



# RAILBLAZERS

ALLTRANSTEK, LLC

Commercial Rail Transport Management and Consulting

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A CLOSER LOOK SERIES

## A Closer Look Series

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### FRA'S "YEAR OF THE SHIPPER"

The FRA entered 2016 announcing that this will be the year in which they will begin the process to ensure shippers are aware of their responsibility with respect to HM-216B. In 2012, regulatory measures were strengthened substantially in the form of HM-216B, which amended a number of hazardous materials regulations impacting car owners, shippers, and repair facilities together. The prior years since 2012 focused on compliance by major lessor car owners, owners operating with linings for highly corrosive commodities, and tank car facilities. The shipper has now officially been designated as the next area of interest for the FRA.

It comes as little surprise that the FRA chooses to now insist on increased monitoring of shippers specifically for 2016. Overall, Non-

Accident Releases (NAR's) have steadily been declining since 1996, but problems continue to surface in the form of hinged manway covers.

Issues with the manway gasket are generally attributed to typical wear and tear in the aging process of the component. After extended service lives, damage to the gasket and joints can prevent a proper seal from forming when the joints are bolted into place. Some inspections have determined that shipment securement procedures need to be further addressed and enforced, as NAR's have been caused by improper joint tightening.

Per the FRA, the shipper and loading facility

*(Continued on page 2)*

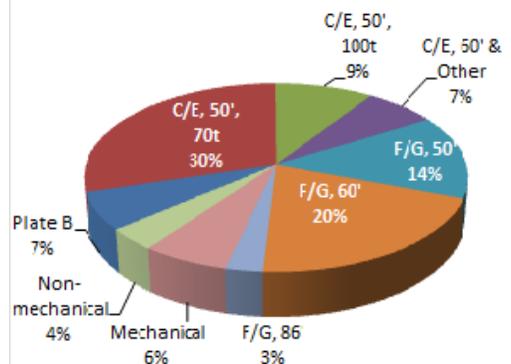
### CAR TYPE HIGHLIGHT: BOX CAR FLEET

After a long run as the most versatile and important railcar in North American shipping practices since the late 19th century, the box car has fallen on hard times. An aging fleet, accompanied by the high price of building new box cars has made it difficult for new investment to take place. Potential buyers have been reluctant to invest in this car type as substantial traffic volume continues to undergo modal shift, depressing the fleet's rail shipment totals.

The box car fleet now totals 128,000 cars. The fleet is segmented by plate sizes, which reference the car dimensions. Plate B cars, the oldest fleet segment, have largely been removed from service, with the fleet totaling just 8,300 cars, about 6% of the fleet. The Plate C car, which has been the workhorse box car type since the 1970's, still boasts almost 59,000 cars, representing 46% of the

fleet. Plate C cars are aging, and steadily being replaced by the Plate F car, the only non-reefer box car type seeing significant new car investment. The Plate F fleet now

All Box Cars  
2013 Fleet Size



Source: Umler, AllTranstek, 132,515 cars

*(Continued on page 4)*



## ARGUS ASPHALT SUMMIT

Last year's Argus conference focused on the sudden impact of low oil prices on the market for asphalt. With no foreseeable change on the horizon for oil pricing, the 2016 Argus Asphalt Summit hopes to focus on how the asphalt industry is adapting to new market conditions.

Asphalt's current low production cost is raising demand in parts of North America, and setting the stage for a trickle-down effect through the asphalt supply chain.

Join the 9<sup>th</sup> Annual Argus Asphalt Summit over March 2-4, 2016 in Miami, Florida, to discuss how to maximize profits and do business at this informative industry event.

AllTranstek's Richard Kloster, SVP and CCO, will be speaking at the 2016 Argus Asphalt Summit.

### Celebrity Keynote Speaker

Hear about the Somali pirate hijacking of the Maersk Alabama from Captain Richard Phillips himself, as he draws lessons for business owners from these dramatic events.



