</b>	<b>\$16.943</b>	<b>8.0%</b>	<b>\$16.906</b>	<b>-0.2%</b>	<b>\$16.800</b>	<b>-0.6%</b>
<b>Total Labor</b>		<b>\$57.135</b>	<b>\$57.540</b>	<b>0.7%</b>	<b>\$57.474</b>	<b>0.6%</b>	<b>\$59.025</b>	<b>2.7%</b>	<b>\$58.832</b>	<b>-0.3%</b>	<b>\$58.703</b>	<b>-0.2%</b>
Wage Rate Index	0.7210	349.0	356.8	2.2%	357.6	2.5%	360.1	0.7%	358.8	-0.4%	358.6	-0.1%
Supplements Index	0.2790	604.4	585.5	-3.1%	579.8	-4.1%	626.1	8.0%	624.8	-0.2%	620.8	-0.6%
<b>Total Labor Index '13 Wts.</b>		<b>425.4</b>										
<b>Total Labor Index '14 Wts.</b>		<b>420.3</b>	<b>420.6</b>	<b>0.1%</b>	<b>419.6</b>	<b>-0.2%</b>	<b>434.3</b>	<b>3.5%</b>	<b>433.0</b>	<b>-0.3%</b>	<b>431.8</b>	<b>-0.3%</b>
<b>Labor Index (Linked)</b>		<b>404.3</b>			<b>403.6</b>	<b>-0.2%</b>	<b>417.7</b>	<b>3.5%</b>	<b>416.4</b>	<b>-0.3%</b>	<b>415.2</b>	<b>-0.3%</b>

# Hourly Rate for 2016 Q3

## Straight Time and Time Paid For But Not Worked

**2016Q3 Straight Time Hourly Rate (from national spreadsheet)**

**\$33.985** ✓

No change

**Adjustments to 2014 base:**

**Adjustments added 2015 Q1**

CN Railroads	3% GWI for most unions, \$0.07 COLA for others, 3.8% GWI for non-union	0.024
Misc. Indep ATDA, BLET, UTU, YMD	3% for BNSF UTU, CSX UTU, UP BLET & UTU-YDM, 3.8% for UP dispatchers	0.149
Soo Corp.	3% for D&H	0.013

**Adjustments added 2015 Q2**

CN Railroads	3% increase for two unions	0.003
Misc. Indep ATDA, BLET, UTU, YMD	3% increase for NS BLET	0.024
Soo Corp.	No change	0.000

**Adjustments added 2015 Q3**

CN Railroads	New contracts received by AAR, 3% GWI for several BLET and UTU unions	0.013
Misc. Indep ATDA, BLET, UTU, YMD	No change	0.000
Soo Corp.	No change	0.000

**Adjustments added 2015 Q4**

CN Railroads	August increases for BLET and UTU unions	0.004
Misc. Indep ATDA, BLET, UTU, YMD	New agreement for CSX BLET	0.035
Soo Corp.	No change	0.000

**Adjustments added 2016 Q1**

CN Railroads	A few COLAs and 1 GWI	0.005
Misc. Indep ATDA, BLET, UTU, YMD	Non-union GWI	0.004
Soo Corp.	Non-union GWI rounds to 0.000	0.000

**Adjustments added 2016 Q2**

CN Railroads	No change	0.000
Misc. Indep ATDA, BLET, UTU, YMD	Snap Back for CSX UTU CSRA	0.052
Soo Corp.	No change	0.000

**Adjustments added 2016 Q3**

CN Railroads	No change (2 small increases rounded to 0)	0.000
Misc. Indep ATDA, BLET, UTU, YMD	2% GWI for NS BLET	0.017 ✓
Soo Corp.	No change	0.000 ✓

**Adjusted STHR Total**

**\$34.328**

**Pay For Time Not Worked**

PFTNW (from national spreadsheet)

\$7.086 ✓

Ratio Adj STHR to Nat STHR

34.328 /

33.985

=

1.01009

**Adjusted Pay For Time Not Worked**

**\$7.158**

Notes:

1. CN Railroads includes B&LE, CC&P, GTW, IC, and WC.
2. The Miscellaneous group consists of independent (for wages) BLET, dispatchers, UTU and yardmasters.
3. Soo Corp. includes DH and DME only, since Soo Line participates in national agreements.

## 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 3Q/2016

U.S. ST Hours = 321,870,207  
 Wage Statistics are for 2014

Union Group	Employees	Mo. Rate	Annual \$
National BLET (BNSF, CSX, KCS, NS, SOO, UP)	27,186	(\$228.89)	(\$74,671,242.48)
National BMWE (BNSF, CSX, KCS, NS, SOO, UP)	23,639	(\$228.89)	(\$64,928,768.52)
National BRS (BNSF, CSX, KCS, NS, SOO, UP)	7,542	(\$228.89)	(\$20,715,460.56)
National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,904	(\$228.89)	(\$18,963,078.72)
National IBBM (BNSF, CSX, KCS, NS, SOO, UP)	1,291	(\$228.89)	(\$3,545,963.88)
National IBEW (BNSF, CSX, KCS, NS, SOO, UP)	5,558	(\$228.89)	(\$15,266,047.44)
National NCFO (BNSF, CSX, KCS, NS, SOO, UP)	2,473	(\$228.89)	(\$6,792,539.64)
National SMW (BNSF, CSX, KCS, NS, SOO, UP)	1,027	(\$228.89)	(\$2,820,840.36)
National TCU (BNSF, CSX, KCS, NS, SOO, UP)	5,437	(\$228.89)	(\$14,933,699.16)
National TCU-CAR (BNSF, CSX, KCS, NS, SOO, UP)	9,214	(\$228.89)	(\$25,307,909.52)
National UTU (BNSF, CSX, KCS, NS, SOO, UP)	40,720	(\$228.89)	(\$111,844,809.60)
Yardmasters (BNSF, CSX, KCS, NS, SOO, UP)	1,886	(\$228.89)	(\$5,180,238.48)
National ATDA (wt. avg. BNSF, CSX, KCS, NS, SOO)	1,859	(\$228.89)	(\$5,106,078.12)
Independent CNGT (wt avg all union categories)	6,492	(\$226.25)✓	(\$17,625,780.00)
Independent SLC (wt avg all DH & DME union categories)	906	(\$230.37)✓	(\$2,504,582.64)
<b>Total Union</b>	<b>142,134</b> ✓		<b>(\$390,207,039.12)</b>
<b>All Other @ \$3,909,740.58 total per month</b>			<b>(\$46,916,886.96)</b> ✓
<b>Total</b>			<b>(\$437,123,926.08)</b>

Reduction in Wage Rate Per ST Hour	-\$1.35807514
Deduct this amount from the Wage Rate	<b>-\$1.358</b>

## National Contracts U.S.

Straight Time Hourly Rate															Check Sum
Weight	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	
	0.23681	0.03447	0.17707	0.00583	0.04733	0.14057	0.05554	0.01427	0.04033	0.00742	0.0328	0.01359	0.00852	0.18545	1.00000
2014 Avg.	27.076	28.014	31.170	28.833	29.721	26.731	28.713	23.811	29.150	27.023	29.393	40.721	48.991	49.106	448.455
12/31/14	27.487	28.533	31.432	29.371	30.266	27.226	29.247	24.254	29.693	27.526	29.939	41.282	49.789	49.106	455.153
1/1/15	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	50.972	
4/1/15	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	50.972	
7/1/15	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	50.972	
10/1/15	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	50.972	
1/1/16	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	52.501	
4/1/16	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	52.501	
7/1/16	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	52.501	

Weighted Straight Time Hourly Rate															
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Total
2014 Avg.	6.412	0.966	5.519	0.168	1.407	3.758	1.595	0.340	1.176	0.201	0.964	0.553	0.418	9.107	32.581
12/31/14	6.509	0.983	5.566	0.171	1.433	3.827	1.624	0.346	1.198	0.204	0.982	0.561	0.424	9.107	32.936
1/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
4/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
7/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
10/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
1/1/16	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.736	33.985
4/1/16	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.736	33.985
7/1/16	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.736	33.985

Note: The 2014 Average and 12/31/14 Straight Time Hourly Rates are the industry rates, and include all Class I railroad employees. The rates for 1/1/15 through 7/1/16 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 2014 are not shown on this page and are handled separately.

## National Contracts U.S.

Pay For Time Not Worked Hourly Rate															Check
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Sum
Weight	0.23681	0.03447	0.17707	0.00583	0.04733	0.14057	0.05554	0.01427	0.04033	0.00742	0.0328	0.01359	0.00852	0.18545	1.00000
2014 Avg.	11.128	4.284	11.332	4.029	6.780	4.994	4.247	3.061	4.514	3.614	4.708	6.315	9.736	1.256	79.998
12/31/14	11.297	4.364	11.427	4.104	6.904	5.087	4.326	3.118	4.598	3.681	4.796	6.402	9.895	1.256	
1/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
4/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
7/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
10/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
1/1/16	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.342	
4/1/16	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.342	
7/1/16	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.342	

Pay For Time Not Worked Hourly Rate															
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Total
2014 Avg.	2.635	0.148	2.006	0.023	0.321	0.702	0.236	0.044	0.182	0.027	0.154	0.086	0.083	0.233	<b>6.880</b>
12/31/14	2.675	0.150	2.023	0.024	0.327	0.715	0.240	0.044	0.185	0.027	0.157	0.087	0.084	0.233	<b>6.974</b>
1/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	<b>7.079</b>
4/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	<b>7.079</b>
7/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	<b>7.079</b>
10/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	<b>7.079</b>
1/1/16	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.249	<b>7.086</b>
4/1/16	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.249	<b>7.086</b>
7/1/16	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.249	<b>7.086</b>

**U.S. National Contract**

**UTU**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				27.07593	11.12788
12/31/14 Industry Rate				27.48714	11.29688
1/1/15	3.00%		49.292%	27.89361	11.46393
4/1/15			49.292%	27.89361	11.46393
7/1/15			49.292%	27.89361	11.46393
10/1/15			49.292%	27.89361	11.46393
1/1/16			49.292%	27.89361	11.46393
4/1/16			49.292%	27.89361	11.46393
7/1/16			49.292%	27.89361	11.46393

**TCU**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				28.01414	4.28434
12/31/14 Industry Rate				28.53310	4.36371
1/1/15	3.00%		85.316%	29.26340	4.47540
4/1/15			85.316%	29.26340	4.47540
7/1/15			85.316%	29.26340	4.47540
10/1/15			85.316%	29.26340	4.47540
1/1/16			85.316%	29.26340	4.47540
4/1/16			85.316%	29.26340	4.47540
7/1/16			85.316%	29.26340	4.47540

**BLET**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				31.17032	11.33150
12/31/14 Industry Rate				31.43205	11.42665
1/1/15	3.00%		2.095%	31.45181	11.43383
4/1/15			2.095%	31.45181	11.43383
7/1/15			2.095%	31.45181	11.43383
10/1/15			2.095%	31.45181	11.43383
1/1/16			2.095%	31.45181	11.43383
4/1/16			2.095%	31.45181	11.43383
7/1/16			2.095%	31.45181	11.43383

**U.S. National Contract**

**SMWIA**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				28.83332	4.02890
12/31/14 Industry Rate				29.37094	4.10402
1/1/15	3.00%		98.534%	30.23915	4.22534
4/1/15			98.534%	30.23915	4.22534
7/1/15			98.534%	30.23915	4.22534
10/1/15			98.534%	30.23915	4.22534
1/1/16			98.534%	30.23915	4.22534
4/1/16			98.534%	30.23915	4.22534
7/1/16			98.534%	30.23915	4.22534

**BRS**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				29.72109	6.77994
12/31/14 Industry Rate				30.26645	6.90435
1/1/15	3.00%		93.556%	31.11593	7.09813
4/1/15			93.556%	31.11593	7.09813
7/1/15			93.556%	31.11593	7.09813
10/1/15			93.556%	31.11593	7.09813
1/1/16			93.556%	31.11593	7.09813
4/1/16			93.556%	31.11593	7.09813
7/1/16			93.556%	31.11593	7.09813

**BMWE**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				26.73104	4.99413
12/31/14 Industry Rate				27.22593	5.08659
1/1/15	3.00%		91.327%	27.97187	5.22596
4/1/15			91.327%	27.97187	5.22596
7/1/15			91.327%	27.97187	5.22596
10/1/15			91.327%	27.97187	5.22596
1/1/16			91.327%	27.97187	5.22596
4/1/16			91.327%	27.97187	5.22596
7/1/16			91.327%	27.97187	5.22596

**U.S. National Contract**

**TCU-Carmen**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				28.71310	4.24717
12/31/14 Industry Rate				29.24725	4.32618
1/1/15	3.00%		92.931%	30.06264	4.44679
4/1/15			92.931%	30.06264	4.44679
7/1/15			92.931%	30.06264	4.44679
10/1/15			92.931%	30.06264	4.44679
1/1/16			92.931%	30.06264	4.44679
4/1/16			92.931%	30.06264	4.44679
7/1/16			92.931%	30.06264	4.44679

**NCFO**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				23.81108	3.06098
12/31/14 Industry Rate				24.25443	3.11797
1/1/15	3.00%		96.925%	24.95969	3.20864
4/1/15			96.925%	24.95969	3.20864
7/1/15			96.925%	24.95969	3.20864
10/1/15			96.925%	24.95969	3.20864
1/1/16			96.925%	24.95969	3.20864
4/1/16			96.925%	24.95969	3.20864
7/1/16			96.925%	24.95969	3.20864

**IAM**

	<b>Percentage Increase</b>	<b>Cents Increase</b>	<b>Applicable</b>	<b>ST HR</b>	<b>PFTNW HR</b>
2014 Industry Avg.				29.15022	4.51371
12/31/14 Industry Rate				29.69256	4.59769
1/1/15	3.00%		95.418%	30.54253	4.72930
4/1/15			95.418%	30.54253	4.72930
7/1/15			95.418%	30.54253	4.72930
10/1/15			95.418%	30.54253	4.72930
1/1/16			95.418%	30.54253	4.72930
4/1/16			95.418%	30.54253	4.72930
7/1/16			95.418%	30.54253	4.72930

## U.S. National Contract

### IBBM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				27.02298	3.61399
12/31/14 Industry Rate				27.52636	3.68131
1/1/15	3.00%		92.539%	28.29054	3.78351
4/1/15			92.539%	28.29054	3.78351
7/1/15			92.539%	28.29054	3.78351
10/1/15			92.539%	28.29054	3.78351
1/1/16			92.539%	28.29054	3.78351
4/1/16			92.539%	28.29054	3.78351
7/1/16			92.539%	28.29054	3.78351

### IBEW

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				29.39265	4.70811
12/31/14 Industry Rate				29.93930	4.79567
1/1/15	3.00%		94.946%	30.79208	4.93227
4/1/15			94.946%	30.79208	4.93227
7/1/15			94.946%	30.79208	4.93227
10/1/15			94.946%	30.79208	4.93227
1/1/16			94.946%	30.79208	4.93227
4/1/16			94.946%	30.79208	4.93227
7/1/16			94.946%	30.79208	4.93227

### ATDA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				40.72110	6.31496
12/31/14 Industry Rate				41.28186	6.40192
1/1/15	3.00%		62.269%	<b>42.04540</b>	6.52033
4/1/15			62.269%	42.04540	6.52033
7/1/15			62.269%	42.04540	6.52033
10/1/15			62.269%	42.04540	6.52033
1/1/16			62.269%	42.04540	6.52033
4/1/16			62.269%	42.04540	6.52033
7/1/16			62.269%	42.04540	6.52033

A portion of one railroad's dispatchers "snapped back" to national effective 1/1/15. The number shown herein accounts for the snap back plus the 3% GWI.

