

A black oil tanker railcar is shown on tracks. The railcar has a white text box overlaid on its side. The text box contains the title "Railcar Market Update", the company name "TrinityRail", and the date "April 2017". The railcar itself has "TILX 362486" and capacity information printed on its side. The background shows a clear blue sky and other railcars in the distance.

# Railcar Market Update

*TrinityRail*

April 2017

# Macroeconomic Indicators

## Despite slow GDP growth, underlying economic fundamentals improving

- **GDP Growth Up 1.6% in 2016 with Momentum in the Second Half**
  - Consumption strength remains with improvements in investment spending in the second half of 2016 providing momentum going into 2017.
- **Wages Beginning to Follow Employment Higher, Part-Time Job Dissatisfaction**
  - The unemployment rate ticked back down to 4.7% in February with the U6 rate dropping to 9.2% meaning more people are able to find employment in full-time jobs.
  - In February, hourly wage growth reached its highest level since 2010.
- **In February, industrial production, the single most predictive economic indicator of changes in rail traffic, remained flat despite six straight months of growth in manufacturers' output.**
  - The unusually warm end to the winter pushed production at utilities down 5.7% y/y.
- **Despite some recent weakness against the Yen and Euro, the U.S. Dollar remains elevated, a headwind for exports.**
  - Even still, the ISM Survey of Manufacturers shows export orders for U.S. manufacturers growing with increasing momentum.

# U.S. Rail Traffic

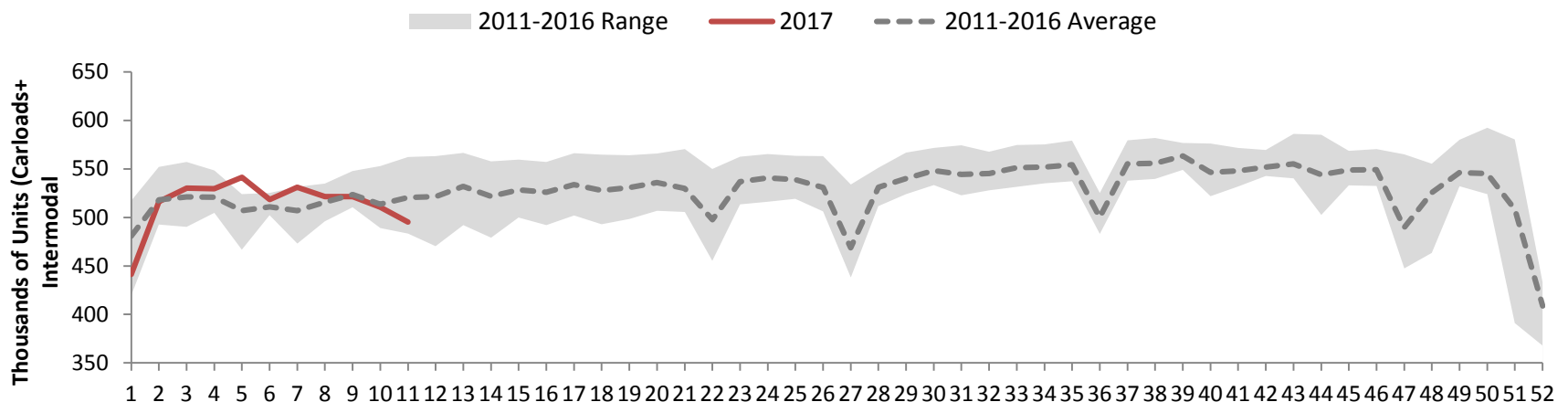
## Improvements in Coal, Nonmetallic Minerals, Metals, and Agriculture Driving up Traffic

- Through 11 weeks, total traffic is up 2.5% in the United States compared to 2016
- Though coal has improved 15.7% y/y, it is still on pace for its second fewest carloads in recent history
- Crushed stone, sand, & gravel traffic (which includes frac sand) is up 8.5% y/y with recent weeks trending higher

### Weekly U.S. Total Rail Traffic

(Carloads + Intermodal)