*(Year of the Shipper continued from page 1)*

are responsible for identifying these problems in order to ensure proper shipment securement before a loaded HazMat car enters transit.

All of this leads to several major concerns for shippers entering 2016. What recommendations can shippers expect from the FRA? How do shippers ensure compliance with FRA regulations and minimize NAR incidents? What penalties can result from a lack of compliance? Where are shippers exposed, and how can that exposure be reduced?

The old practice of "keeping a low profile" may no longer be possible in the modern day of regulatory compliance and HazMat shipping. In the past, shippers and loading facilities have been audited due to exceeding a quantity of NAR's and accidents committed. A certain number of NAR related incidents would trigger an FRA auditor to be sent to assess a given facility. Shippers with high NAR frequency have historically been the most exposed, as multiple violations invite auditors. Moving forward, NAR's will most assuredly continue to sound alarms to the FRA and raise questions about compliance, but ALL shippers in 2016 should prepare to be audited more frequently under the FRA's new strategy. This includes shippers who are already taking the appropriate measures to maintain compliance and reduce incidents, as the FRA will look to increase the number of loading facility audits in order to preemptively attack the NAR problem.

Non-compliance in the world of HazMat shipping carries hefty penalties. Fines can easily run into the thousands of dollars per car per day if a non-compliant car makes its way into transit, while willfully violating certain Federal hazardous materials transportation laws can even result in criminal liability.

For shipper loading facilities, 49 CFR 173.31 (d) of the FRA's compliance manual provides the specific requirements that must be met before offering a car for transport. Part 209 goes on to describe the penalties a shipper can expect with respect to a loaded, non-compliant tank car. Failure to inspect a load-

ed car carries a \$5,000 dollar penalty, while aggravated offenses involving NAR's can range from \$10,000 up to \$15,000. Minor transgressions when shipping loaded tank cars quickly add up, pricing in at \$1,000 per violation. Car owners should keep in mind that penalties exist for non-loaded cars as well, although they are typically less severe. These regulations also apply to regulated commodity shippers in any AAR class railcar, not exclusively tank cars.

Shippers of non-HazMat commodities should also take precautions when loading, securing, and shipping in DOT marked tank cars. At the end of the day, a leaking railcar is a leaking railcar. Costly penalties can accumulate for any tank car shipper, due to cleanup costs and disruption of service if a car must be removed from a train set in transit.

Ensuring facility compliance via an internal or third party audit and reviewing shipment securement procedures are two areas a shipper or loading facility can address to better prepare for increased surveillance from the FRA. To best reduce risk and exposure, shippers should be looking to coordinate a facility assessment in line with a HazMat training program. Regulations require that facility staff undergo function specific training along with HazMat training. Performing a facility audit allows HazMat training to be tailored to a facility's practices, while identifying potential needs for function specific training requirements.

For tank car and HazMat shippers, investing in loading facility compliance programs and procedures will be invaluable moving forward under the FRA's increased surveillance plan. As the FRA looks to pre-emptively attack non-compliance and shipment securement problems, shippers can best respond by embracing the reality that regulators will be policing compliance on a more frequent basis. In the end, the cost of non-compliance and subsequent penalties greatly outweigh the cost of auditing and becoming compliant. Taking the necessary measures to become compliant will grant confidence in a facility's processes, allowing shippers to breathe a little easier when the FRA does show up for a compliance audit.

## EMPLOYEE SPOTLIGHT

Dave Ronzani - Regulatory Compliance

Mike Dudar - ShopWatch Program



Dave's 28 years of railcar experience in Quality Assurance (QA) and Nondestructive Testing (NDT) brought him to AllTranstek in 2012. He now works with car owners, repair facilities, and other tank car operators by supporting their needs to create, implement, and maintain both QA and NDT programs. Dave began his career in the rail industry at Union Tank Car Company, where he served 24 years, and has 38 years in steel fabrication quality and NDT responsibilities. Dave is an ASNT Level III in 7 NDT methods, an AWS Senior Certified Welding Inspector (SCWI), and is the current chairman of the AAR M-1002 Appendix T task force for nondestructive testing.