62.269% → **42.04540**

YDMSTRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				48.99137	9.73625
12/31/14 Industry Rate				49.78941	9.89485
1/1/15	3.00%		87.742%	51.09999	10.15531
4/1/15			87.742%	51.09999	10.15531
7/1/15			87.742%	51.09999	10.15531
10/1/15			87.742%	51.09999	10.15531
1/1/16			87.742%	51.09999	10.15531
4/1/16			87.742%	51.09999	10.15531
7/1/16			87.742%	51.09999	10.15531

OTHER

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				49.10618	1.25566
12/31/14 Industry Rate				49.10618	1.25566
1/1/15	3.80%		100.000%	50.97222	1.30337
4/1/15			100.000%	50.97222	1.30337
7/1/15			100.000%	50.97222	1.30337
10/1/15			100.000%	50.97222	1.30337
1/1/16	3.00%		100.000%	52.50138	1.34248
4/1/16			100.000%	52.50138	1.34248
7/1/16			100.000%	52.50138	1.34248

Check Sums

	Increase	Applicable	ST HR	PFTNW HR
2014 AVG			448.45451	79.99754
12/31/14			455.15294	
		1142.891%		
		ok matches	ok matches	ok matches
			ok matches	

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

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

PNC FintSvcs	PNC	87.82	-0.37	StarwoodHotels	HOT	72.59	-0.09	WestpacBankingADR	WBK	21.55	-0.21	Goodyear	GT	26.93	-0.24	Mylan	MYL	41.21	-0.30	TRowePrice	TROW	74.51	-0.37	
POSCOADR	PKX	44.21	0.89	StarwoodPrtTr	STWD	20.02	...	WestRock	WRK	38.05	0.15	GRFADS	ADR	GRFS	15.23	0.39	NXP Semi	NXPI	88.96	0.57	TeslaMotors	TSLA	216.22	-4.06
PPG Ind	PPG	106.43	0.22	StateSt	STT	61.25	-0.18	Weyerhaeuser	WY	30.87	0.45	HdfSupplyHoldings	HDS	33.69	0.31	Nasdaq	NDAQ	63.57	-0.05	Telexinstruments	TXN	58.73	0.20	
PPL	PPL	37.45	-0.51	StatoilADR	STO	16.06	-0.21	Whirlpool	WHR	166.87	-1.23	HainCestialGroup	HAIN	48.38	-0.36	NetApp	NTAP	24.69	0.47	TractorSupply	TSCO	93.25	-0.65	
PVH Corp.	PVH	88.11	-0.85	Steris	STE	68.69	-1.18	WhiteWave	WWAV	44.36	-0.33	Hasbro	HAS	84.97	0.58	NeteaseADR	NTEA	164.20	-1.88	TrimbleNavigation	TRMB	23.74	0.05	
PackCpAm	PKG	65.35	0.22	STMICorelectronics	STM	5.76	0.01	Williams	WMB	21.95	-0.20	HenrySchein	HSIC	169.21	-1.54	Netflix	NFLX	94.89	2.40	TripAdvisor	TRIP	66.87	2.34	
PaltoNetNetworks	PANW	143.97	2.21	Stryker	SYK	110.27	0.02	WilliamsPartners	WPZ	31.42	-0.17	Hologic	HOLX	33.08	-0.26	NewsCorpCIA	NWSA	11.70	-0.15	ZistCenturyFox	FOX	28.19	0.05	
ParkerHannifin	PH	109.60	-0.13	SumitomoMitsADR	SMFG	6.21	0.06	WiproADR	WIT	11.95	-0.05	IdexxLab	IDEX	88.12	-0.85	NewsCorpCIB	NWS	12.12	-0.13	ZistCenturyFox	FOX	28.44	-0.02	
PersonADR	PSO	11.70	-0.10	SunLifeFinancial	SLF	33.88	-0.25	WoonBankADR	WFT	25.29	-0.19	IranEnterprises	IEP	54.54	-0.49	NorthernTrust	NTRS	71.32	-0.56	UltraSalon	ULTA	206.02	-2.45	
PembinaPipeline	PBA	28.49	-0.24	SuncorEnergy	SU	26.36	0.06	Workday	WDAY	75.19	-0.07	Illumina	ILMN	139.83	-0.68	NorwegianCruise	NCLH	46.74	-0.47	UltimateSoftware	ULTI	195.14	-2.11	
Pentair	PNR	59.31	0.83	SunocoLogistics	SXL	28.68	-0.19	WyndhamWorldwide	WYN	66.37	-0.16	INVIDIA	NVDA	44.40	0.07	NuanceComms	NUAN	16.25	-0.05	UnitedTherapeutics	UTHR	114.18	0.56	
pesiCo	PEP	100.42	0.32	SunTrustBanks	STI	42.49	-0.06	XL Group	XL	34.20	-0.25	OReillyAuto	ORLY	253.32	-3.47	VCA	VOOF	63.79	-0.82	VeriSign	VRSN	83.25	0.09	
PerkinElmer	PKI	53.90	-0.05	SyngentaADR	SYT	79.44	-0.40	XcelEnergy	XEL	40.06	-0.41	OpenText	OTEX	55.91	-0.49	Paccar	PACR	53.19	-0.29	VeriskAnalytics	VRSK	76.99	-0.05	
Perrigo	PRG	93.50	-0.28	Syngenta	SYT	48.39	-0.16	Xerox	XR	9.11	-0.03	PacWestBankcorp	PACW	39.74	-0.11	PacWestBankcorp	PACW	39.74	-0.11	VertexPharm	VRTX	84.42	-0.28	
PetroChinaADR	PTC	66.27	-0.85	TEConnectivity	TEL	57.92	0.09	Xylem Inc.	XYL	43.50	0.14	PaneraBreadCIA	PNRA	212.13	1.00	Viacom A	VIA	43.34	1.16	Viacom B	VIAB	39.95	0.90	
PetrobrasADR	PBR	6.15	-0.30	TEGNA	TGNA	22.37	-0.20	YPFADR	YPF	20.85	-0.06	Paychex	PAYX	51.73	-0.39	VimpeComADR	VIP	3.41	-0.01	VodafoneGroupADR	VOD	33.13	-0.54	
PetrobrasADR	PBR/A	4.68	-0.35	TELUS	TU	30.98	0.02	YamanaGold	YAU	4.61	-0.11	PayPalHoldings	PYPL	38.07	0.54	VodafoneGroupADR	VOD	33.13	-0.54	WPPADR	WPPGY	114.18	-0.54	
Pfizer	PFE	33.67	-0.07	TERNIUMADR	TX	18.73	0.18	YanzhouCoalADR	YZC	4.92	-0.04	People'sSmartFin	PSFT	15.40	-0.02	WalgreensBootsAll	WBA	76.53	-0.69	WeiboADR	WB	23.12	0.12	
PhilippMorrisIntl	PM	98.28	0.24	TIMPartADR	TSU	9.48	0.28	YumBrands	YUM	79.98	0.38	PilgrimPride	PBC	24.96	-0.01	WesternDigital	WDC	40.46	0.90	WholeFoods	WFM	31.16	-0.36	
Phillips66	PSX	77.82	-0.08	TJX	TJX	74.70	-0.74	ZayoGroupHoldings	ZAYO	27.43	-0.07	PncelineGroup	PCLN	123.49	-11.80	WatersWatson	WLTW	125.95	0.38	WynnResorts	WYNN	91.48	2.52	
PiedmontNaturalGas	PNY	59.76	-0.10	TahoeResources	TAHO	12.48	0.15	ZimmerBiomet	ZBH	119.43	0.10	Qiagen	QGEN	21.48	0.06	Xilinx	XLNX	44.89	0.14	Yahoo	YHOO	36.66	0.16	
PinnacleFoods	PFF	42.08	0.26	TargaResources	TRGP	42.80	-1.30	Zoetis	ZTS	46.40	-0.66	Qorvo	QORV	50.40	1.00	Yandex	YNDX	19.16	-0.06	ZillowGroupCIA	ZG	28.29	-0.01	
PinnacleWestCap	PNW	71.08	-0.48	Target	TGT	67.93	-0.73	AMC Networks A	AMCX	64.55	-0.91	Qualcomm	QCOM	54.18	-0.34	ZillowGroupCIC Z	ZZ	27.76	-0.03	ZionsBankcorp	ZION	27.14	-0.03	
PineBluffs	PXD	162.62	-1.72	TaroPharm	TARO	134.64	-1.84	Ansys	ANSS	86.78	0.53	RangeResourcesADR	GOLD	88.12	-1.20	BritishAmTelADR	BTI	119.71	-0.53	CheniereEnergy	LNG	33.21	-0.64	
PlainsAllAmPipe	PAA	23.93	-0.16	TataMotorsADR	TTM	28.05	-0.69	ARMHoldingsADR	ARMH	41.60	0.78	RegenPharm	REGN	392.64	6.64	CheniereEnergyPnr	CQP	39.21	-0.85	ImpOil	IMO	28.88	-0.36	
PolarisIndustries	PII	82.21	-1.67	TeckResources	TCK	9.79	-0.06	ASMLHolding	ASML	95.70	0.22	RossStores	ROST	52.40	-0.09	ImpOil	IMO	28.88	-0.36					
PostHoldings	POST	74.09	0.46	TecoEnergy	TE	27.50	0.01	AcadiaHealthcare	ACHC	56.52	-0.51	RyanairHoldingsADR	RYAA	80.31	0.95									
PostShc	POST	16.83	0.30	TelecomItaliaADR	TIA	7.54	0.02	ActivisionBliz	ATVI	37.73	0.20	SBACommunications	SBAK	97.63	0.33									
Praxair	PRX	110.49	0.41	TelecomItaliaADR	TIA	9.22	0.06	AdobeSystems	ADBE	96.62	-0.26	SEIInvestments	SEIC	49.99	0.05									
PrincipalFinancial	PGF	43.13	-0.06	Teleflex	TFX	158.37	-0.79	AlamoTechnologies	AKAM	51.29	-0.44	SS&CTechs	SSIC	59.91	0.12									
Procter&Gamble	PG	80.20	0.18	TelefonicaBrasilADR	VIV	11.56	-0.09	AlexionPharm	ALXN	142.51	-0.01	SVBFinancialGroup	SIVB	102.57	-0.10									
ProgressiveCorp	PGR	32.99	0.01	TelefonicaBrasilADR	VIV	10.10	-0.11	AlignTechnology	ALGN	77.38	-0.05	Sabre	SABR	27.64	-0.21									
ProgressWasteSol	PGR	33.41	-0.38	TelefonicaADR	TEF	10.10	-0.11	Alkermes	ALKS	42.88	-0.10	ScipioNetworks	SNJ	61.79	-0.30									
Prologis	PLD	46.54	-0.30	TelemorHoldingsADR	TLK	54.72	0.18	AlymPharmALIM	ALM	56.07	0.96	SeagateTechnology	STX	20.80	0.39									
PrudentialADR	PRU	77.20	-0.47	TenarisADR	TS	25.80	-0.03	AlphabetCIA	GOOG	717.25	-4.46	SeattleGenetics	SGEN	39.42	0.60									
PrudentialADR	PRU	38.32	-0.31	Tenaris	TSO	77.01	-2.08	AlphabetCIC	GOOGL	704.24	-5.50	ShireADR	SHPG	186.16	0.46									
PublicServiceEnt	PEG	44.52	-0.45	TesoroLogistics	TLLP	48.08	-0.48	Amazon.com	AMZN	696.75	-6.05													
PublicStorage	PSA	251.87	-0.51	TevaPharmADR	TEVA	51.22	-0.72	Amdocs	DOX	56.38	-0.38													
PulteGroup	PHM	17.82	-0.24	Texttron	TEXT	37.66	-0.26	Amerco	UHAL	366.08	-2.17													
QimondaTechnology	QIHU	73.40	-0.42	ThermoFisherSci	TMO	148.84	-0.01	Amerigo	AMOV	12.41	-0.09													
QuestDiag	QDX	76.10	-0.42	ThomsonReuters	TRI	40.78	-0.48	AmeriCapAg	AGNC	19.17	0.40													
QuintilesTransnat	Q	65.97	-0.58	3M	MMM	166.11	1.10	Amgen	AMGN	149.30	-0.88													
RELXADR	RELX	16.94	-0.04	Tiffany	TIF	63.96	-0.71	AmTrustFinSvcs	AFSI	26.16	-0.60													
RELXADR	RELX	18.09	-0.01	TimeWarner	TWX	72.07	-0.73	AnalogDevices	ADI	56.76	0.22													
RPM	RPM	49.18	0.12	Toll Bros	TOL	27.10	-0.47	Apple	AAPL	96.43	1.21													
RalphLaurenA	RL	92.71	1.08	Torchmark	TTC	59.44	-0.18	AppliedMaterials	AMAT	22.90	0.24													
RangeResources	RRC	41.25	0.87	Toro	TTC	86.21	1.49	ArchCapitalGroup	ACGL	70.73	-1.53													
RayJamFnl	RJF	52.32	-0.07	TorontoDominionBk	TD	43.01	-0.06	AthenaHealth	ATHN	124.52	1.38													
Raytheon	RTN	128.85	-0.49	TotalADR	TOT	47.58	-0.51	AtlassianCIA	TEAM	22.37	-0.32													
RealtyIncome	RI	59.05	-0.14	TotalSystemSvcs	TSS	53.94	-0.15	Autodesk	ADSK	56.96	0.77													
RedHat	RHT	74.80	1.63	ToyotaMotorADR	TM	99.55	-1.06	ADP	ADP	85.25	-0.22													
RegencyCtrs	REG	75.95	-0.23	TransCanada	TRP	40.40	-0.36	B/E Aerospace	BEAV	46.66	0.08													
RegionsFinancial	RF	9.47	-0.04	TransdigmGrp	TDG	248.74	-1.15	BaiduADR	BIDU	169.77	-0.28													
ReinsuranceGrp	RG	95.95	-0.49	TransUnion	TRU	31.83	0.10	BedBath	BBBY	42.52	-0.15													
RelianceStl	RS	72.61	0.53	TravelersCos	TRV	111.39	-0.50	Biogen	BIIB	264.85	1.19													
RenaissanceRe	RNR	114.03	-0.56	TreeHouseFoods	THS	90.86	0.19	BioMarinPharm	BMRN	85.51	-0.94													
RepublicServices	RSG	47.67	-0.02	TurkcellADR	TKC	8.94	0.06	BlackBerry	BBRY	6.92	0.11													
ResMed	RMD	57.42	-0.20	TurquoiseHillRes	TRQ	2.78	0.01	BlueBuffaloPetProd	BLUF	25.95	-0.10													
RestaurantBrands	QR	41.16	0.34	Twitter	TWTR	14.41	-0.02	Broadcom	AVGO	148.10	1.37													
ReynoldsAmr	RI	49.88	0.27	Tycointernational	TYC	41.19	0.06	CA	CA	31.05	-0.26													
RioTinto	ADR	28.34	0.03	TylerTechnologies	TYL	147.40	0.38	CB&E Holdings	CBDE	63.44	-0.29													
RiteAid	RAD	7.67	0.01	TysonFoodsCIA	TSN	64.98	0.27	CDKGlobal	CDK	52.89	-0.01													
RobHaffintl	RHI	39.02	-0.45	UBSGroup	UBS	14.85	0.02	CDW	CDW	41.86	-0.72													
Rockwell	ROK	111.79	0.62	UDR	UDR	35.63	0.11	CH Robinson	CHRW	74.36	0.04													
RockwellCollins	COL	88.20	-1.03	UGI	UGI	42.60	-0.52	CMEGroupCIA	CME	96.63	0.18													
RogerComm	R	37.97	-0.11	UltraparPartADR	UGP	19.56	-0.33	CSX	CSX	25.58	-0.24													
RollinsInc	R	27.52	-0.07	UnderArmour A	UA	37.27	-0.62	CadenceDesign	CDS	24.38	-0.17													
ROP	ROP	172.71	-10.39	UnderArmourCIC	UA/C	34.83	-0.75	Celgene	CELG	101.02	-0.44													
RoyalBkCanada	RY	59.40	0.06	UnileverADR	UL	43.42																		

