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
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
WILD Variation vs. Anomalies
WILD Variation vs. Anomalies

Trend over time

Wheelset was changed out and car was in service

Wheel is in good condition
WILD Variation vs. Anomalies
WILD Variation vs. Anomalies
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
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
One Train, One Rail, Peak Impacts

Vehicle Sequence #
Between Site Difference

- 5-6 Ton weight difference
- 1-2 kip wheel vertical force difference
Alarm Integrity: Vertical force difference by rail

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