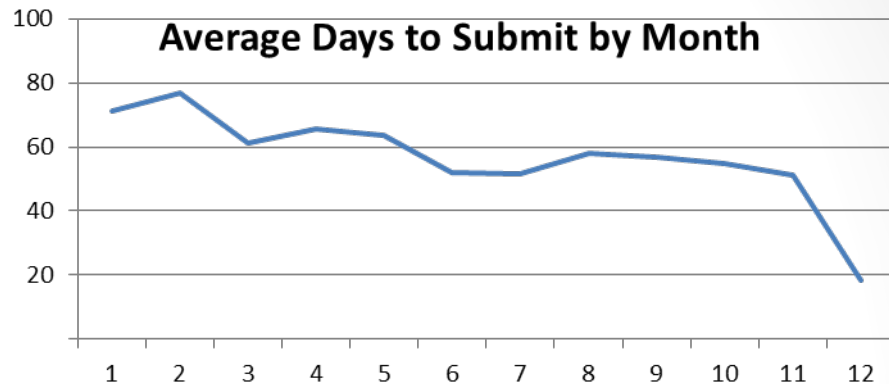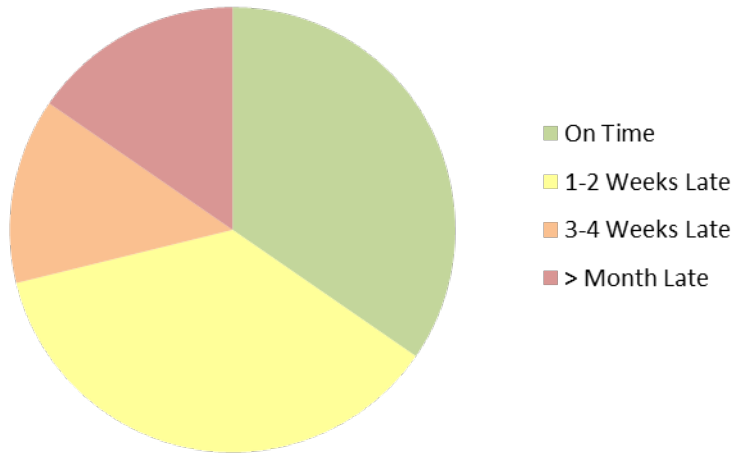# National Level Performance Measurement

David Winter
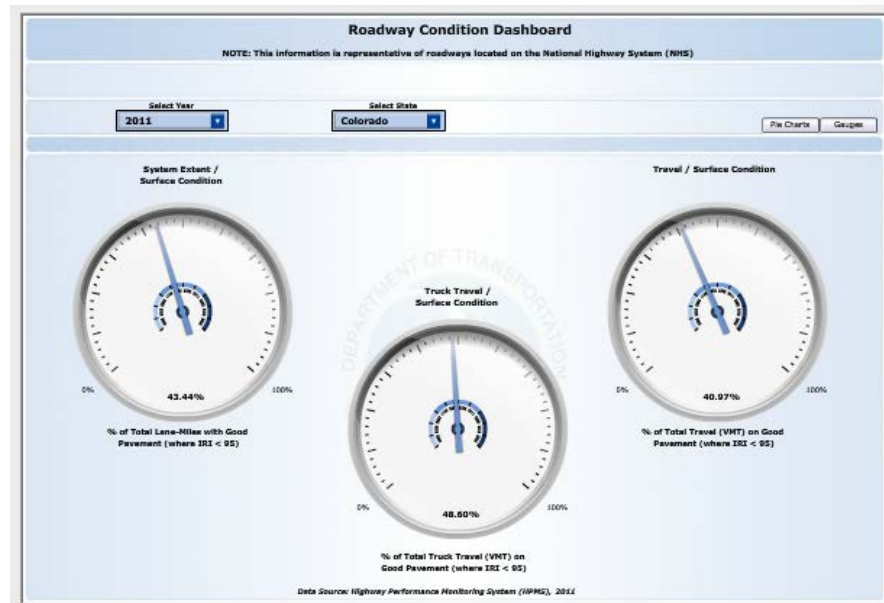
Office of Highway Policy Information, FHWA

Simple Measures...

