



U.S. Department of Transportation

Bureau of Transportation Statistics

Fleet Composition of Rail Tank Cars That Transport Flammable Liquids: 2013–2016

ACKNOWLEDGEMENTS



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Introduction

Section 7308 of the Fixing America's Surface Transportation Act (FAST Act; P. L. 114-94; December 4, 2015) requires the U.S. Department of Transportation (DOT) to assemble and collect data on rail tank cars transporting Class 3 flammable liquids (box A). The objective of this legislation is to track the progress in upgrading the rail tank car fleet to new safety requirements and to provide an annual status report to Congress. On December 2, 2016, the Bureau of Transportation Statistics (BTS) submitted a letter to Congress (appendix A) outlining a plan for satisfying the requirements listed in Section 7308 of the FAST Act. The first requirement, as described in Section 7308(b), requires the Department to collect data on the following:

- the total number of rail tank cars modified, or retrofitted, to meet the DOT-117R specification or equivalent;
- the total number of tank cars built to meet the DOT-117 specification or equivalent; and
- the total number of tank cars used or likely to be used to transport Class 3 flammable liquids that have not been modified.

This report addresses Section 7308(b) and summarizes the progress of tank car safety upgrades from 2013 through 2016 by tank car type and type of flammable liquid. See box B for more detail on the different types of tank cars referenced in this report.

The second requirement, as described in Section 7308(c), requires DOT to collect data from tank car shops that build and/or retrofit tank cars to further ensure the upgrading of the Nation's fleet of rail tank cars that carry flammable liquids. Beginning in 2018, BTS will collect information from tank car retrofitting and manufacturing facilities on the planned and projected number of tank cars to be retrofitted or manufactured in 2018. This data collection will be conducted on an annual basis until 2029. See appendix B for more information on this planned data collection. Any facility identified with the capacity to build new or modify tank cars to the DOT-117 or DOT-117R specification, as described in Section 7308(c) of the FAST Act, will be included in the survey. It is

Box A What is a Class 3 Flammable Liquid?

A *flammable liquid* (Class 3) means a liquid having a flash point of not more than 60 °C (140 °F), or any material in a liquid phase with a flash point at or above 37.8 °C (100 °F) that is intentionally heated and offered for transportation or transported at or above its flash point in a bulk packaging. This includes liquids such as refined petroleum products, crude oil, and ethanol. Class 3 flammable liquids are designated by four-digit United Nations (UN) Numbers or North American (NA) Numbers, used to identify hazardous materials worldwide and are required for the shipment of hazardous materials. In all, there are over 400 UN or NA numbers that fall within Class 3 flammable liquids.

Flash point is the minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.

Source: <https://www.gpo.gov/fdsys/pkg/CFR-2011-title49-vol2/xml/CFR-2011-title49-vol2-sec173-120.xml>, Accessed August 15, 2017

expected that the Association of American Railroads (AAR) and the Railway Supply Institute, a trade association representing rail tank car manufacturers and repair and maintenance facilities, will assist BTS with identifying the facilities with the capabilities to build or retrofit tank cars to the DOT-117 specification. The data collected from this effort will be included in the 2018 annual report to Congress.

Background

DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) and Federal Railroad Administration (FRA) issued a final rule on May 8, 2015, with the intent of making the transportation of flammable liquids safer. This rule, *Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains (HM-251)*, included regulations to upgrade those cars operating in high-hazard flammable trains (HHFT)¹. The FAST Act further included provisions intended to make the

¹ A single train transporting 20 or more loaded tank cars of a Class 3 flammable liquid in a continuous block or a single train carrying 35 or more loaded tank cars of a Class 3 flammable liquid throughout the train.

Box B Tank Car Type Definitions

DOT-111: A non-pressurized tank car with a thinner shell (7/16 of an inch) than is now required for the DOT-117 tank cars. These tank cars can carry both hazardous and non-hazardous liquids. These cars are not required to have head shields to protect the tank car from an adjacent car in an incident. The fittings and valves are not protected and are vulnerable to being sheared off in an incident leading to a release of contents. These tank cars also do not have a pressure relief device sized to protect against rupture in the event of a large fire.

DOT-117 (TC-117 in Canada): A non-pressurized tank car with a shell thickness of 9/16 of an inch and insulating material providing thermal protection. The tank cars have protected top fittings, a fully protected head shield, and a bottom outlet valve with an enhanced handle designed to prevent the tank car from emptying its contents in an incident. All the enhancements are designed to protect the tank from being punctured and to prevent the valves from being disrupted. DOT-117R tank cars are cars that have been retrofitted to meet the 117 specifications, to include a jacket and head shield.

CPC-1232: Industry-sponsored specification, intended to be safer than DOT-111 tank cars for carrying petroleum crude oil and ethanol. Cars ordered after October 2011 were required to meet this specification. These tank cars include a pressure relief valve, more extensive top fittings than on the DOT-111 rail tank cars, and a full height or half-height head shield. The shell of non-jacketed tank cars must be ½ inch thick, and for jacketed tank cars must be 7/16 inch thick.

***DOT-105:** A pressurized tank car that has additional safety features than what is required on DOT-111 class non-pressurized tank cars.

***DOT-112:** A pressurized tank car that has additional safety features than what is required on DOT-111 class non-pressurized tank cars.

***DOT-114:** A pressurized tank car that has additional safety features than what is required on DOT-111 class non-pressurized tank cars. There are very few of these cars actively operating in the fleet carrying Class 3 flammable liquids.

***DOT-115:** A non-pressurized tank car that is similar to the DOT-111 but includes an inner container surrounded by an outer shell. The inner container may be split into multiple compartments. There are very few of these tank cars actively operating in the fleet carrying Class 3 flammable liquids.

***DOT-120:** A pressurized tank car that has additional safety features than what is required on non-pressurized tank cars. There are very few of these tank cars actively operating in the fleet carrying Class 3 flammable liquids.

***DOT-211:** A non-pressurized tank car which is similar to the DOT-111 rail tank cars. There are very few of these tank cars actively operating in the fleet carrying Class 3 flammable liquids.

Jacketed vs. non-jacketed tank cars: Jacketed tank cars have a layer of insulation/thermal protection between the tank shell and jacket that stabilizes the temperature of the liquid contained in the tank car, and reduce the conductivity of heat from outside sources to the contents of the tank car.