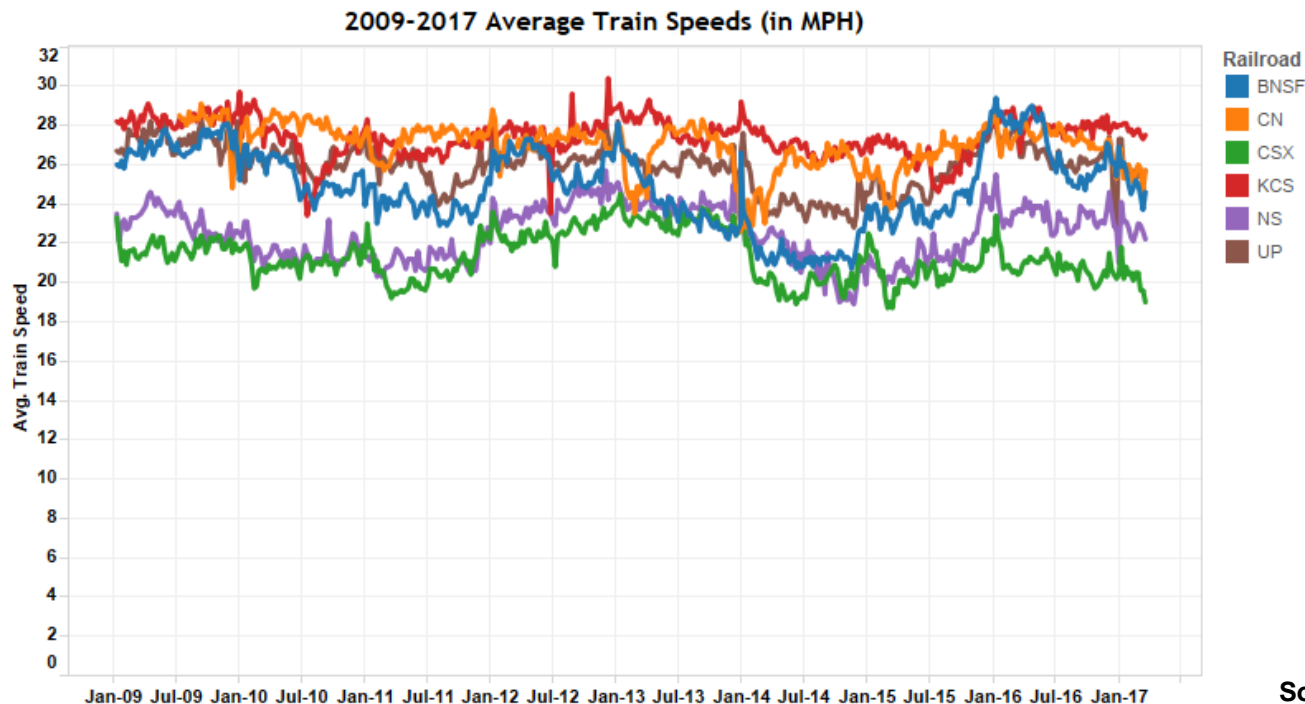
Source: AAR



# Train Speeds

## Train Speeds Slowing to More Normalized Levels with Traffic Boost

- Most railroads are seeing drops in train speeds after the recent highs seen in the first half of 2016
- Dwell times throughout the railroads have increased slightly with additional traffic, but still remain low compared to previous years