Initial 2013 HPMS Submittal
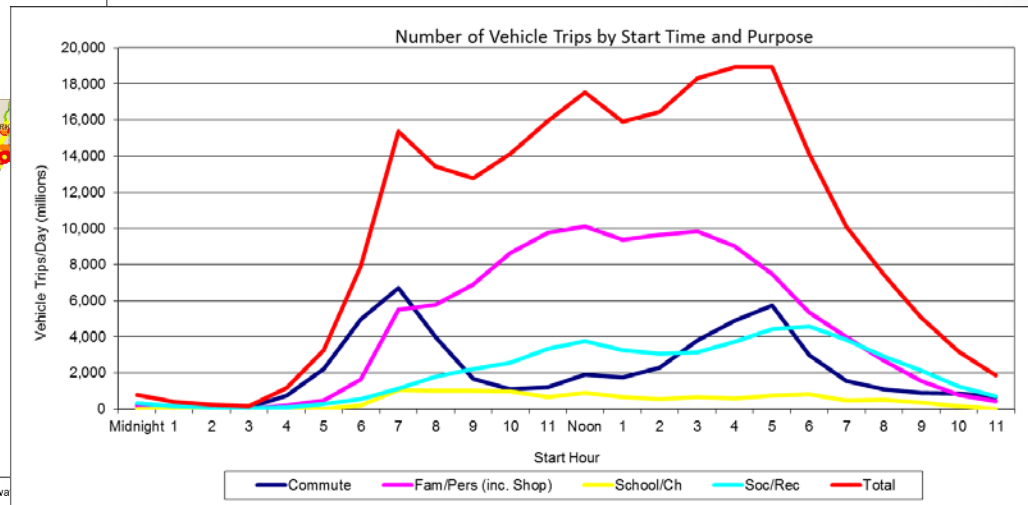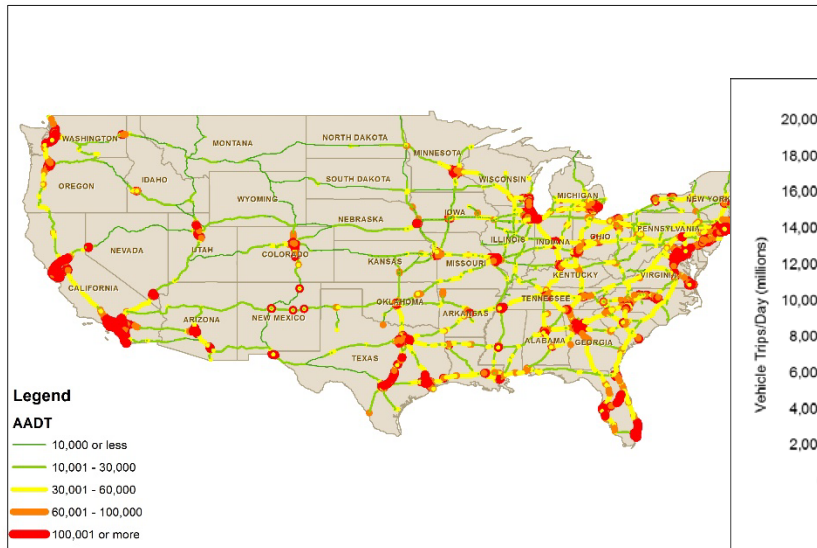

Pie chart legend:
- On Time (green)
- 1-2 Weeks Late (yellow)
- 3-4 Weeks Late (orange)
- > Month Late (red)

Average Days to Submit by Month

Year	Public Road Mileage	Lane Miles	VMT (in millions)
1980	3,859,837	7,922,174	1,527,295
1981	3,852,473	7,856,560	1,555,308
1982	3,865,894	8,012,913	1,595,010
1983	3,879,617	8,055,068	1,652,788
1984	3,891,464	8,076,149	1,720,269
1985	3,863,912	8,017,994	1,774,826
1986	3,877,941	8,048,512	1,834,872
1987	3,873,992	8,051,015	1,921,204
1988	3,870,744	8,048,008	2,025,962
1989	3,876,865	8,062,952	2,096,487
1990	3,866,926	8,051,081	2,144,362
1991	3,883,920	8,087,793	2,172,050

Roadway Condition Dashboard

More Detailed Measures...