**RCAF Lump Sum Amortization  
2016/Q3**

	<b>Quarter of Payment</b>	<b>Quarter Amortization Began</b>	<b>Amount</b>	<b>Annual Per ST Hour</b>	<b>1 Quarter Per ST Hour</b>	<b>U.S. ST Hours</b>	
CSX - BLET 2016	2016Q1	2016Q2				321,870,207	2014
NS - BLET second bonu:	2016Q1	2016Q2				321,870,207	2014
NS - BLET 2016Q1 PPI	2016Q2	2016Q3				321,870,207	2014
<b>Total</b>			<b>\$51,189,375</b>	<b>0.15904</b>			

Should be slightly less than amortized amount.

**Fell out** None.

**Interest Rate**

2015/Q1	0.020
2015/Q2	0.020
2015/Q3	0.015
2015/Q4	0.050
2016/Q1	0.140
2016/Q2	0.320
2016/Q3	0.350
2016/Q4	
2017/Q1	
2017/Q2	
2017/Q3	
2017/Q4	

**Lump Sum Adjustment for 2016/Q3** → **0.159380**  
or  
**0.159**

<sup>1</sup> B&LE BMW, B&LE BRS, GTW BMW, WC BMW, IC&CCP BMW

RCAF Back Pay Amortization  
2016/Q3

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hr.	U.S. ST Hours
CSX - BLET	2015Q1	2015Q4		0.10881716		321,870,207 <sup>2014</sup>
CSX - UTU CSRA	2015Q1	2016Q2				321,870,207 <sup>2014</sup>
DME - all unions 2016	2016Q1	2016Q2				321,870,207 <sup>2014</sup>
CSX - UTU National	2016Q2	2016Q3				321,870,207 <sup>2014</sup>
<b>Total</b>			<b>\$35,025,003</b>			
<b>Fell out</b>						
GTW - UTU	2015Q2	2015Q3				321,870,207 <sup>2014</sup>
DME - 2 unions <sup>2</sup>	2014Q4	2015Q3				321,870,207 <sup>2014</sup>

Should be slightly less than amortized amount.

Interest Rate

2015/Q1	0.020
2015/Q2	0.020
2015/Q3	0.015
2015/Q4	0.050
2016/Q1	0.140
2016/Q2	0.320
2016/Q3	0.350
2016/Q4	
2017/Q1	
2017/Q2	
2017/Q3	
2017/Q4	

Back Pay Adjustment for 2016/Q3 → 0.10902  
or  
0.109

<sup>1</sup> B&LE's TCU, IC&CCP's UTU, & WC's BLET

<sup>2</sup> SMART-TD covering Engineers and Trainmen on the DM&E North...AAR labels these as DM&E BLET and DM&E UTU

## Health and Welfare

	Employees Receiving		2016	Total 2014 Avg.	Total 2016
	Pay	Monthly Contribution			
	2014	2014 Avg.			
1. All Employees					
a. Group health	170,643	\$1,285.74	\$1,481.05	\$219,402,530.82	\$252,730,815.15
b. Group dental	170,643	53.00	56.97	9,044,079.00	9,721,531.71
c. Early retirement major medical	170,643	127.92	134.70	21,828,652.56	22,985,612.10
d. Group vision	170,643	8.39	8.41	1,431,694.77	1,435,107.63
2. Supplemental Sickness					
a. Signalmen	7,975	30.74	29.48	245,151.50	235,103.00
b. Shopcrafts	25,097	48.28	49.11	1,211,683.16	1,232,513.67
c. MOW	25,249	32.87	32.87	829,934.63	829,934.63
d. Yardmasters	2,036	34.96	34.22	71,178.56	69,671.92
3. Short-Term Disability					
a. Engineers (CSX, KCS, SOO, UP)	14,094	40.00	40.00	563,760.00	563,760.00
4. Monthly Total Premiums				254,628,665.00 ✓	289,804,049.81 ✓
5. Monthly Employee Contributions To H&W					
a. National BLET (BNSF, CSX, KCS, NS, SOO, UP)	27,186	(\$198.00)	(\$228.89) ✓	(\$5,382,828.00)	(6,222,603.54)
b. National BMWE (BNSF, CSX, KCS, NS, SOO, UP)	23,639	(\$198.00)	(\$228.89)	(\$4,680,522.00)	(5,410,730.71)
c. National BRS (BNSF, CSX, KCS, NS, SOO, UP)	7,542	(\$198.00)	(\$228.89)	(\$1,493,316.00)	(1,726,288.38)
d. National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,904	(\$198.00)	(\$228.89)	(\$1,366,992.00)	(1,580,256.56)
e. National IBBM (BNSF, CSX, KCS, NS, SOO, UP)	1,291	(\$198.00)	(\$228.89)	(\$255,618.00)	(295,496.99)
f. National IBEW (BNSF, CSX, KCS, NS, SOO, UP)	5,558	(\$198.00)	(\$228.89)	(\$1,100,484.00)	(1,272,170.62)
g. National NCFO (BNSF, CSX, KCS, NS, SOO, UP)	2,473	(\$198.00)	(\$228.89)	(\$489,654.00)	(566,044.97)
h. National SMW (BNSF, CSX, KCS, NS, SOO, UP)	1,027	(\$198.00)	(\$228.89)	(\$203,346.00)	(235,070.03)
i. National TCU (BNSF, CSX, KCS, NS, SOO, UP)	5,437	(\$198.00)	(\$228.89)	(\$1,076,526.00)	(1,244,474.93)
j. National TCU-CAR (BNSF, CSX, KCS, NS, SOO, UP)	9,214	(\$198.00)	(\$228.89)	(\$1,824,372.00)	(2,108,992.46)
k. National UTU (BNSF, CSX, KCS, NS, SOO, UP)	40,720	(\$198.00)	(\$228.89)	(\$8,062,560.00)	(9,320,400.80)
l. Yardmasters (BNSF, CSX, KCS, NS, SOO, UP)	1,886	(\$198.00)	(\$228.89)	(\$373,428.00)	(431,686.54)
m. National ATDA (wt. avg. BNSF, CSX, KCS, NS, SOO)	1,859	(\$198.00)	(\$228.89) ✓	(\$368,082.00)	(\$425,506.51)
n. Independent CNGT (wt avg all union categories)	6,492	(\$190.95)	(\$226.25) ✓	(\$1,239,647.40)	(1,468,815.00)
o. Independent SLC (wt avg all DH & DME union categories)	906	(\$176.22)	(\$230.37) ✓	(\$159,655.32)	(208,715.22)
p.					
Total Major Union	142,134			(\$28,077,030.72)	(\$32,517,253.26)
All Other Employee Contributions*				(\$3,909,740.58) ↓	(\$3,909,740.58)
6. Net Employer Monthly Payments				\$222,641,893.70	\$253,377,055.97
7. Ratio Projected Year to Base Year, Based on Net Monthly Payments					1.13805
8. H&W hourly rate for base year 2014				\$6.947 ✓	
9. H&W hourly rate for projected quarter					<b>\$7.906</b>

\* Non-union employee contributions net of opt-outs. The \$28,077,030.72 in major union contributions, plus \$3,909,740.58 in all other employee contributions, totals to the 12-month average of the total employee contributions reported to the AAR in its WF survey.

## Health and Welfare

### Employer H&W Contribution

		2014 Pd. Employees
<b>Supplemental Sickness Plan:</b>		
a. Signalmen	BRS	7,975
b. Shopcrafts	Total	25,097
	IBEW	5,792
	IBBM	1,340
	TCU-Car	9,773
	IAM	7,149
	SMW	1,043
c. MOW	BMWED	25,249
d. Yardmasters	UTU-YMD	2,036

### Short-Term Disability Contribution:

a. Engineers	Total BLET	14,094
	CSX	
	KCS	
	UP	
	<u>SOO</u>	

### Sources/Notes:

Employee counts are from the 112-Class Wage Statistics. Monthly H&W premiums are from the NRLC, contracts, or the railroads. Projected quarter H&W Cost Sharing amounts are from the NRLC, union contracts, or pertinent railroads. Base year average monthly Cost Sharing amounts are from an AAR survey, NRLC, contracts, pertinent railroads. H&W hourly rate for base year benchmark is based on annual report and wage data. H&W rate for projected year is the benchmark figure updated by the ratio of projected year net payments to the base year. All Other employee contributions is the difference between total employee contributions for the base year and all known union amounts -- resulting in a non-union amount plus any adjustments caused by either opt-outs from union agreements or independent cost sharing agreements (if any) unknown to the AAR.

## Health and Welfare

### Employee H&W Cost Sharing

Group	Railroads	Contract Source
a. BLET	BNSF, CSX, KCS, UP NS	NRLC Circular No. 504-41-55 dated April 13, 2016 Article XVI Section 2, same as national
b. BMWE	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
c. BRS	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
d. IAM	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
e. IBBM	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
f. IBEW	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
g. NCFO	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
h. SMW	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
i. TCU	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
j. TCU-Carmen	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
k. UTU	BNSF, CSX, KCS, NS, UP	NRLC Circular No. 504-41-55 dated April 13, 2016
l. Yardmasters	BNSF, CSX, KCS, NS UP	NRLC Circular No. 504-41-55 dated April 13, 2016 Article IV Part B Section 1 (c)
m. Dispatchers	BNSF, CSX, KCS, NS	NRLC Circular No. 504-41-55 dated April 13, 2016
n. Independent CNGT	all unions	Labor agreements and CN e-mail
o. Indep. SLC (D&H and DME)	all unions	Provided by Canadian Pacific Railway

Soo Line Railroad is now in all national agreements per CP e-mail.

# NATIONAL RAILWAY LABOR CONFERENCE

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A. KENNETH GRADIA  
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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.