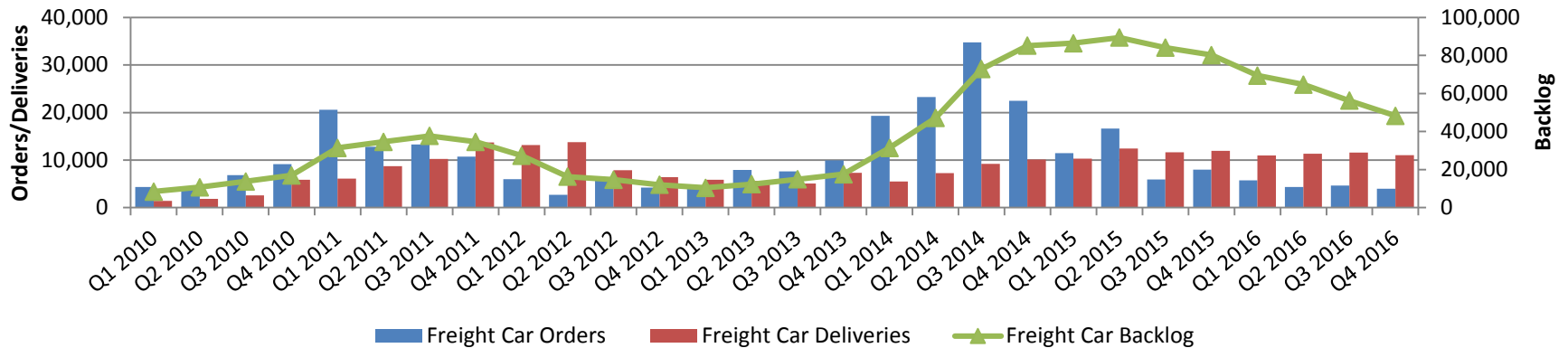


Source: railroadpm.org

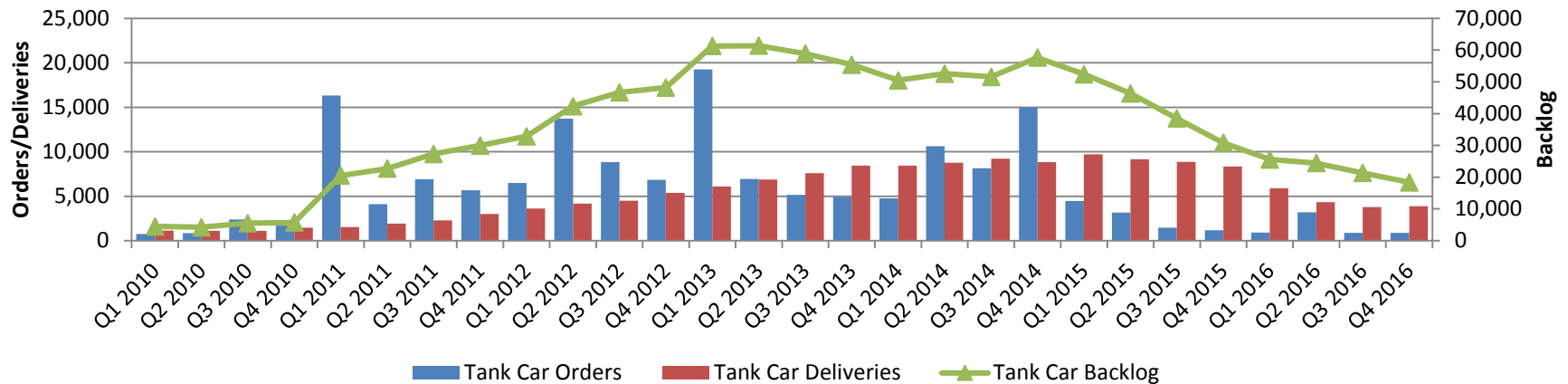
# Railcar Orders, Deliveries, and Backlog

Further Slowing After Record Totals During Shale Boom

## Freight Car Orders, Deliveries, and Backlog



## Tank Car Orders, Deliveries, and Backlog



# Railcar Delivery Forecast

Reduced Railcar Demand in the Energy End Market Should Moderate Deliveries

	2016A	2017F	2018F	2019F	2020F
Freight Car Deliveries	48,391	26,450	27,600	33,400	35,800
Tank Car Deliveries	17,841	14,400	15,100	15,600	16,600
Total Railcar Deliveries	66,232	39,050	42,700	49,000	52,400

Source: ARCI and FTR

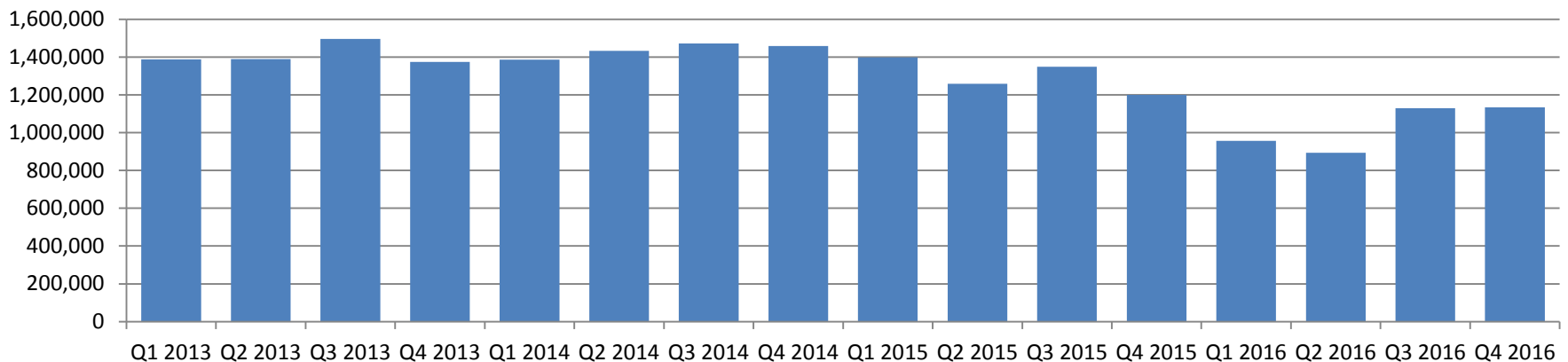
- Railcar deliveries are expected to reach their near-term trough this year before slowly climbing back above 50,000 a year by 2020.
- On the freight car side, strong deliveries from the covered hopper (mainly grain) and box car backlogs will drive deliveries in 2017.
- Tank car delivery is expected to be strong by historical standards, but well off the production pace during the shale boom

