

ASSOCIATION
OF AMERICAN
RAILROADS

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This document contains the necessary recalculated figures for 2018Q4, 2019Q1, and 2019Q2 as directed by the Surface Transportation Board in a decision served March 20, 2019. Not all pages of the RCAF filing are affected by the revised calculations requested by the Board; as such, only the relevant pages are included in this filing.

This submission is the AAR forecast of the second quarter 2019 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2019-2) *Quarterly Rail Cost Adjustment Factor*. The versions of RCAF-related indices covered in this filing are: the All-Inclusive Index (initiated in the second quarter of 1985), the Unadjusted RCAF (produced since October 1982), the Adjusted RCAF (first published in the second quarter of 1989), and the RCAF-5 (created by the STB in its Ex Parte No. 290 (Sub-No. 7) decision served October 3, 1996). The table below summarizes the restated 2018Q4, 2019Q1, and 2019Q2 results. All quarters are shown on a 4Q\2017=100 base.

	<u>2018Q4</u>	<u>2019Q1</u>	<u>2019Q2</u>	<u>% Change</u>
All-Inclusive Index	108.1	107.1	106.7	-0.4
Preliminary RCAF	1.081	1.071	1.067	-0.4
Forecast Error Adjustment	-0.002	-0.013	-0.002	
RCAF (Unadjusted)	1.079	1.058	1.065	0.7
Productivity Adjustment Factor	2.3617	2.3593	2.3621	
RCAF (Adjusted)	0.457	0.448	0.451	0.7
PAF-5	2.5260	2.5235	2.5210	
RCAF-5	0.427	0.419	0.422	0.7

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.

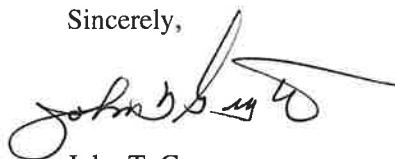
On March 5, 2019, the AAR submitted its quarterly filing as required. AAR was unable to use an updated productivity figure in its calculation because, at the time of its filing, the Board had not issued the productivity change for 2017 and for the 2013-2017 averaging period. Accordingly, AAR used last year's productivity figures in its filing and noted in its pleadings and workpapers that it had done so.

On March 11, 2019, the Board served a decision proposing to adopt 1.005 (0.5% per year) as the measure of average change in railroad productivity for the 2013-2017 period. In this decision, the Board noted that it had also used recalculated 2017 R-1 figures to compute the new productivity values. A prior decision, *Railroad Revenue Adequacy - 2017 Determination*, EP 552 (Sub-No. 22) et. al. (STB served December 6, 2018), made one time adjustments to remove accounting impacts of the Tax Cuts and Jobs Act on the 2017 Cost of Capital Determination, Revenue Adequacy Determination, and Uniform Railroad Costing System calculation, but did not indicate that those changes were applicable to the computation of the RCAF. As such, the AAR filing had not used recalculated figures.

On March 18, 2019, the Board received a comment in response to AAR's March 5, 2019 filing, in which a question was raised as to whether the AAR's calculations should have used the recalculated 2017 figures, which would affect the 2017 weights the AAR uses in its calculations. By decision served March 18, 2019, AAR was directed to file a response (by March 19) addressing the comment and to submit updated calculations reflecting the current productivity figure given in the March 11 decision. The AAR complied, and on March 20, 2019, the Board served another decision directing AAR to resubmit its RCAF calculations for 2019Q2 and the prior two quarters to reflect recalculated 2017 weights, to be filed by March 26, 2019.

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

Sincerely,

A handwritten signature in black ink, appearing to read "John T. Gray", with a stylized flourish extending to the right.

John T. Gray

Attachments

**Restated 2018Q4, 2019Q1, and 2019Q2
All-Inclusive Index**

Ex Parte No. 290 (Sub-No. 5) (2019-2)

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

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

March 26, 2019

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Index Weights

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

The 2017 weights were originally used in the fourth quarter of 2018. A decision served by the Board on March 20, 2019 directed the AAR to recalculate the 2017 weights using updated R-1 figures. Revised 2017 weights, original 2017 weights, and 2016 weights are shown below.

