

# Road Ready Chassis Study Task Force Final Recommendations

---

APPROVED AT THE OPERATIONS COMMITTEE MEETING IN LOMBARD, IL ON MAY 4, 2017



May 2-4, 2017  
The Westin Lombard Yorktown Center  
Lombard, Illinois

# Problem Statement & Objective

---

## What was our Task Force goal?

- The Road Ready Chassis Study Task Force has one common goal: To provide a solution to ensure intermodal equipment is road ready.

## Why:

- Ensure compliance, public safety, reduce costs, identify any potential barriers, and maximizing terminal and driver efficiency

## Scope:

- Two Phase Approach
  1. **Phase 1** – Current domestic chassis inspections and equipment quality baseline development
  2. **Phase 2** – Determine solutions to providing road ready equipment

# Task Force Members

---

- Nick Smith (Task Force Leader) – Union Pacific Railroad Company
- Dave Boul – Rail Delivery Service
- Bryan Campbell – BNSF Railway
- Kevin Clarke – Hub Group Trucking
- Jenny Johnson -- Intermodal Support Services
- Jeremy Laskos – Norfolk Southern Corporation
- Jay Leone – NFI Industries

# Design and Overview – Phase I & II

---

## Phase I:

**Goal:** Determine current state/condition of Domestic Chassis (In-gate & Off-car).

1. Randomly evaluated chassis condition at multiple domestic terminals.
  - Inspections were done in Los Angeles and Chicago.
  - Included multiple Class I railroad terminals.
2. Utilized an independent firm with qualified inspectors to lead & perform all inspections.