## Railroad Retirement and Medicare for RCAF

**Inputs:**

RRB Earnings Distribution Year	2013	Tier I Maximum Taxable Earnings for 2016	118,500
Wage Statistics Year	2014	Tier II Maximum Taxable Earnings for 2016	88,200
Current Year	2016	Medicare Maximum Taxable Earnings for 2016	no limit
Employees Receiving Pay*	170,643	Tier I Employer Tax Rate for 2016	6.20%
* from 2014 wage statistics		Tier II Employer Tax Rate for 2016	13.10%
		Medicare Employer Tax Rate for 2016	1.45%

USA RCAF	Wage Rate	Update Factor	Railroad Retirement Tax	Hourly Rate	
2013	\$36.760				
2014	\$38.866	1.05729	\$656,729,112	\$7.982	hourly rate from SUPPL2014.xlsx
1Q/2016	\$40.888	1.11230	\$699,014,659	\$8.496	Rate = Taxable Rate
2Q/2016	\$40.731	1.10803	\$697,224,322	\$8.474	
3Q/2016	\$40.545 ✓	1.10297	\$695,089,061	<b>\$8.448</b>	
4Q/2016		0.00000	--	\$0.000	

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			1Q/2016 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 Qtrly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$31,800	3.629 %	6,193	\$35,371	\$8,843	\$8,843	\$8,843	\$8,843	\$54,759,937	\$54,759,937	\$54,759,937	
41,700 - 43,699	\$42,715	0.812	1,386	47,512	11,878	11,878	11,878	11,878	16,458,312	16,458,312	16,458,312	
43,700 - 45,699	\$44,553	1.098	1,874	49,556	12,389	12,389	12,389	12,389	23,212,833	23,212,833	23,212,833	
45,700 - 47,699	\$46,627	1.051	1,793	51,863	12,966	12,966	12,966	12,966	23,253,538	23,253,538	23,253,538	
47,700 - 49,699	\$48,596	1.480	2,526	54,053	13,513	13,513	13,513	13,513	34,128,020	34,128,020	34,128,020	
49,700 - 51,699	\$50,799	2.245	3,831	56,504	14,126	14,126	14,126	14,126	54,115,336	54,115,336	54,115,336	
51,700 - 53,699	\$52,706	3.104	5,297	58,625	14,656	14,656	14,656	14,656	77,630,185	77,630,185	77,630,185	
53,700 - 55,699	\$54,809	4.011	6,844	60,964	15,241	15,241	15,241	15,241	104,316,592	104,316,592	104,316,592	
55,700 - 57,699	\$56,637	4.632	7,904	62,997	15,749	15,749	15,749	15,749	124,485,178	124,485,178	124,485,178	
57,700 - 59,699	\$58,768	4.250	7,252	65,367	16,342	16,342	16,342	16,342	118,516,466	118,516,466	118,516,466	
59,700 - 61,699	\$60,663	4.155	7,090	67,475	16,869	16,869	16,869	16,869	119,603,466	119,603,466	119,603,466	
61,700 - 63,699	\$62,700	3.438	5,867	69,741	17,435	17,435	17,435	17,435	102,287,429	102,287,429	102,287,429	
63,700 - 65,699	\$64,623	3.582	6,112	71,880	17,970	17,970	17,970	17,970	109,840,259	109,840,259	109,840,259	
65,700 - 67,699	\$66,649	3.820	6,519	74,133	18,533	18,533	18,533	18,533	120,810,826	120,810,826	120,810,826	
67,700 - 69,699	\$68,748	3.343	5,705	76,468	19,117	19,117	19,117	19,117	109,054,928	109,054,928	109,054,928	
69,700 - 71,699	\$70,905	3.200	5,461	78,867	19,717	19,717	19,717	19,717	107,665,284	107,665,284	107,665,284	
71,700 - 73,699	\$72,646	2.627	4,483	80,804	20,201	20,201	20,201	20,201	90,556,709	90,556,709	90,556,709	
73,700 - 75,699	\$74,686	3.964	6,764	83,073	20,768	20,768	20,768	20,768	140,482,329	140,482,329	140,482,329	
75,700 - 77,699	\$76,740	2.913	4,971	85,358	21,339	21,339	21,339	21,339	106,074,534	106,074,534	106,074,534	
77,700 - 79,699	\$78,583	2.674	4,563	87,408	21,852	21,852	21,852	21,852	99,710,033	99,710,033	99,710,033	
79,700 - 81,699	\$80,678	3.247	5,541	89,738	22,434	22,434	22,050	22,434	124,304,332	122,174,160	124,304,332	
81,700 - 83,699	\$82,692	3.009	5,135	91,978	22,994	22,994	22,050	22,994	118,068,633	113,218,986	118,068,633	
83,700 - 85,699	\$84,718	3.104	5,297	94,231	23,558	23,558	22,050	23,558	124,780,367	116,793,530	124,780,367	
85,700 - 87,699	\$86,756	2.292	3,911	96,498	24,125	24,125	22,050	24,125	94,354,580	86,240,583	94,354,580	
87,700 - 89,699	\$88,824	2.627	4,483	98,799	24,700	24,700	22,050	24,700	110,723,359	98,845,555	110,723,359	
89,700 - 91,699	\$90,651	2.149	3,667	100,831	25,208	25,208	22,050	25,208	92,439,559	80,859,953	92,439,559	
91,700 - 93,699	\$92,600	2.388	4,075	102,999	25,750	25,750	22,050	25,750	104,928,668	89,852,754	104,928,668	
93,700 - 95,699	\$94,575	1.671	2,851	105,195	26,299	26,299	22,050	26,299	74,989,706	62,874,352	74,989,706	
95,700 - 97,699	\$96,641	2.292	3,911	107,493	26,873	26,873	22,050	26,873	105,105,364	86,240,583	105,105,364	
97,700 - 99,699	\$98,671	1.051	1,793	109,751	27,438	27,438	22,050	27,438	49,208,610	39,545,747	49,208,610	
99,700 - 101,699	\$100,588	1.576	2,689	111,884	27,971	27,971	22,050	27,971	75,223,102	59,299,808	75,223,102	
101,700 - 103,699	\$102,760	1.289	2,200	114,300	28,575	28,575	22,050	28,575	62,852,979	48,500,921	62,852,979	
103,700 - 105,699	\$104,717	1.194	2,037	116,476	29,119	29,119	22,050	29,119	59,329,457	44,926,377	59,329,457	
105,700 - 107,699	\$106,640	1.385	2,363	118,615	29,654	29,625	22,050	29,654	70,015,889	52,113,092	70,083,981	
107,700 - 109,699	\$108,933	1.003	1,712	121,166	30,291	29,625	22,050	30,291	50,704,648	37,739,662	51,845,283	
109,700 - 111,699	\$110,682	1.003	1,712	123,111	30,778	29,625	22,050	30,778	50,704,648	37,739,662	52,677,697	
111,700 - 113,699	\$112,960	0.907	1,548	125,645	31,411	29,625	22,050	31,411	45,851,561	34,127,491	48,616,179	
113,700 - 115,699	\$114,491	0.860	1,468	127,348	31,837	29,625	22,050	31,837	43,475,570	32,359,032	46,721,702	
\$115,700 - over	\$173,469	6.925	11,817	192,949	48,237	29,625	22,050	48,237	350,079,447	260,565,462	570,020,539	
<b>TOTAL</b>	<b>\$79,518</b>	<b>100.000</b>	<b>170,643</b>						<b>3,544,102,671</b>	<b>3,240,979,903</b>	<b>3,773,236,288</b>	
									<b>Employer Tax Rate</b>	<b>6.20%</b>	<b>13.10%</b>	<b>1.45%</b>
									<b>Quarterly Payment</b>	<b>\$219,734,366</b>	<b>\$424,568,367</b>	<b>\$54,711,926</b>
									<b>Total Tier I, Tier II, and Medicare Paid this Quarter</b>		<b>\$699,014,659</b>	

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			2Q/2016 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 Qlty Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$31,800	3.629 %	6,193	\$35,235	\$8,809	\$8,809	\$8,809	\$8,809	\$54,549,672	\$54,549,672	\$54,549,672	
41,700 - 43,699	\$42,715	0.812	1,386	47,329	11,832	11,832	11,832	11,832	16,395,116	16,395,116	16,395,116	
43,700 - 45,699	\$44,553	1.098	1,874	49,366	12,341	12,341	12,341	12,341	23,123,701	23,123,701	23,123,701	
45,700 - 47,699	\$46,627	1.051	1,793	51,664	12,916	12,916	12,916	12,916	23,164,250	23,164,250	23,164,250	
47,700 - 49,699	\$48,596	1.480	2,526	53,846	13,461	13,461	13,461	13,461	33,996,977	33,996,977	33,996,977	
49,700 - 51,699	\$50,799	2.245	3,831	56,287	14,072	14,072	14,072	14,072	53,907,546	53,907,546	53,907,546	
51,700 - 53,699	\$52,706	3.104	5,297	58,400	14,600	14,600	14,600	14,600	77,332,104	77,332,104	77,332,104	
53,700 - 55,699	\$54,809	4.011	6,844	60,730	15,182	15,182	15,182	15,182	103,916,042	103,916,042	103,916,042	
55,700 - 57,699	\$56,637	4.632	7,904	62,755	15,689	15,689	15,689	15,689	124,007,185	124,007,185	124,007,185	
57,700 - 59,699	\$58,768	4.250	7,252	65,116	16,279	16,279	16,279	16,279	118,061,391	118,061,391	118,061,391	
59,700 - 61,699	\$60,663	4.155	7,090	67,216	16,804	16,804	16,804	16,804	119,144,217	119,144,217	119,144,217	
61,700 - 63,699	\$62,700	3.438	5,867	69,473	17,368	17,368	17,368	17,368	101,894,671	101,894,671	101,894,671	
63,700 - 65,699	\$64,623	3.582	6,112	71,604	17,901	17,901	17,901	17,901	109,418,499	109,418,499	109,418,499	
65,700 - 67,699	\$66,649	3.820	6,519	73,849	18,462	18,462	18,462	18,462	120,346,941	120,346,941	120,346,941	
67,700 - 69,699	\$68,748	3.343	5,705	76,175	19,044	19,044	19,044	19,044	108,636,184	108,636,184	108,636,184	
69,700 - 71,699	\$70,905	3.200	5,461	78,565	19,641	19,641	19,641	19,641	107,251,876	107,251,876	107,251,876	
71,700 - 73,699	\$72,646	2.627	4,483	80,494	20,123	20,123	20,123	20,123	90,208,993	90,208,993	90,208,993	
73,700 - 75,699	\$74,686	3.964	6,764	82,754	20,688	20,688	20,688	20,688	139,942,911	139,942,911	139,942,911	
75,700 - 77,699	\$76,740	2.913	4,971	85,030	21,257	21,257	21,257	21,257	105,667,233	105,667,233	105,667,233	
77,700 - 79,699	\$78,583	2.674	4,563	87,072	21,768	21,768	21,768	21,768	99,327,170	99,327,170	99,327,170	
79,700 - 81,699	\$80,678	3.247	5,541	89,393	22,348	22,348	22,050	22,348	123,827,033	122,174,160	123,827,033	
81,700 - 83,699	\$82,692	3.009	5,135	91,625	22,906	22,906	22,050	22,906	117,615,278	113,218,986	117,615,278	
83,700 - 85,699	\$84,718	3.104	5,297	93,870	23,467	23,467	22,050	23,467	124,301,241	116,793,530	124,301,241	
85,700 - 87,699	\$86,756	2.292	3,911	96,128	24,032	24,032	22,050	24,032	93,992,281	86,240,583	93,992,281	
87,700 - 89,699	\$88,824	2.627	4,483	98,419	24,605	24,605	22,050	24,605	110,298,208	98,845,555	110,298,208	
89,700 - 91,699	\$90,651	2.149	3,667	100,444	25,111	25,111	22,050	25,111	92,084,614	80,859,953	92,084,614	
91,700 - 93,699	\$92,600	2.388	4,075	102,603	25,651	25,651	22,050	25,651	104,525,768	89,852,754	104,525,768	
93,700 - 95,699	\$94,575	1.671	2,851	104,791	26,198	26,198	22,050	26,198	74,701,764	62,874,352	74,701,764	
95,700 - 97,699	\$96,641	2.292	3,911	107,081	26,770	26,770	22,050	26,770	104,701,785	86,240,583	104,701,785	
97,700 - 99,699	\$98,671	1.051	1,793	109,330	27,332	27,332	22,050	27,332	49,019,661	39,545,747	49,019,661	
99,700 - 101,699	\$100,588	1.576	2,689	111,454	27,864	27,864	22,050	27,864	74,934,263	59,299,808	74,934,263	
101,700 - 103,699	\$102,760	1.289	2,200	113,861	28,465	28,465	22,050	28,465	62,611,639	48,500,921	62,611,639	
103,700 - 105,699	\$104,717	1.194	2,037	116,029	29,007	29,007	22,050	29,007	59,101,646	44,926,377	59,101,646	
105,700 - 107,699	\$106,640	1.385	2,363	118,160	29,540	29,540	22,050	29,540	69,882,967	52,113,092	69,814,875	
107,700 - 109,699	\$108,933	1.003	1,712	120,700	30,175	29,625	22,050	30,175	50,704,648	37,739,662	51,646,210	
109,700 - 111,699	\$110,682	1.003	1,712	122,638	30,660	29,625	22,050	30,660	50,704,648	37,739,662	52,475,428	
111,700 - 113,699	\$112,960	0.907	1,548	125,163	31,291	29,625	22,050	31,291	45,851,561	34,127,491	48,429,505	
113,700 - 115,699	\$114,491	0.860	1,468	126,859	31,715	29,625	22,050	31,715	43,475,570	32,359,032	46,542,302	
\$115,700 - over	\$173,469	6.925	11,817	192,208	48,052	29,625	22,050	48,052	<u>350,079,447</u>	<u>260,565,462</u>	<u>567,831,798</u>	
TOTAL		100.000	170,643						Total Taxable Earnings	3,532,706,700	3,234,310,390	3,758,747,976
									Employer Tax Rate	6.20%	13.10%	1.45%
									Quarterly Payment	\$219,027,815	\$423,694,661	\$54,501,846
									Total Tier I, Tier II, and Medicare Paid this Quarter			\$697,224,322