Mike has been with AllTranstek for 15 years, having joined AllTranstek's Technical Services team in 2001. Mike has industry experience stemming back to 1981 and brings his experience from Procor to AllTranstek's ShopWatch auditing program, where he applies his expertise in industry and regulatory requirements by performing audits and developing procedures. Mike is an Association of American Railroads (AAR) trained auditor, a certified Quality Auditor with the American Society for Quality, and is a member of the American Society of Nondestructive Testing. Mike graduated from Niagara College as a Mechanical Design Technician.

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## RESCAR REPAIR ROUNDUP

**What is the outlook for capacity in railcar repair and maintenance? Are shops expected to experience the same constraints as seen in 2015, or will 2016 see more available capacity?**

Rescar expects 2016 to be fairly similar to 2015. Capacity will still be tight, but the repair market may see a portion of space becoming available as some car owners choose to sideline tank car train sets due to tough oil markets.

**Is there an expectation for improved coating and lining capacity in 2016?**

Coatings and linings were an enormous constraint on the repair market in 2015, with backlogs for application extending from one to five months. Rescar continues to add capital to expand blast and lining capabilities, as well as shift additions for around the clock work. Mini shop growth to meet paint, coating, and lining demand are primary strategies for increasing capacity.

**How can tank car shippers prepare fleet maintenance programs? Will this strategy differ significantly from general freight car shippers?**

Maintenance plans are expected to vary due to more regulatory requirements for the tank car. Shippers with diverse fleet portfolios should be prioritizing their tank car qualification requirements due to extended timelines. Tank car repair needs should be viewed on a longer term horizon than freight car needs, and shippers should explore the options of bringing in expertise in tank car management to address the need for qualification, while optimizing fleet productivity.

**What areas of repair ops are expected to see the most dramatic growth/change in 2016?**

Field Service entities are expected to grow as customers desire more on site services, due to capacity constraints in major shops. Also, minimization of empty freight moves have made repair networks with diverse service offerings desirable (i.e. full service locations, fast tracks, and mobile). Shops are responding to ballooning turn times by increasing capital expenditures and acquiring more resources, in order to decrease hold points. Overall, the need for maintenance and repair has become so great, relationships between repair networks and customers have become more important than ever, as coordination and communication help tackle constraint problems.



## 2016 Schedule of Events

### SWARS

San Antonio, TX

Feb. 23-25

### Argus Asphalt Summit

Miami, FL

Mar. 2-4

### RR Day on the Hill

Washington, DC

Mar. 3

### Rail Equipment Finance

Palm Springs, CA

Mar. 6-8

### SEARS

Hiltonhead, SC

Mar. 29-31

### Short Line Annual Meeting (ASLRR)

Baltimore, MD

Apr. 3-6

### National Coal Transportation Association (NCTA)

New Orleans, LA

Apr. 10-13

### Chlorine Institute

Dallas, TX

Apr. 11-14

### INFONEX "Hydrocarbon by Rail"

Calgary, AB

Apr. 12-13

### AAR Tank Car Committee Meeting

Galveston, TX



## 2016 FTR CONFERENCE

The FTR Transportation Conference delivers even more focused content via four content channels over two days. After initial, stage setting sessions on the State of Freight (overall economy and freight environment) the morning of day one, concurrent sessions begin. These content channels include: Shippers, Carriers & Brokers, Truck & Trailer Equipment, and Rail Equipment. The conference is scheduled for Sept. 13-15, in Indianapolis IN.

### Rail Equipment Content Channel

Gain deep insight into forecasting and current conditions. Cover hot topics like government regulations, crude, and non-crude portions of the market. Focus on freight factors impacting rail markets and key industries affecting rail equipment.