## Phase II:

**Goal:** Determine the most effective solution to provide Road Ready Chassis.

1. Designed 4 scenarios for ensuring road ready equipment.
2. Developed tracking metrics to measure impact/success.

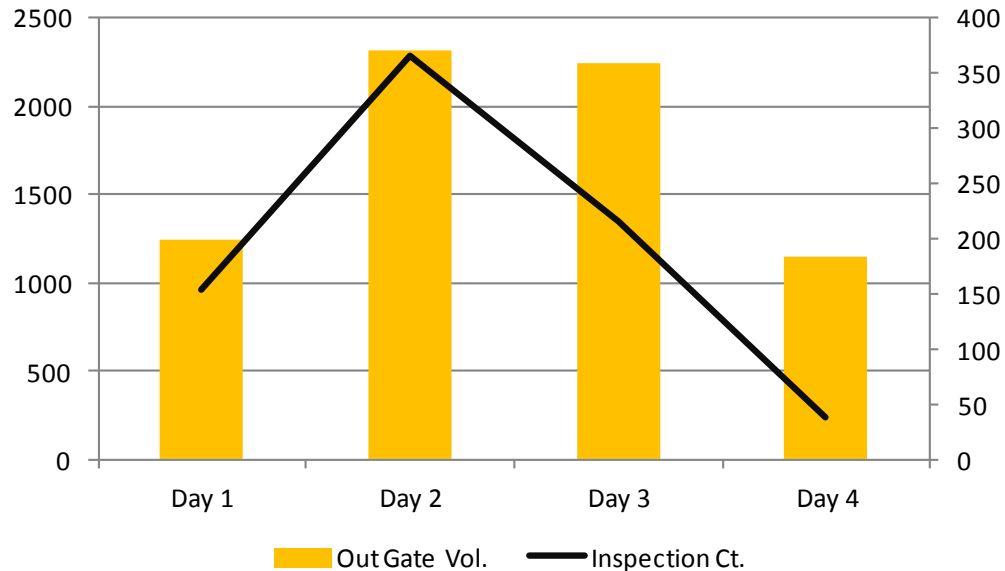


# Phase I Results

## Off-Car Inspection Observations:

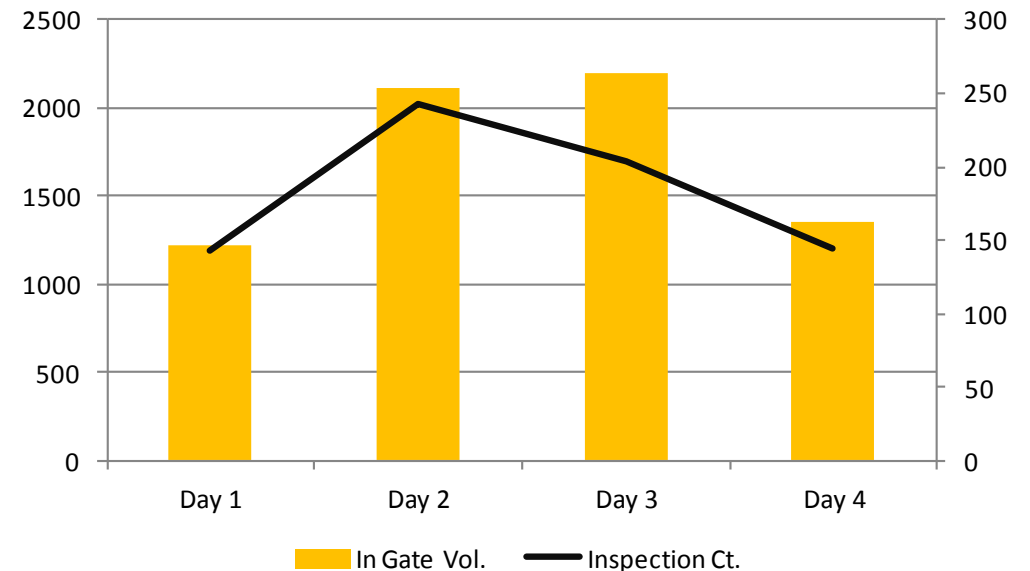
1. 50% + of all equipment loaded had at least 1 defect.
2. Light and Light + Defects accounted for the majority of all defects.

\*Light + defects are when a light and other item needed repair during an inspection.



## In-Gate Inspection Observations:

1. 50%+ of all equipment in-gated had at least 1 defect.
2. DVIRs were reported less than 0.5%.
3. Light and Light + Defects accounted for the majority of all defects.



May 2-4, 2017  
The Westin Lombard Yorktown Center  
Lombard, Illinois

# Phase II – Road Ready Solution Overview

The Task Force has identified four potential solutions for providing road ready equipment.

The pros and cons for each solution were evaluated based upon three criteria:

- Feasibility: Easy, Medium, or Difficult to Accomplish the Scenario.
- Results: Low, Medium, or High Results from the Scenario.
- Cost: Low, Medium, or High Expense for the Scenario.

*The ideal scenario would be lowest risk level to highest reward level.*

What	How	Feasibility	Results	Cost
<b>Scenario 1</b> Inspect all off-car loads	Facility data, combined with inspection cost and efficiency	Difficult	High	High
<b>Scenario 2</b> MC Education on DVIR	Driver town halls - Focused on DVIR impact and potential rebill exposure	Easy	Medium	Low
<b>Scenario 3</b> Systematic Inspection Program	Inspect chassis based on last inspection date (e.g. >=90 or 180 days)	Medium	Medium	Medium
<b>Scenario 4</b> Combine scenario 2&3	Combine Scenario 2&3	Medium	High	Medium

# Scenario 1 – Implementation and Projected Costs

	QTR	Year
Domestic Load Volume	1,568,581	6,274,324
Working Hours	313,716	1,254,865
Head Count	160	640
<b>Total Cost</b>	<b>\$10,666,351</b>	<b>\$42,665,403</b>