* Tank car types included in the “other” category for analysis purposes in this report.

- DOT-105, DOT-112, DOT-114, and DOT-120 rail tank cars that are grouped because they are pressurized and already meet a more intense set of regulations than the DOT-117 specification,
- DOT-115 and DOT-211 rail tank cars that are grouped because they do not typically carry crude oil or ethanol.

transport of hazardous materials safer by specifying a timeline when tank cars built to lower safety standards will be phased out and prohibited over the next 8 to 12 years. For example, by 2029 petroleum crude oil must only be carried in DOT-117 or 117R rail tank cars.

In response to industry concerns about the limited capacity for retrofitting older tank cars and building new tank cars, PHMSA revised the FAST Act’s phase-out timeline on August 15, 2016 by delaying the early retrofit dates from 2017 to 2018 and allowing for some extensions in the later part of the timeline (table 1). By

Table 1 FAST Act Phase Out Schedule for Rail Tank Cars Carrying Class 3 Flammable Liquids

Flammable Liquid	Tank Car Type	Date for Phase-Out
Petroleum crude oil	Non-jacketed DOT-111	January 1, 2018
	Jacketed DOT-111	March 1, 2018
	Non-jacketed CPC-1232	April 1, 2020
	Jacketed CPC-1232	May 1, 2025
Ethanol	Non-jacketed DOT-111	May 1, 2023
	Jacketed DOT-111	May 1, 2023
	Non-jacketed CPC-1232	July 1, 2023
	Jacketed CPC-1232	May 1, 2023
Other Flammable Liquids, Packing Group I	Non-jacketed DOT-111	May 1, 2025
	Jacketed DOT-111	May 1, 2025
	Non-jacketed CPC-1232	May 1, 2025
	Jacketed CPC-1232	May 1, 2025
Other Flammable Liquids, Packing Group II/III	Non-jacketed DOT-111	May 1, 2029
	Jacketed DOT-111	May 1, 2029
	Non-jacketed CPC-1232	May 1, 2029
	Jacketed CPC-1232	May 1, 2029

SOURCE: Final Rule, https://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/2137AF17_HM251C_FAST_ACT_Final_Rule_8_10_2016.pdf, accessed August 15, 2017

the end of the transition period in 2029, rail tank cars may be switched from service carrying flammable liquids to non-flammable liquid service and continue to operate without modification or retired.

Data Sources

The Association of American Railroads (AAR) maintains two databases:

- UMLER®²: an inventory of individual tank cars (active or scheduled to be built) and their specifications such as tank wall thickness or types of valves, and
- TRAIN II®³: a comprehensive listing of railcar movements.

These AAR databases consist of information on all rail tank cars in North America. Each car has a unique identification number used to identify the specifications of each car, as well as track commodities transported over the North American rail network.

² UMLER®: Universal Machine Language Equipment Register

³ TRAIN II®: TeleRail Automated Information Network

The UMLER® file is a database, managed by Railinc Corp., a subsidiary corporation of AAR, that includes the railcars in use in North America, each identified by a unique number. UMLER® includes railcars in operation or soon to be in operation. It also includes the designated tank car specification with all the features of each tank car, such as the thickness of the wall tank and the types of valves on the top and bottom of the car. UMLER® also designates cars that have been retrofitted to meet the DOT-117R specification.

The TRAIN II® database, also maintained by AAR, tracks the movements of railcars on the North American rail network. A movement is a trip made by any rail car as a shipment of a commodity or a rail car being transferred without a commodity from one location to another. TRAIN II® also provides information on each commodity a rail car carries for any movement. For tank cars that carry Class 3 flammable liquids, the specific type of flammable liquid (UN/NA) carried is tracked for each movement. Thus, any rail tank car that switches between carrying one flammable liquid and another flammable liquid will be counted twice within the database.

Specifically, these databases were used to count the tank cars utilized in each of the years, from 2013 to 2016, by tank car type as well as type of flammable liquid being carried. This data has allowed for analysis of the changes in the composition of the fleet along with the overall fleet size and what is being carried by each car type.

On December 2, 2016, BTS entered into a Memorandum of Agreement (MOA) with AAR to tally the total number of rail tank cars built or modified to meet the DOT-117 or 117R standards, as well as the total number of tank cars used to transport Class 3 flammable liquids that have *not* been modified. BTS worked with AAR to ensure the methodology established to produce these counts was accurate and comprehensive. BTS also ensured appropriate measures were applied to guarantee the confidentiality requirements at Section 7308(e)(2)⁴.

⁴ From the FAST Act: "Level of Confidentiality – The Secretary shall ensure the data collected under subsection (b) and the data under subsection (c) have the same level of confidentiality as required by the Confidential Information Protection and Statistical Efficiency Act of 2002 (44 U.S.C. 3501 note), as administered by the Bureau of Transportation Statistics."

Methodology

The flammable liquid tank car fleet accounts for about 20 percent of all tank cars. These include tank cars built to specifications designated as (See box B for a detailed description of these specifications):

- Non-jacketed DOT-111,
- Jacketed DOT-111,
- Jacketed CPC-1232,
- Non-jacketed CPC-1232,
- DOT-117,
- DOT-117R,
- Other tank cars include DOT-105, DOT-112, DOT-114, DOT-115, DOT-120, and DOT-211.

Most flammable liquids were carried in DOT-111 and CPC-1232 tank cars; however, the newer DOT-117 cars are becoming more prevalent in the fleet of rail tank cars that carry flammable liquids.

For the purposes of this analysis, flammable liquids were placed into three categories: (1) petroleum crude oil, (2) ethanol, and (3) other flammable liquids, such as refined petroleum products and chemicals. Sometimes a rail tank car will be used to ship multiple flammable liquids. As a result, a fourth category, “multiple,” was added to reflect those tank cars that carried multiple types of flammable liquids in a given year. Rail tank cars that meet the less stringent criteria are either being phased out of carrying Class 3 flammable liquids or switching to liquids that are less volatile or less likely to be in high-hazard flammable trains.