The revised weight for Fuel increased 2.2 percentage points from 2016, and Depreciation's was up 0.1 percentage points. The remaining component weights all decreased by 0.1 to 1.1 percentage points.

Weights for RCAF's All-Inclusive Index			
	2017 Revised	2017 Original	2016
Labor	34.8 %	35.0 %	35.6 %
Fuel	12.9	13.0	10.7
Materials & Supplies	4.9	4.9	5.0
Equipment Rents	5.7	5.2	5.9
Depreciation	15.7	15.8	15.6
Interest	2.1	2.1	2.2
Other	23.9	24.0	25.0
Total	100.0	100.0	100.0

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

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

All-Inclusive Index Revised vs Original

The components and values of the All-Inclusive Indexes are shown below.

		Revised Forecast		
		2018Q4	2019Q1	2019Q2
	2017R Weights			
1. Labor	34.8%	439.2	440.3	439.7
2. Fuel	12.9%	283.9	256.8	259.2
3. M&S	4.9%	269.8	268.3	267.6
4. Equipment Rents	5.7%	236.0	236.3	237.1
5. Depreciation	15.7%	223.8	226.1	223.1
6. Interest	2.1%	62.4	62.4	62.4
7. Other	23.9%	235.5	235.8	231.8
8. Weighted Average				
a. 1980 = 100		308.9	306.1	304.8
b. 1980 = 100 (linked)		285.9	283.3	282.1
c. 4Q17 = 100		108.1	107.1	106.7

		Original Forecast		
		2018Q4	2019Q1	2019Q2
	2017 Weights			
1. Labor	35.0%	439.2	440.3	439.7
2. Fuel	13.0%	283.9	256.8	259.2
3. M&S	4.9%	269.8	268.3	267.6
4. Equipment Rents	5.2%	236.4	236.7	237.5
5. Depreciation	15.8%	223.8	226.1	223.1
6. Interest	2.1%	62.4	62.4	62.4
7. Other	24.0%	235.5	235.8	231.8
8. Weighted Average				
a. 1980 = 100		309.3	306.6	305.2
b. 1980 = 100 (linked)		285.8	283.3	282.0
c. 4Q17 = 100		108.1	107.1	106.6

Forecast vs. Actual All-Inclusive Index Fourth Quarter 2018

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the revised fourth quarter actual index of 107.9 is 0.2 index points below the forecast value of 108.1. Therefore, the forecast error adjustment for second quarter 2019 is -0.2 index points.

	2017R Weights	Fourth Quarter 2018		Amt Difference
		Forecast	Actual	
1. Labor	34.8%	439.2	439.2	
2. Fuel	12.9%	283.9	297.4	
3. M&S	4.9%	269.8	269.8	
4. Equipment Rents ¹	5.7%	236.0	235.7	
5. Depreciation	15.7%	223.8	225.1	
6. Interest	2.1%	62.4	62.4	
7. Other	23.9%	235.5	233.3	
8. Weighted Average				
a. 1980 = 100		308.9	310.3	
b. 1980 = 100 (linked)		285.9	285.3 ²	
c. 4Q17 = 100 ³		108.1	107.9	-0.2

Forecast error —————> **-0.2 index points**

Notes: New weights have been utilized. The standard linking procedure has been used to eliminate any changes to indexes that would be caused by updating weights. The Q3 unlinked weighted averages for the All-Inclusive Indexes (forecast and actual) and for Equipment Rents (forecast and actual) were recalculated using the new (2017) weights.

