

The Economics and Regulation of the Freight Rail Industry

Third Annual Colloquium

June 16, 2017

GEORGETOWN
UNIVERSITY

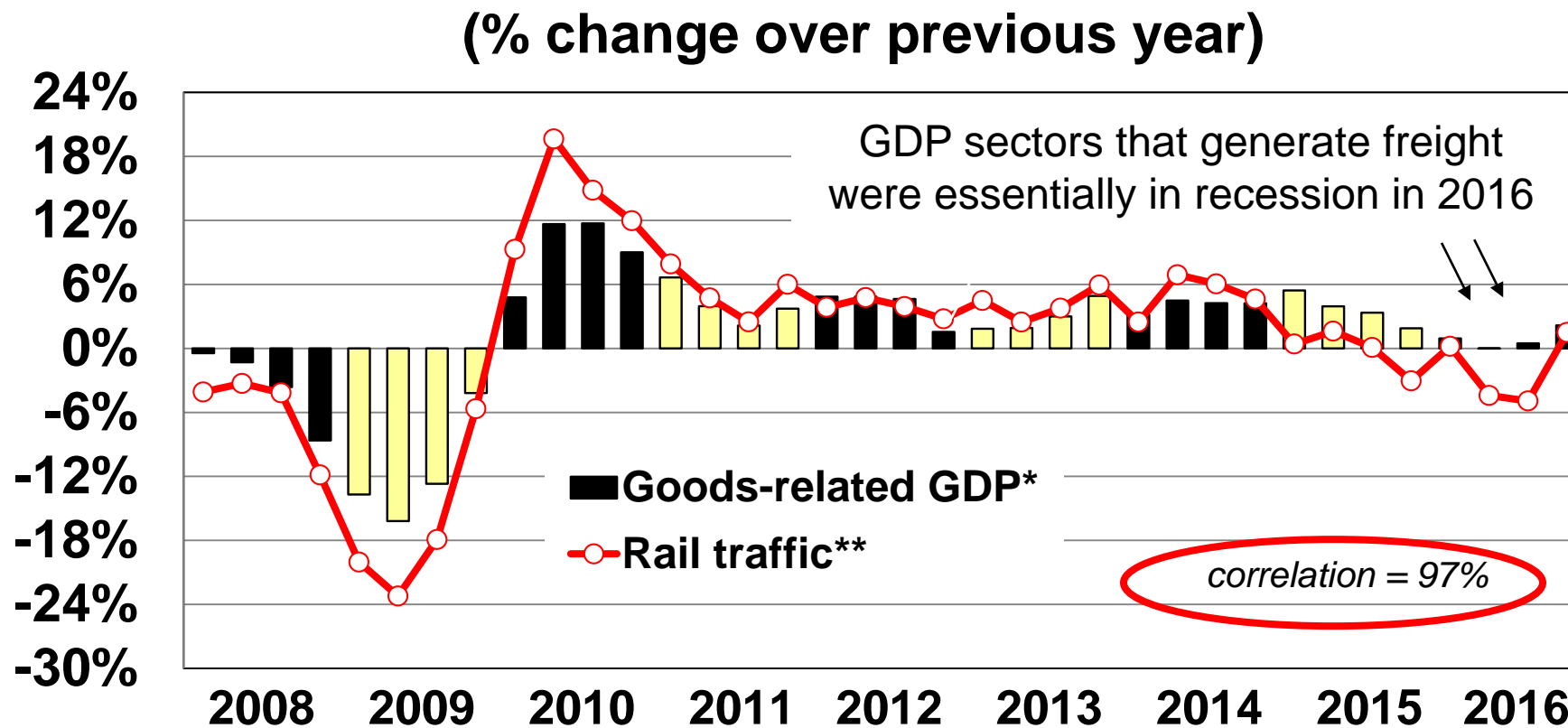
McDonough
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CENTER FOR BUSINESS
& PUBLIC POLICY

Stage-Setting

- The Rail Industry and the Economy
- The Level of Rail Output
- Mix of Traffic
- Rail Employment
- Rail Investment

Rail Traffic and Goods-Related GDP



*Imports, exports, and personal consumption of goods; fixed residential investment; business investment in equipment & structures; government gross investment; and change in inventories.

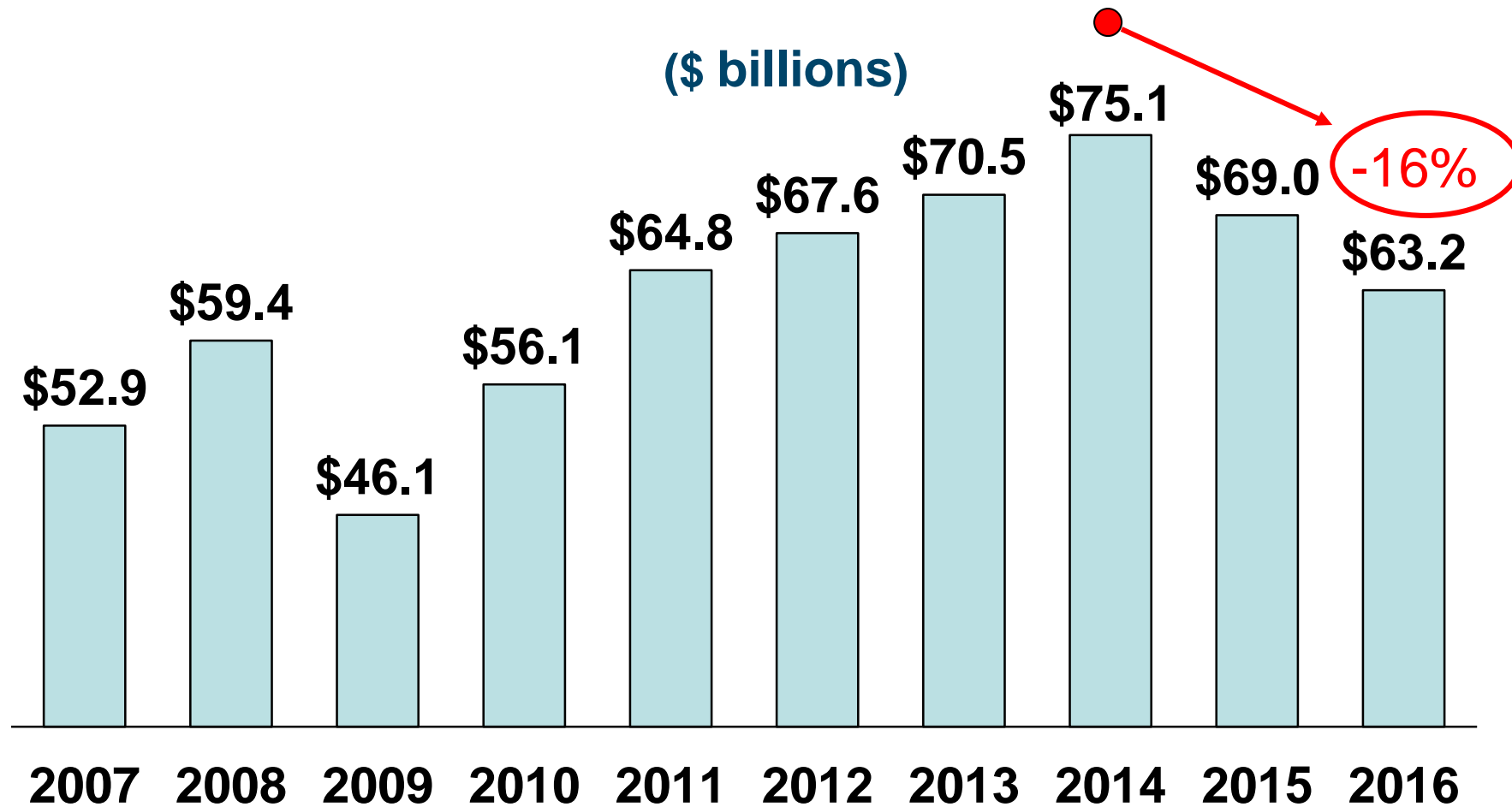
**U.S. carloads excluding coal and grain, plus intermodal units. Rail traffic is originations and does not include the U.S. operations of Canadian railroads. Source: BEA, AAR