Legend
AADT
— 10,000 or less
— 10,001 - 30,000
— 30,001 - 60,000
— 60,001 - 100,000
— 100,001 or more

Produced by the Office of Highway
Source: 2011 HPMS

Number of Vehicle Trips by Start Time and Purpose

April 19, 2013

3

National Performance Measures…

Current measures are:
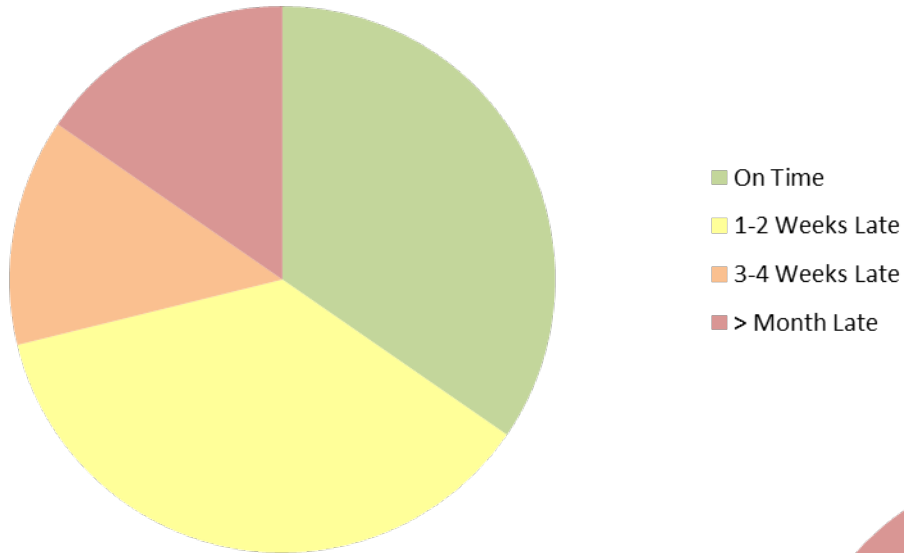
- Interesting
- Somewhat informative
- Colorful

