# ATSI Advanced Technology Safety Initiative

September 20, 2011

ASSOCIATION OF AMERICAN RAILROADS

# Detector Data Quality and Integrity Work

- 2010-2011
  - WILD Variation (Repeatability)
- 2011-2012
  - WILD Variation and Anomalies
    - Automated Identification
    - Anomaly quantification analysis
  - Alarm Integrity
    - Keep switching and out-of-service time to a minimum


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# Studies Completed

- Wheel Impact Load Detector (WILD) Variation
  - Phase 1
    - Review 60 Alerted wheels (single owner)
    - Variation reasonable & expected (speed, load, …)
    - Technical Digest TD11-007 released
  - Phase 2
    - Review >7700 Alerted wheels (industry-wide)
    - Repeatability & increasing impact trend verified
    - Technical Digest TD12-0?? In review


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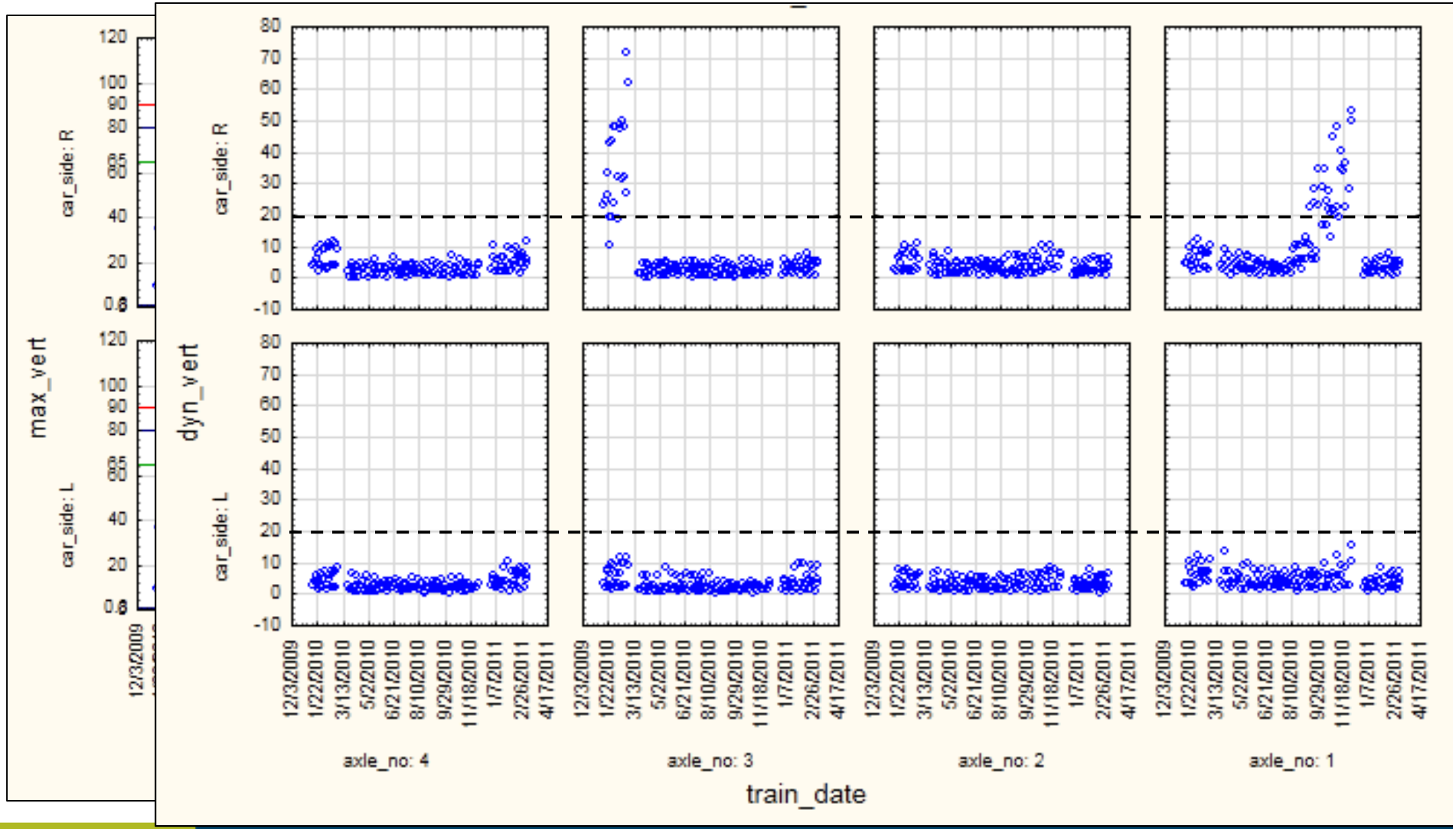
# WILD Variation vs. Anomalies