Macroeconomic Advisers & the Blue Chip Consensus

	<u>2017.1</u>	<u>2017.2</u>	<u>2017.3</u>	<u>2017.4</u>	<u>2018.1</u>	<u>2018.2</u>	Q4 to Q4 % change or average at Q4		
							<u>2016</u>	<u>2017</u>	<u>2018</u>
GDP Growth									
Macroeconomic Advisers (6/3)	1.2	2.9	2.9	2.0	2.0	2.2	2.0	2.2	2.1
Blue Chip (6/10)	1.2	3.0	2.4	2.3	2.3	2.5	2.0	2.2	2.4
PCE Growth									
Macroeconomic Advisers	0.6	3.3	3.3	2.3	2.2	2.0	3.1	2.4	2.0
Blue Chip	0.6	2.9	2.5	2.4	2.4	2.6	3.1	2.1	2.5
Unemployment Rate*									
Macroeconomic Advisers	4.7	4.3	4.2	4.2	4.2	4.1	4.7	4.2	4.0
Blue Chip	4.7	4.4	4.3	4.3	4.3	4.2	4.7	4.3	4.2
GDP Price Inflation									
Macroeconomic Advisers	2.2	0.8	1.4	1.7	2.1	2.1	1.6	1.5	2.2
Blue Chip	2.2	1.4	2.0	2.0	2.2	2.1	1.6	1.9	2.0
3-month T-bill Yield*									
Macroeconomic Advisers	0.6	0.9	1.2	1.4	1.4	1.6	0.4	1.4	2.0
Blue Chip	0.6	0.9	1.1	1.3	1.4	1.6	0.4	1.3	2.0
10-year Treasury Note Yield*									
Macroeconomic Advisers	2.4	2.3	2.4	2.6	2.8	2.9	2.1	2.6	3.2
Blue Chip	2.4	2.4	2.6	2.7	2.8	3.0	2.1	2.7	3.2

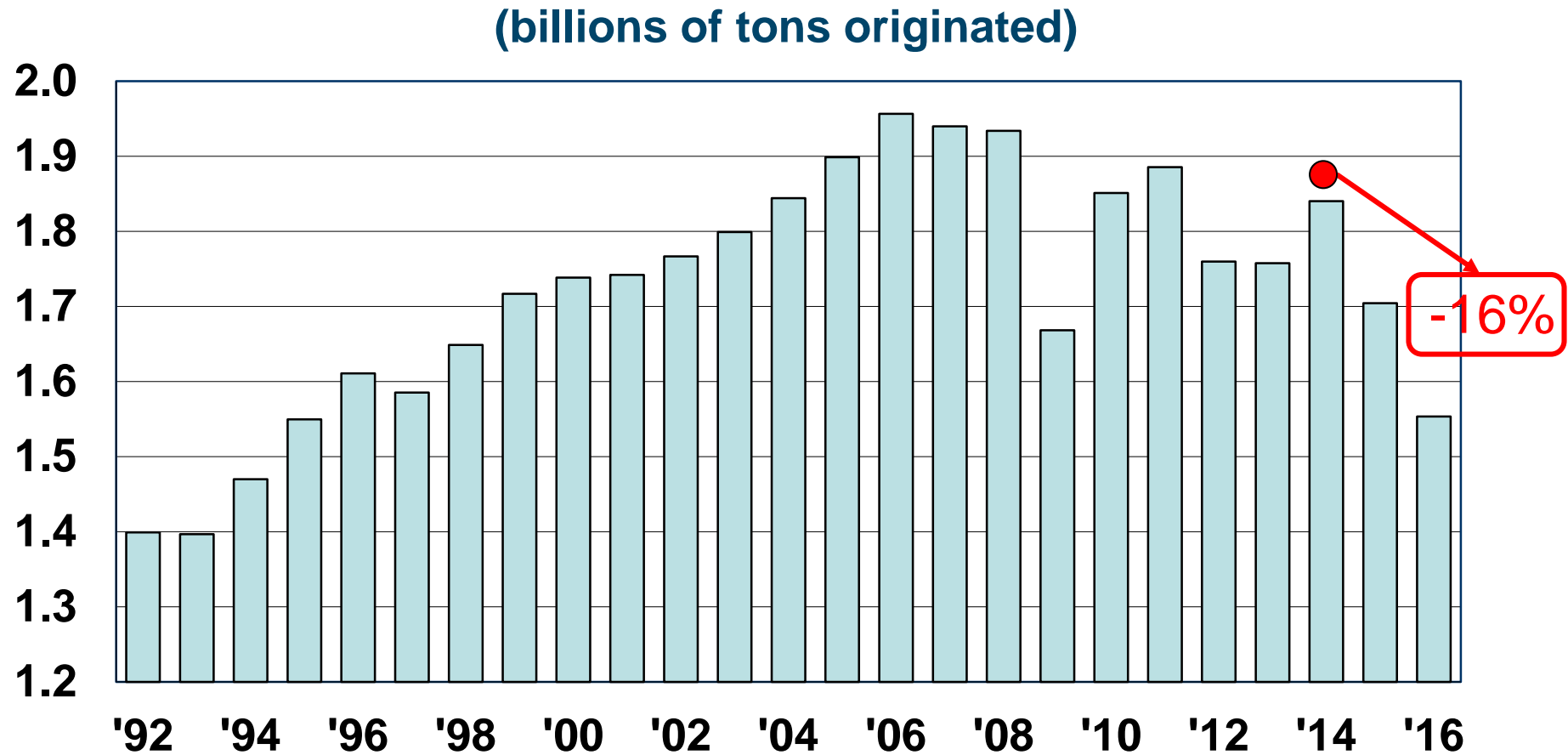
* Percent; annual values are for fourth quarter