But…

- Do not tell the whole story
  - Year to year changes
  - Data quality and completeness
  - One dimensional - no correlation or causation
- Are not interactive
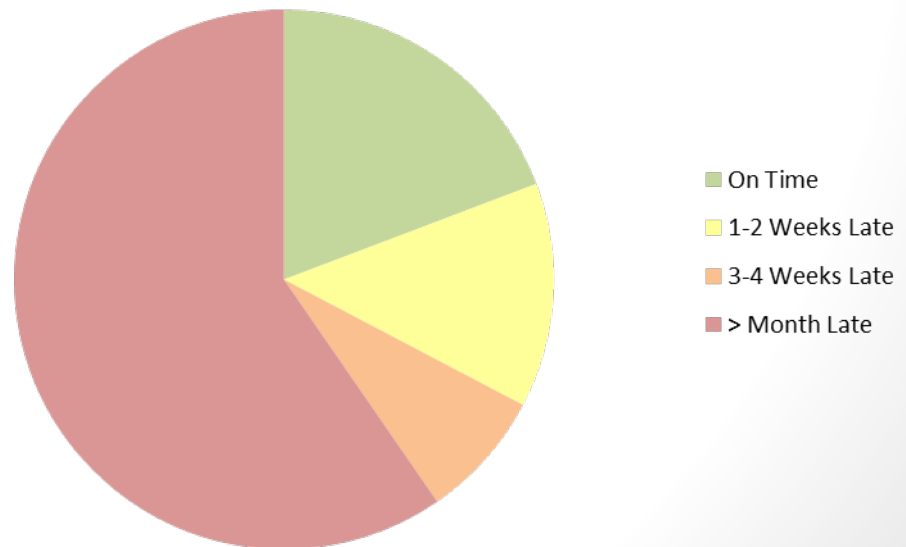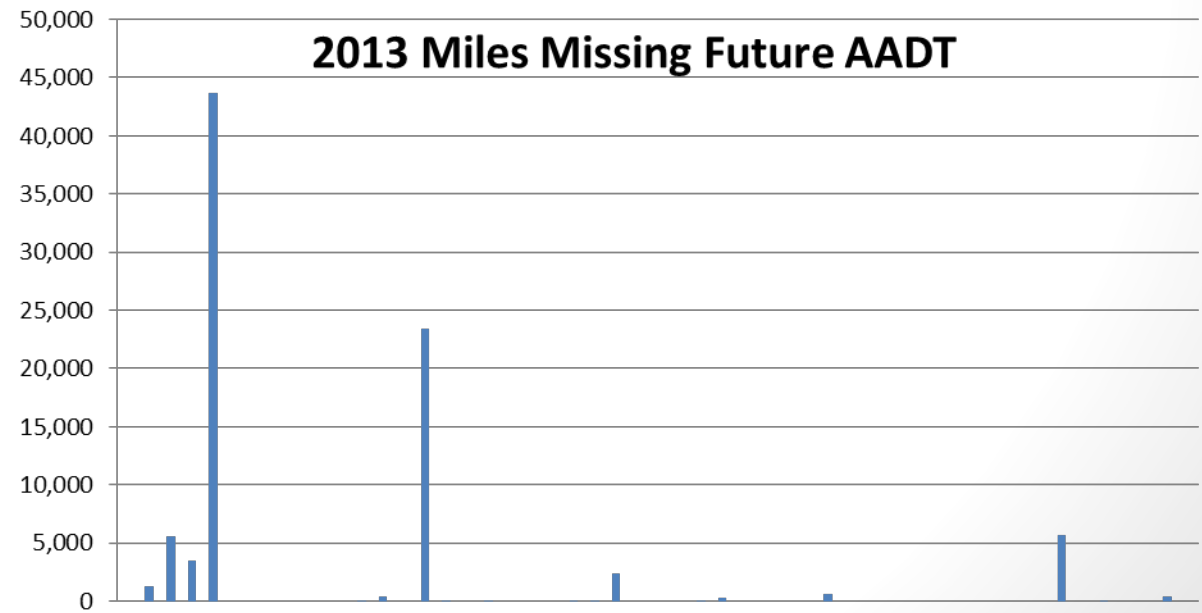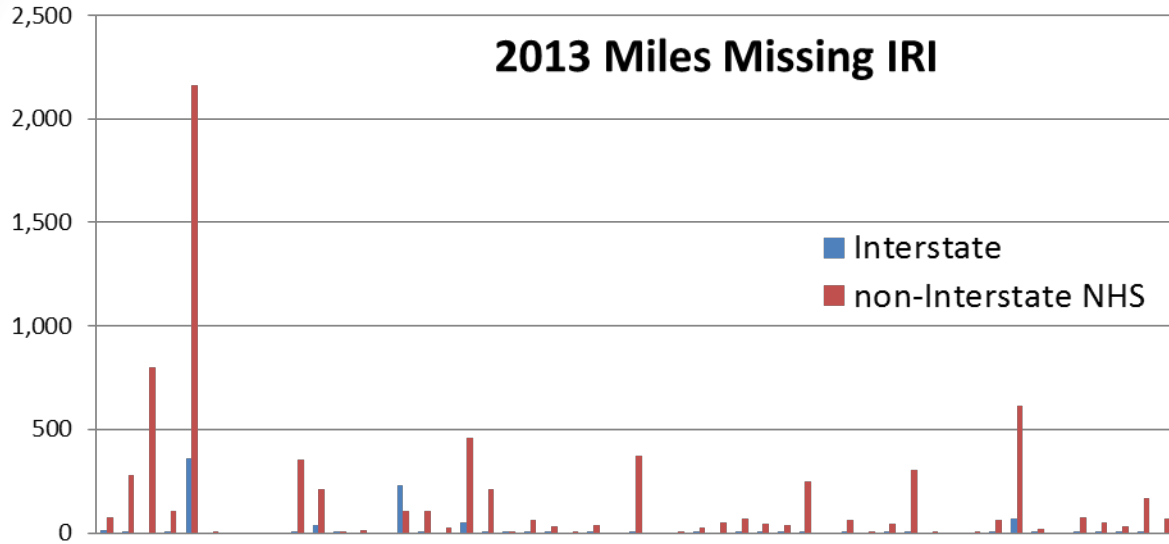- For the most part are only available within FHWA