If an individual tank car made at least one trip carrying a specific Class 3 flammable liquid, then it is counted as a single tank car, whereas if a tank car carried at least two different flammable liquids in the course of one year, then it is counted under multiple service. This unit of analysis allows us to look at the changes in the composition of the fleet of rail tank cars that carry Class 3 flammable liquids from year to year. This report contains those unique combinations of individual rail tank car by the four flammable liquid categories and seven tank car types. BTS has worked closely with AAR to ensure that the data used in this

analysis are as accurate and thorough as possible. Since these counts could comprise one movement or many movements during the time period of one year, the data in this report cannot be compared to the reports of tank car loadings and movements produced by AAR or other analyses.

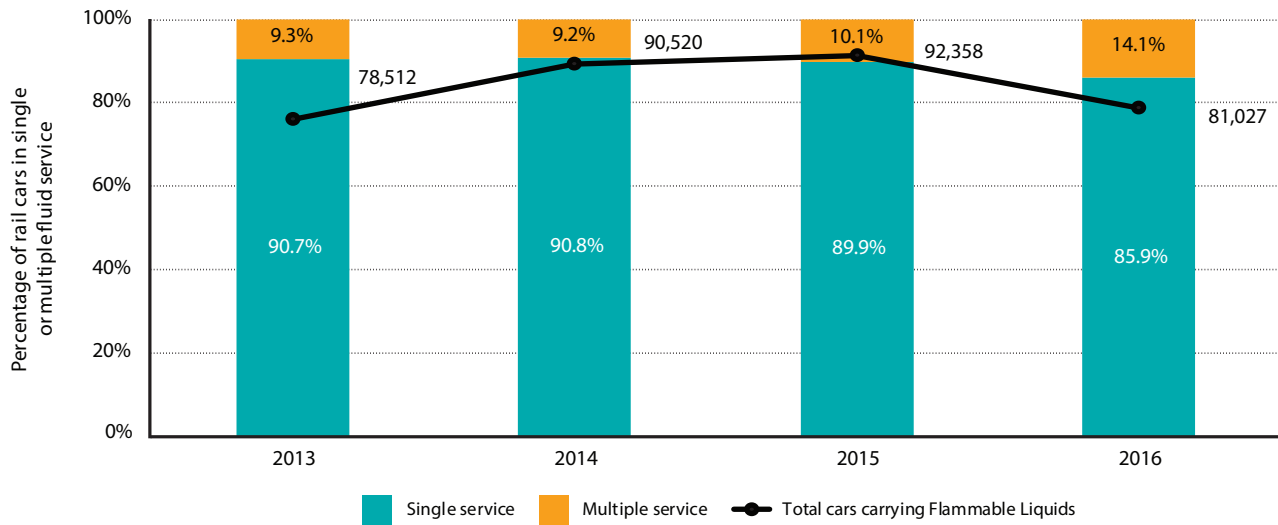
Analysis Results

Between 2013 and 2016, the number of rail tank cars carrying Class 3 flammable liquids has varied. There are numerous factors that determine whether a tank car will be used to actively transport Class 3 flammable liquids. Among these factors are the demand for each Class 3 flammable liquid and pipeline availability for transporting crude oil. In addition, some tank cars can carry multiple flammable liquids and will change their cargoes throughout the course of the year based on need. As figure 1 demonstrates, the annual percentage of rail tank cars that carry multiple liquid types in one year increased from about 9 to 14 percent between 2013 and 2016.

The total fleet of rail tank cars that carry Class 3 flammable liquids increased from 2013 to 2015 and then decreased in 2016 (figure 1). There were 78,512 rail tank cars in this service in 2013, rising to 92,358 by 2015. However, in 2016 the fleet that actively carries Class 3 flammable liquids shrank to 81,027. During the 2013 to 2016 time period, the composition of the fleet changed. The DOT-117s, both new and retrofitted, grew from zero to 7,181 tank cars between 2013 and 2016 representing 9 percent of the fleet. The largest percentage of tank cars in this service remains the non-jacketed DOT-111 rail tank cars. However, their share of the fleet has dropped by nearly 14 percent, from 66 percent in 2013 to 53 percent of the 2016 fleet, a decrease of nearly 10,000 rail tank cars. Also during this time period, the jacketed CPC-1232 rail tank cars increased in numbers as well as percentage of the fleet as did the Other Rail Tank Cars, including specifications of DOT-105, DOT-112, DOT-114, DOT-115, DOT-120, and DOT-211 (figure 2). It is expected that by the end of the transition period in 2029, all Class 3 flammable liquids will be carried in rail tank cars that meet or exceed the DOT-117 or DOT-117R specification.

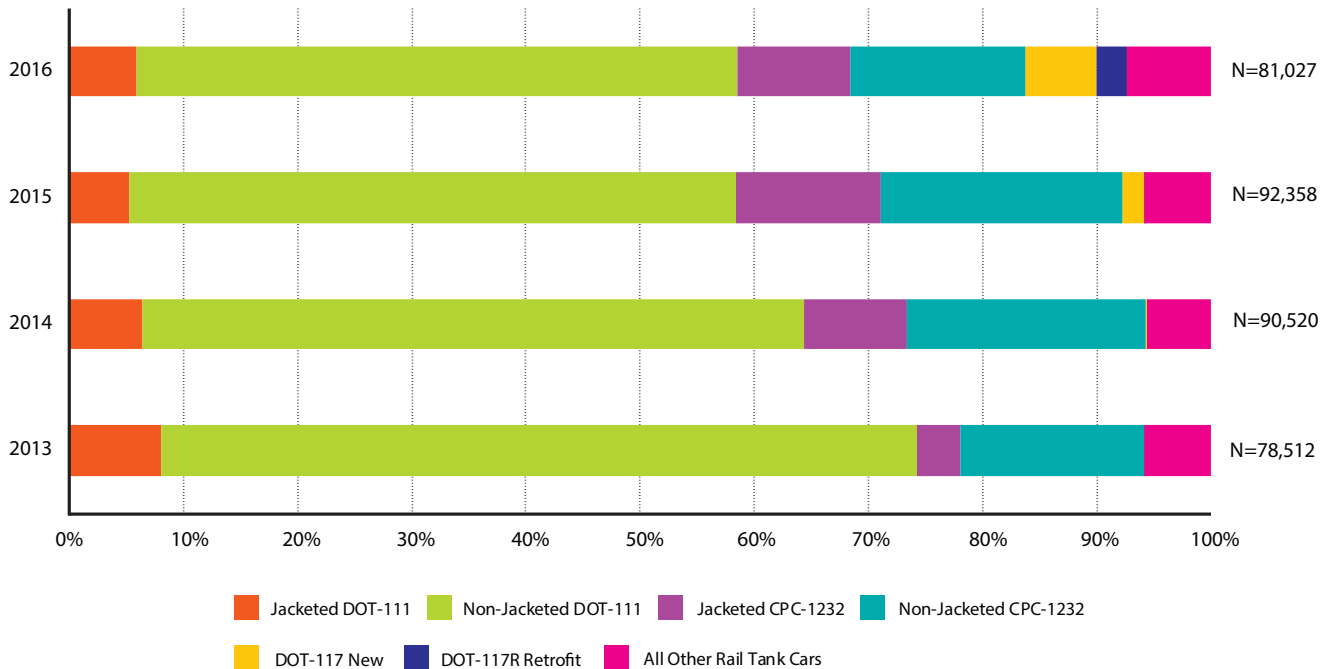
Since it will take time to upgrade the fleet of rail tank cars that carry flammable liquids, the upgraded timeline