Class I RR Freight Revenue



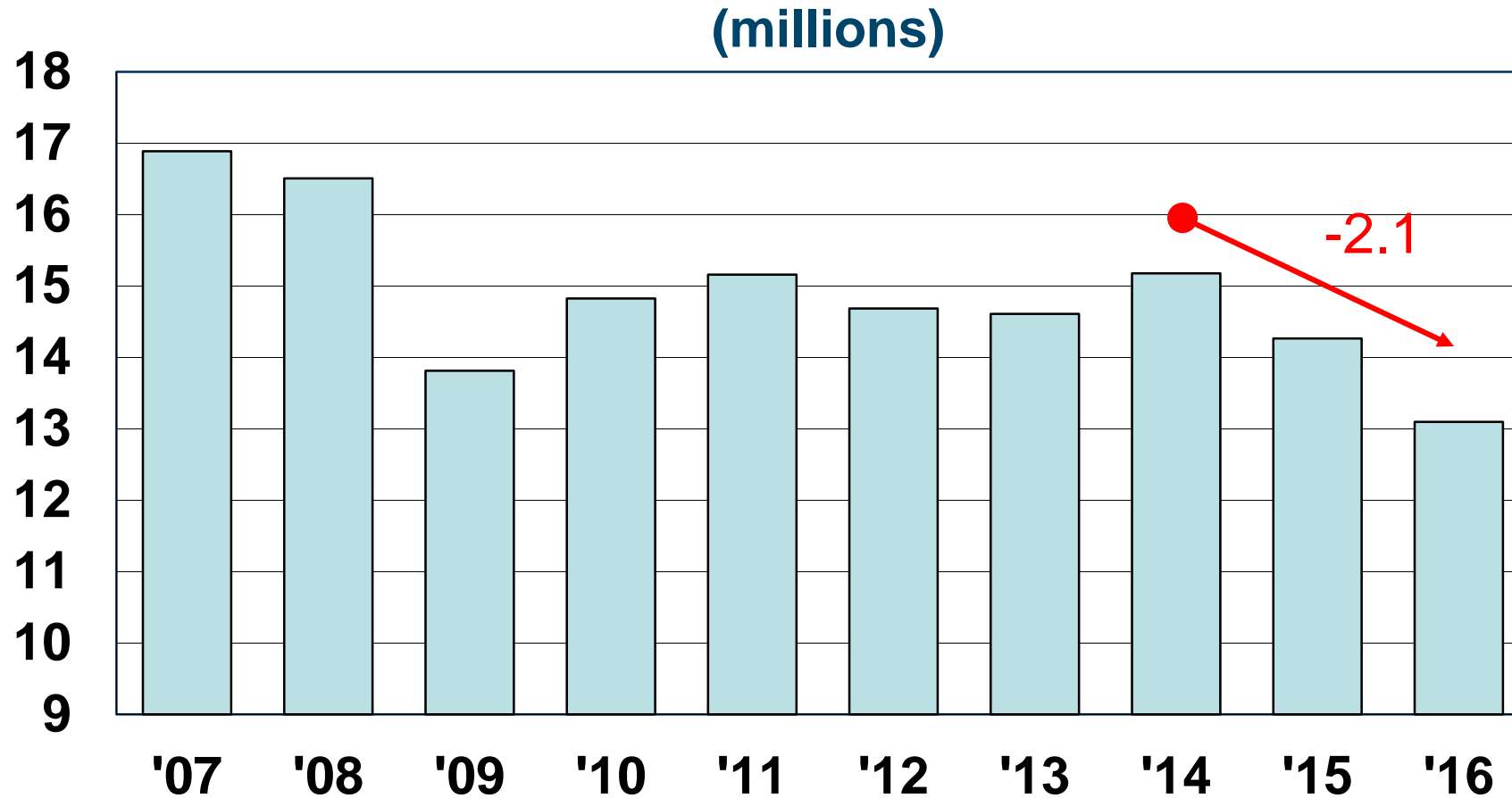
Data are for Class I railroads and are not adjusted for inflation. Source: AAR

Originated Tonnage in 2016



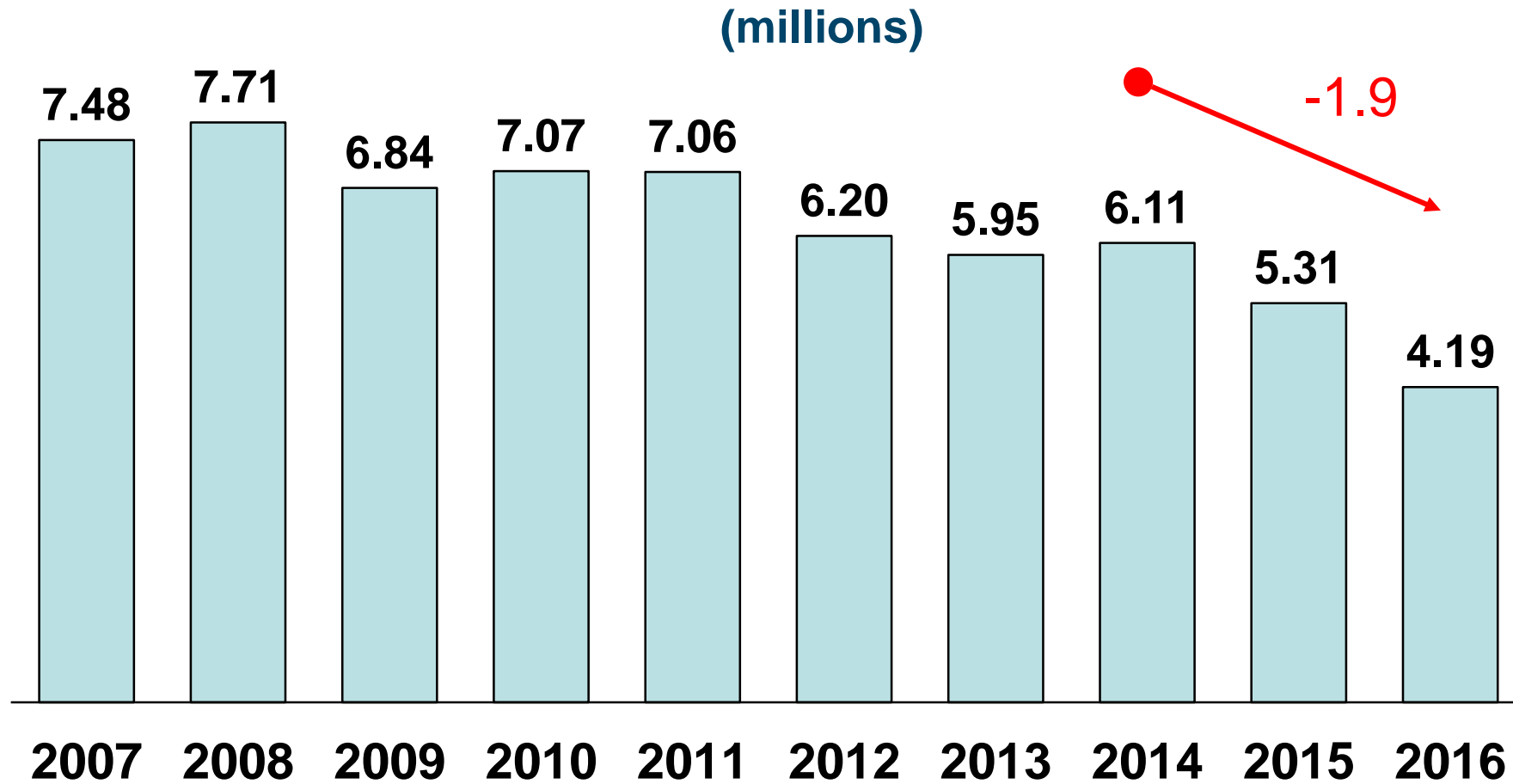
Data are for Class I railroads. Source: AAR *Freight Commodity Statistics*