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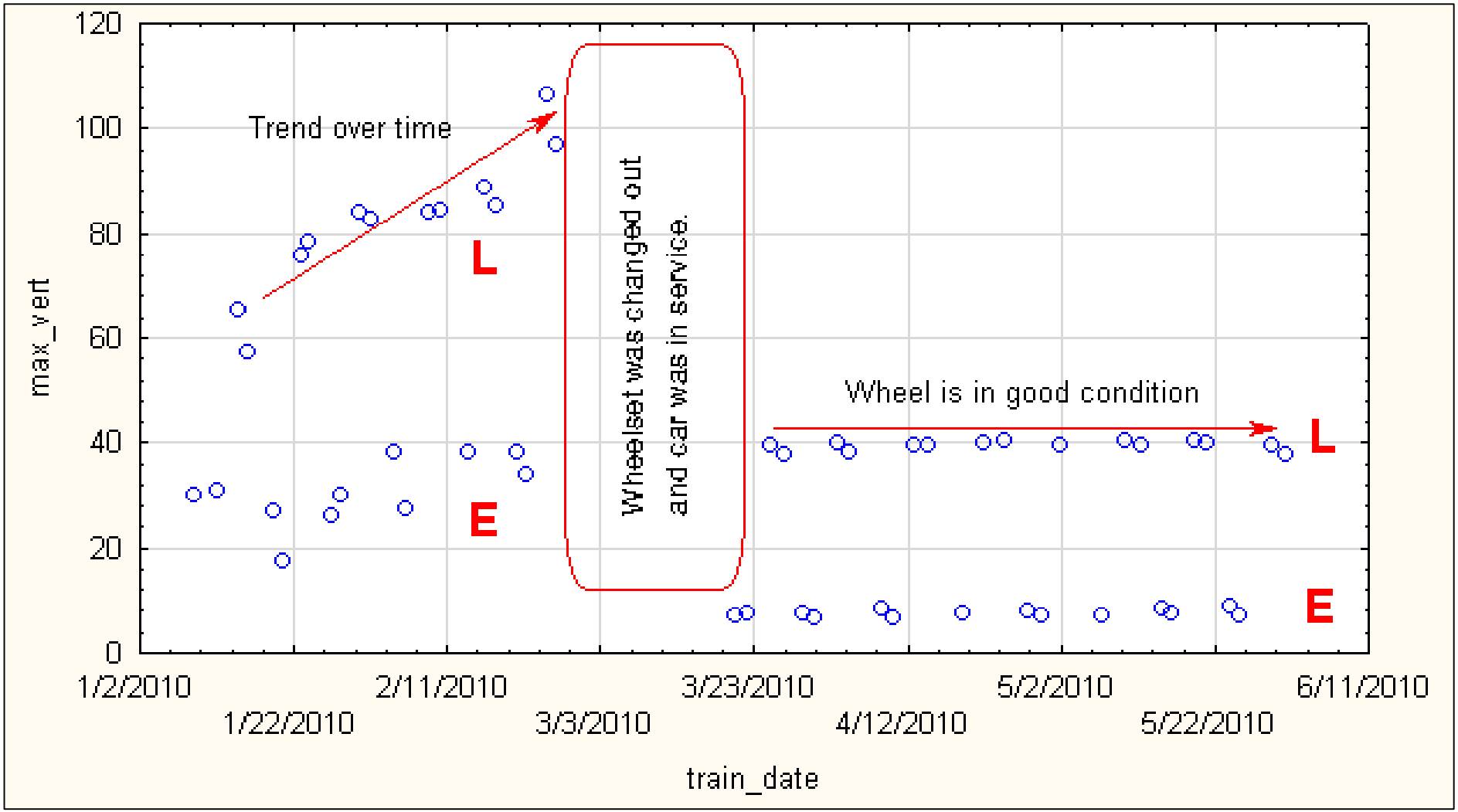