4

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Data Quality - HPMS

Initial 2013 HPMS Submittal

- On Time
- 1-2 Weeks Late
- 3-4 Weeks Late
- > Month Late

Final 2013 HPMS Submittal

- On Time
- 1-2 Weeks Late
- 3-4 Weeks Late
- > Month Late

5

U.S. Department of Transportation
Federal Highway Administration

Data Quality - HPMS

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Federal Highway Administration

Data Quality – HPMS
Interstate Pavement Smoothness
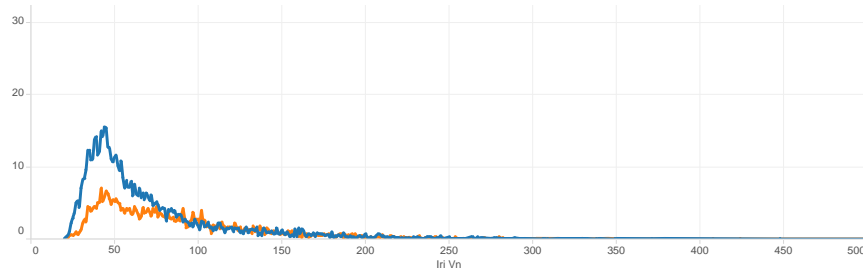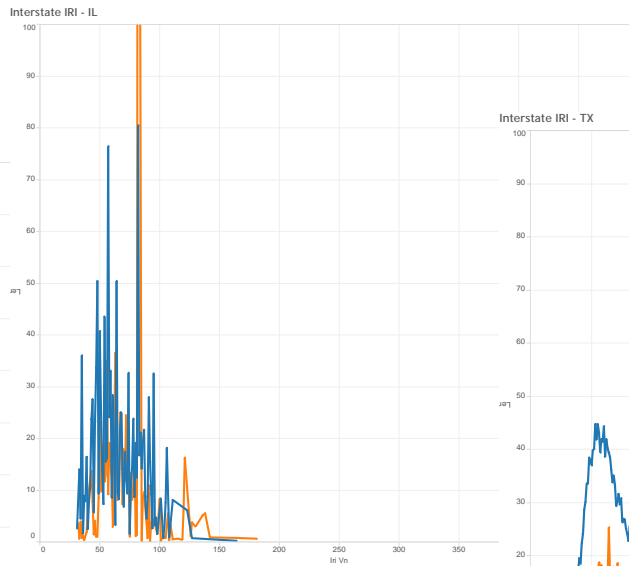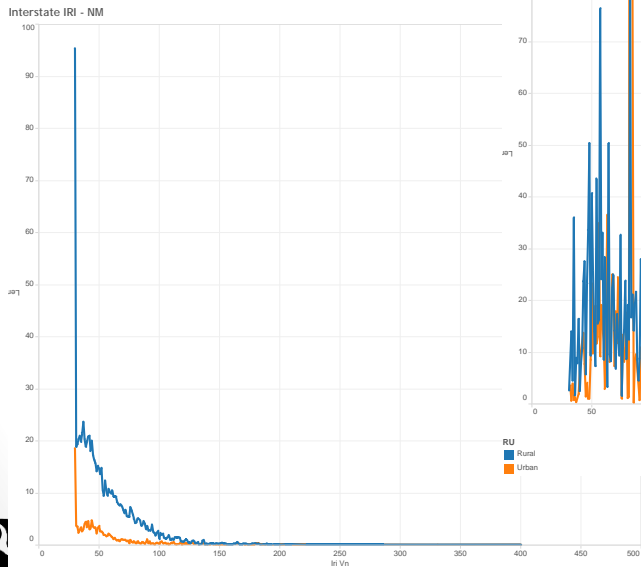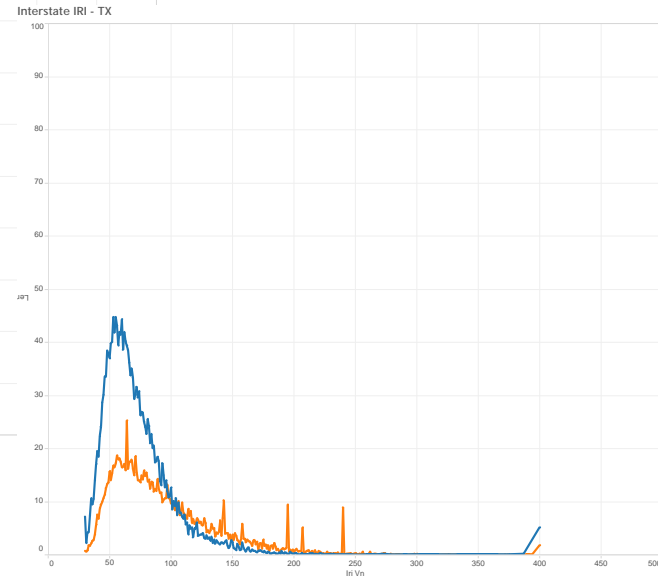
Data Quality – HPMS Section Level Analysis