# Coal

## Coal Market to Rebound from 2016, but Lower than Historically Normal Levels

- **Coal carloads in 2016 were the worst in recent history with low natural gas prices, coal plant closures, environmental regulations, and a warm winter all acting as headwinds**
- **~20-25% of open hoppers and gondolas are currently in storage**
- **The EIA is forecasting coal production to increase to 767.5 million short tons in 2017 (up from 738.7 million in 2016). This would still represent the second lowest production output in the last two decades.**

### Coal Carloads Terminating on U.S. Class I RRs



\*STCC Codes starting with 11

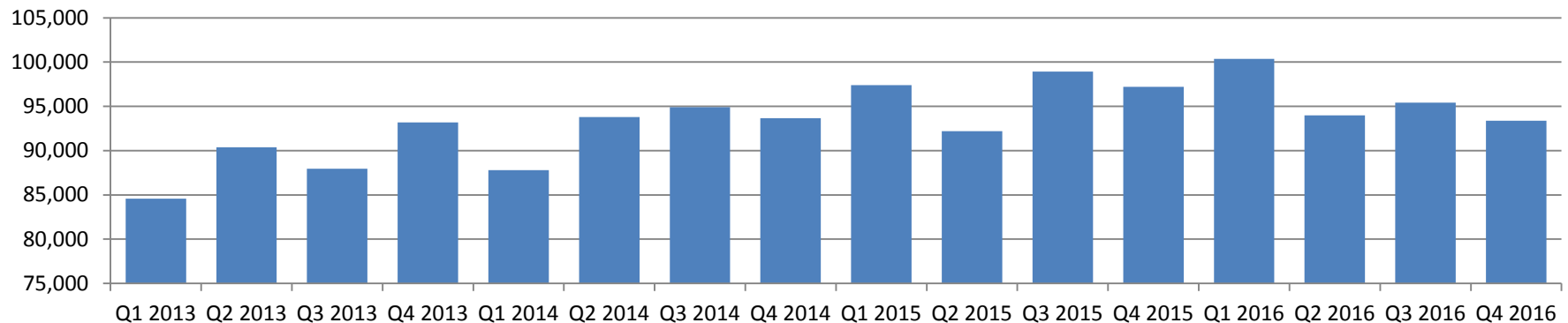
Source: STB

# Biofuels

## Biofuel Carloads Steadily Increasing as Production Reaches Record Highs in U.S.

- Ethanol production and carloads are expected to continue to grow as the EPA mandate continues to increase
- The EIA forecasts a 3% increase in U.S. fuel ethanol production in 2017
- Other biomass-based diesel products are expected to grow by 10 kbpd between 2016 and 2018 according to the EIA
- Low marine rates and smaller than expected differentials between corn and co-product prices have led to a drop in DDG carloads in recent years