Learn more at... [www.FTRconference.com](http://www.FTRconference.com)



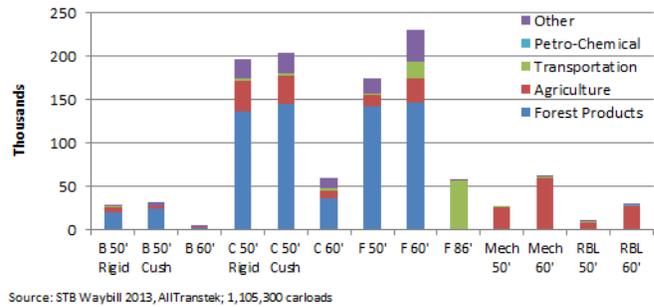
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totals 48,000 cars, accounting for 38% of the fleet. Reefer cars total 13,000, about 10% of the fleet, and most reefer investment is expected to take place in the self contained refrigerated unit mechanical reefer car.

Despite the transition of the box car traffic base to new shipping modes, there are still shippers who are heavily reliant on the box car to service shipping needs. 2013 shipment volume in box cars totaled 1.1 million carloads, down -1.5% from 2012 traffic totals despite a stronger economy and higher overall rail traffic. Box car traffic did take a hit over the 2008-2009 recession, but the traffic base's downward trend realistically began as early as 2003, the last year that box car loadings exceeded the 2 million shipment mark.

The paper industry relies on the box car as its primary shipping mode, providing half of total box car shipments in 2013 with 558,000 carloads. Paper shippers will continue to use the box car as long as it remains a

### Box Car Traffic by Equipment Type



viable shipping option. However, acquiring new box car equipment has proven to be problematic in the industry. For many shippers, the age of the car has little effect on the decision to use a car or not, as long as the car meets minimum car condition and capacity requirements, and features the appropriate loading and draft gear configuration. Also, new box car prices remain prohibitively high for many buyers, as builders continue to offer better purchasing opportunities on higher margin new car builds, i.e. tank cars. However, some replacement demand does exist, but shippers and railroads must reach a broader consensus as to who will invest the required capital for new equipment, and whether or not there is an economically viable future for the box car.

*All charts and graphs come from Box Car Closer Look Report*

## SHOPWATCH & REGULATORY COMPLIANCE

Federal Rail Administration (FRA) and Transport Canada (TC) regulations deem tank car owners responsible for ensuring that tank car facilities either manufacturing or repairing their cars follow the tank car owner's provided qualification and maintenance program. AllTranstek addresses each item of responsibility to ensure shipper compliance with these requirements.

ShopWatch™ is designed to decrease a tank car owner's risk of exposure to improper tank car construction, maintenance, and repair, while focusing on a facility's ability to meet federal, industry, and customer requirements.

This program reduces risk by auditing a facility's proper adherence to regulatory and car owner procedure requirements. If these requirements are not met by a facility, AllTranstek will work together with the client to ensure proper corrective actions are tak-

en to establish compliance.

AllTranstek's Compliance Management programs offer a larger scope of training and facility assessments apart from repair shop compliance, including loading or unloading facility compliance assessments and railcar component supplier audits. An audit can be performed to ensure compliance, but may also be used to grant facilities peace of mind and confidence in their processes. With what may sometimes feel like an onslaught of regulatory requirements, it can be beneficial for a facility to have assistance in understanding and meeting these requirements.

AllTranstek's staff is very active in the AAR, FRA, and TC rulemaking processes. With a wide variety of experience from within the tank car industry, AllTranstek has the knowledge to help shippers comply with all the regulations that apply to an AAR certified facility.

## WORKING WITH MYTHBUSTERS

AllTranstek teamed up with the MythBusters crew to test the limits of the DOT-111 tank car. A tremendously long journey finally culminated in the experiment phase. The process that Jamie Hyneman of MythBusters describes as “spanning 3 months” realistically began in late 2014.