2012 in blue

Reasonableness

8

Data Quality – IRI

9
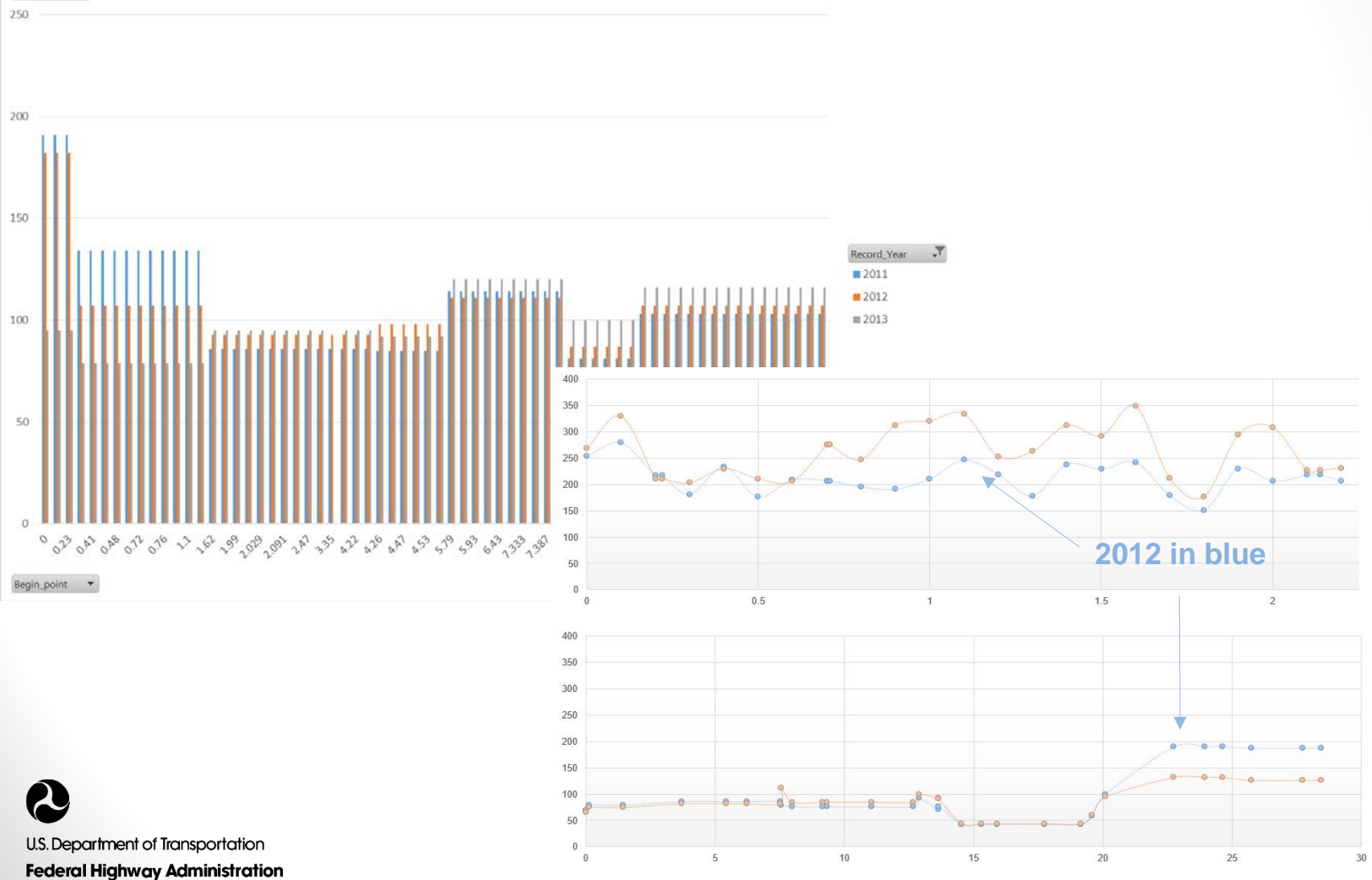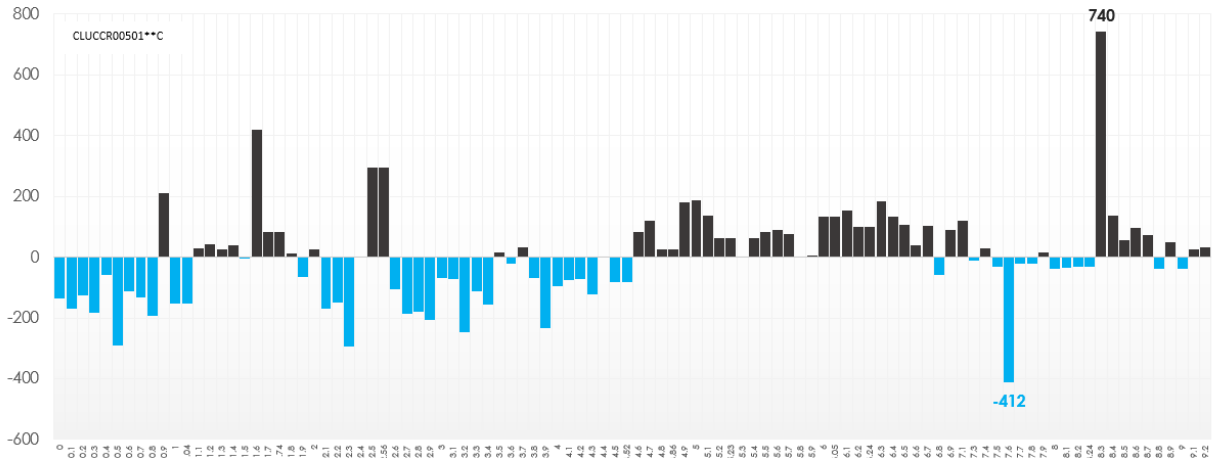