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			3Q/2016 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	\$31,800	3.629 %	6,193	\$35,074	\$8,769	\$8,769	\$8,769	\$8,769	\$54,300,569	\$54,300,569	\$54,300,569	
41,700 - 43,699	\$42,715	0.812	1,386	47,113	11,778	11,778	11,778	11,778	16,320,247	16,320,247	16,320,247	
43,700 - 45,699	\$44,553	1.098	1,874	49,140	12,285	12,285	12,285	12,285	23,018,106	23,018,106	23,018,106	
45,700 - 47,699	\$46,627	1.051	1,793	51,428	12,857	12,857	12,857	12,857	23,058,470	23,058,470	23,058,470	
47,700 - 49,699	\$48,596	1.480	2,526	53,600	13,400	13,400	13,400	13,400	33,841,728	33,841,728	33,841,728	
49,700 - 51,699	\$50,799	2.245	3,831	56,030	14,007	14,007	14,007	14,007	53,661,375	53,661,375	53,661,375	
51,700 - 53,699	\$52,706	3.104	5,297	58,133	14,533	14,533	14,533	14,533	76,978,963	76,978,963	76,978,963	
53,700 - 55,699	\$54,809	4.011	6,844	60,452	15,113	15,113	15,113	15,113	103,441,505	103,441,505	103,441,505	
55,700 - 57,699	\$56,637	4.632	7,904	62,469	15,617	15,617	15,617	15,617	123,440,900	123,440,900	123,440,900	
57,700 - 59,699	\$58,768	4.250	7,252	64,819	16,205	16,205	16,205	16,205	117,522,259	117,522,259	117,522,259	
59,700 - 61,699	\$60,663	4.155	7,090	66,909	16,727	16,727	16,727	16,727	118,600,140	118,600,140	118,600,140	
61,700 - 63,699	\$62,700	3.438	5,867	69,156	17,289	17,289	17,289	17,289	101,429,364	101,429,364	101,429,364	
63,700 - 65,699	\$64,623	3.582	6,112	71,277	17,819	17,819	17,819	17,819	108,918,834	108,918,834	108,918,834	
65,700 - 67,699	\$66,649	3.820	6,519	73,512	18,378	18,378	18,378	18,378	119,797,371	119,797,371	119,797,371	
67,700 - 69,699	\$68,748	3.343	5,705	75,827	18,957	18,957	18,957	18,957	108,140,092	108,140,092	108,140,092	
69,700 - 71,699	\$70,905	3.200	5,461	78,206	19,551	19,551	19,551	19,551	106,762,105	106,762,105	106,762,105	
71,700 - 73,699	\$72,646	2.627	4,483	80,126	20,032	20,032	20,032	20,032	89,797,050	89,797,050	89,797,050	
73,700 - 75,699	\$74,686	3.964	6,764	82,376	20,594	20,594	20,594	20,594	139,303,855	139,303,855	139,303,855	
75,700 - 77,699	\$76,740	2.913	4,971	84,642	21,160	21,160	21,160	21,160	105,184,699	105,184,699	105,184,699	
77,700 - 79,699	\$78,583	2.674	4,563	86,674	21,669	21,669	21,669	21,669	98,873,588	98,873,588	98,873,588	
79,700 - 81,699	\$80,678	3.247	5,541	88,985	22,246	22,246	22,050	22,246	123,261,572	122,174,160	123,261,572	
81,700 - 83,699	\$82,692	3.009	5,135	91,206	22,802	22,802	22,050	22,802	117,078,183	113,218,986	117,078,183	
83,700 - 85,699	\$84,718	3.104	5,297	93,441	23,360	23,360	22,050	23,360	123,733,613	116,793,530	123,733,613	
85,700 - 87,699	\$86,756	2.292	3,911	95,689	23,922	23,922	22,050	23,922	93,563,061	86,240,583	93,563,061	
87,700 - 89,699	\$88,824	2.627	4,483	97,970	24,492	24,492	22,050	24,492	109,794,526	98,845,555	109,794,526	
89,700 - 91,699	\$90,651	2.149	3,667	99,985	24,996	24,996	22,050	24,996	91,664,105	80,859,953	91,664,105	
91,700 - 93,699	\$92,600	2.388	4,075	102,135	25,534	25,534	22,050	25,534	104,048,446	89,852,754	104,048,446	
93,700 - 95,699	\$94,575	1.671	2,851	104,313	26,078	26,078	22,050	26,078	74,360,635	62,874,352	74,360,635	
95,700 - 97,699	\$96,641	2.292	3,911	106,592	26,648	26,648	22,050	26,648	104,223,659	86,240,583	104,223,659	
97,700 - 99,699	\$98,671	1.051	1,793	108,831	27,208	27,208	22,050	27,208	48,795,810	39,545,747	48,795,810	
99,700 - 101,699	\$100,588	1.576	2,689	110,945	27,736	27,736	22,050	27,736	74,592,073	59,299,808	74,592,073	
101,700 - 103,699	\$102,760	1.289	2,200	113,341	28,335	28,335	22,050	28,335	62,325,720	48,500,921	62,325,720	
103,700 - 105,699	\$104,717	1.194	2,037	115,499	28,875	28,875	22,050	28,875	58,831,755	44,926,377	58,831,755	
105,700 - 107,699	\$106,640	1.385	2,363	117,620	29,405	29,405	22,050	29,405	69,496,062	52,113,092	69,496,062	
107,700 - 109,699	\$108,933	1.003	1,712	120,149	30,037	29,625	22,050	30,037	50,704,648	37,739,662	51,410,365	
109,700 - 111,699	\$110,682	1.003	1,712	122,078	30,520	29,625	22,050	30,520	50,704,648	37,739,662	52,235,796	
111,700 - 113,699	\$112,960	0.907	1,548	124,591	31,148	29,625	22,050	31,148	45,851,561	34,127,491	48,208,349	
113,700 - 115,699	\$114,491	0.860	1,468	126,280	31,570	29,625	22,050	31,570	43,475,570	32,359,032	46,329,764	
\$115,700 - over	\$173,469	6.925	11,817	191,330	47,833	29,625	22,050	47,833	350,079,447	260,565,462	565,238,768	
TOTAL		100.000	170,643						Total Taxable Earnings	3,518,976,311	3,226,408,928	3,741,583,480
									Employer Tax Rate	6.20%	13.10%	1.45%
									Quarterly Payment	\$218,176,531	\$422,659,570	\$54,252,960
									Total Tier I, Tier II, and Medicare Paid this Quarter			\$695,089,061

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			4Q/2016 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	\$31,800	3.629 %	6,193	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
41,700 - 43,699	\$42,715	0.812	1,386	0	0	0	0	0	0	0	0	0	
43,700 - 45,699	\$44,553	1.098	1,874	0	0	0	0	0	0	0	0	0	
45,700 - 47,699	\$46,627	1.051	1,793	0	0	0	0	0	0	0	0	0	
47,700 - 49,699	\$48,596	1.480	2,526	0	0	0	0	0	0	0	0	0	
49,700 - 51,699	\$50,799	2.245	3,831	0	0	0	0	0	0	0	0	0	
51,700 - 53,699	\$52,706	3.104	5,297	0	0	0	0	0	0	0	0	0	
53,700 - 55,699	\$54,809	4.011	6,844	0	0	0	0	0	0	0	0	0	
55,700 - 57,699	\$56,637	4.632	7,904	0	0	0	0	0	0	0	0	0	
57,700 - 59,699	\$58,768	4.250	7,252	0	0	0	0	0	0	0	0	0	
59,700 - 61,699	\$60,663	4.155	7,090	0	0	0	0	0	0	0	0	0	
61,700 - 63,699	\$62,700	3.438	5,867	0	0	0	0	0	0	0	0	0	
63,700 - 65,699	\$64,623	3.582	6,112	0	0	0	0	0	0	0	0	0	
65,700 - 67,699	\$66,649	3.820	6,519	0	0	(0)	(0)	0	(0)	(0)	0	0	
67,700 - 69,699	\$68,748	3.343	5,705	0	0	0	0	0	0	0	0	0	
69,700 - 71,699	\$70,905	3.200	5,461	0	0	0	0	0	0	0	0	0	
71,700 - 73,699	\$72,646	2.627	4,483	0	0	0	0	0	0	0	0	0	
73,700 - 75,699	\$74,686	3.964	6,764	0	0	0	0	0	0	0	0	0	
75,700 - 77,699	\$76,740	2.913	4,971	0	0	0	0	0	0	0	0	0	
77,700 - 79,699	\$78,583	2.674	4,563	0	0	0	0	0	0	0	0	0	
79,700 - 81,699	\$80,678	3.247	5,541	0	0	0	879	0	0	4,870,458	0	0	
81,700 - 83,699	\$82,692	3.009	5,135	0	0	0	2,552	0	0	13,105,137	0	0	
83,700 - 85,699	\$84,718	3.104	5,297	0	0	0	4,236	0	0	22,434,632	0	0	
85,700 - 87,699	\$86,756	2.292	3,911	0	0	0	5,929	0	0	23,188,172	0	0	
87,700 - 89,699	\$88,824	2.627	4,483	0	0	0	7,647	0	0	34,279,427	0	0	
89,700 - 91,699	\$90,651	2.149	3,667	0	0	0	9,165	0	0	33,608,418	0	0	
91,700 - 93,699	\$92,600	2.388	4,075	0	0	0	10,784	0	0	43,944,619	0	0	
93,700 - 95,699	\$94,575	1.671	2,851	0	0	0	12,425	0	0	35,429,049	0	0	
95,700 - 97,699	\$96,641	2.292	3,911	0	0	0	14,141	0	0	55,309,058	0	0	
97,700 - 99,699	\$98,671	1.051	1,793	0	0	0	15,828	0	0	28,386,839	0	0	
99,700 - 101,699	\$100,588	1.576	2,689	0	0	0	17,421	0	0	46,850,015	0	0	
101,700 - 103,699	\$102,760	1.289	2,200	0	0	(0)	19,225	0	(0)	42,287,573	0	0	
103,700 - 105,699	\$104,717	1.194	2,037	0	0	0	20,851	0	0	42,483,726	0	0	
105,700 - 107,699	\$106,640	1.385	2,363	0	0	0	22,050	0	0	52,113,092	0	0	
107,700 - 109,699	\$108,933	1.003	1,712	0	0	1,629	22,050	0	2,787,914	37,739,662	0	0	
109,700 - 111,699	\$110,682	1.003	1,712	0	0	3,082	22,050	0	5,274,978	37,739,662	0	0	
111,700 - 113,699	\$112,960	0.907	1,548	0	0	4,975	22,050	0	7,699,350	34,127,491	0	0	
113,700 - 115,699	\$114,491	0.860	1,468	0	0	6,247	22,050	0	9,167,056	32,359,032	0	0	
\$115,700 - over	\$173,469	6.925	11,817	0	0	29,625	22,050	0	350,079,447	260,565,462	0	0	
TOTAL		100.000	170,643						Total Taxable Earnings	375,008,746	880,821,525	0	
									Employer Tax Rate	6.20%	13.10%	1.45%	
									Quarterly Payment	\$23,250,542	\$115,387,620	\$0	

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

\$138,638,162

## RCAF Unemployment Insurance Tax

	Unemployment Ins.			RRB	Factor	Avg. Ann.	Un. Ins.
	Tax	Earnings	Hourly	Sample	To Update	Taxable	Hourly
	Rate	Base	Earnings	Year	RRB Sample	Earnings	Rate
			\$33.913	(2010)			
2011 Avg.	7.10%	\$15,960	\$34.752		1.024740	\$15,110.68	\$0.595
<b>3Q/12 reb</b>	5.00%	\$16,380	\$37.546		1.107127	\$15,534.63	\$0.431
4Q/12	5.00%	\$16,380	\$37.613		1.109103	\$15,535.53	\$0.431
1Q/13	0.67%	\$16,860	\$37.771		1.113762	\$15,978.07	\$0.059
2Q/13	0.67%	\$16,860	\$37.144		1.095273	\$15,969.12	\$0.059
3Q/13	0.67%	\$16,860	\$37.532		1.106714	\$15,974.73	\$0.059
			\$34.752	(2011)			
2012 Avg.	5.00%	\$16,380	\$36.269		1.043652	\$15,446.41	\$0.411
<b>3Q/13 reb.</b>	0.67%	\$16,860	\$37.587		1.081578	\$15,902.69	\$0.057
4Q/13	0.67%	\$16,860	\$37.545		1.080369	\$15,902.09	\$0.057
1Q/14	0.68%	\$17,280	\$37.908		1.090815	\$16,289.96	\$0.059
2Q/14	0.68%	\$17,280	\$38.121		1.096944	\$16,293.07	\$0.059
3Q/14	0.68%	\$17,280	\$39.016		1.122698	\$16,305.78	\$0.059
			\$36.269	(2012)			
2013 Avg.	0.67%	\$16,860	\$36.760		1.013538	\$15,578.13	\$0.057
<b>3Q/14 reb.</b>	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
<b>3Q/15 reb.</b>	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 ✓	<b>\$0.240</b>

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

The MEANS Procedure

Variable	N	Sum	Mean
ANUAL_US	2682	43972083.05	16395.26
QTRLY_US	2682	44479378.59	16584.41

The MEANS Procedure

Variable	N	Sum	Mean
FactorA	2682	2835.65	1.0572910 ✓
FactorQ	2682	2958.15	1.1029650 ✓
Capa	2682	46344960.00	17280.00 ✓
Capq	2682	46827720.00	17460.00 ✓

## PETROLEUM & OTHER LIQUIDS

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### Spot Prices

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

 Period: 

Product by Area	Graph	04/22/16	04/29/16	05/06/16	05/13/16	05/20/16	05/27/16	View History
	Clear							
<b>Crude Oil</b>								
WTI - Cushing, Oklahoma	<input type="checkbox"/>	41.86	44.30	44.22	45.44	47.99	48.72	1986-2016
Brent - Europe	<input type="checkbox"/>	43.04	44.46	44.20	45.20	48.34	48.73	1987-2016
<b>Conventional Gasoline</b>								
New York Harbor, Regular	<input type="checkbox"/>	1.462	1.545	1.492	1.505	1.622	1.626	1986-2016
U.S. Gulf Coast, Regular	<input type="checkbox"/>	1.344	1.458	1.366	1.374	1.470	1.501	1986-2016
<b>RBOB Regular Gasoline</b>								
Los Angeles	<input type="checkbox"/>	1.509	1.617	1.533	1.456	1.528	1.582	2003-2016
<b>No. 2 Heating Oil</b>								
New York Harbor	<input type="checkbox"/>	1.231	1.301	1.279	1.291	1.403	1.425	1986-2016
<b>Ultra-Low-Sulfur No. 2 Diesel Fuel</b>								
New York Harbor	<input type="checkbox"/>	1.294	1.361	1.338	1.361	1.470	1.495	2006-2016
U.S. Gulf Coast	<input type="checkbox"/>	1.249	1.316	1.293	1.312	1.428	1.452	2006-2016
Los Angeles	<input checked="" type="checkbox"/>	1.306	1.447	1.392	1.356	1.486	1.553	1996-2016
<b>Kerosene-Type Jet Fuel</b>								
U.S. Gulf Coast	<input type="checkbox"/>	1.170	1.281	1.204	1.237	1.356	1.372	1990-2016
<b>Propane</b>								
Mont Belvieu, Texas	<input type="checkbox"/>	0.458	0.489	0.489	0.503	0.548	0.522	1992-2016

