U.S. Department of Transportation
Federal Motor Carrier Safety Administration
Office of Analysis, Research, and Technology

Data Quality Improvement

Working Together to Understand and Overcome Challenges

CVSA Annual Workshop
Information Systems Users Workshop
April 7, 2014

SSDQ
State Safety Data Quality Program



Office of Research and Information Technology

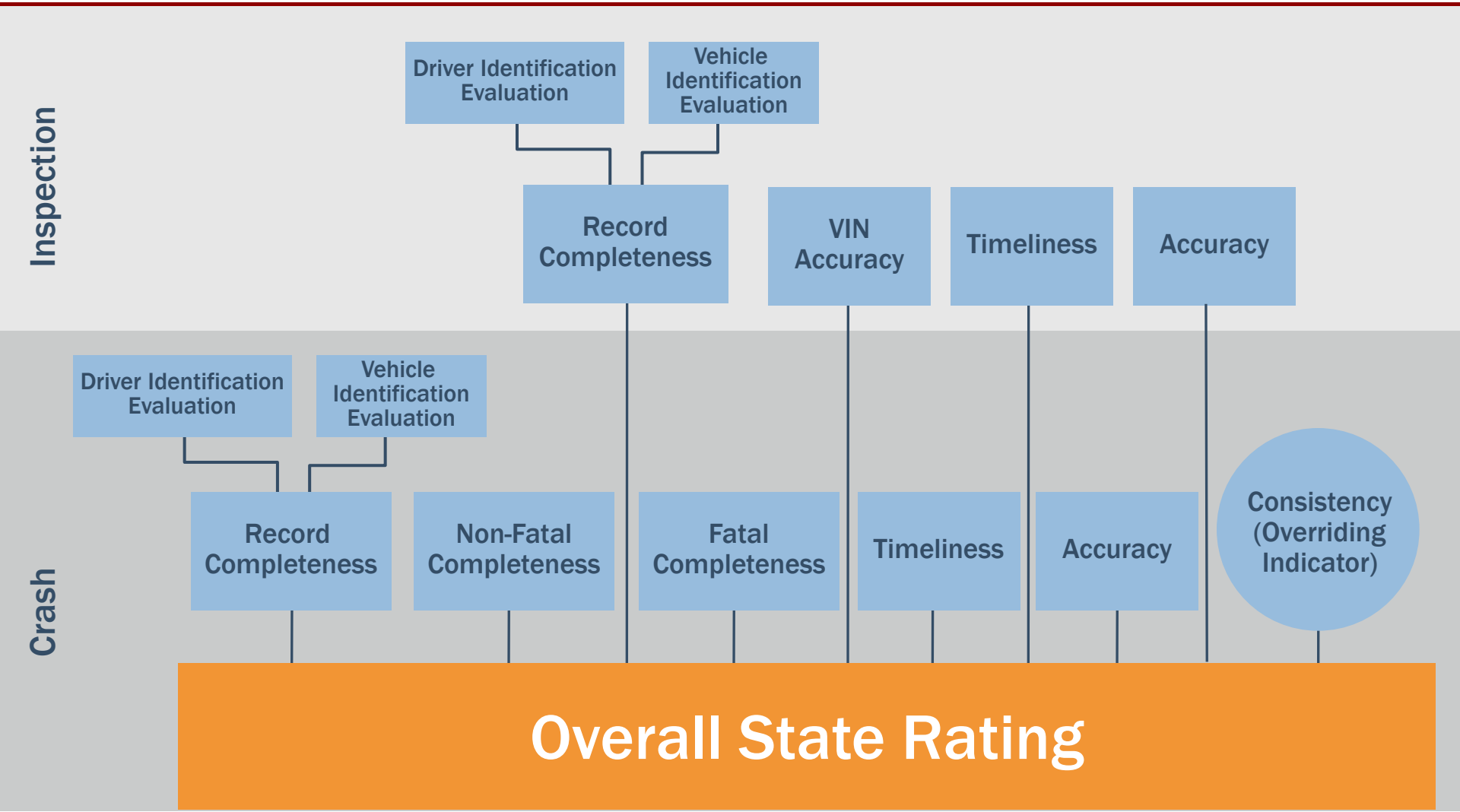
Session Objective

- Share the data quality improvement strategies and how they have evolved over the years
- Look at the potential of Federal Motor Carrier Safety Administration (FMCSA) safety programs over the next 5 to 10 years
- Seek input to better understand the challenges of implementing modifications

Data Quality Goals

- Collect all reportable crash records and inspection records
- Collect the records on time
- Capture complete carrier, driver, and vehicle data
- Continuously improve data quality

State Safety Data Quality (SSDQ) Measures



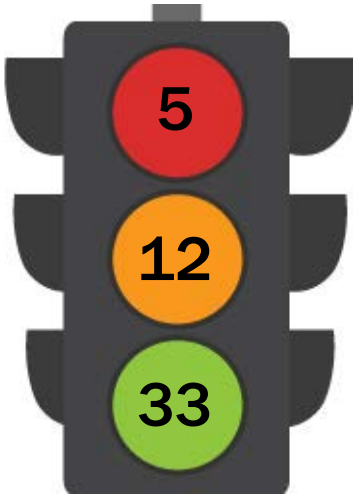
Continuous Improvement – Keep Moving Forward!