*The AllTranstek team poses with Mythbusters' hosts in front of the imploded tank car. As seen left to right: Gino Smith, Richard Kloster, Larry Loman, Adam Savage, Dave Ronzani, David Kerr, and Jamie Hyneman.*

In the “Tanker Crush” episode, which aired January 16th, 2016, MythBusters stated three main logistical hurdles they needed to overcome. First, finding tank cars was a huge problem for their team, with no industry background or proper contacts to leverage. MythBusters also needed to secure a facility where the experiment could be conducted. A remote site where the filming process would not be interrupted was an absolute necessity, with space to accommodate the required equipment, while providing sufficient room to maintain a safe distance during the experiment. Lastly, it was vital that MythBusters bring in expertise to consult them on the technical aspects of the tank car, use of the equipment, and safety measures. AllTranstek was able to provide solutions to all of these needs for MythBusters.

Gauging the feasibility of overcoming these hurdles was a large part of the initial process which began with a phone call at the end of 2014. Several months of communication with MythBusters ensued, narrowing down the scope of each stage and the strategy needed to reach various milestones over the life of the project. During this time, AllTranstek deliberated a larger role in the project, evaluating the consequences of participating in the destruction of a tank car given the scrutiny placed on the North American tank car fleet after several high profile incidents in recent years. After great consideration, AllTranstek decided that if this experiment was going to move forward, expert representatives in safety and regulatory matters from the rail industry governing the

process would only help facilitate the proper performance and reception of the activity.

AllTranstek's commitment to the project marked the 3 month phase described by MythBusters host Jamie Hyneman. The process included acquiring the tank cars, securing a facility, and obtaining a plethora of other equipment and service requirements, including mobile repair units, steam generators, vacuum trucks, scrap dealers, and proper safety training staff.

Having finally arranged the necessary items to move forward, the testing phase was ready to begin. At a facility provided by Pacific Ethanol in Boardman, Oregon, the experiment was conducted over the span of three days, with steam clean and vacuum experiments conducted on both tank cars to no avail. Only on the third day, after dropping a 3,200 pound concrete block from 30 feet, were the MythBusters actually able to implode one of the tank car. The negative pressure rating the cars were exposed to well exceeded the estimated forces that were expected to cause a tank car to inwardly collapse.

A verdict of “Myth Busted” from hosts Jamie Hyneman and Adam Savage, speaks volumes to both the durability of the North American general purpose tank car, and the measures taken by regulators, car builders, and car operators to ensure commodities traveling by rail are moving in safe vessels. AllTranstek is happy to have played a part in this unique event, and hopes that this experiment has helped shed some positive light on the tank car, while showing that tank car owners, operators, builders, and regulators consider safety a number one priority.



## AllTranstek Presentations and Events 2016

**Shop Capacity:  
Is there room for  
everyone?**

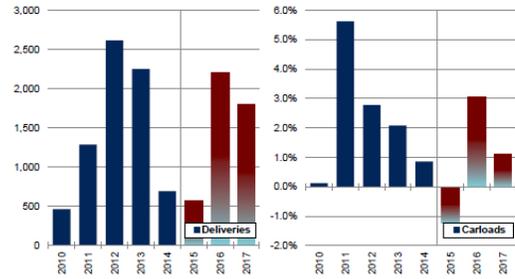
On January 14, 2016, Richard Kloster, SVP and CCO of AllTranstek, presented at the MARS Winter session. The presentation, “Shop Capacity: Is there room for everyone?” provided a high level overview of the industry processes driving the demand for maintenance and repair, specifically focusing on the constraints placed on the repair industry by tank car maintenance and qualification, as well as needs for coating and lining. For the first time in the industry's long history, the need for maintenance is drastically exceeding the supply. What strategies will car owners take to secure space, and how are shop networks expected to increase capacity and turn times?