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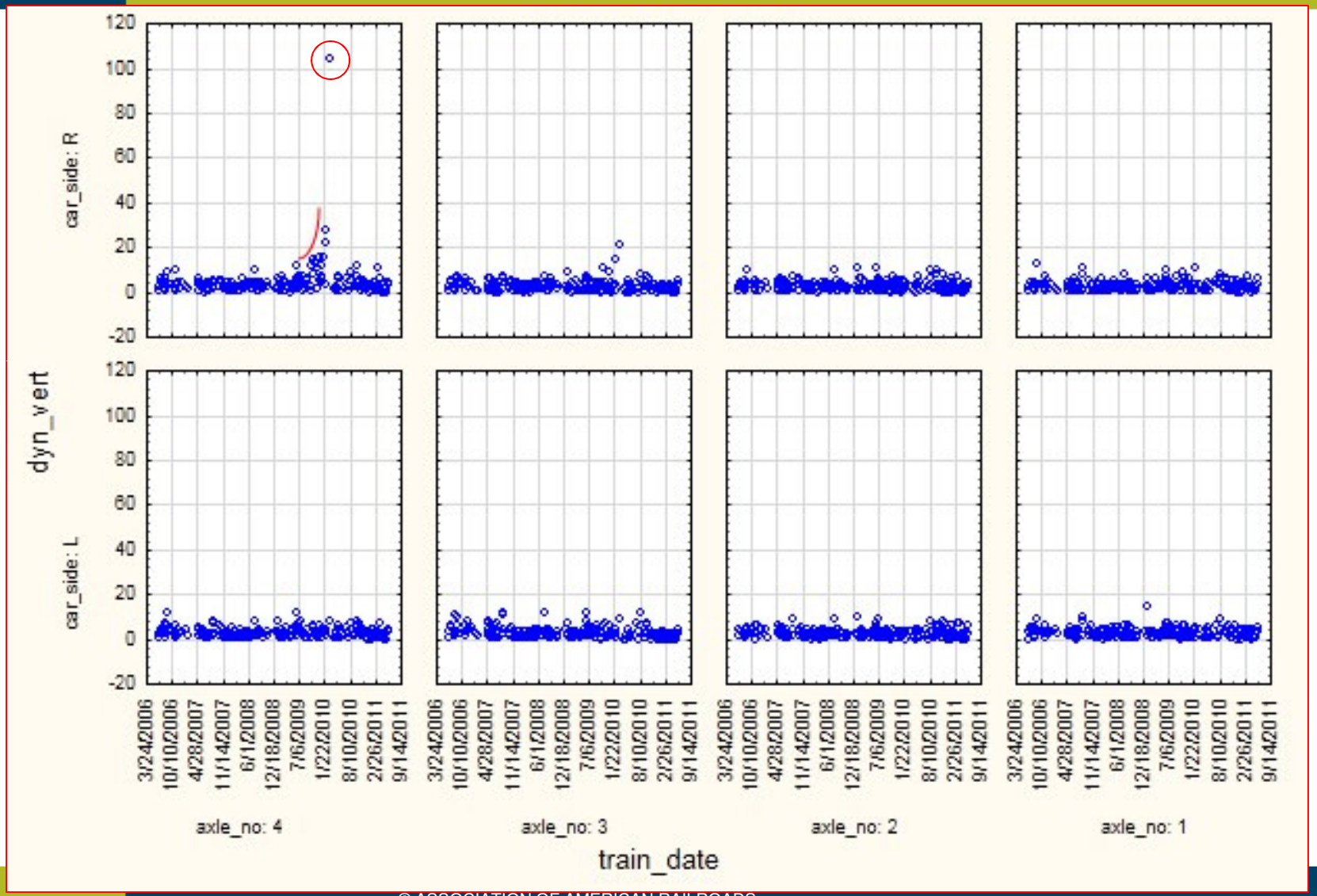