Total U.S. Rail Carloads: 2007-2016



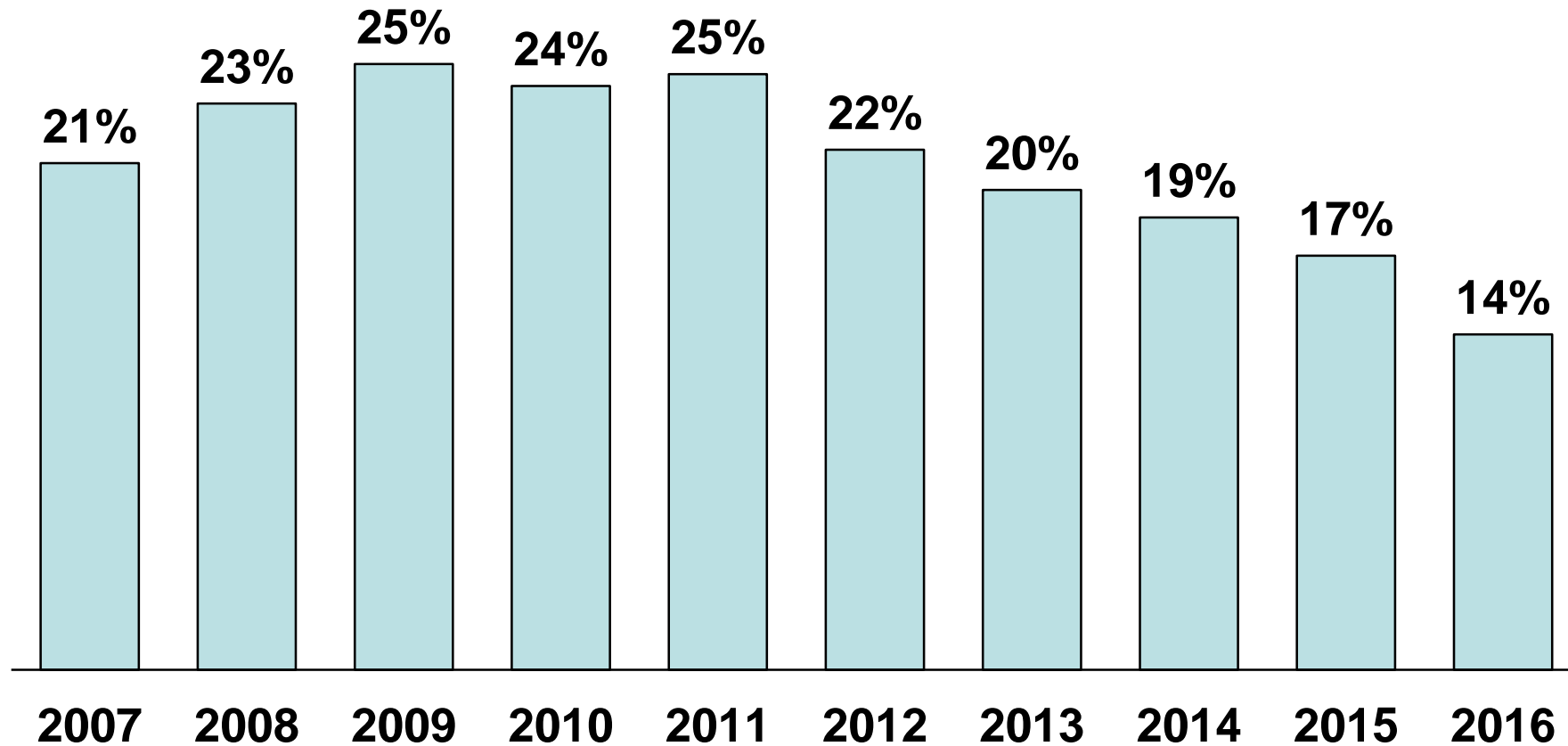
Data are originations and do not include the U.S. operations of CN and CP.
Source: AAR *Weekly Railroad Traffic*

Continued Declines in Rail Coal Carloads



Data are originated carloads for Class I railroads. Source: AAR (*Freight Commodity Statistics*)

Coal as Percentage of U.S. Railroad Revenue



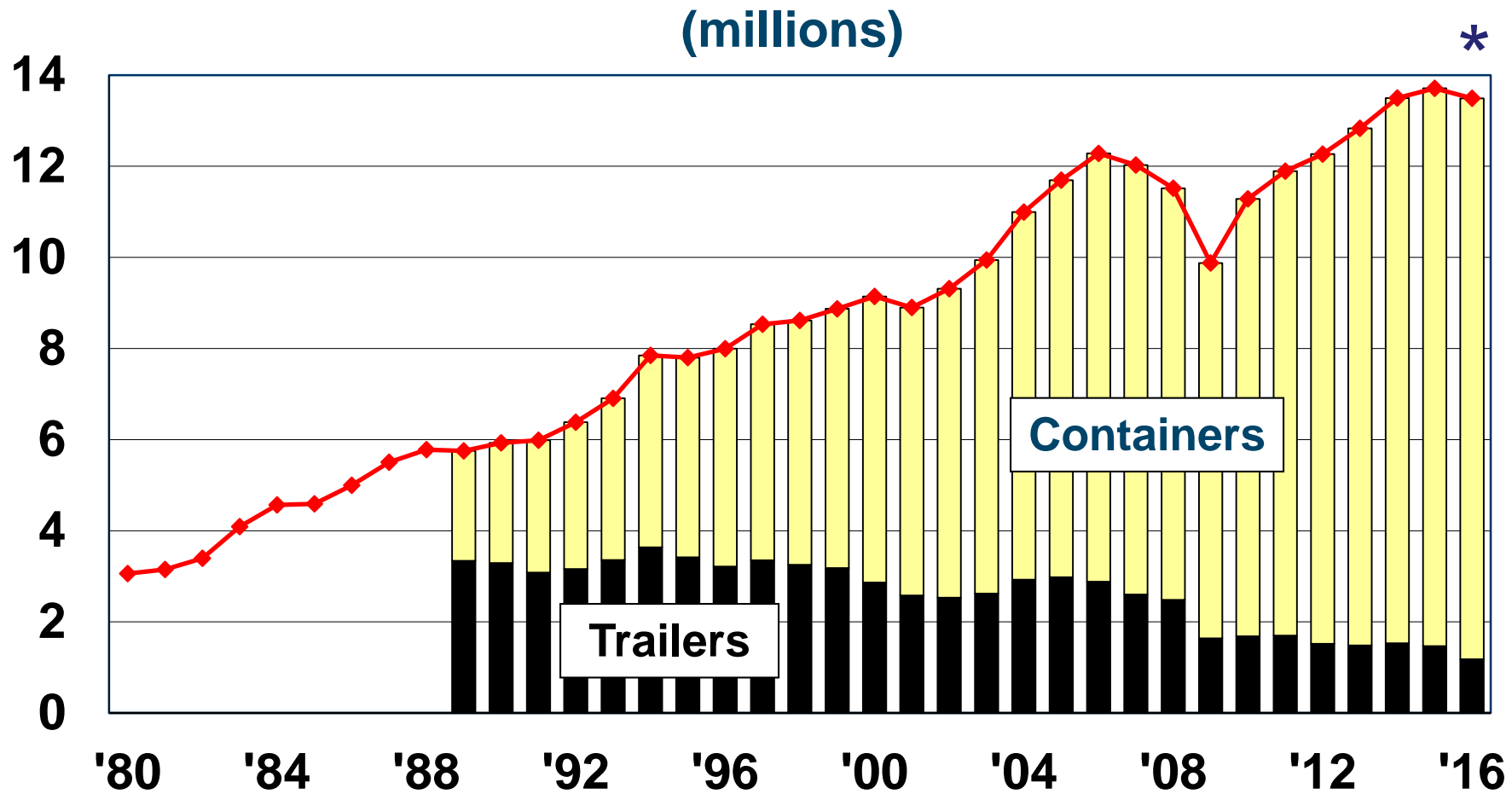
Data are based on originated tons for Class I railroads. Source: AAR (*Freight Commodity Statistics*)