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: 6/2/2016

Next Release Date: 6/8/2016

## PETROLEUM & OTHER LIQUIDS

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### Spot Prices

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

 Period: 

Product by Area		04/15/16	04/22/16	04/29/16	05/06/16	05/13/16	05/20/16	View History
<b>Crude Oil</b>								
WTI - Cushing, Oklahoma	<input type="checkbox"/>	41.23	41.86	44.30	44.22	45.44	47.99	<a href="#">1986-2016</a>
Brent - Europe	<input type="checkbox"/>	42.35	43.04	44.46	44.20	45.20	48.34	<a href="#">1987-2016</a>
<b>Conventional Gasoline</b>								
New York Harbor, Regular	<input type="checkbox"/>	1.466	1.462	1.545	1.492	1.505	1.622	<a href="#">1986-2016</a>
U.S. Gulf Coast, Regular	<input type="checkbox"/>	1.335	1.344	1.458	1.366	1.374	1.470	<a href="#">1986-2016</a>
<b>RBOB Regular Gasoline</b>								
Los Angeles	<input type="checkbox"/>	1.607	1.509	1.617	1.533	1.456	1.528	<a href="#">2003-2016</a>
<b>No. 2 Heating Oil</b>								
New York Harbor	<input type="checkbox"/>	1.190	1.231	1.301	1.279	1.291	1.403	<a href="#">1986-2016</a>
<b>Ultra-Low-Sulfur No. 2 Diesel Fuel</b>								
New York Harbor	<input type="checkbox"/>	1.247	1.294	1.361	1.338	1.361	1.470	<a href="#">2006-2016</a>
U.S. Gulf Coast	<input type="checkbox"/>	1.199	1.249	1.316	1.293	1.312	1.428	<a href="#">2006-2016</a>
Los Angeles	<input type="checkbox"/>	1.299	1.306	1.447	1.392	1.356	1.486	<a href="#">1986-2016</a>
<b>Kerosene-Type Jet Fuel</b>								
U.S. Gulf Coast	<input type="checkbox"/>	1.147	1.170	1.281	1.204	1.237	1.356	<a href="#">1990-2016</a>
<b>Propane</b>								
Mont Belvieu, Texas	<input type="checkbox"/>	0.454	0.458	0.489	0.489	0.503	0.548	<a href="#">1992-2016</a>

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: 5/25/2016

Next Release Date: 6/2/2016

**U.S.**

**Summary by Composition Category**

	MS-2015		Prev. Idx	2016Q2		Calculation		Relative of Change
	MS Amount	Weight		Cur Idx	Prev. Idx	Cur Idx		
Forest Products	923,385,846	0.1140	323.36	296.81	36.86	33.84		
Metal Products	4,944,696,563	0.6104	164.00	169.87	100.11	103.69		
Misc. Products	2,233,209,342	0.2757	348.17	324.74	95.99	89.53		
Total	8,101,291,751	1.0001	232.96	227.06			0.9747	
Total Linked			232.68	<b>226.79</b>				
'77 = 100 Link Fact.=	1.423		331.10	322.72				
'80 = 100 Link Fact.=	1.061		246.87	240.62				

As info only	Change
Forest Products	-8.21%
Metal Products	3.58%
Misc. Products	<u>-6.73%</u>
Total ('80=100)	-2.53%
Rounded 80 Indices	-2.6%
Rounded 77 Indices	-2.5%

## RCAF (Forecast)

	1980	June 3Q/15	Sept. 4Q/15	Dec. 1Q/16	Mar. 2Q/16	June 3Q/16
<b>RATE</b>						
RR-OWNED TIME	31.00	64.00	63.00	63.00	64.00	64.00
RR-OWNED MILEAGE	4.69	6.70	6.70	6.70	6.70	6.70
PRIVATELY-OWNED CARS	25.47	49.52	50.36	50.71	51.17	51.47
AUTORACKS	47.00	71.57	75.23	79.66	78.72	82.48
<b>INDEX</b>						
RR-OWNED TIME	100.0	206.5	203.2	203.2	206.5	206.5
RR-OWNED MILEAGE	100.0	142.9	142.9	142.9	142.9	142.9
PRIVATELY-OWNED CARS	100.0	194.4	197.7	199.1	200.9	202.1
AUTORACKS	100.0	152.3	160.1	169.5	167.5	175.5
CAR HIRE INDEX (old wts) 2013	100.0	192.1	--	--	--	--
CAR HIRE INDEX (new wts) 2014	100.0	192.1	194.3	195.6	197.4	198.5
CAR HIRE INDEX (LINKED)	100.0	191.6	193.8	195.1	196.9	<b>198.0</b>

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

	2015 (first day of month)						2016 (first day of month)							
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
<b>Railroad Equipment</b>														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	7,887	7,919	7,917	7,910	7,910	7,908	7,995	8,002	7,883	8,147	8,114	8,236		
Rate (in cents)														
Superstructures #3 - Auto Rack	49.0	50.0	50.0	50.0	50.0	50.0	51.0	51.0	49.0	55.0	56.0	59.0		
<b>All other #1 - Time</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>64.0</b>	<b>64.0</b>	<b>64.0</b>	<b>64.0</b>	<b>64.0</b>	<b>64.0</b>		
<b>All other #2 - Mileage</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>		
<b>Private Equipment</b>														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	52,263	52,563	52,956	53,310	53,709	54,090	54,221	54,344	54,688	54,789	54,845	54,930		
Covered Hoppers	361,701	363,687	365,583	367,833	370,297	372,269	373,440	374,916	376,352	378,706	380,968	383,501		
Tank Cars	380,115	382,665	385,215	387,405	389,726	393,040	395,223	396,381	397,752	399,482	400,577	401,430		
Others	291,161	290,976	290,909	291,473	291,269	291,163	289,632	289,175	289,058	288,729	289,095	290,276		
Rate (in cents)														
Superstructures #1 - Time	82.0	82.0	82.0	82.0	82.0	82.0	81.0	82.0	83.0	83.0	83.0	83.0		
Superstructures #2 - Mileage	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6		
Superstructures #3 - Auto Rack	76.0	78.0	79.0	81.0	83.0	84.0	83.0	83.0	83.0	84.0	85.0	86.0		
Covered Hoppers #2 - Mileage	44.6	44.7	44.8	44.8	44.9	45.0	45.0	45.1	45.0	45.2	45.2	45.2		
Tank Cars #2 - Mileage	78.1	78.3	78.6	78.8	79.0	79.1	79.3	79.4	79.6	79.8	80.0	80.2		
Others #1 - Time	78.0	79.0	79.0	79.0	79.0	79.0	81.0	81.0	81.0	81.0	81.0	81.0		
Others #2 - Mileage	7.8	7.8	7.8	7.8	7.7	7.7	7.8	7.8	7.8	7.8	7.8	7.8		
<b>AVERAGE RATES</b>														
Private Superstructures	20.87	20.87	20.87	20.87	20.87	20.87	20.64	20.87	21.11	21.11	21.11	21.11	0.00	0.00
Private Others	25.12	25.34	25.34	25.34	25.24	25.24	25.78	25.78	25.78	25.78	25.78	25.78	0.00	0.00
<b>Private Total</b>	<b>49.96</b>	<b>50.18</b>	<b>50.36</b>	<b>50.46</b>	<b>50.58</b>	<b>50.71</b>	<b>50.99</b>	<b>51.10</b>	<b>51.17</b>	<b>51.35</b>	<b>51.42</b>	<b>51.47</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>
<b>Autoracks</b>	<b>72.46</b>	<b>74.33</b>	<b>75.23</b>	<b>76.99</b>	<b>78.76</b>	<b>79.66</b>	<b>78.89</b>	<b>78.89</b>	<b>78.72</b>	<b>80.25</b>	<b>81.26</b>	<b>82.48</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>

WEIGHTS	*Old Wts*	*New Wts*
	2013	2014
For RCAF & RCR		
RR-owned Time	0.148	0.156
RR-owned Mileage	0.072	0.060
Privately-owned Cars	0.772	0.758
Autoracks	0.008	0.026
----- Check sum	1.000	1.000

Weights for Equipment Rents (not used in Car Hire calculation)		
	2013	2014
Car Hire - U.S.	0.528	0.565
Lease Rentals - U.S.	0.472	0.435
----- 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 06/2016**

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	8,236	119	0.079	59
Railroad	Number of Zero-Rated Vehicular Flats	134	.	.	.
Railroad	All Other Cars	446,844	64	0.067	.
Railroad	Number of Zero-Rated Other Cars	19,754	.	.	.
Railroad	Total Railroad Equipment	474,968	.	.	.
		.	.	.	.
Private	Vehicular Flats	54,930	83	0.016	86
Private	Number of Zero-Rated Vehicular Flats	108	.	.	.
Private	Covered Hoppers	383,501	0	0.452	.
Private	Number of Zero-Rated Covered Hoppers	11,365	.	.	.
Private	Tanks	401,430	0	0.802	.
Private	Number of Zero-Rated Tanks	8,571	.	.	.
Private	All Other Cars	290,276	81	0.078	.
Private	Number of Zero-Rated Other Cars	28,178	.	.	.
Private	Total Private Equipment	1,178,359	.	.	.

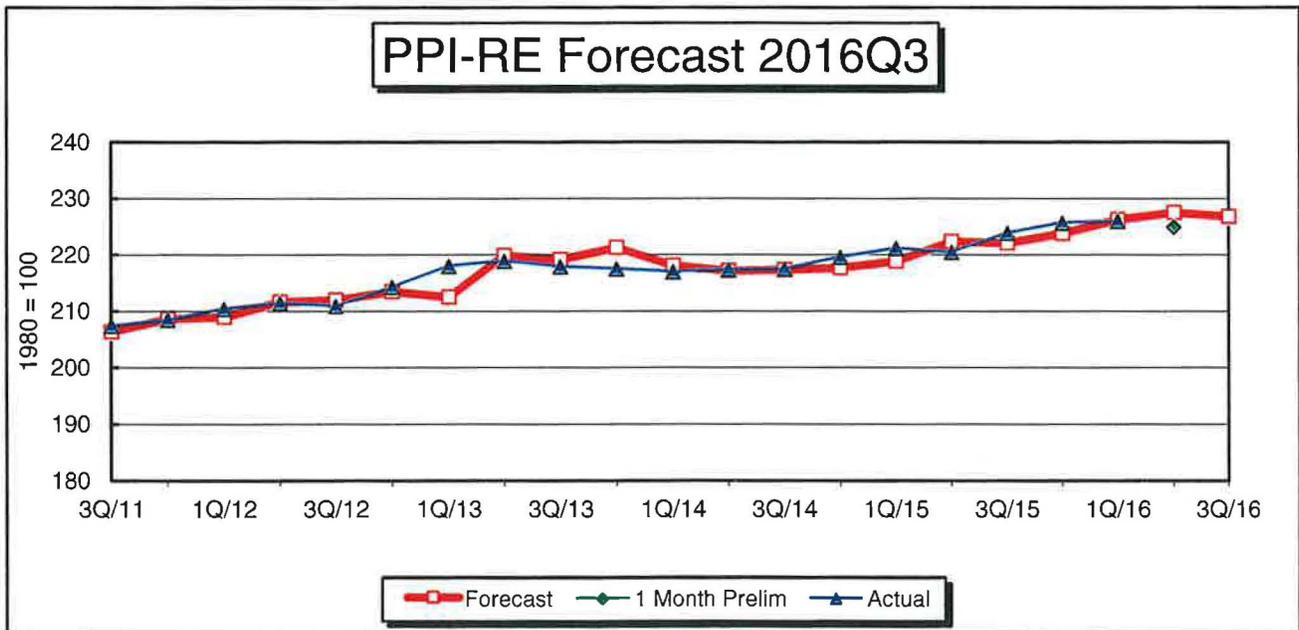
Notes
This report excludes these car types: D (Locomotives), M (MoW, EOTs, etc.), U (Containers), Z (Trailers).
All TTX equipment (including ABOX, RBOX, GONX) is contained in the Private section of report.
Equipment can be zero rated due to owners supplying incorrect or insufficient information to the 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
3Q/11	206.1 ✓	207.3 ✓	
4Q/11	208.4	208.4	
1Q/12	208.7	210.3	
2Q/12	211.4	211.4	
3Q/12	211.7	210.8	
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 ✓		224.9 ✓
3Q/16	226.5 ✓		

1980 Base

	PPI-RE Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2016Q3						
Low	201.9	223.3	-0.2%			
Midpoint	204.8 ✓	<b>226.5</b>	<b>1.2%</b>	<b>0.7%</b>	<b>0.3%</b>	<b>-0.3%</b>
High	207.7	229.8	2.7%			



re\_ppi

Forecast Pro Version 4.3 Standard Edition

Database I:\Indexes2\RCAF\2016Q3\5Deprec\FPre\_ppi.xls is open and ready for use.

Expert data exploration of dependent variable PPIRE

Length 72 Minimum 184.200 Maximum 204.500  
Mean 194.183 Standard deviation 6.315

Classical decomposition (multiplicative)  
Trend-cycle: 97.91% Seasonal: 0.46% Irregular: 1.63%

Log transform recommended for Box-Jenkins.