Figure 1 Rail Tank Cars by Single or Multiple Flammable Liquid Service: 2013–2016



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013–2016, as of June 7, 2017.

Figure 2 Fleet Composition of Rail Tank Cars carrying Class 3 Flammable Liquids: 2013–2016



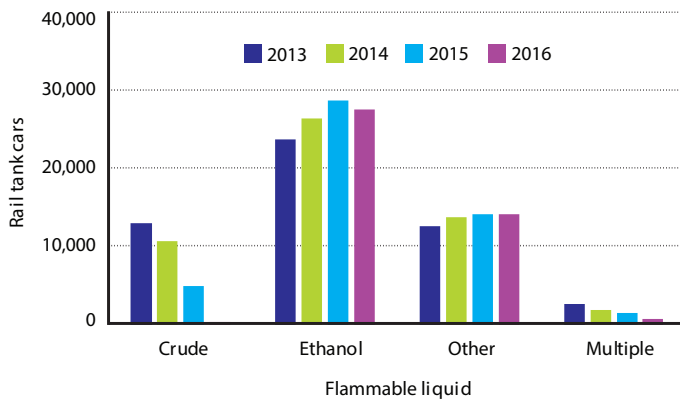
NOTE: All Other Rail Tank Cars includes DOT-105, DOT-112, DOT-114, DOT-115, DOT-120, and DOT-211.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013–2016, as of June 7, 2017.

is based on the material carried and the different types of DOT-111 and CPC-1232 tank cars. The following figures (3A–3G) show the variation in the flammable liquids carried during the 2013–2016 time period.

Non-jacketed DOT-111 rail tank cars have had a significant presence in the fleet of tank cars that carry Class 3 flammable liquids. But the number of these tank cars has been in decline, dropping from 52,021 in 2013 to 42,714 in 2016—a nearly 18 percent decrease (see figure 3A). The biggest decline has been in the rail tank cars that carry crude oil, down from about 25 percent of the non-jacketed DOT-111s (13,022 tank cars) in 2013 to about 0.6 percent (276 tank cars) in 2016. As of January 1, 2018, non-jacketed DOT-111 rail tank cars will be prohibited from carrying crude oil as mandated in HM-251.

The total number of jacketed DOT-111 rail tank cars
Figure 3A Non-Jacketed DOT-111 Rail Tank Cars by Liquid Type for 2013–2016

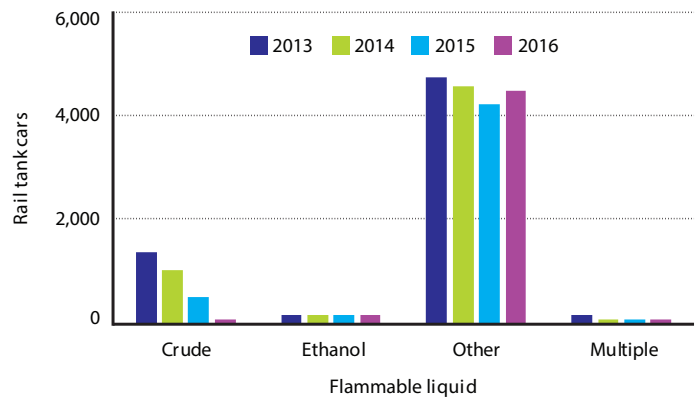


SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013–2016, as of June 7, 2017.

declined overall, between 2013 and 2016, representing about a 24 percent decrease. However, those tank cars carrying crude oil experienced the greatest decline (figure 3B), down to just 90 tank cars in 2016, a 93 percent decrease from 2013.

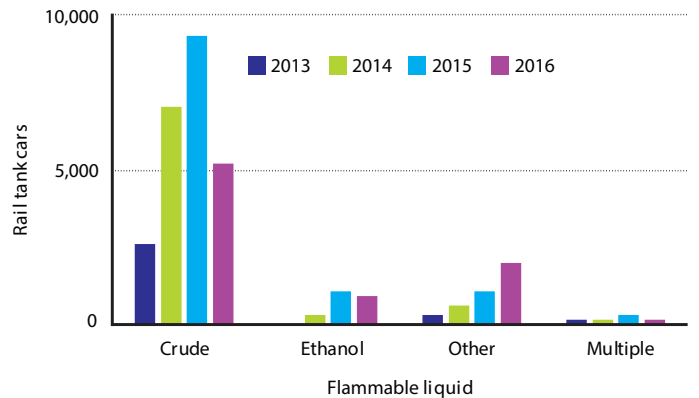
Figure 3C shows more detail on how many jacketed CPC 1232 rail tank cars were used to transport Class 3 flammable liquids. The number of these rail tank cars increased dramatically between 2013 and 2015, growing from 3,011 tank cars to 11,689 cars, a nearly 300 percent increase. However, in 2016 the number of these rail tank cars dropped to 7,987, a

Figure 3B Jacketed DOT-111 Rail Tank Cars by Liquid Type for 2013–2016



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013–2016, as of June 7, 2017.