U.S. Electricity Generation by Type of Fuel

Fuel	2000	2005	2010	2016
Coal	52%	50%	45%	30%
Natural Gas	16%	19%	24%	34%
Nuclear	20%	19%	20%	20%
Renewables	2%	2%	4%	8%
Hydro	7%	7%	6%	6%
Other	3%	4%	1%	1%

Source: Energy Information Administration

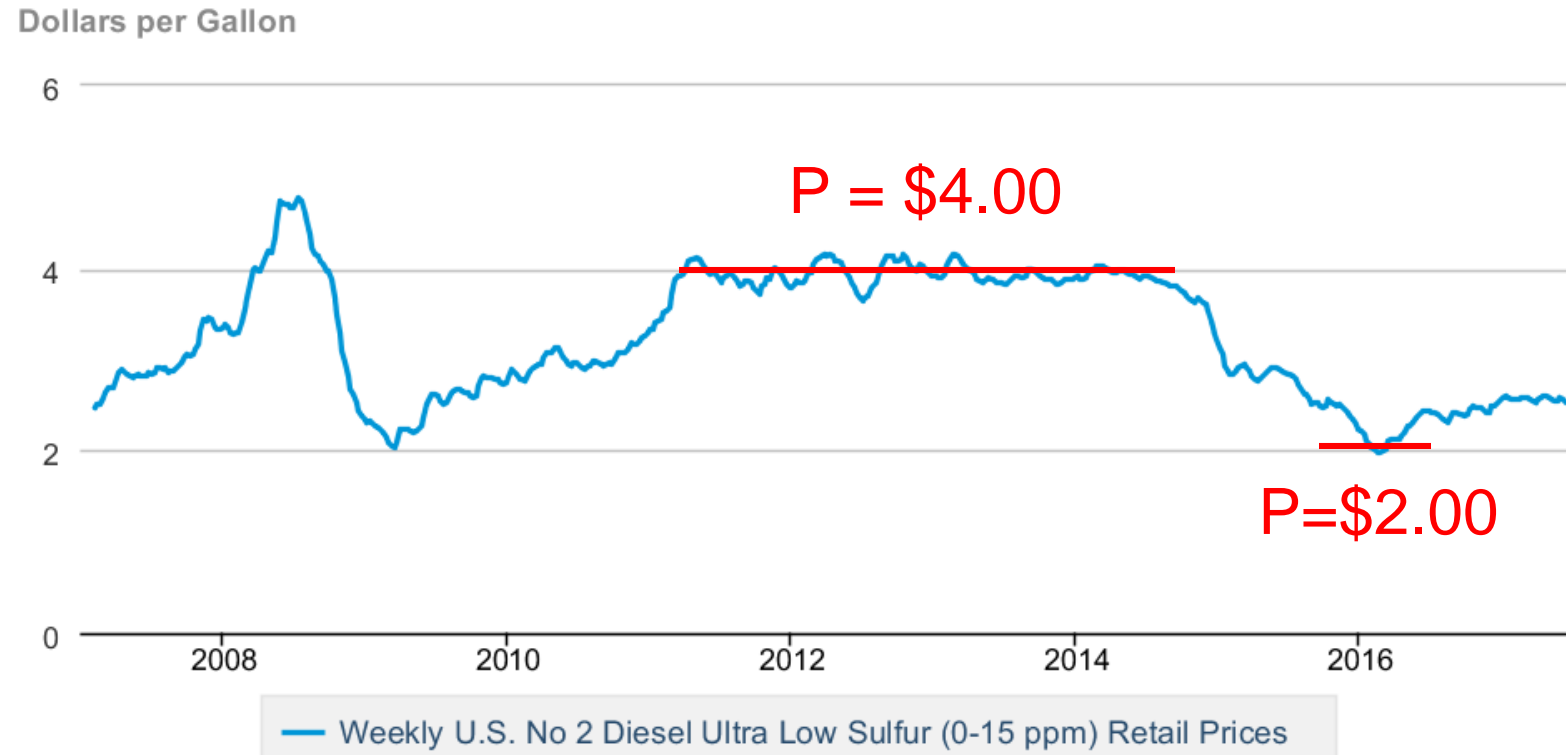
Rapid Intermodal Growth*



Source: AAR Weekly Railroad Traffic

Why Did Intermodal Traffic Decline in 2016?

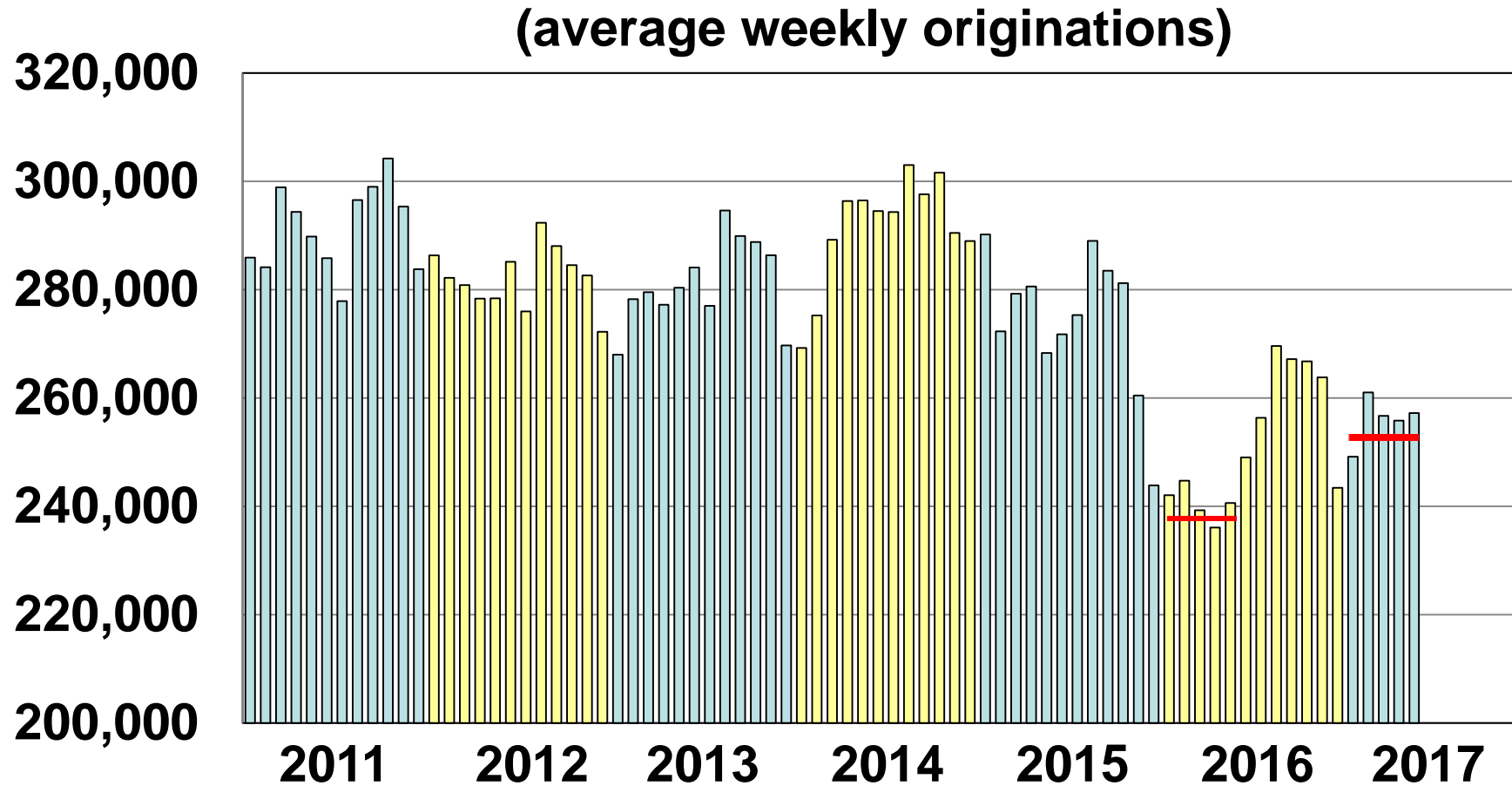
Weekly U.S. No 2 Diesel Ultra Low Sulfur (0-15 ppm) Retail Prices