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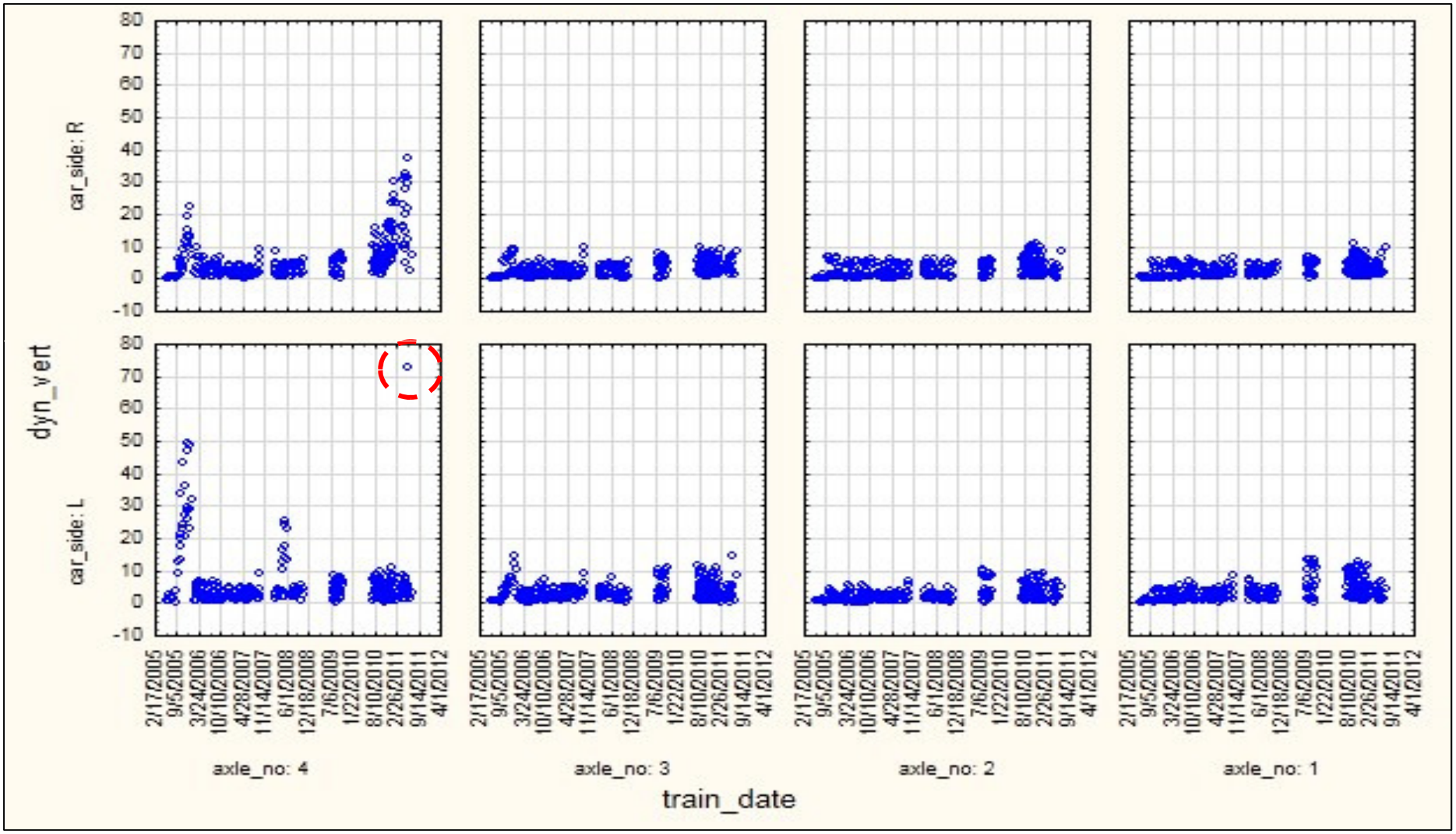