Figure 3C Jacketed CPC 1232 Rail Tank Cars by Liquid Type for 2013–2016



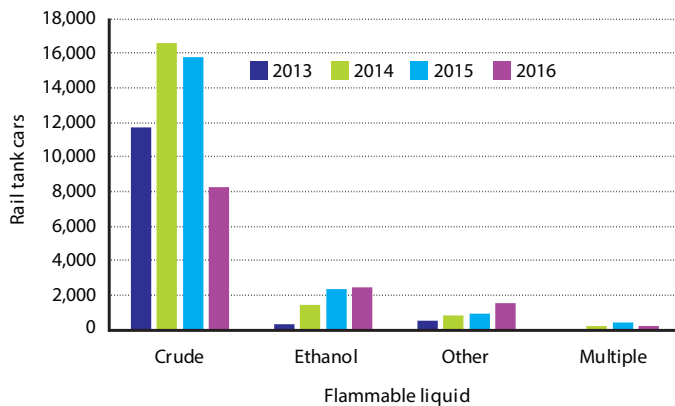
SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013–2016, as of June 7, 2017.

32 percent decrease from the peak in 2015, but still more than twice as many in 2016 than in 2013. Of the liquids carried, crude oil follows the same pattern observed in the overall fleet with a 256 percent increase from 2013 to 2015 in the number of cars used. This increase was followed by a drop in 2016 to a level that was still nearly twice the number of cars used in 2013. However, for ethanol as well as the other flammable liquids, the increase has been more consistent over the 2013 to 2016 period. The pattern of shifting crude oil out of non-DOT-117 tank cars is also present in the CPC 1232 tank cars, while the number of tank cars carrying ethanol and other

flammable liquids has increased over the 2013 to 2016 time period.

The number of non-jacketed CPC 1232 rail tank cars carrying Class 3 flammable liquids increased from 12,633 in 2013 to 19,586 in 2015, a rise of about 55 percent before dropping to 12,501 cars in 2016 (figure 3D). However, for the individual flammable liquid types, the trend is more varied. While the number of non-jacketed CPC 1232 rail tank cars carrying crude oil rose from 2013 to 2014, that number started to drop in 2015, and by 2016 there were 30 percent fewer tank cars carrying crude oil than in 2013. Other flammable liquids, not including ethanol, have continuously increased their usage of the non-jacketed CPC 1232 rail tank cars over the period, with a 56 percent increase as compared to 2015.

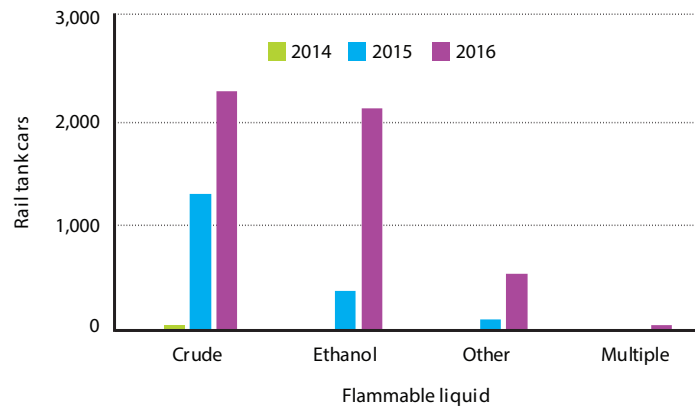
Figure 3D Non-Jacketed CPC 1232 Rail Tank Cars by Liquid Type for 2013–2016



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013-2016, as of June 7, 2017.

DOT-117 rail tank cars are tank cars built to the new technical and safety specifications that were finalized in 2015. All tank cars, carrying Class 3 flammable liquids, will be required at the end of the transition period in 2029 to meet or exceed the DOT-117 specification. In 2014, just 11 of these new tank cars were introduced, but by 2016 nearly 5,000 were in use carrying Class 3 flammable liquids as is shown in figure 3E. These new tank cars were primarily used to carry crude oil and ethanol. The numbers of DOT-117 tank cars used to transport crude oil and ethanol accounted for 89 percent of the total DOT-117 fleet.

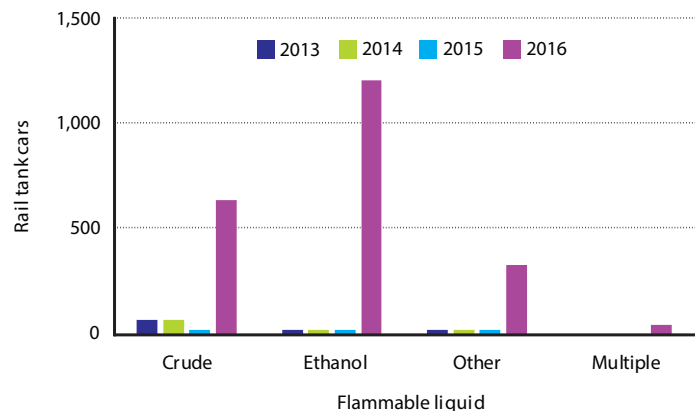
Figure 3E DOT-117 (new) Rail Tank Cars by Liquid Type for 2013–2016



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013-2016, as of June 7, 2017.

While new DOT-117 rail tank cars were being built, 2,215 existing rail tank cars were retrofitted to meet the DOT-117R requirements. The bulk of retrofits, over 2,000 of them, occurred in 2016 with over half of those cars carrying ethanol (figure 3F).

Figure 3F DOT-117 Retrofitted Rail Tank Cars by Liquid Type for 2013–2016

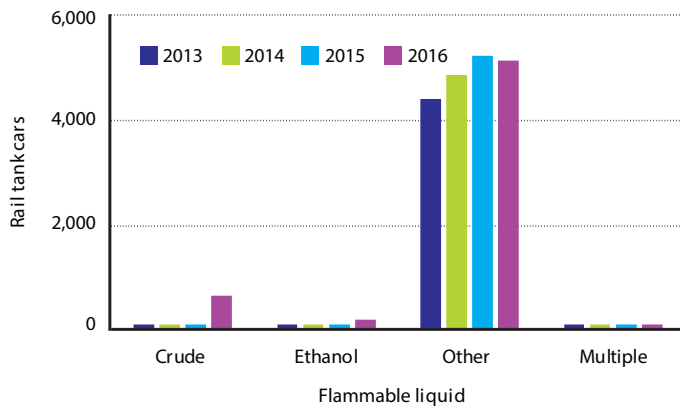


SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013-2016, as of June 7, 2017.