### Ethanol Carloads Terminating on U.S. Class I RRs



\*STCC Codes starting with 28184

Source: STB

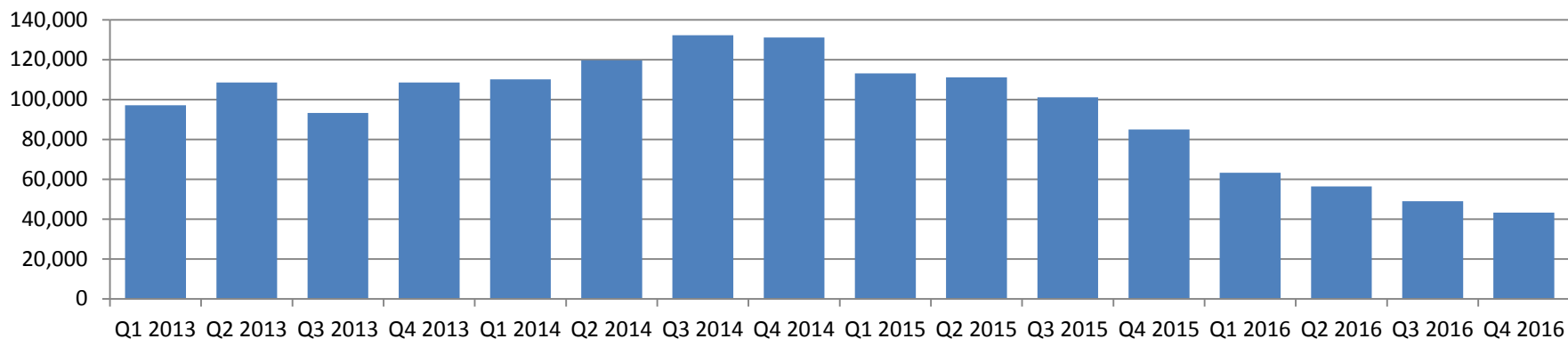


# Crude Oil, Petroleum Products, and NGLs

## CBR Outlook Grim – Downstream Products and NGLs Have Upside

- U.S. CBR movements have dropped by over 67% from their peak as of Q4 2016
- Reduced crude oil prices, a narrowed WTI/Brent margin, and additional pipeline capacity have driven the downturn in crude by rail
- The Dakota Access Pipeline is likely to take away more share from crude by rail when finally completed (Q2/Q3 2017)
- Export opportunities and the petrochemical capacity buildout underway will drive up demand for natural gas liquids (like ethane and propane).
- Energy liberalization in Mexico presents some opportunities for U.S. fuels.

### Crude Oil Originations on US Class I RRs

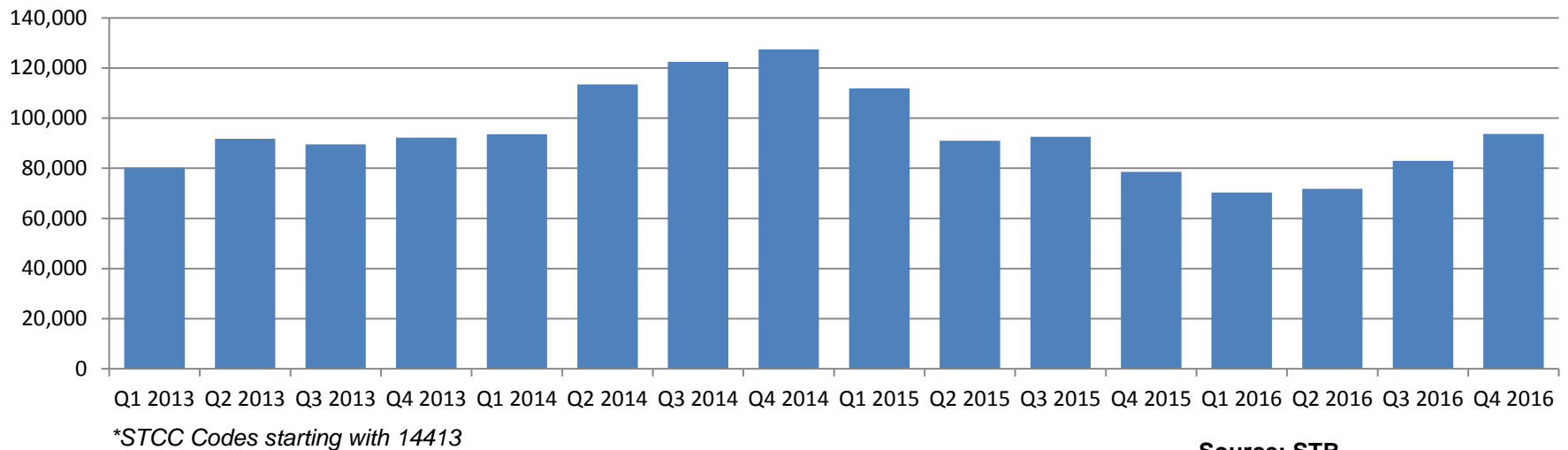


# Frac Sand

## Frac Sand Market Increasing Amid New Drilling Trends

- Industrial sand deliveries hit the bottom in Q1 2016, but have gained over 23K carloads in Q4 2016 compared to Q1 2016
- More frac sand is being used in horizontal wells, likely increasing the rate of carload increases into 2017
- The Permian Basin in West Texas/New Mexico is expected to provide the greatest additional demand

Industrial Sand Deliveries on U.S. Class I RRs



Source: STB

# There Has Been a Over a 96% Reduction in the Number of DOT-111 Tank Cars Making at Least One Shipment Of *Petroleum Crude Oil* from 2013 -2016