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# Studies Underway and Pending

- Wheel Impact Load Detector (WILD) Variation
  - Phase 3 (2011)
    - Analyze possible WILD reading anomalies
    - Classify anomaly types
    - Technical Digest drafted
  - Phase 4 (2012)
    - Quantify identified anomalies
    - Technical Digest proposed for 2012


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# Studies Completed

- Alarm Integrity
  - WILD (2011)
    - Site conditions caused burst of Alerts
    - Calibration unaffected
    - Technical Digest drafted
  - Truck Hunting Detector (THD) (2011)
    - Apparent excessive Alerts at several sites
    - Masked by load, speed, car type biases
    - Technical Digest in review


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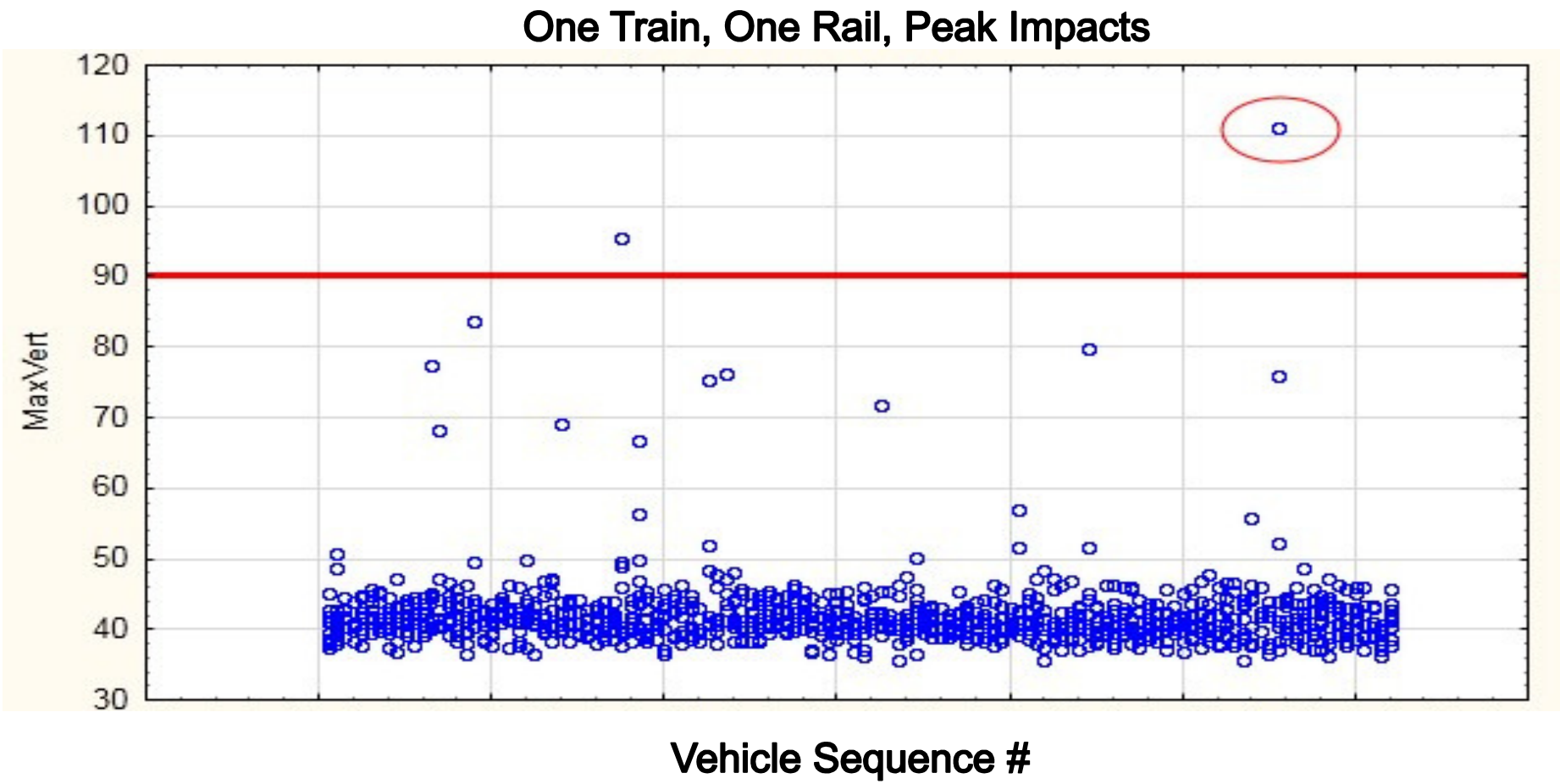
# Alarm Integrity