While there are several other types of rail tank cars capable of carrying Class 3 flammable liquids, their numbers are much lower, particularly for transporting crude oil and ethanol. Therefore, for analysis purposes, they are grouped together and include DOT-105, DOT-112, DOT-114, DOT-115, DOT-120, and DOT-211 rail tank cars. As seen in figure 3G, there was

an increase to 611 cars carrying crude oil in 2016. Between 2013 and 2016, there was an 18 percent increase in the number of these tank cars carrying other flammable liquids.

Figure 3G All Other Rail Tank Cars by Liquid Type for 2013–2016



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II® rail tank car and annualized rail tank car movements, 2013-2016, as of June 7, 2017.

See appendix C for more detail on the data presented in the analysis section of this report.

Summary

In response to the safety concerns about transporting Class 3 flammable liquids in rail tank cars, new regulations were put into place to move those shipments into safer tank cars. While new DOT-117 tank cars are being built, more than 2,000 existing cars have also been retrofitted through 2016 to meet the new safety standards. As of the end of 2016, 9 percent of the tank cars used to carry Class 3 flammable liquids met the new safety requirements, a dramatic increase from the 2 percent in 2015. Eighty-nine percent of DOT-117s and DOT-117Rs were used to carry crude oil and ethanol. In 2016, this change coincided with a reduction in the number of rail tank cars needed to carry crude oil due to market forces⁵ and an overall reduction in the number of rail tank cars carrying flammable liquids. As a result, the tank car fleet has changed in composition and the types of flammable liquids transported.

In 2016, 81,027 tank cars were used to transport Class 3 flammable liquids. The majority of these tank cars were non-jacketed DOT-111 specification (53 percent of the fleet), followed by the non-jacketed CPC-1232 (15 percent) and the jacketed CPC-1232 (10 percent). The newer DOT-117 and 117R tank cars grew from less than 100 cars in 2013 (76 cars) to 7,181 tank cars, or approximately 9 percent of the fleet used to transport Class 3 flammable liquids in 2016.

While the non-jacketed DOT-111 tank cars still represent the majority of the fleet used to transport flammable liquids, with 42,714 tank cars in operation in 2016, their numbers have declined since 2013 when 52,021 DOT-111 tank cars (66 percent of the fleet) were reported carrying flammable liquids on the railroads. In addition, the percentage of non-jacketed DOT-111 cars carrying crude oil has also shown a noticeable decline. In 2013, 25 percent of these cars transported crude oil as compared to less than 1 percent in 2016. The percentage of non-jacketed DOT-111s carrying ethanol increased from 46 percent in 2013 to 65 percent in 2016, despite the number of non-jacketed DOT-111s carrying ethanol staying relatively stable between 2014 and 2016. Likewise, the jacketed and non-jacketed CPC-1232s have demonstrated a similar pattern. The percentage of jacketed CPC-1232 cars used for transporting crude oil decreased from 87 to 65 percent, while the percentage carrying ethanol increased from 0 to 10 percent in 2016. The percentage of non-jacketed CPC-1232 cars used for transporting crude oil decreased from 93 to 66 percent, while the percentage carrying ethanol increased from 3 to 20 percent in 2016.

Among the fleet of rail tank cars that meet the DOT-117 specification, 70 percent (4,966 tank cars) are new and 30 percent (2,215 tank cars) have been retrofitted. The DOT-117 and DOT-117R tank cars carry a variety of flammable liquids, but nearly 9 out of 10 of these tank cars carry crude oil or ethanol (41 percent and 46 percent, respectively).

⁵ Per the US Energy Information Agency (EIA), domestic oil prices have declined about 60% between 2013 and 2016, https://www.eia.gov/dnav/pet/pet_pri_dfp1_k_a.htm, accessed on July 21, 2017.

Appendix A: Congressional Letter on Implementation Plan To Satisfy Section 7308 of the FAST Act

Appendix A contains a copy of the letter sent to the Chairman and Ranking Member of the Committee on Commerce, Science, and Transportation and the Chairman and Ranking Member of the Committee on Transportation and Infrastructure on December 2, 2016. An original copy of the letter was sent to:

The Honorable John Thune
Chairman
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Bill Nelson
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Bill Shuster
Chairman
Committee on Transportation and Infrastructure
United States House of Representatives

The Honorable Peter A. DeFazio
Ranking Member
Committee on Transportation and Infrastructure
United States House of Representatives



U.S. Department
of Transportation
Bureau of Transportation Statistics

1200 New Jersey Ave SE,
Washington, DC 20590

December 2, 2016

The Honorable John Thune
Chairman
Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

Dear Senator Thune:

In accordance with Section 7308 (“Modification Reporting”) of the Fixing America’s Surface Transportation Act (FAST Act; P. L. 114-94), the Bureau of Transportation Statistics is transmitting its data collection implementation plan designed to measure the industry’s progress in manufacturing and modifying rail tank cars that transport flammable liquids, to make them safer.

I. Background and Reporting Requirements

On December 4, 2015, the President signed the FAST Act into law. This legislation mandated that the Department of Transportation (DOT) implement a data collection requirement measuring the industry’s progress in manufacturing and modifying specific rail tank car types to meet new safety requirements. Section 7308(a) specifies that, “*Not later than 1 year after the date of enactment of this Act, the Secretary shall implement a reporting requirement to monitor industry-wide progress toward modifying rail tank cars used to transport Class 3 flammable liquids by the applicable deadlines in Section 7304.*” The Department of Transportation has determined that the Bureau of Transportation Statistics (BTS), in coordination with the Pipeline and Hazardous Materials Safety Administration (PHMSA), is best positioned within the Department to collect, collate, and report on the information requested. This letter provides the implementation plan for satisfying these data reporting requirements.

To satisfy the annual reporting requirement in Section 7308, BTS must fulfill two new data requirements. The first data requirement specified in Section 7308(b) requires the Department to collect data on:

- (1) the total number of tank cars modified to meet the DOT-117R specification, or equivalent, compared to a baseline count of modified and non-modified cars;
- (2) the total number of tank cars built to meet the DOT-117 specification, or equivalent; and

- (3) the total number of tank cars in the baseline fleet that have not been modified, specifying the type or specification of each tank car not modified and the identification number of each Class 3 flammable liquid carried by each tank car in the past year.