## Number of Unique Tank Cars Making at Least One Shipment in the Year

Type of Tank Car	2013	2014	2015	2016
DOT 111	21,653	16,652	7,149	859
<i>Non-Jacketed</i>	18,355	13,831	6,316	611
<i>Jacketed</i>	3,298	2,821	833	248
CPC1232	20,197	35,733	40,155	20,127
<i>Non-Jacketed</i>	12,443	18,079	18,057	8,522
<i>Jacketed</i>	7,754	17,654	22,098	11,605
DOT 117	0	0	1,975	3,383
117J	0	0	1,843	2,731
117R	0	0	132	652
DOT 115	0	10	6	0
AAR 211	529	251	76	16
<b>Total Non-Pressure</b>	<b>42,379</b>	<b>52,646</b>	<b>49,361</b>	<b>24,385</b>
DOT 105	5	4	0	0
DOT 112	16	83	54	47
DOT 114	0	0	0	0
DOT 120	0	0	4	598
<b>Total Pressure Cars</b>	<b>21</b>	<b>87</b>	<b>58</b>	<b>645</b>
<b>GRAND TOTAL</b>	<b>42,400</b>	<b>52,733</b>	<b>49,419</b>	<b>25,030</b>

Fast Act deadlines for unrefined petroleum products

- 1/1/18 non-jacketed DOT-111's (11/1/16 in CA)
- 3/1/18 jacketed DOT-111's (11/1/16 in CA)
- 4/1/20 non-jacketed CPC-1232's
- 5/1/25 jacketed CPC-1232's

# Number of Unique Tank Cars Making at Least One Shipment Of *Ethanol* by Year 2013 –2016

## Number of Unique Tank Cars Making at Least One Shipment in the Year

Type of Tank Car	2013	2014	2015	2016
DOT 111	27,953	30,163	32,570	30,299
<i>Non-Jacketed</i>	27,138	29,222	31,683	29,437
<i>Jacketed</i>	815	941	887	862
CPC1232	545	2,216	3,790	3,543
<i>Non-Jacketed</i>	541	1,776	2,598	2,644
<i>Jacketed</i>	4	440	1,192	899
DOT 117	0	0	474	3,414
117J	0	0	467	2,161
117R	0	0	7	1,253
DOT 115	2	1	4	5
AAR 211	257	275	432	355
<b>Total Non-Pressure</b>	<b>28,757</b>	<b>32,655</b>	<b>37,270</b>	<b>37,616</b>
DOT 105	0	0	0	0
DOT 112	1	5	2	3
DOT 114	0	0	0	0
DOT 120	0	0	0	131
<b>Total Pressure Cars</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>134</b>
<b>GRAND TOTAL</b>	<b>28,758</b>	<b>32,660</b>	<b>37,272</b>	<b>37,750</b>

Fast Act deadlines: 5/1/23 non-jacketed & jacketed DOT-111's  
for ethanol 7/1/23 non-jacketed CPC-1232's  
5/1/25 jacketed CPC-1232's