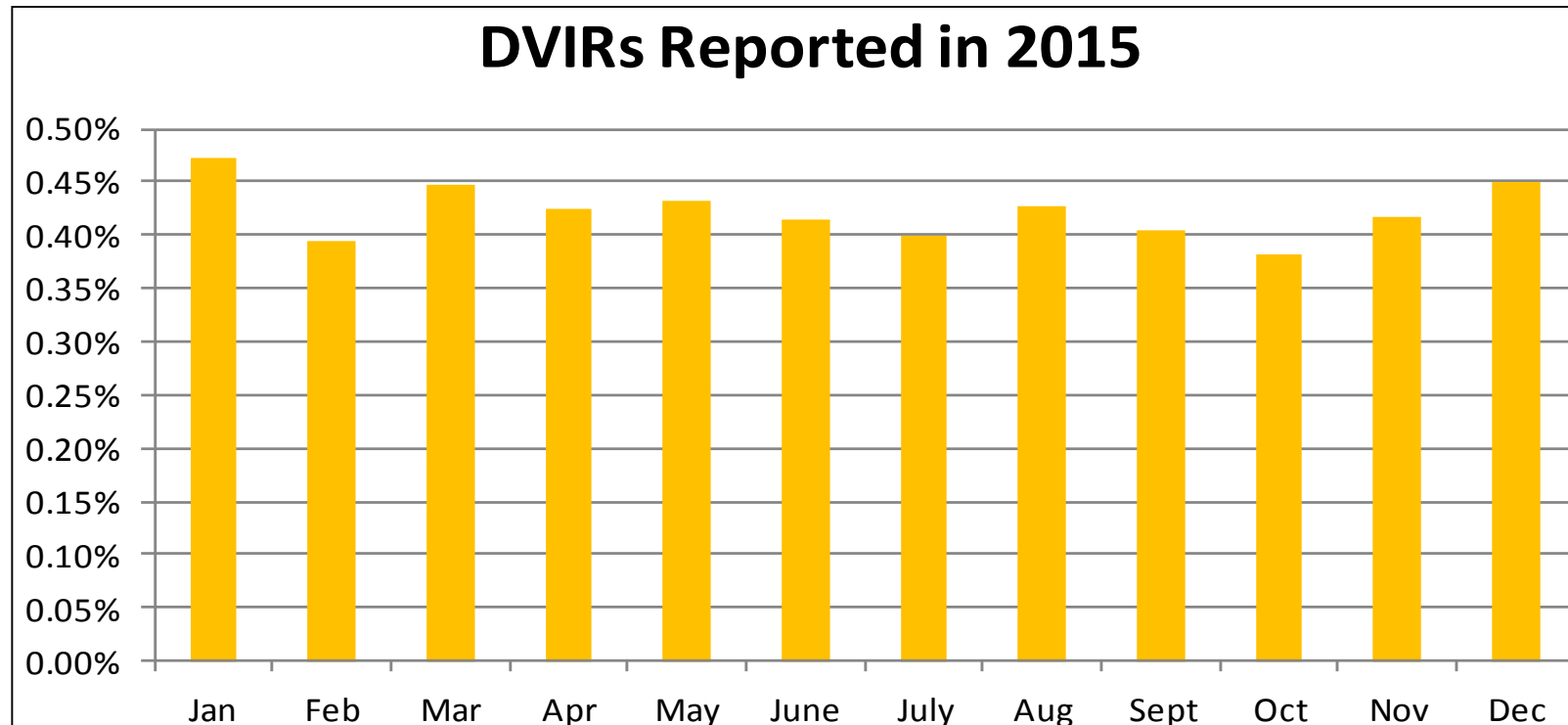
Terminal Size	Lift Volume	Head Count	Est. Inspection Cost
Small	<199K Lifts	<10	~\$680K
Medium	200 to 399 Lifts	11 to 21	\$680K to \$1.36M
Large	>400K Lifts	21+	\$1.36M+

The high cost and difficulty to implement makes Scenario 1 unfeasible.

The large number of headcount is the leading factor.