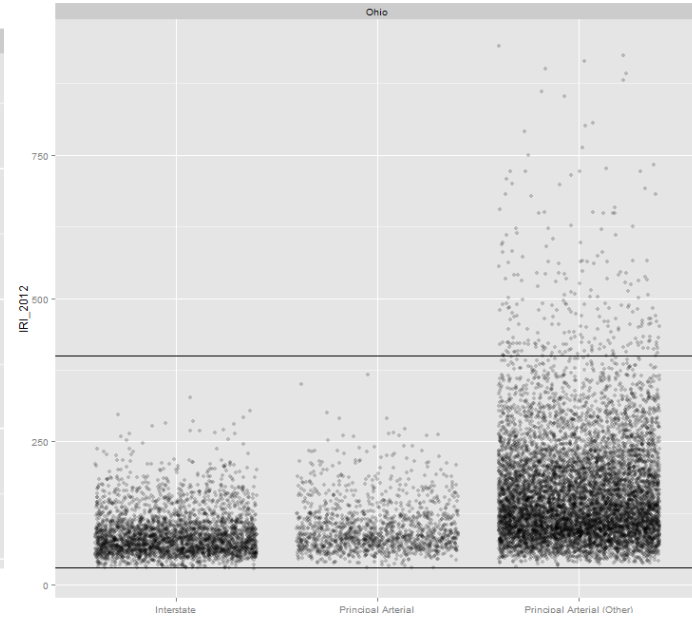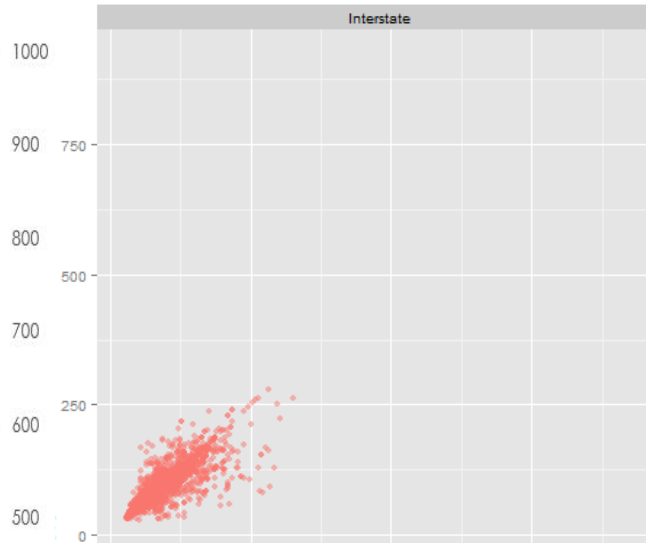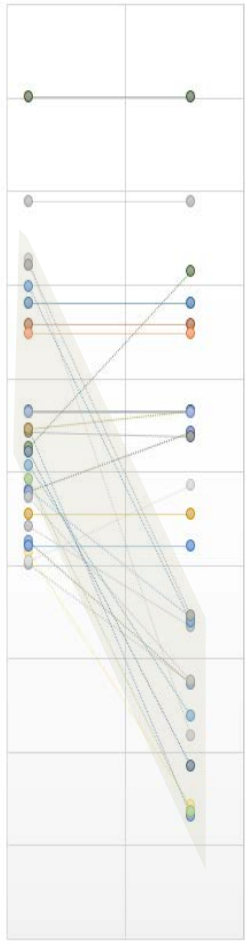
How Do We Address Gaps