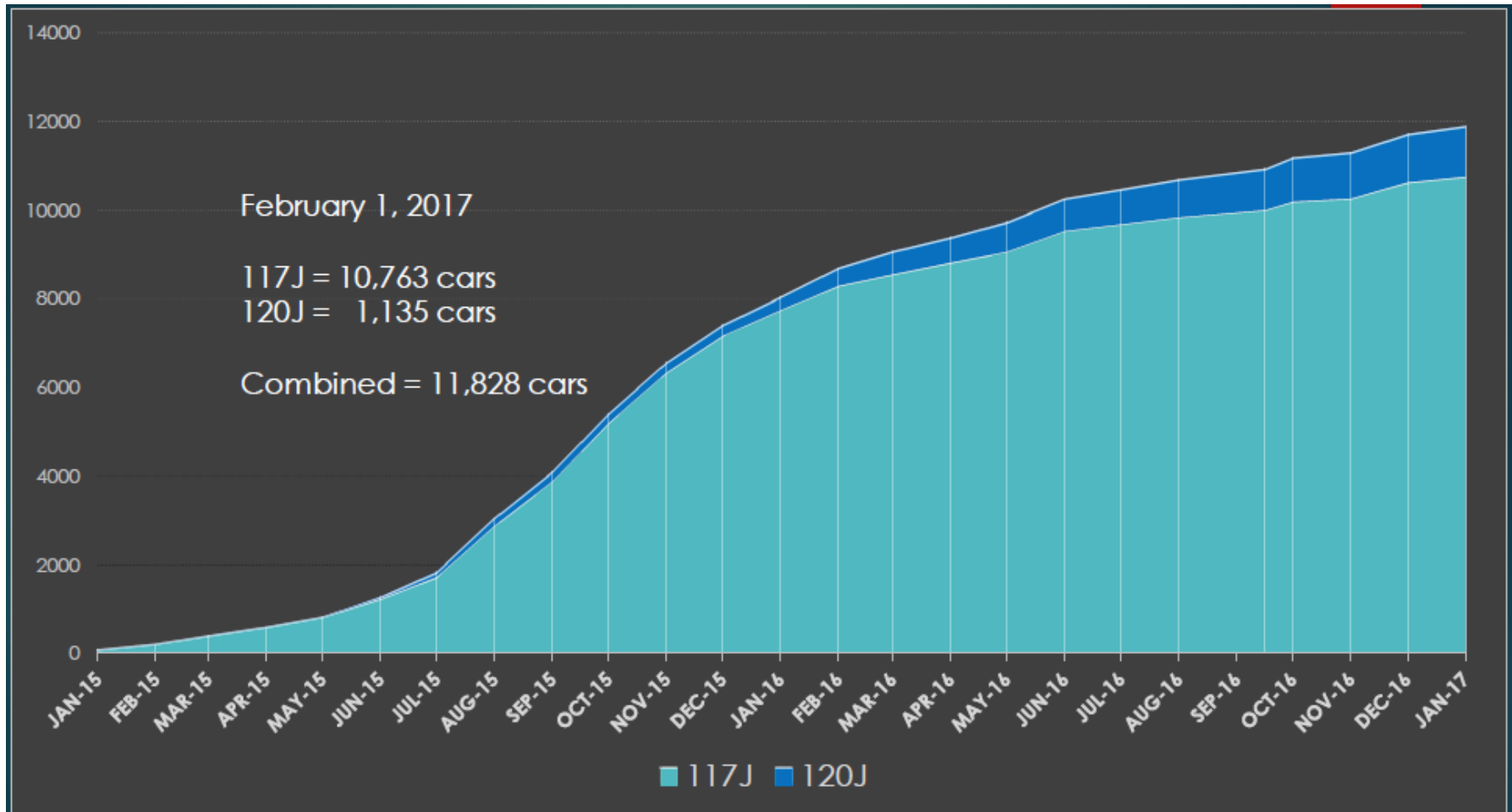
# Number of Unique Tank Cars Making at Least One Shipment Of *Other Flammable Liquids* by Year 2013 –2016

## Number of Unique Tank Cars Making at Least One Shipment in the Year

Type of Tank Car	2013	2014	2015	2016
DOT 111	47,550	47,303	46,601	43,857
<i>Non-Jacketed</i>	26,767	26,883	27,147	25,146
<i>Jacketed</i>	20,783	20,420	19,454	18,711
CPC1232	4,535	6,770	8,508	10,730
<i>Non-Jacketed</i>	2,161	3,509	3,629	4,029
<i>Jacketed</i>	2,374	3,261	4,879	6,701
DOT 117	0	0	165	1,522
117J	0	0	159	1,128
117R	0	0	6	394
DOT 115	20	30	26	21
AAR 211	3,994	3,866	4,305	4,113
<b>Total Non-Pressure</b>	<b>56,099</b>	<b>57,969</b>	<b>59,605</b>	<b>60,243</b>
DOT 105	2,940	3,055	2,998	2,939
DOT 112	5,535	5,795	4,965	4,399
DOT 114	1	3	3	2
DOT 120	23	23	23	67
<b>Total Pressure Cars</b>	<b>8,499</b>	<b>8,876</b>	<b>7,989</b>	<b>7,407</b>
<b>GRAND TOTAL</b>	<b>64,598</b>	<b>66,845</b>	<b>67,594</b>	<b>67,650</b>