Choice is narrowed down to Box-Jenkins or exponential smoothing.

Exponential smoothing outperforms Box-Jenkins by 1.161 to 1.790 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12. For Box-Jenkins, I used a log transform.

Series is trended and seasonal.

Recommended model: Exponential Smoothing  
Forecast Model for PPIRE  
Holt exponential smoothing: Linear trend, No seasonality

Component	Smoothing weight	Final Value
Level	0.65115	203.78
Trend	0.01892	0.24863

Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 194.2	Standard deviation 6.315
R-square 0.9787	Adjusted R-square 0.9784
Durbin-Watson 1.959	Ljung-Box(18)=22.91 P=0.8059
Forecast error 0.9278	BIC 0.9709
MAPE 0.003225	RMSE 0.9149
MAD 0.6299	

Forecast Report  
Fri May 13 09:53:49 2016  
Exponential Smoothing model for PPIRE  
Analysis of Historic Fit Set

Date	Historic
2010-05	184.600 ✓
2010-06	184.600 ✓
2010-07	184.500 ✓
2010-08	184.500 ✓
2010-09	184.500 ✓
2010-10	184.200 ✓
2010-11	184.200 ✓
2010-12	184.200
2011-01	184.900
2011-02	185.100
2011-03	187.000
2011-04	186.600
2011-05	186.700

re\_ppi

2011-06	186.800
2011-07	187.300
2011-08	187.400
2011-09	187.500
2011-10	187.500
2011-11	187.700
2011-12	189.900
2012-01	190.100
2012-02	190.100
2012-03	190.600
2012-04	191.800
2012-05	191.600
2012-06	191.500
2012-07	192.000
2012-08	190.400
2012-09	190.900
2012-10	194.900
2012-11	193.900
2012-12	194.100
2013-01	196.000
2013-02	195.200
2013-03	195.800
2013-04	195.200
2013-05	198.100
2013-06	196.300
2013-07	195.400
2013-08	194.500
2013-09	194.600
2013-10	195.100
2013-11	195.200
2013-12	196.900
2014-01	196.000
2014-02	197.400
2014-03	196.800
2014-04	196.200
2014-05	196.700
2014-06	196.800
2014-07	197.800
2014-08	197.900
2014-09	198.300
2014-10	199.300
2014-11	199.900
2014-12	199.500
2015-01	200.800 ✓
2015-02	200.500 ✓
2015-03	199.500 ✓
2015-04	200.500 ✓
2015-05	200.000 ✓
2015-06	201.400 ✓
2015-07	201.600 ✓
2015-08	202.800 ✓
2015-09	202.800 ✓
2015-10	204.400 ✓
2015-11	203.900 ✓
2015-12	204.500 ✓
2016-01	204.200 ✓
2016-02	204.200 ✓
2016-03	204.300 ✓
2016-04	203.300 ✓

Forecasted Values

Date	2.5 Lower	Forecast	re_ppi 97.5 Upper
2016-05	202.127	204.030	205.933
2016-06	201.995	204.279	206.562
2016-07	201.918	204.527	207.137
2016-08	201.877	204.776	207.675
2016-09	201.863	205.025	208.186
2016-10	201.869	205.273	208.678
2016-11	201.891	205.522	209.153
2016-12	201.926	205.770	209.615
2017-01	201.973	206.019	210.065
2017-02	202.029	206.268	210.506
2017-03	202.094	206.516	210.939
2017-04	202.166	206.765	211.364



# Databases, Tables & Calculators by Subject

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Data extracted on: May 13, 2016 (9:44:37 AM)

## Producer Price Index-Commodities

**Series Id:** WPU144  
**Not Seasonally Adjusted**  
**Group:** Transportation equipment  
**Item:** Railroad equipment  
**Base Date:** 198200

**Download:** [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	200.8	200.5	199.5	200.5	200.0	201.4	201.6	202.8	202.8	204.4	203.9	204.5
2016	204.2(P)	204.2(P)	204.3(P)	203.3(P)								

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

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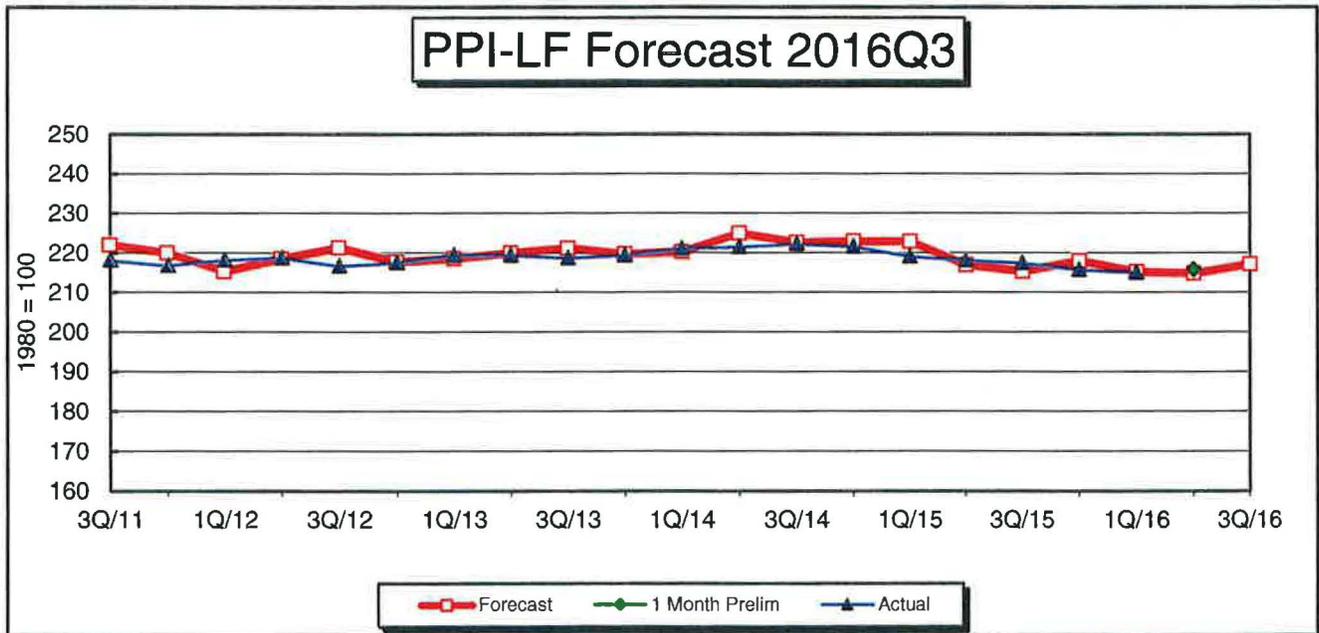
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## PPI-LF Forecast (for Other and Lease Rentals Components)

	Forecast	Actual	1 Month Prelim
3Q/11	222.3 ✓	218.2 ✓	
4Q/11	220.3	216.9	
1Q/12	215.6	218.3	
2Q/12	218.8	218.9	
3Q/12	221.6	216.8	
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 ✓		215.9 ✓
3Q/16	217.4		

1980 Base

	PPI-LF Forecast		Percent Change			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2016Q3						
Low	190.1	213.1	-2.0%			
Midpoint	193.9 ✓	217.4	0.0%	0.7%	1.1%	1.1%
High	197.6	221.5	1.8%			



Forecast Pro Version 4.3 Standard Edition 1f\_ppi

Database I:\Indexes2\RCAF\2016Q3\70ther\FP1f\_ppi.xls is open and ready for use.

Expert data exploration of dependent variable PPILF

Length 72 Minimum 182.700 Maximum 198.400  
Mean 193.554 Standard deviation 3.901

Classical decomposition (multiplicative)  
Trend-cycle: 85.08% Seasonal: 1.58% Irregular: 13.33%

Choice is narrowed down to Box-Jenkins or exponential smoothing.

Box-Jenkins outperforms exponential smoothing by 1.430 to 1.649 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is stationary and nonseasonal.

Recommended model: Box-Jenkins  
Forecast Model for PPILF  
ARIMA(2,0,0)

Term	Coefficient	Std. Error	t-Statistic	Significance
a[1]	1.6829	0.0804	20.9324	1.0000
a[2]	-0.6968	0.0800	-8.7067	1.0000
_CONST	2.6957			

Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 193.6	Standard deviation 3.901
R-square 0.9825	Adjusted R-square 0.9823
Durbin-watson 2.075	* Ljung-Box(18)=32.22 P=0.9793
Forecast error 0.5193	BIC 0.5434
MAPE 0.001985	RMSE 0.5121
MAD 0.3839	

Forecast Report  
Fri May 13 13:47:38 2016  
Box-Jenkins model for PPILF  
Analysis of Historic Fit Set

Date	Historic
2010-05	184.000 ✓
2010-06	183.100 ✓
2010-07	182.700 ✓
2010-08	183.100
2010-09	183.500
2010-10	184.600
2010-11	185.400
2010-12	186.300
2011-01	188.600
2011-02	190.200
2011-03	191.200
2011-04	193.000
2011-05	193.700
2011-06	193.900
2011-07	194.600

1f\_ppi

2011-08	194.500
2011-09	194.600
2011-10	193.900
2011-11	193.200
2011-12	192.700
2012-01	193.800
2012-02	194.700
2012-03	195.700
2012-04	195.800
2012-05	195.400
2012-06	193.700
2012-07	193.300
2012-08	193.300
2012-09	193.700
2012-10	193.900
2012-11	194.000
2012-12	194.200
2013-01	195.300
2013-02	196.100
2013-03	196.100
2013-04	195.900
2013-05	195.500
2013-06	195.400
2013-07	195.200
2013-08	195.300
2013-09	195.100
2013-10	195.400
2013-11	195.500
2013-12	195.900
2014-01	197.200
2014-02	197.600
2014-03	197.300
2014-04	197.700
2014-05	197.600
2014-06	197.700
2014-07	198.200
2014-08	198.400
2014-09	198.300
2014-10	198.200
2014-11	197.400
2014-12	196.700
2015-01	196.000 ✓
2015-02	195.400 ✓
2015-03	195.000 ✓
2015-04	194.800 ✓
2015-05	194.900 ✓
2015-06	195.200 ✓
2015-07	194.900 ✓
2015-08	193.900 ✓
2015-09	193.100 ✓
2015-10	192.900 ✓
2015-11	192.300 ✓
2015-12	191.900 ✓
2016-01	192.000 ✓
2016-02	191.800 ✓
2016-03	191.900 ✓
2016-04	192.600 ✓

Forecasted Values

Date    2.5 Lower    Forecast    97.5 Upper

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			lf_ppi
2016-05	192.097	193.101	194.105
2016-06	191.492	193.456	195.421
2016-07	190.798	193.706	196.613
2016-08	190.088	193.877	197.666
2016-09	189.399	193.992	198.584
2016-10	188.751	194.066	199.381
2016-11	188.152	194.110	200.068
2016-12	187.606	194.134	200.661
2017-01	187.110	194.142	201.173
2017-02	186.663	194.139	201.615
2017-03	186.261	194.129	201.997
2017-04	185.901	194.114	202.327



# Databases, Tables & Calculators by Subject

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include graphs  include annual averages

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## Producer Price Index-Commodities

**Series Id:** WPU03T15M05  
**Not Seasonally Adjusted**  
**Group:** Industrial Commodities less fuels  
**Item:** Industrial commodities less fuels  
**Base Date:** 198200

**Download:** [xls](#) [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	196.0	195.4	195.0	194.8	194.9	195.2	194.9	193.9	193.1	192.9	192.3	191.9
2016	192.0(P)	191.8(P)	191.9(P)	192.6(P)								

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

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# Forecast Error Calculation

	2014 Weight	First Quarter 2016		Difference		Notes			
		2016Q1 Forecast	2016Q1 Actual	Pt.	Pct.				
Labor	31.7%	417.7	417.7	0.0	0%	* actual=forecast			
Fuel	20.9%	191.2	132.7	-58.5	-31%	from 1st month of quarter			
M&S	5.2%	246.9	246.9	0.0	0%	* actual=forecast			
Equip Rents	5.4%	214.3	215.2	0.9	0%	from Equipment Rents below			
Depreciation	12.6%	226.0	225.9	-0.1	0%	PPI-RE <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>204.20</td><td>204.20</td><td>204.30</td></tr></table> 0.9040	204.20	204.20	204.30
204.20	204.20	204.30							
Interest	1.5%	57.5	57.5	0.0	0%	* actual=forecast			
Other	22.7%	215.5	215.1	-0.4	0%	PPI-LF <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>192.00</td><td>191.80</td><td>191.90</td></tr></table> 0.8920	192.00	191.80	191.90
192.00	191.80	191.90							
<b>Weighted Avg</b>	<b>100.0%</b>								
1980 = 100		275.0	262.8			calculated			
1980 = 100 (linked)		262.5	250.1			calculated			
4Q12r = 100	2.976	88.2	84.0			calculated			
4Q07 = 100	2.459	106.8	101.7			calculated			
4Q02 = 100	1.921	136.6	130.2			calculated			
4Q97 = 100	1.732	151.6	144.4			calculated			
4Q92 = 100	1.569	167.3	159.4			calculated			
<b>Forecast Error</b>		<b>-4.2</b>				calculated -0.042 = RCAF adj.			
<b>Prior Quarter</b>									
1980 = 100		275.9	273.0 **			Re-calculated using new weights			
1980 = 100 (linked)		263.4	259.8						
4Q12r = 100		88.5	87.3			calculated			
4Q07 = 100		107.1	105.7			calculated			
4Q02 = 100		137.1	135.2			calculated			
4Q97 = 100		152.1	150.0			calculated			
4Q92 = 100		167.9	165.6			calculated			
<b>Equipment Rents</b>									
Car Hire	56.5%	195.1	196.8			from Equipment Rents/CHARM			
Lease Rentals	43.5%	215.5	215.1			(equals PPI-LF from above)			
Weighted Average		204.0	204.8			calculated			
Linked		214.3	215.2			calculated			
<b>Prior Quarter</b>									
Weighted Average		204.4	203.9 **			Re-calculated using new weights			
Linked		214.7	214.3						
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)**