 Source: U.S. Energy Information Administration

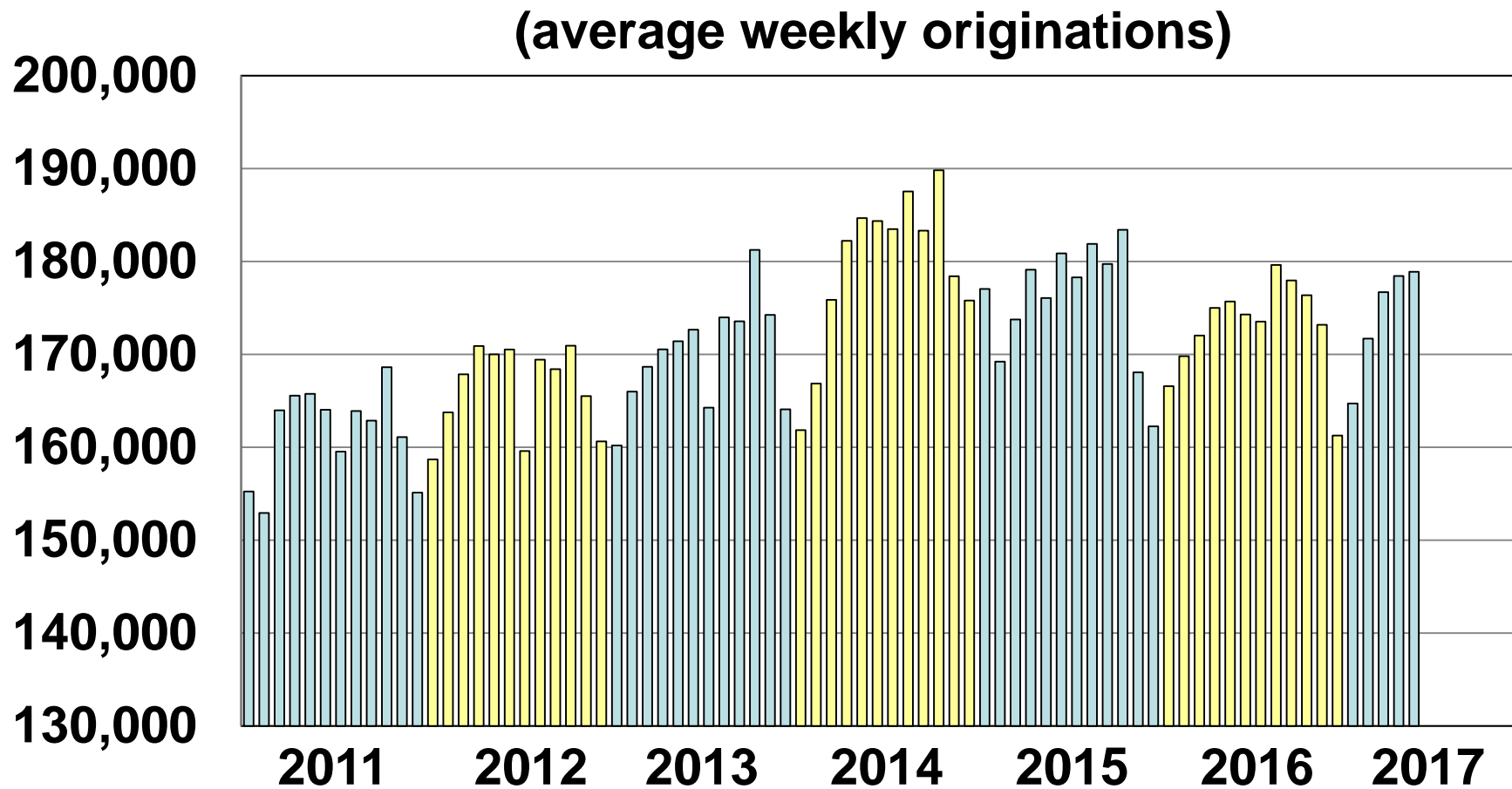
A Look at the Most Recent Data

Total U.S. Rail Carloads: Jan 2011 – May 2017



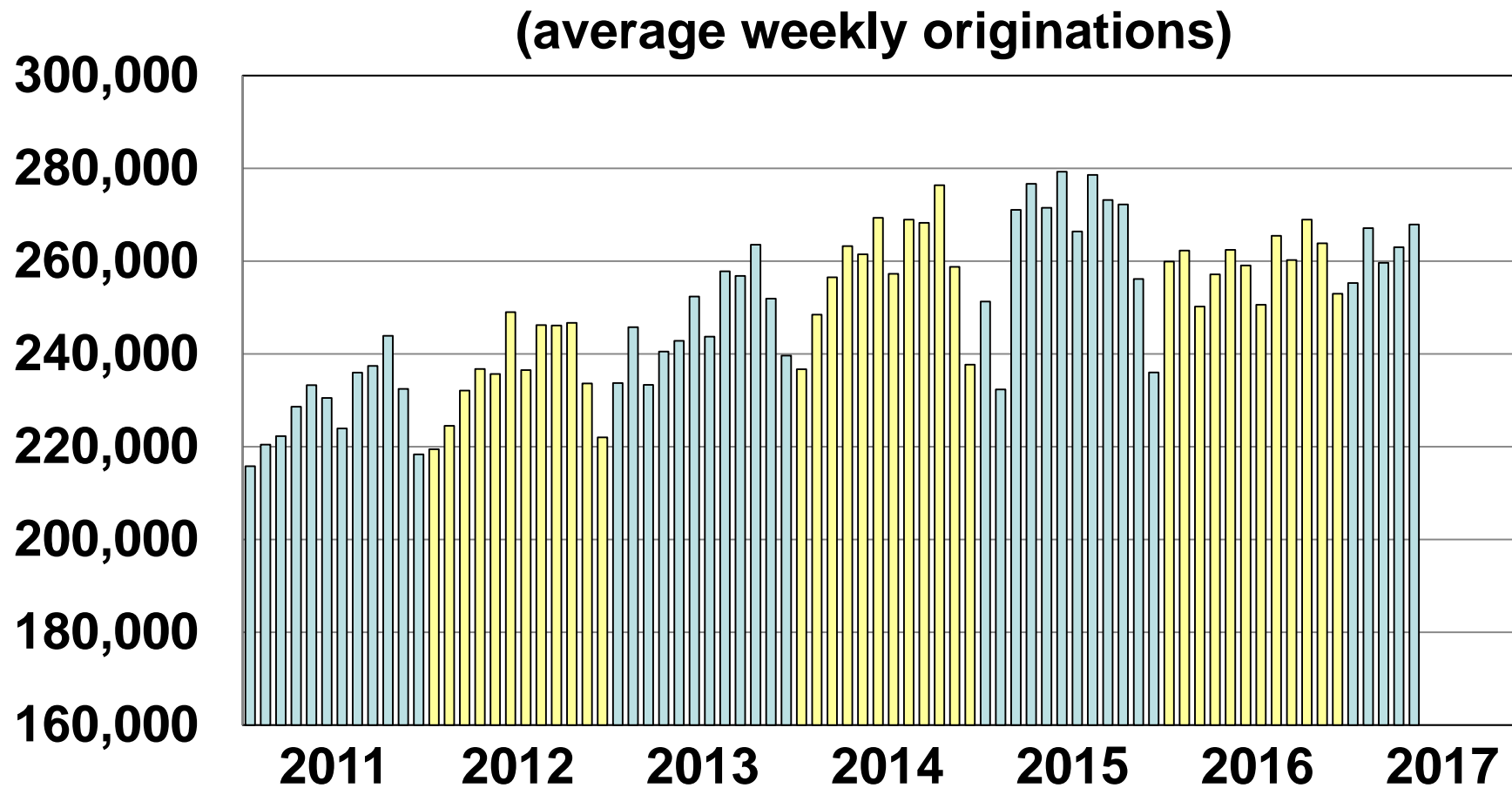
Data are average weekly originations for each month, are not seasonally adjusted, do not include intermodal, and do not