Contact AllTranstek through [railblazers@alltranstek.com](mailto:railblazers@alltranstek.com) to receive a copy of this presentation or to find out more about the maintenance and repair market

# FTR OUTLOOK: BOX CAR FORECAST

- ◆ **Freight:** Box car traffic is forecast to rise 2.4% y/y to 1,298,000 carloads in 2016, after declining 0.3% in 2015, then record a 1.8% AAGR over the 2017-2020 period.
- ◆ **New Cars:** Box car deliveries are forecast to jump 285% y/y in 2016, to 2,200 cars, fall 18.2% in 2017 to 1,800 cars, then average 1,867 cars per year over 2018-2020.
- ◆ **Inventory:** Retirements are projected to be 3,238 cars in 2016, down 2.5% y/y, and then continue at this level through 2018 before dropping close to zero in 2019.
- ◆ The fleet is forecast to drop 1.0% y/y in 2016 to 106,900 cars, and decline another 1,000 cars to 105,900 by 2020 as the retirement candidates become scarce.
- ◆ The surplus is projected to fall 5.6% y/y in 2016 to 11,300 cars, then increase to a 13,900 average over 2017-2018, before falling to 8,400 cars in 2019 and 2020.

## N.A. Boxcar Outlook



Source: FTR; Copyright 2015

### Box Car Market Indicators: 2015Q3

Actual, Not Seasonally Adjusted	2014		2015	
	Q4	Q1	Q2	Q3
Orders	800	100	2,940	193
% Change, Y/Y	6.7	300.0	--	-94.5
Backlogs	4,310	4,363	7,158	7,421
% Change, Y/Y	546.2	929.0	6017.9	107.8
Deliveries	61	67	125	130
% Change, Y/Y	-93.2	-87.0	115.5	132.1
<b>Backlogs/Deliveries Ratio</b>	70.7	65.1	57.3	57.1
<b>Net Orders/Deliveries Ratio</b>	13.1	1.5	23.5	1.5

- ◆ Utilization is projected to be 89.5% in 2016, up 0.2% y/y, fall to 87% in 2017-2018, and increase to 92% in 2019-2020.
- ◆ **Changes from last Forecast:** No significant changes
- ◆ **Downside Risks:** Lack of reinvestment, rail traffic erosion and modal shift due to fleet loss, shipper disillusionment.
- ◆ **Upside Risks:** High utilization triggers new car investment and replacement demand but only with industry coordination.

All charts, graphs, and data are derived from the FTR Rail Equipment Outlook Report  
For more information on this report, please visit [www.frintel.com/REO](http://www.frintel.com/REO)

## A CLOSER LOOK SERIES

A "Closer Look Series" is comprised of six individual reports, each of which exclusively covers one of the major car types: Covered Hoppers, Tank Cars, Gondolas, Open Top Hoppers, Box Cars, or Flat Cars. These reports provide invaluable information and insight for longstanding rail equipment industry participants, as well as new entrants to the industry. Among the companies who will benefit the most are fleet owners, leasing companies, new car builders, component suppliers, service providers, financial institutions, investors, rail carriers and shippers.

The Closer Look Series scrutinizes the current railcar market from a variety of angles, analyzing trends in fleet size, age, ownership, segmentation, commodity traffic bases, new car deliveries, retirements, utilization, attrition, car surpluses, and much more.

For more information on The Closer Look Series, please contact Chad Perrewé at AllTranstek.

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Founded in 1994, AllTranstek has grown into one of North America's largest railcar management and consulting companies, currently managing over 220,000 railcars for some of the country's largest fleets. AllTranstek also provides technical, operational, and strategic consulting services to a broad range of companies active in the rail and rail equipment supply chains. No other company has the combination of institutional knowledge, innovation, and independence that characterizes AllTranstek. As an independent company, with no ties to outside funding from industry, or government, our clients can be confident that we always have their best interests in mind. AllTranstek continues to cultivate strong relationships with clients both large and small because of our ability to creatively and flexibly tailor services of various sizes and scopes to each customer's individualized needs.