- Exploring best practices – States and federal agencies
- Data governance – improve data consistency across systems
- Increased use of data quality report cards – timely feedback
- Exploring making HPMS a (partially) transactional system
- Moving public data to cloud
- Testing cloud for data submittal and analysis
  - HPMS
  - NBI
- Developing cadre of Data Scientists
  - Skills
  - Tools
  - Hardware

Data Visualization

- Data Visualization Center
  - On and off site contractors developing innovative ways to visualize data
  - Helping to develop better data analytics
  - Educating staff and building competency

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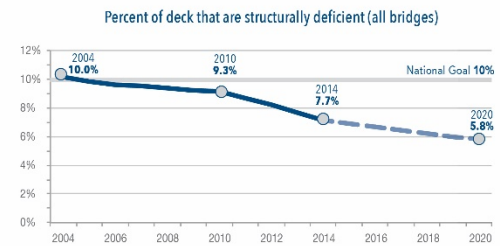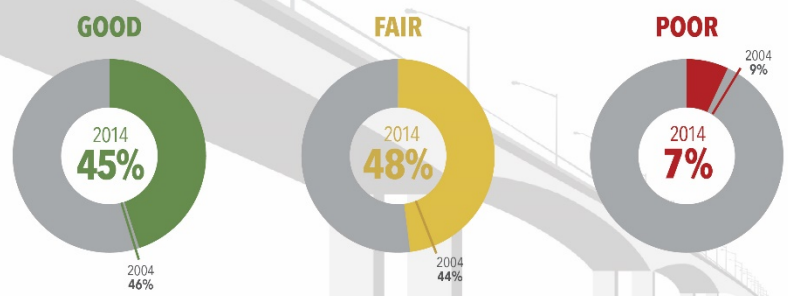
All Road Network – ARNOLD

- Geospatial backbone for data programs:
  - HPMS
  - NBI
  - FMIS
  - GCIS
- Allows for easier data integration, spatial analysis and visualization
- Includes all public roads and dual carriageways
- Future efforts will focus on federal roads and privately owned public roads
- Census and USGS interested in using…

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National Address Database

- U.S. DOT interested in supporting the development
- Strong national support
  - Various federal agencies
  - State and local governments
  - Private sector
- Will build upon data currently collected by states and locals
- FHWA role uncertain at this time
- Some interest in storing in or linking to HPMS and ARNOLD

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Thank You!

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