include the U.S. operations of CN and CP. Source: AAR

U.S. Rail Carloads Excluding Coal: Jan 2011 – May 2017



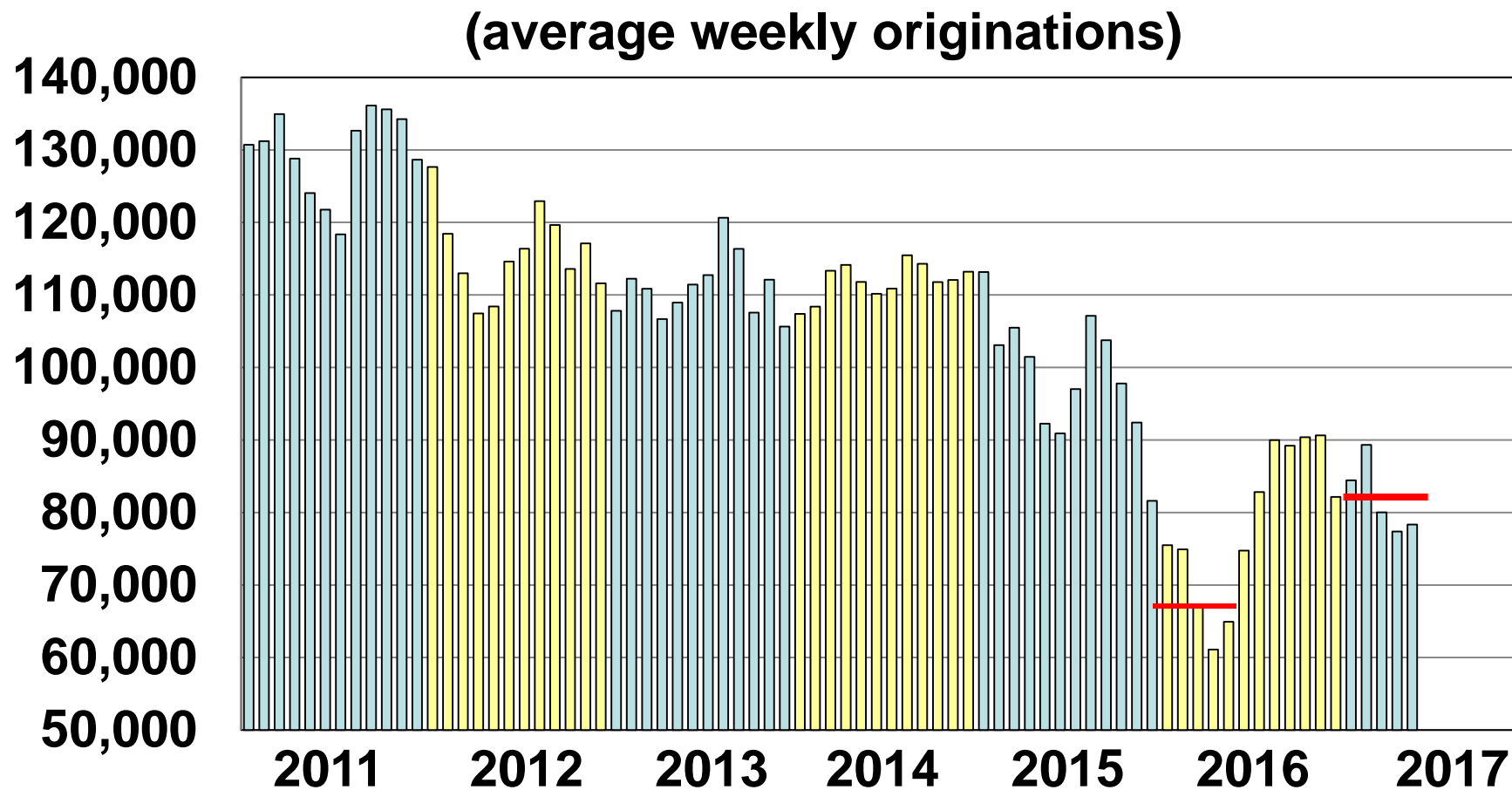
Data are average weekly originations for each month, are not seasonally adjusted, do not include intermodal, and do not include the U.S. operations of CN and CP. Source: AAR