1	2017R Weights	Fourth Quarter 2018	
		Forecast	Actual
Car-Hire	60.5%	216.4	216.7
Lease Rentals	39.5%	235.5	233.3
Weighted Average		223.9	223.3
Weighted Average (linked)		236.0	235.7

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

$$285.3 = 310.3 / 304.7 \times 280.2$$

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

Productivity

On March 11, 2019, the Surface Transportation Board served a decision which proposed to adopt 0.5 percent as the geometric average productivity change for the five most recent years available. Their five year rolling geometric average calculation added the year 2017 and removed the year 2012. The components of this average annual value are shown on the following table in ratio format – therefore, 1.005 is the same as an increase of 0.5 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. The tables below show the current productivity numbers that would have been used in the March 5 filing if they had been available. Late on March 18, 2019, the Board served a decision which directed the AAR to submit updated calculations with the new productivity figures which were released on March 11.

Comparison of Output, Input, & Productivity			
2013 - 2017			
Year	Output Index (1)	Input Index (2)	Productivity Changes (3)
2013	1.022	1.018	1.003
2014	1.055	1.036	1.018
2015	0.913	0.972	0.939
2016	0.955	0.941	1.015
2017	1.045	0.992	1.053
Average			1.005
Previous Average (2012-2016)			0.996

Calculation of PAF and PAF-5			
For 2013-2017, use fourth root of avg. productivity change = 1.0012			
For 2012-2016, use fourth root of avg. productivity change = 0.9990			
Quarter	Year	PAF	PAF-5
Q1	2019	2.3593	2.5235
Q2	2019	2.3621	2.5210
Q3	2019	2.3649	2.5185
Q4	2019	2.3677	2.5160
Q1	2020	2.3705	2.5190

Rail Cost Adjustment Factor Second Quarter 2019

Four RCAF values are presented in this filing. Two are not modified for productivity (Preliminary RCAF and RCAF Unadjusted), and two incorporate a productivity calculation (RCAF Adjusted and RCAF-5). The revised versus the original figures are shown below. Note that beginning with the 2018Q1 index, the All-Inclusive Index was rebased to a 2017Q4=100 basis as required in the applicable statute.

	Revised		
	2018Q4	2019Q1	2019Q2
All-Inclusive Index ¹	108.1	107.1	106.7
Preliminary RCAF ²	1.081	1.071	1.067
Forecast Error Adjustment ³	-0.002	-0.013	-0.002
RCAF (Unadjusted) ⁴	1.079	1.058	1.065
Productivity Adjustment Factor ⁵	2.3617	2.3593	2.3621
RCAF (Adjusted) ⁶	0.457	0.448	0.451
PAF-5 ⁷	2.5260	2.5235	2.5210
RCAF-5 ⁸	0.427	0.419	0.422
	Original		
	2018Q4	2019Q1	2019Q2
All-Inclusive Index	108.1	107.1	106.6
Preliminary RCAF	1.081	1.071	1.066
Forecast Error Adjustment	-0.002	-0.013	-0.003
RCAF (Unadjusted)	1.079	1.058	1.063
Productivity Adjustment Factor	2.3617	2.3593	2.3621
RCAF (Adjusted)	0.457	0.448	0.450
PAF-5	2.5260	2.5235	2.5210
RCAF-5	0.427	0.419	0.422

¹ See All-Inclusive Index on page 2.

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

³ The current figure is from Forecast vs. Actual All-Inclusive Index

⁴ Preliminary RCAF plus the forecast error adjustment.

⁵ See Productivity on page 4.

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

⁷ See Productivity on page 4.

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

Equipment Rents Second Quarter 2019

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

Car Hire

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

Lease Rentals

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

Equipment Rents Index Calculation

The table below shows the results of the Equipment Rents Index calculation. Due to the revision of 2017 weights, the revised version is compared to the original version below.

	2017R	Revised		
	Weight	2018Q4	2019Q1	2019Q2
Car Hire	60.5%	216.4	216.7	220.5
Lease Rentals	39.5%	235.5	235.8	231.8
Weighted Average		223.9	224.2	225.0
Weighted Average (Linked)		236.0	236.3	237.1

	2017	Original		
	Weight	2018Q4	2019Q1	2019Q2
Car Hire	61.5%	216.9	217.2	221.1
Lease Rentals	38.5%	235.5	235.8	231.8
Weighted Average		224.1	224.4	225.2
Weighted Average (Linked)		236.4	236.7	237.5