The second requirement described in Section 7308(c) requires the Department to conduct a survey of rail tank car facilities to determine the anticipated number of tank cars those facilities expect to modify to DOT-117R specification, or equivalent, or to build to meet the DOT-117 specification, or equivalent.

II. Implementation Plan and Status on Reporting Required by Section 7308(b)

The American Association of Railroads (AAR) maintains two databases that provide: (1) a comprehensive listing of daily rail shipments, and (2) an inventory of individual tank cars (active or scheduled to be built) and their specifications. To satisfy the data requirements described in 7308 (b), BTS entered into a Memorandum of Agreement (MOA) with AAR, signed December 2, 2016, for AAR to produce the total number of rail tank cars built or modified to meet the DOT-117 or 117R standards, as well as the total number of tank cars used to transport Class 3 flammable liquids that have not been modified.

BTS will collaborate with AAR to ensure the methodology established to produce these counts is accurate and comprehensive. The methodology will be documented to promote the quality and transparency of these counts. BTS and AAR will ensure appropriate measures have been applied to guarantee the confidentiality requirements required by both the AAR and as required in Section 7308(e)(2).

III. Implementation Plan and Status on Reporting Required by Section 7308(c)

Pursuant to Section 7308(c) of the FAST Act, BTS is to generate statistically valid estimates of the anticipated number of tank cars that tank car facilities expect to modify or build to the DOT-117R specification or equivalent, by conducting a survey of tank car facilities.

In accordance with the Paperwork Reduction Act (1995), any data collection effort of ten or more entities requires approval from the Office of Management and Budget (OMB) before data collection can begin. BTS has initiated the process to obtain OMB approval and this approval is anticipated by the summer of 2017. The collection of data from tank car shops on the expected number of tank cars to be built or modified will commence immediately thereafter.

An MOA was established between BTS and PHMSA, signed December 1, 2016, spelling out the responsibilities of each agency in order to satisfy the data reporting requirements of Section 7308(c). Additionally a formal delegation of authority from the Secretary of Transportation will allow BTS to require the tank car shops to submit the data required under Section 7308(c). The structure not only allows BTS to exercise mandatory reporting authority but also allows for the application of data confidentiality protections

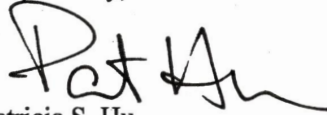
as afforded by the Confidential Information Protection and Statistical Efficiency Act (CIPSEA 2002), thereby satisfying the confidentiality protections set forth in Section 7308(e)(2).

The data collected from the tank car shops as well as the data from AAR will be compiled into a report to be delivered to the Committees on Commerce, Science, and Transportation in the Senate and Transportation and Infrastructure in the House of Representatives within 60 days of completing data collection.

Identical letters have been sent to the Ranking Member, Senate Committee on Commerce, Science, and Transportation; and to the Chairman and Ranking Member, House Committee on Transportation and Infrastructure.

If you should have any additional questions about this data implementation plan, please contact me at (202) 366-6268 or Timothy Klein at (202) 366-0075, Timothy.Klein@dot.gov.

Respectfully,

A handwritten signature in black ink, appearing to read "Pat Hu", written in a cursive style.

Patricia S. Hu
Director, Bureau of Transportation Statistics

Appendix B: Federal Register 60 Day Notice

AGENCY: Bureau of Transportation Statistics (BTS) Office of the Assistant Secretary for Research and Technology (OST-R), DOT.

ACTION: Notice and request for comments.

SUMMARY: The BTS is seeking approval from the Office of Management and Budget (OMB) for an information collection related to tank car facilities to obtain an estimate of tank cars projected to be modified or built to the new safer Department of Transportation (DOT) standards.

DATES: Interested persons are invited to submit comments on or before May 22, 2017.

ADDRESSES: You may submit comments identified by Docket No. DOT-OST-2017-0010 through the Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the online instructions for submitting comments. You may also submit comments identified by DOT Docket ID Number DOT-OST-2017-0010 to the U.S. Department of Transportation (DOT), Dockets Management System (DMS). You may submit your comments by mail or in person to the Docket Clerk, Docket Management System, U.S. Department of Transportation, 1200 New Jersey Ave. SE., West Building Room W12-140, Washington, DC 20590. Comments should identify the docket number as indicated above. Paper comments should be submitted in duplicate. The DMS is open for examination and copying, at the above address, from 9 a.m. to 5 p.m., Monday through Friday, except federal holidays. If you wish to receive confirmation of receipt of your written comments, please include a self-addressed, stamped postcard with the following statement: "Comments on Docket DOT-OST-2017-0010." The Docket Clerk will date stamp the postcard prior to returning it to you via the U.S. mail. Please note that due to delays in the delivery of U.S. mail to Federal offices in Washington, DC, we recommend that persons consider an alternative method (the Internet, fax, or professional delivery service) to submit comments to the docket and ensure their timely receipt at U.S. DOT. You may fax your comments to the DMS at (202) 493-2251. Comments can also be viewed and/or submitted via the Federal

Rulemaking Portal: <http://www.regulations.gov>.

Please note that anyone is able to electronically search all comments received into our docket management system by the name of the individual submitting the comment (or signing the comment if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70; pages 19475-19570) or you may review the Privacy Act Statement at <http://www.gpoaccess.gov/fr/>.

FOR FURTHER INFORMATION CONTACT:

Clara Reschovsky, Bureau of Transportation Statistics, Office of the Assistant Secretary for Research and Technology, Department of Transportation 1200 New Jersey Avenue SE., Room E34-409, Washington, DC 20590, Telephone (202) 366-2857.