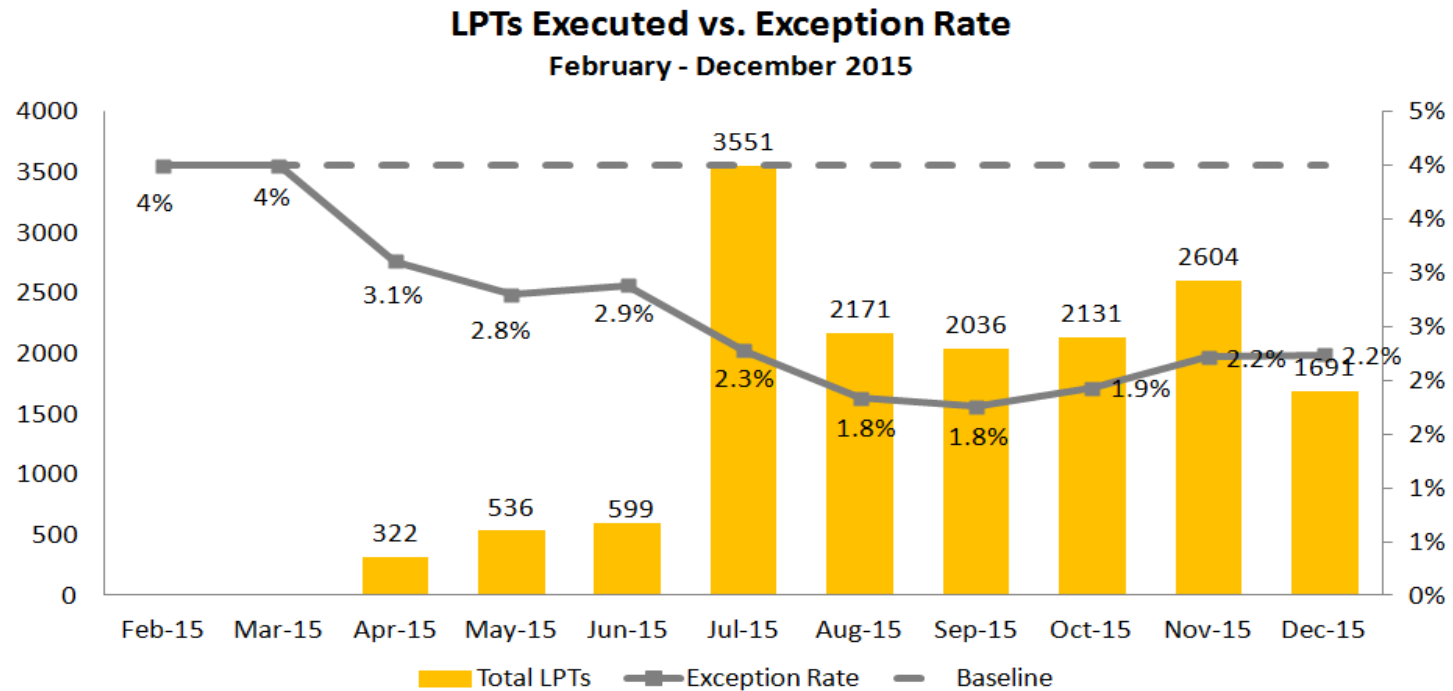
# Scenario 2 – MC Education on DVIR Reporting

1. The team met with multiple motor carriers to promote DVIR reporting but had limited to no improvement.
2. Team turned over all data/findings to the DVIR Education Task Force.





# Scenario 3 - Systematic Inspection Program



1. 45% improvement (4% to 2.2%)
  - 15K+ Systematic Equipment Inspections were performed.
2. The chassis inspection interval was set to 90 days during the Task Force trial.

# Final Recommendations – A Chapter in the Systematic Maintenance Program

The Task Force has identified a three part solution to providing road ready equipment. This solution focuses on providing road ready equipment based upon feasibility, cost effectiveness, and safety.