U.S. Rail Intermodal Traffic: Jan 2011 – May 2017



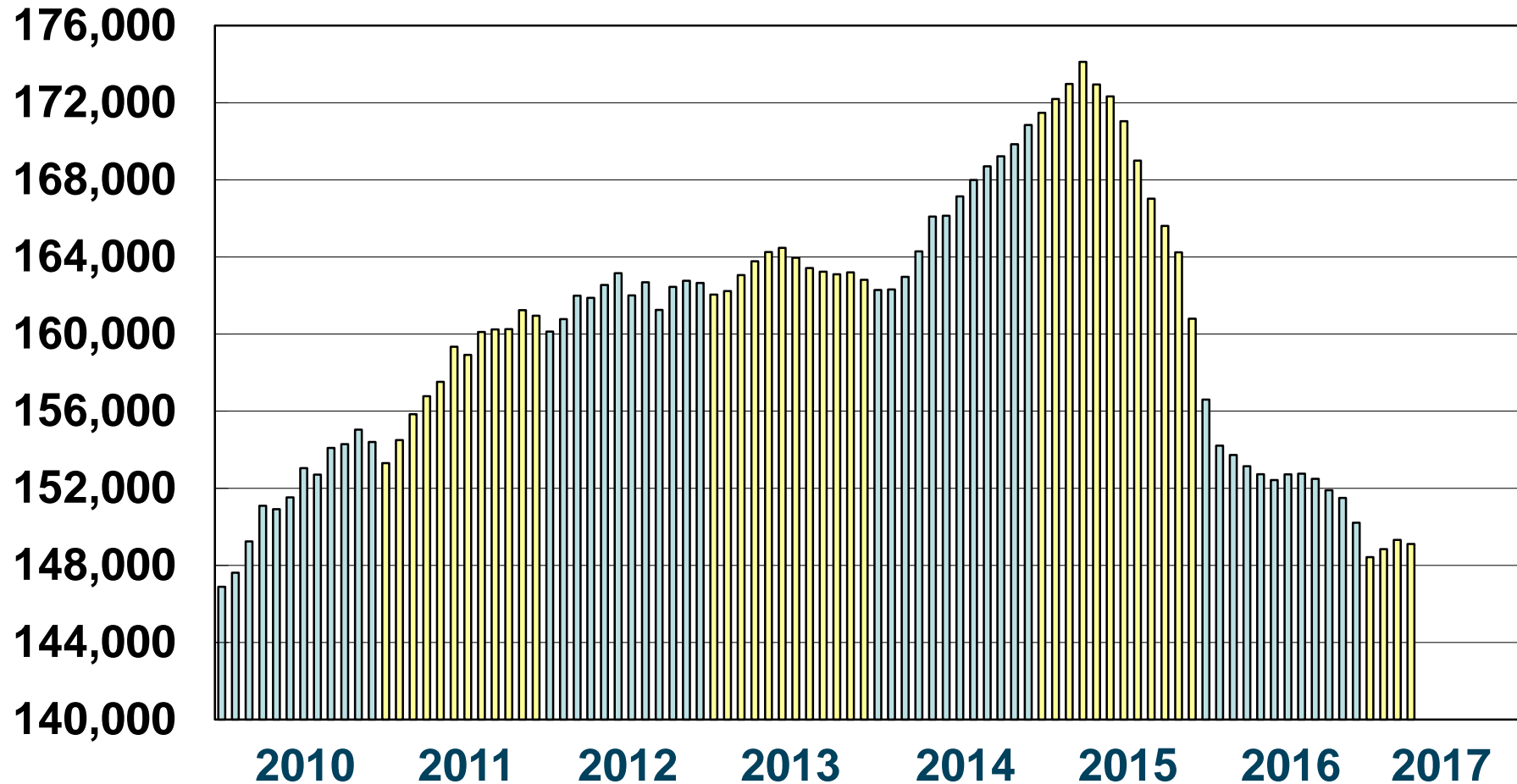
Data are average weekly originations for each month, are not seasonally adjusted, and do not include the U.S. operations of CN and CP. Source: AAR *Weekly Railroad Traffic*

U.S. Rail Carloads of Coal



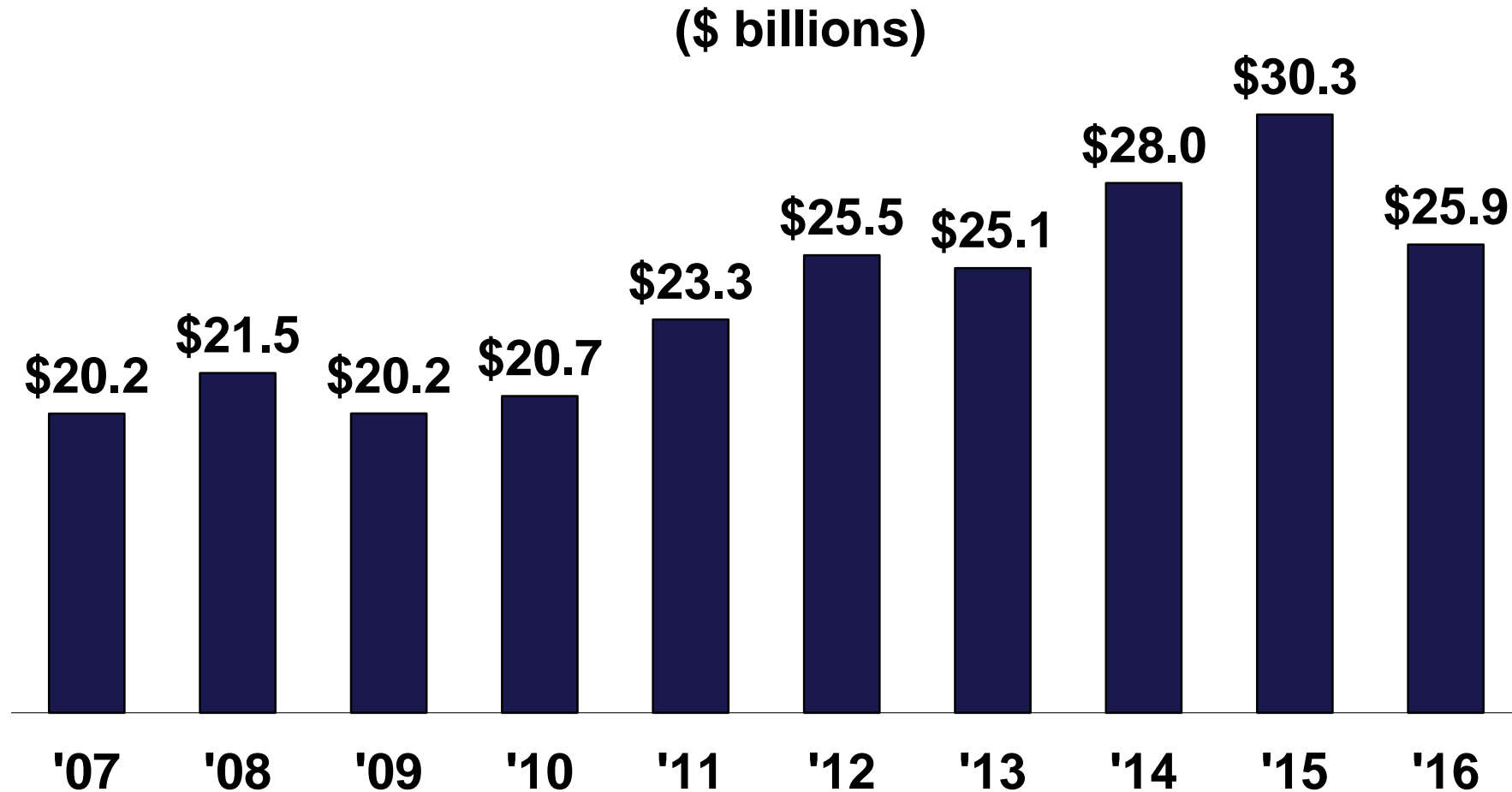
Data are average weekly originations for each month, are not seasonally adjusted, do not include intermodal, and do not include the U.S. operations of CN and CP. Source: AAR *Weekly Railroad Traffic*

Total Class I RR Employment



Source: STB

Spending on Infrastructure and Equipment*



*Capital spending + mainten. expenses. 2016 is preliminary. Data are for Class I RRs. Source: AAR

Summary

- A thumbnail sketch...an industry in flux
- The complete picture? No!
- Need a richer discussion of the fundamental economic forces driving the freight rail industry
- To be smart businessperson, regulator, consumer or legislator need to better understand fundamentals.
- The Georgetown Colloquium!