SUPPLEMENTARY INFORMATION:

In accordance with the requirements of 44 U.S.C. Section 3506(c)(2)(A) (the Paperwork Reduction Act of 1995), this notice announces the intention of the BTS to request the Office of Management and Budget's (OMB's) approval for an information collection related to Section 7308 of the Fixing America's Surface Transportation Act (Pub. L. 114-94; the "FAST Act"). Specifically, Section 7308(c) of the FAST ACT directs the Secretary of Transportation to conduct a survey of tank car facilities to obtain an estimate of tank cars projected to be modified or built to the new safer Department of Transportation (DOT) Specification 117 or 117R. In order to satisfy the FAST Act requirements, BTS is planning the data collection. BTS invites comments on its intention to collect information from tank car retrofitting and manufacturing facilities on the planned and projected number of tank cars to be retrofitted or manufactured beginning the next calendar year, annually. Any facility identified with the capacity to modify or build new tank cars to the 117 or 117R specification, as described in Section 7308(c) of the FAST Act will be included in the survey identified in this notice and submit the results to the Bureau of Transportation Statistics (BTS) no later than 60 days upon request. Individual responses to the survey will

be kept confidential and a summary report of aggregate findings will be provided to:

(1) The Committee on Commerce, Science, and Transportation of the Senate; and

(2) The Committee on Transportation and Infrastructure of the House of Representatives.

In addition, this summary report will also be published to the BTS Web page.

Title: Annual Tank Car Survey.

Background: On December 4, 2015, President Barack Obama signed legislation entitled "Fixing America's Surface Transportation Act of 2015," or the "FAST Act." See Public Law 114-94. The FAST Act includes the "Hazardous Materials Transportation Safety Improvement Act of 2015" (see Sections 7001 through 7311) and instructs the Secretary of Transportation to make specific regulatory amendments to the Hazardous Materials Regulations (HMR; 49 CFR parts 171-180), including requirements for certain persons to report the progress toward modifying rail tank cars used for the transportation of Class 3 flammable liquids in accordance with the timeline established in Section 7304 of the FAST Act.

This notice is applicable to Section 7308(c) of the FAST Act which directs the Secretary to conduct an annual survey of tank car shops to acquire projections of the number of tank cars to be built or manufactured to the new safer specifications. This includes those tank cars modified to the DOT Specification 117R, or equivalent, as well as any new tank cars built to the DOT Specification 117, or equivalent. Modified tank cars will include, but may not be limited to, those previously built to Specifications: DOT105, DOT109, DOT111, DOT112, DOT114, DOT115, and DOT120.

Respondents: Across the nation there are approximately 400 tank car facilities that are currently registered or certified to build or modify tank cars. However, the majority of these do not have the capacity to modify or build to the 117 or 117R Specifications. It is estimated that, at most, 140 tank car shops possess the required capacity to build or modify to these new safer requirements.

Estimated Average Burden per Response: It is estimated that 140 facilities will provide one response each to this request for information on an annual basis, and that it will take approximately 30 minutes to complete, including record keeping and reporting. This notice is intended to accurately account for the annual burden.

Estimated Total Annual Burden: The estimated burden is equal to 70 annual burden hours (i.e., 140 responses per year × 0.5 hour per response). The total burden cost is estimated at \$3,342 (i.e., 70 burden hours × \$47.74 per hour for a manager in Transportation, Storage, and Distribution).

Frequency: The survey frequency is prescribed by Section 7308(d) of the FAST Act. Specifically, this section requires the Secretary to conduct the survey under Section 7308(c) annually until May 1, 2029.

Public Comments Invited: Interested parties are invited to send comments regarding any aspect of this information collection, including, but not limited to: (1) The necessity and utility of the information collection for the proper performance of the functions of the DOT; (2) the accuracy of the estimated burden; (3) ways to enhance the quality, utility, clarity and content of the collected information; and (4) ways to minimize the collection burden without reducing the quality of the collected information. Comments submitted in response to this notice will be summarized and/or included in the request for OMB's clearance of this information collection.

Issued in Washington, DC, on March 9, 2017.

Patricia S. Hu,

Director, Bureau of Transportation Statistics, Office of the Assistant Secretary for Research and Technology.

[FR Doc. 2017-05644 Filed 3-21-17; 8:45 am]

BILLING CODE 4910-9X-P

Appendix C: Data Table To Support Figures 1-3

Rail Tank Car Type by Flammable Liquid Transported: 2013–2016

		2013	2014	2015	2016
Jacketed DOT-111	Crude	1,315	982	497	90
	Ethanol	125	140	147	149
	Other Flammable Liquids	4,699	4,568	4,173	4,485
	Multiple Service of Flammable Liquids	113	98	18	2
	Total	6,252	5,788	4,835	4,726
Non-Jacketed DOT-111	Crude	13,022	10,599	4,792	276
	Ethanol	23,717	26,453	28,814	27,597
	Other Flammable Liquids	12,703	13,656	14,213	14,123
	Multiple Service of Flammable Liquids	2,579	1,813	1,306	718
	Total	52,021	52,521	49,125	42,714
Jacketed CPC 1232	Crude	2,624	6,988	9,342	5,164
	Ethanol	0	308	981	819
	Other Flammable Liquids	312	600	1,112	1,905
	Multiple Service of Flammable Liquids	75	174	254	99
	Total	3,011	8,070	11,689	7,987
Non-Jacketed CPC 1232	Crude	11,765	16,554	15,834	8,246
	Ethanol	338	1,437	2,353	2,495
	Other Flammable Liquids	530	843	997	1,555
	Multiple Service of Flammable Liquids	0	211	402	205
	Total	12,633	19,045	19,586	12,501
DOT-117 New	Crude	0	11	1,279	2,287
	Ethanol	0	0	385	2,121
	Other Flammable Liquids	0	0	112	551
	Multiple Service of Flammable Liquids	0	0	0	7
	Total	0	11	1,776	4,966
DOT-117 Retrofit	Crude	60	73	24	638
	Ethanol	3	3	3	1,210
	Other Flammable Liquids	13	15	4	333
	Multiple Service of Flammable Liquids	0	0	0	34
	Total	76	91	31	2,215
All Other Rail Tank Cars	Crude	113	90	38	611
	Ethanol	4	21	20	127
	Other Flammable Liquids	4,395	4,874	5,256	5,166
	Multiple Service of Flammable Liquids	7	9	2	14
	Total	4,519	4,994	5,316	5,918
Total Cars Used		78,512	90,520	92,358	81,027

NOTES: "All Other Rail Tank Cars" include DOT-105, DOT-112, DOT-114, DOT-115, DOT-120, and DOT-211. "Other Flammable Liquids" includes all flammable liquids that are not crude oil or ethanol.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics. Special analysis based on data provided by the Association of American Railroads: UMLER® and TRAIN II®. 2013–2016, as of June 7, 2017.