**The Task Force recommends adoption of scenario 4:**

What	How	Feasibility	Results	Cost
<b>Scenario 1</b> Inspect all off-car loads	Facility data, combined with inspection cost and efficiency	Difficult	High	High
<b>Scenario 2</b> MC Education on DVIR	Driver town halls - Focused on DVIR impact and potential rebill exposure	Easy	Medium	Low
<b>Scenario 3</b> Systematic Inspection Program	Inspect chassis based on last inspection date (e.g. >=90 or 180 days)	Medium	Medium	Medium
<b>Scenario 4</b> Combine scenario 2&3	Combine Scenario 2&3	Medium	High	Medium



# Final Recommendations

---

- 1. IEPs should evaluate and employ a systematic pre-trip inspection program.**
  - Inspection intervals should be defined by the IEP and should at a minimum meet all FMCSA requirements.
  - Pre-trips have proven effective and dropped the exception rate by 45% (4% to 2.2%)
  - ROI can be calculated using increased asset utilization and reduced over the road failures.
- 2. DVIR's must be reported upon in-gate notifying IEPs of any equipment issues.**
  - Under 0.5% of all in-gates have a DVIR reported.
  - Additional education is needed for drivers on how and when to perform a DVIR.
  - The task force attended multiple town halls to assist with education efforts, however, these educational efforts had minimal effect.
  - DVIR data was handed off to the DVIR Education Task Force for further analysis.
- 3. IEP's must identify high frequency defects that are identified during pre-trips and DVIRs.**
  - 50% of the inspected chassis had a light or light+ defect.
  - Light defects made up the vast majority of any defects found during inspections.
  - Continually monitor defect frequency.

# Task Force Actions Recommendations

---

- The Task Force Recommendations were approved by Operations Committee on May 4, 2017 at the Operations Committee Meeting in Lombard, Illinois.
- These Recommendations were approved by the Task Force on an April 4, 2017 Conference Call of the Task Force members. The Appendix was approved by the Task Force on April 21, 2017.

# Appendix

---

- Applicable regulatory sections.
- List of definitions and terms.

# FEDERAL MOTOR CARRIER SAFETY REGULATIONS

---

- TITLE 49—Transportation
- Subtitle B—OTHER REGULATIONS RELATING TO TRANSPORTATION
- CHAPTER III—FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION
- SUBCHAPTER B — FEDERAL MOTOR CARRIER SAFETY REGULATIONS

# PART 390—FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL

---

- Subpart C—Requirements and Information for Intermodal Equipment Providers and for Motor Carriers Operating Intermodal Equipment.
  - §390.40 What responsibilities do intermodal equipment providers have under the Federal Motor Carrier Safety Regulations (49 CFR parts 350-399)?
  - §390.42 What are the responsibilities of drivers and motor carriers operating intermodal equipment?

# PART 392—DRIVING OF COMMERCIAL MOTOR VEHICLES

---

- Subpart A – General.
  - §392.7 (b) Equipment, inspection and use.



# PART 396—INSPECTION, REPAIR, AND MAINTENANCE

---

- §396.3 Inspection, repair, and maintenance.
- §396.9 Inspection of motor vehicles and intermodal equipment in operation.
- §396.11 Driver vehicle inspection report(s).
- §396.12 Procedures for intermodal equipment providers to accept reports required by §390.42(b).
- §396.13 Driver inspection.
- §396.17 Periodic inspection.
- §396.19 Inspector qualifications.
- §396.21 Periodic inspection recordkeeping requirements.
- §396.25 Qualifications of brake inspectors.

# Terms and Definitions Used in the Study's Final Report

---

- In-Gate – An equipment interchange event where intermodal equipment enters an intermodal facility.
- Off-Car – An equipment event where an intermodal container is grounded from a rail car to a chassis.
- Tracking Metrics – Metrics used to gauge progress and effectiveness of the Task Force initiatives.
- LPT's – Loaded equipment mechanical inspections which are performed before the equipment is picked-up and leaves the intermodal facility.
- Light Defects – Defects notated on a chassis with one or more lights needing repair.
- Light (+) Defects – Defects noted on a chassis with one or more lights needing repair as well as another component.

# Related IANA Task Forces and Recommended Practices

---

## Active IANA Task Forces as of 5/4/2017

- Intermodal Chassis Driver Vehicle Inspection Reporting Standards (DVIR Education)
- Intermodal Chassis Mechanics Training

## IANA Committee Recommended Practices

- Chassis Light Theft Avoidance as of May 2015