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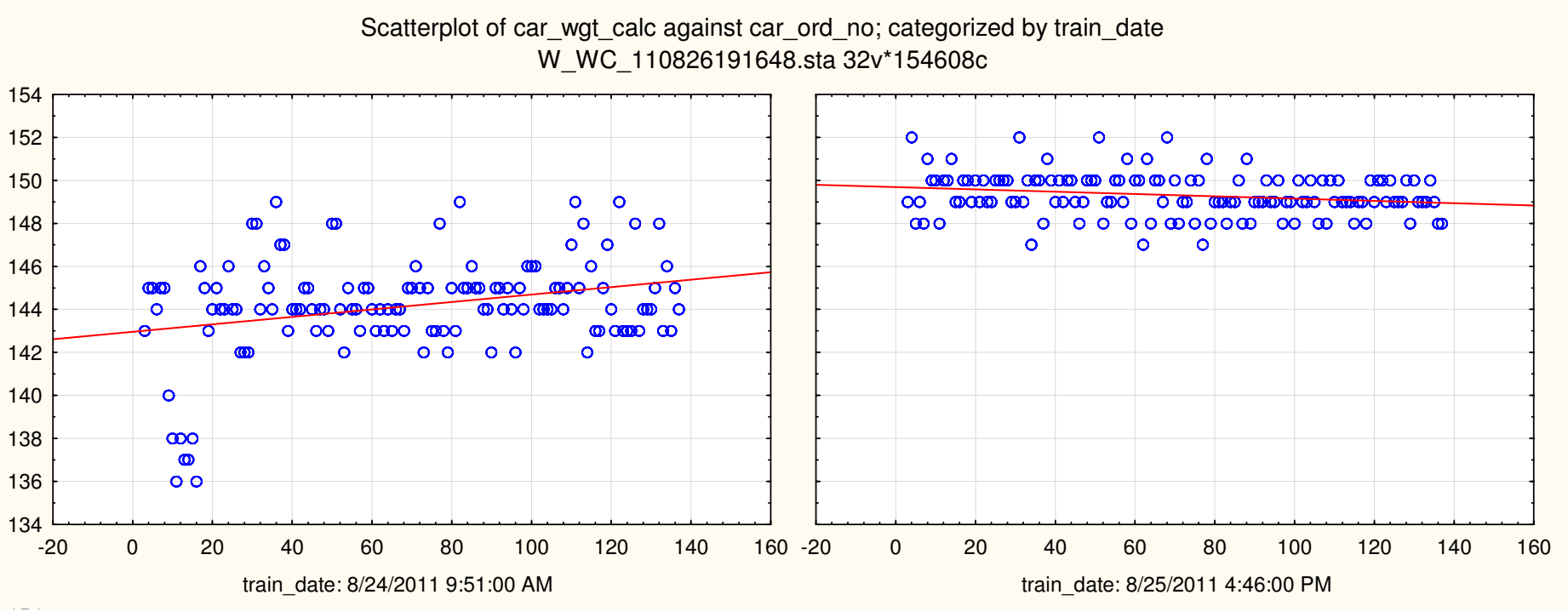
# Alarm Integrity: Car Weight difference by Site