- Government should be transparent…Government should be participatory…Government should be collaborative."
  - Memo from President Obama "Transparency and Open Government"

Solution: Continuous Improvement

- Challenge
  - How do we use SSDQ measures to improve data quality?
  - How “green is green?”
  - How can we “raise the bar?”
- Potential Improvements
  - “Good” SSDQ has different shades of green
  - Use Safety Data Improvement Program grants for States that contribute a lot of crashes or inspections that don’t meet a “Good” standard
- Feedback
  - How can FMCSA support you with making incremental improvements to the SSDQ?

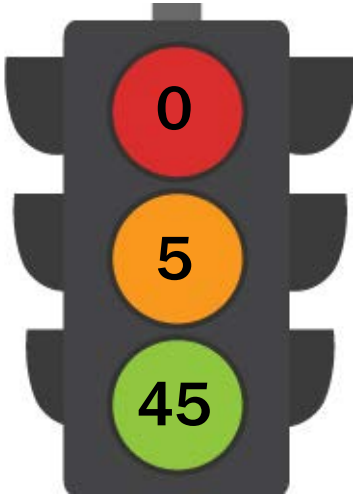
Solution: Modify the Non-Fatal Crash Completeness Measure



*1 State with insufficient data

- Challenge
  - Methodology and results can be difficult for States to understand
  - Refresh data analyses to better include very large and small States
  - Keeping the measure current to represent all States
- Potential Improvements
  - Update previous State analyses to provide more timely and accurate information
  - Make measure more complex
  - Verify critical steps in the crash upload process
- Feedback

Solution: Modify the Fatal Crash Completeness (FCC) Measure



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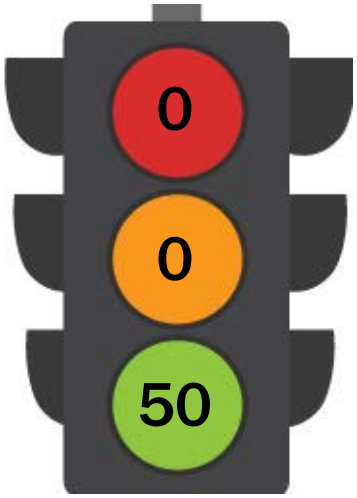
- Challenge
  - FCC compares counts between the Fatality Analysis Reporting System (FARS) and the Motor Carrier Management Information System (MCMIS)
  - FCC reflects year 2012 due to FARS data availability
  - Differences in definitions between FARS and MCMIS
- Potential Improvements
  - Make FCC a one-to-one comparison between FARS and MCMIS
  - Work towards obtaining more current FARS data to support the FCC
  - Secure relationships between the Motor Carrier Safety Assistance Program Office and FARS analysts to identify crashes
  - Understand and document the differences in definitions between FARS and MCMIS
- Feedback

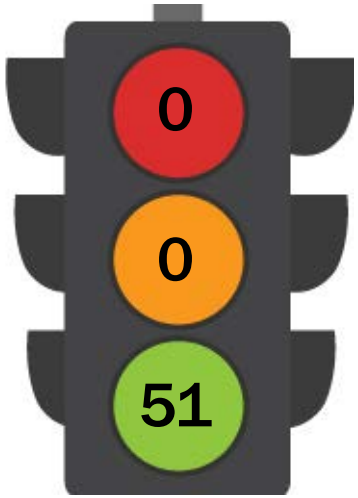
Solution: Modify the Record Completeness Measures

- Challenge
  - Crash Measure primarily counts whether a field contains a value, with few edit checks
- Potential Improvements
  - Increase edit checks to ensure good data are being submitted
  - Examine possibilities of increased stringency
- Feedback

Crash



Inspection



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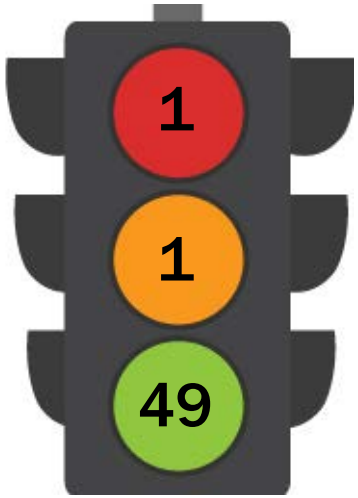
Solution: Modify the Crash and Inspection Timeliness Measures

- Challenge
  - Measures do not reflect electronic reporting criteria
  - “Raise the bar”—more stringent rules to better support the Safety Measurement System
- Potential Improvements
  - Make the Crash and Inspection Timeliness Measures more stringent than 90/21 days
  - Improve the Inspection Timeliness Measure to reflect the seven-day recommendation for inspection timeliness
- Feedback

Crash

Inspection



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