	14 Wts	3Q/15 13 Wts	3Q/15 14 Wts	% Chg.	4Q/15 14 Wts	% Chg.	1Q/16 14 Wts	% Chg.	2Q/16 14 Wts	% Chg.	3Q/16 14 Wts	% Chg.
Labor	31.7%	404.3	404.3	0.0%	403.6	-0.2%	417.7	3.5%		NA		NA
Fuel	20.9%	220.1	220.1	0.0%	198.5	-9.8%	132.7	-33.1%		NA		NA
M&S	5.2%	258.9	258.9	0.0%	264.8	2.3%	246.9	-6.8%		NA		NA
Equipment Rents	5.4%	214.2	214.2	0.0%	214.3	0.0%	215.2	0.4%	0.0	NA	#DIV/0!	NA
Depreciation	12.6%	223.8	223.8	0.0%	225.6	0.8%	225.9	0.1%		NA		NA
Interest	1.5%	70.6	70.6	0.0%	57.5	-18.6%	57.5	0.0%	57.5	0.0%	57.5	0.0%
Other	22.7%	217.5	217.5	0.0%	215.8	-0.8%	215.1	-0.3%		NA		NA
	<b>1.0000</b>											
<b>Weighted Avg.</b>		<b>276.9</b>	<b>277.8</b>	<b>0.3%</b>	<b>273.0</b>	<b>-1.7%</b>	<b>262.8</b>	<b>-3.7%</b>	<b>0.9</b>	NA	<b>#DIV/0!</b>	NA
<b>Linked</b>		<b>264.4</b>			<b>259.8</b>	<b>-1.7%</b>	<b>250.1</b>	<b>-3.7%</b>	<b>0.9</b>	NA	<b>#DIV/0!</b>	NA
10/1/80	1.027	257.4			253.0	-1.7%	243.5	-3.8%	0.9	NA	#DIV/0!	NA
10/1/82	1.209	218.7			214.9	-1.7%	206.9	-3.7%	0.7	NA	#DIV/0!	NA
4Q/87	1.322	200.0			196.5	-1.8%	189.2	-3.7%	0.7	NA	#DIV/0!	NA
4Q/92	1.569	168.5			165.6	-1.7%	159.4	-3.7%	0.6	NA	#DIV/0!	NA
4Q/97	1.732	152.7			150.0	-1.8%	144.4	-3.7%	0.5	NA	#DIV/0!	NA
4Q/02	1.921	137.6			135.2	-1.7%	130.2	-3.7%	0.5	NA	#DIV/0!	NA
4Q/07	2.459	107.5			105.7	-1.7%	101.7	-3.8%	0.4	NA	#DIV/0!	NA
4Q/12	2.976	88.8			87.3	-1.7%	84.0	-3.8%	0.3	NA	#DIV/0!	NA
<b>Equipment Rents</b>												
Car Hire	56.5%	193.3	193.3	0.0%	194.8	0.8%	196.8	1.0%		NA		NA
Lease Rentals	43.5%	217.5	217.5	0.0%	215.8	-0.8%	215.1	-0.3%	0.0	NA	0.0	NA
	1.0000											
ER Weighted Avg		204.7	203.8	-0.4%	203.9	0.0%	204.8	0.4%	0.0	NA	0.0	NA
ER Linked		214.2			214.3	0.0%	215.2	0.4%	0.0	NA	#DIV/0!	NA

Impact/Check of weight change	13 Wts	14 Wts
Labor	127.759	128.163
Fuel	48.642	46.001
Material & Supplies	12.686	13.463
Equipment Rents	11.567	11.567
Depreciation	26.856	28.199
Interest	1.341	1.059
Other	48.068	49.373
<b>Weighted Avg.</b>	<b>276.919</b>	<b>277.824</b>
ER Weighted Avg.	204.7224	203.827

As info only

# RCAF Fuel (Actual All-Inclusive Index)

January 2016

## Monthly Report

	January 2016 Price (cents) (1)	1/1/81 Price (cents) (2)	1/91 New Method Linking Factors (3)	January 2016 Index 1/1/81=100 (4)	Linking Factor 1980=100 (5)	January 2016 1980=100 Current Index (6)
U.S.	<b>108.63</b>	89.34	99.415	<b>120.88</b>	1.096	<b>132.48</b>

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

(6) = (4) x (5)

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

	January 2016 1980=100 Current Index	Adjustment Factor	January 2016 1980=100 Linked Index
U.S.	<b>132.48</b>	1.00192	<b>132.73</b> ←

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

**RCAF (Actual)**

	1980	Aug 3Q/15	Nov 4Q/15	Feb 1Q/16	May 2Q/16	Aug 3Q/16
<b>RATE</b>						
RR-OWNED TIME	31.00	63.00	63.00	64.00 ✓	64.00	--
RR-OWNED MILEAGE	4.69	6.70	6.70	6.70 ✓	6.70	--
PRIVATELY-OWNED CARS	25.47	50.18	50.58	51.10	51.42	--
AUTORACKS	47.00	74.33	78.76	78.89	81.26	--
<b>INDEX</b>						
RR-OWNED TIME	100.0	203.2	203.2	206.5	206.5	--
RR-OWNED MILEAGE	100.0	142.9	142.9	142.9	142.9	--
PRIVATELY-OWNED CARS	100.0	197.0	198.6	200.6	201.9	--
AUTORACKS	100.0	158.2	167.6	167.9	172.9	--
CAR HIRE INDEX (old wts)	2013	100.0	193.7	--	--	--
CAR HIRE INDEX (new wts)	2014	100.0	193.7	195.2	197.2	198.3
CAR HIRE INDEX (LINKED)		100.0	193.3	194.8	<b>196.8</b>	197.9

Note: Indexes are rounded, rates are full float.

Equipment Rents Data From CHARM

	2015 (first day of month)						2016 (first day of month)							
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
<b>Railroad Equipment</b>														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	7,887	7,919	7,917	7,910	7,910	7,908	7,995	8,002 ✓	7,883	8,147	8,114			
Rate (in cents)														
Superstructures #3 - Auto Rack	49.0	50.0	50.0	50.0	50.0	50.0	51.0	51.0 ✓	49.0	55.0	56.0			
<b>All other #1 - Time</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>63.0</b>	<b>64.0</b>	<b>64.0 ✓</b>	<b>64.0</b>	<b>64.0</b>	<b>64.0</b>			
<b>All other #2 - Mileage</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7 ✓</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>			
<b>Private Equipment</b>														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	52,263	52,563	52,956	53,310	53,709	54,090	54,221	54,344 ✓	54,688	54,789	54,845			
Covered Hoppers	361,701	363,687	365,583	367,833	370,297	372,269	373,440	374,916 ✓	376,352	378,706	380,968			
Tank Cars	380,115	382,665	385,215	387,405	389,726	393,040	395,223	396,381 ✓	397,752	399,482	400,577			
Others	291,161	290,976	290,909	291,473	291,269	291,163	289,632	289,175 ✓	289,058	288,729	289,095			
Rate (in cents)														
Superstructures #1 - Time	82.0	82.0	82.0	82.0	82.0	82.0	81.0	82.0 ✓	83.0	83.0	83.0			
Superstructures #2 - Mileage	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6 ✓	1.6	1.6	1.6			
Superstructures #3 - Auto Rack	76.0	78.0	79.0	81.0	83.0	84.0	83.0	83.0 ✓	83.0	84.0	85.0			
Covered Hoppers #2 - Mileage	44.6	44.7	44.8	44.8	44.9	45.0	45.0	45.1 ✓	45.0	45.2	45.2			
Tank Cars #2 - Mileage	78.1	78.3	78.6	78.8	79.0	79.1	79.3	79.4 ✓	79.6	79.8	80.0			
Others #1 - Time	78.0	79.0	79.0	79.0	79.0	79.0	81.0	81.0 ✓	81.0	81.0	81.0			
Others #2 - Mileage	7.8	7.8	7.8	7.8	7.7	7.7	7.8	7.8 ✓	7.8	7.8	7.8			
<b>AVERAGE RATES</b>														
Private Superstructures	20.87	20.87	20.87	20.87	20.87	20.87	20.64	20.87	21.11	21.11	21.11	0.00	0.00	0.00
Private Others	25.12	25.34	25.34	25.34	25.24	25.24	25.78	25.78	25.78	25.78	25.78	0.00	0.00	0.00
<b>Private Total</b>	<b>49.96</b>	<b>50.18</b>	<b>50.36</b>	<b>50.46</b>	<b>50.58</b>	<b>50.71</b>	<b>50.99</b>	<b>51.10</b>	<b>51.17</b>	<b>51.35</b>	<b>51.42</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>
<b>Autoracks</b>	<b>72.46</b>	<b>74.33</b>	<b>75.23</b>	<b>76.99</b>	<b>78.76</b>	<b>79.66</b>	<b>78.89</b>	<b>78.89</b>	<b>78.72</b>	<b>80.25</b>	<b>81.26</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>

WEIGHTS	"Old Wts"	"New Wts"
	2013	2014
For RCAF & RCR		
RR-owned Time	0.148	0.156
RR-owned Mileage	0.072	0.060
Privately-owned Cars	0.772	0.758
Autoracks	0.008	0.026
----- Check sum	<b>1.000</b>	<b>1.000</b>

Weights for Equipment Rents (not used in Car Hire calculation)		
	2013	2014
Car Hire - U.S.	0.528	0.565
Lease Rentals - U.S.	0.472	0.435
----- Check sum	<b>1.000</b>	<b>1.000</b>

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 02/2016**

<b>Ownership</b>	<b>Car Group</b>	<b>Car Count</b>	<b>Time Rate (cents/hour)</b>	<b>Mileage Rate (\$/mile)</b>	<b>Auto Rack Rate (cents/hour)</b>
Railroad	Vehicular Flats	8,002	121	0.080	51
Railroad	Number of Zero-Rated Vehicular Flats	14	.	.	.
Railroad	All Other Cars	451,901	64	0.067	.
Railroad	Number of Zero-Rated Other Cars	18,223	.	.	.
Railroad	Total Railroad Equipment	478,140	.	.	.
		.	.	.	.
Private	Vehicular Flats	54,344	83	0.016	82
Private	Number of Zero-Rated Vehicular Flats	141	.	.	.
Private	Covered Hoppers	374,916	0	0.451	.
Private	Number of Zero-Rated Covered Hoppers	11,804	.	.	.
Private	Tanks	396,381	0	0.794	.
Private	Number of Zero-Rated Tanks	8,762	.	.	.
Private	All Other Cars	289,175	81	0.078	.
Private	Number of Zero-Rated Other Cars	27,493	.	.	.
Private	Total Private Equipment	1,163,016	.	.	.

<b>Notes</b>
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 2016

As reported at end of month 82=100

		Nov.	Feb.	May	Aug.
<b>For Forecast</b>	→	16Q1	16Q2	16Q3	16Q4
<b>For Actual</b>	→	<b>15Q3</b>	<b>15Q4</b>	<b>16Q1</b>	<b>16Q2</b>
January	2015	200.8	200.8	200.8	200.8
February	2015	200.5	200.5	200.5	200.5
March	2015	199.5	199.5	199.5	199.5
April	2015	200.5	200.5	200.5	
May	2015	200.0	200.0	200.0	
June	2015	201.4	201.4	201.4	
July	2015	<b>201.6</b>	201.6	201.6	
August	2015	<b>202.6</b>	202.8	202.8	
September	2015	<b>202.8</b>	202.8	202.8	
October	2015	203.3	<b>203.3</b>	204.4	
November	2015		<b>203.9</b>	203.9	
December	2015		<b>204.5</b>	204.5	
January	2016		204.2	<b>204.2</b>	
February	2016			<b>204.2</b>	
March	2016			<b>204.3</b>	
April	2016			203.3	
May	2016				
June	2016				
July	2016				
Actual Qtr.		202.3	203.9	204.2	NA

1980=100

Actual Qtr.	223.8	225.6	225.9	NA
First Mo. next qtr.	224.9	225.9	224.9	NA

0.904 =1980

## Databases, Tables & Calculators by Subject

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**Producer Price Index-Commodities**

**Series Id:** WPU144  
 Not Seasonally Adjusted  
**Group:** Transportation equipment  
**Item:** Railroad equipment  
**Base Date:** 198200

**Download:** [XB](#) [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	200.8	200.5	199.5	200.5	200.0	201.4	201.6	202.8	202.8	204.4	203.9	204.5
2016	204.2(P)	204.2(P)	204.3(P)	203.3(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 2016

As reported at end of month 82=100

		Nov.	Feb.	May	Aug.
<b>For Forecast</b> →		16Q1	16Q2	16Q3	16Q4
<b>For Actual</b> →		<b>15Q3</b>	<b>15Q4</b>	<b>16Q1</b>	<b>16Q2</b>
January	2015	196.0	196.0	196.0	196.0
February	2015	195.4	195.4	195.4	195.4
March	2015	195.0	195.0	195.0	195.0
April	2015	194.8	194.8	194.8	
May	2015	194.9	194.9	194.9	
June	2015	195.2	195.2	195.2	
July	2015	<b>194.7</b>	194.9	194.9	
August	2015	<b>194.1</b>	193.9	193.9	
September	2015	<b>193.2</b>	193.1	193.1	
October	2015	193.1	<b>193.1</b>	192.9	
November	2015		<b>192.4</b>	192.3	
December	2015		<b>192.1</b>	191.9	
January	2016		192.0	<b>192.0</b> ✓	
February	2016			<b>191.8</b> ✓	
March	2016			<b>191.9</b> ✓	
April	2016			192.6 ✓	
May	2016				
June	2016				
July	2016				
Actual Qtr.		194.0	192.5	191.9	NA

1980=100

Actual Qtr.	217.5	215.8	215.1	NA
First Mo. next qtr.	216.5	215.2	215.9	NA

0.892 =1980



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## Producer Price Index-Commodities

**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
2015	196.0	195.4	195.0	194.8	194.9	195.2	194.9	193.9	193.1	192.9	192.3	191.9
2016	192.0(P)	191.8(P)	191.9(P)	192.6(P)								

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

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