- Between Site Difference
  - 5-6 Ton weight difference
  - 1-2 kip wheel vertical force difference

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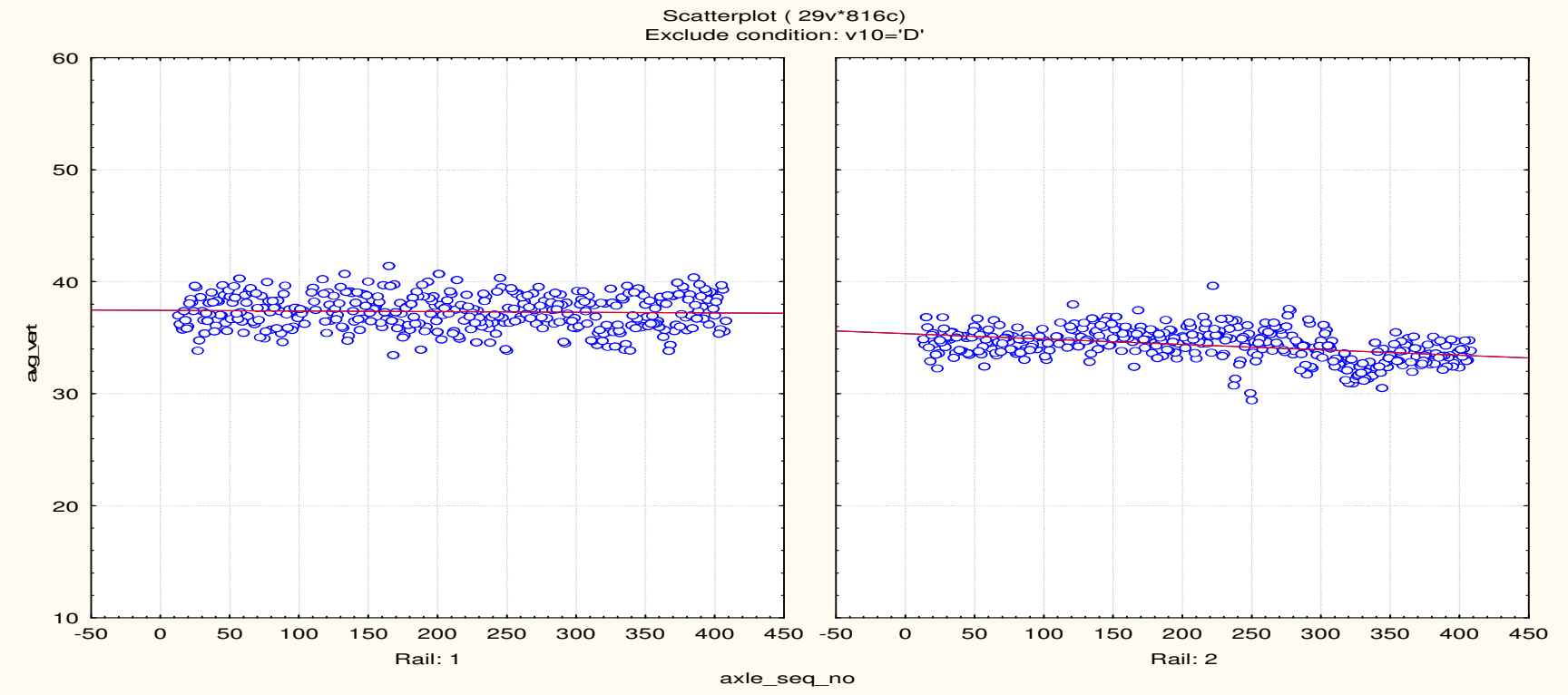
# Alarm Integrity: Vertical force difference by rail




- Within Site Difference
  - 5 kip wheel vertical force difference between rails

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# Studies and Reports Pending

- Alarm Integrity
  - Other Detector Types (2012+)
    - Compare known cases against other detector types
    - Publish technical digests as each study completed
  - Ongoing review as new examples are found


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# Questions?


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