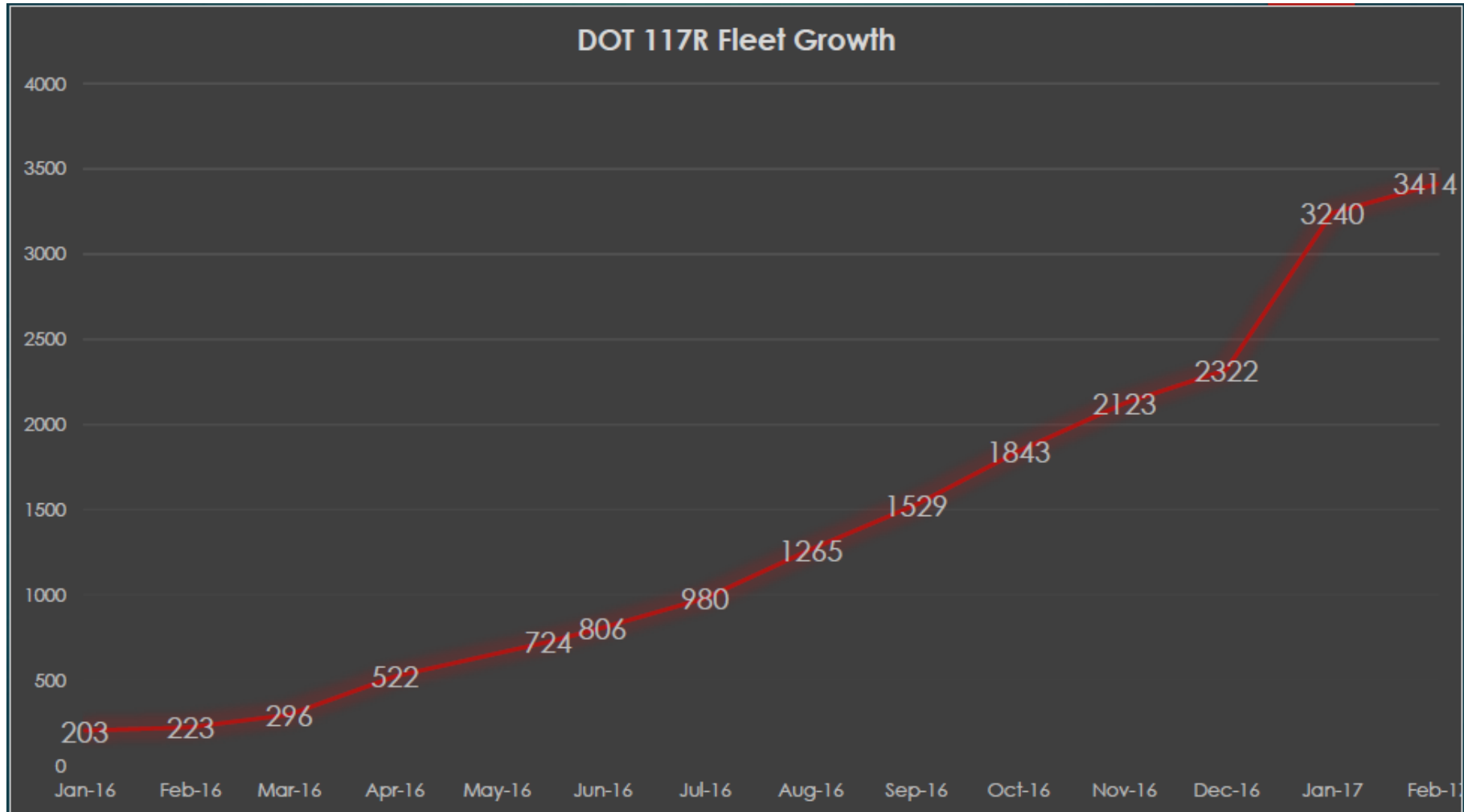
Fast Act Deadlines: 5/1/25 for Packing Group I  
 For other FL's 5/1/29 Packing Groups II & III

# DOT 117J and 120J200 Fleet Growth



Source: Railway Supply Institute 2/13/17

# DOT 117R Fleet Growth



Source: Railway Supply Institute 2/28/17

## Based on Year End 2016 Numbers the Number of Cars that Need to be Replaced/Retrofit to DOT-111J or DOT-117R by Service/Date

Commodity Category	Compliance Date	Number of Cars	Cars per Month
<b>Crude Oil</b>			
Non-Jacketed DOT-111's	1/1/2018	611	51
Jacketed DOT-111's	3/1/2018	248	18
Non-Jacketed CPC-1232's	4/1/2020	8,522	219
Jacketed CPC-1232's	5/1/2025	11,605	116
<b>Total Crude Oil</b>		20,986	
<b>Ethanol</b>			
Jacketed and non-Jacketed DOT-111's	5/1/2023	30,299	399
Non-Jacketed CPC-1232's	7/1/2023	2,644	34
Jacketed CPC-1232's	5/1/2025	899	9
<b>Total Ethanol</b>		33,842	
<b>Other Flammable Liquids</b>			
Packing Group I	5/1/2025		
Packing Groups II & III	5/1/2029		
<b>Total Other Flammable Liquids</b>		54,587	
<b>Total All</b>		109,415	
Average of 8,871 cars per year or 739 cars per month to 5/1/29			





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