So Many Choices; So Much Data

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The Years of Worst First

The Easy Age to Better Data

- "Measuring" Pavement Condition
  - Panel Ratings
  - Small Samples

- Fairly easy to summarize and use

Learning from data

- Could not build our way out
- Started to see ranges for mix of fixes strategies
- Mix of fixes toolbox was growing
  - Overlays, seals, recycling, grinding, etc.
- Bigger push for data driven decisions

Data improved with needs and use

- Profilers
  - ~100% sample (at least longitudinally)
  - Objective
  - Repeatable
  - Uses: roughness, rutting, faulting

More data, more effort to use it

- Profile → IRI (calibrated to old ride index)
- Profile→ Automated Faulting (calibrated to old manual measurements)
- Profile → Automated Rutting (calibrated to old manual measurements)
- (Cracking was still a visual assessment)

Fat and Happy all going well

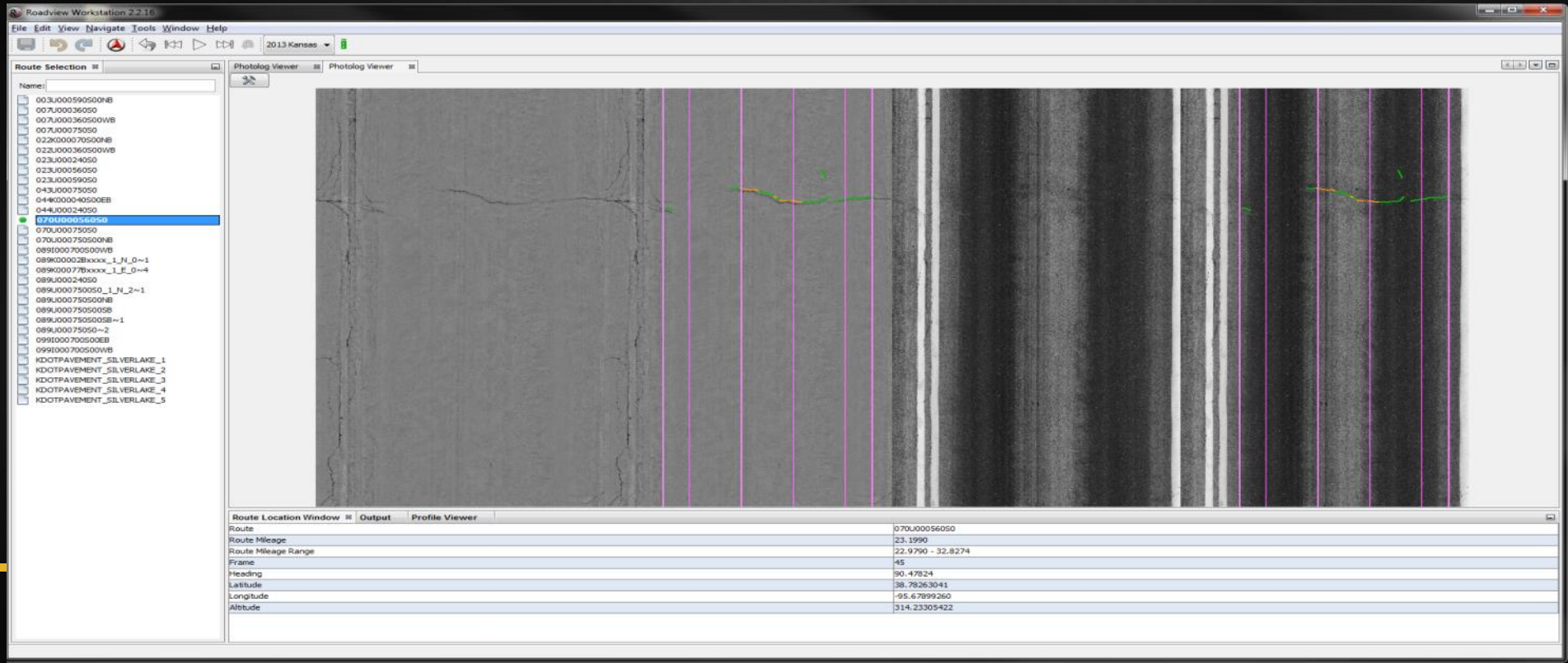
- And then…
- Maybe we can/should get more/better data
  - ~100% sample
  - Objective/repeatable
  - Surface 3-D
    - Roughness(es), rutting(s), faulting(s), cracking(s)

Data, data, everywhere; like a fire hose

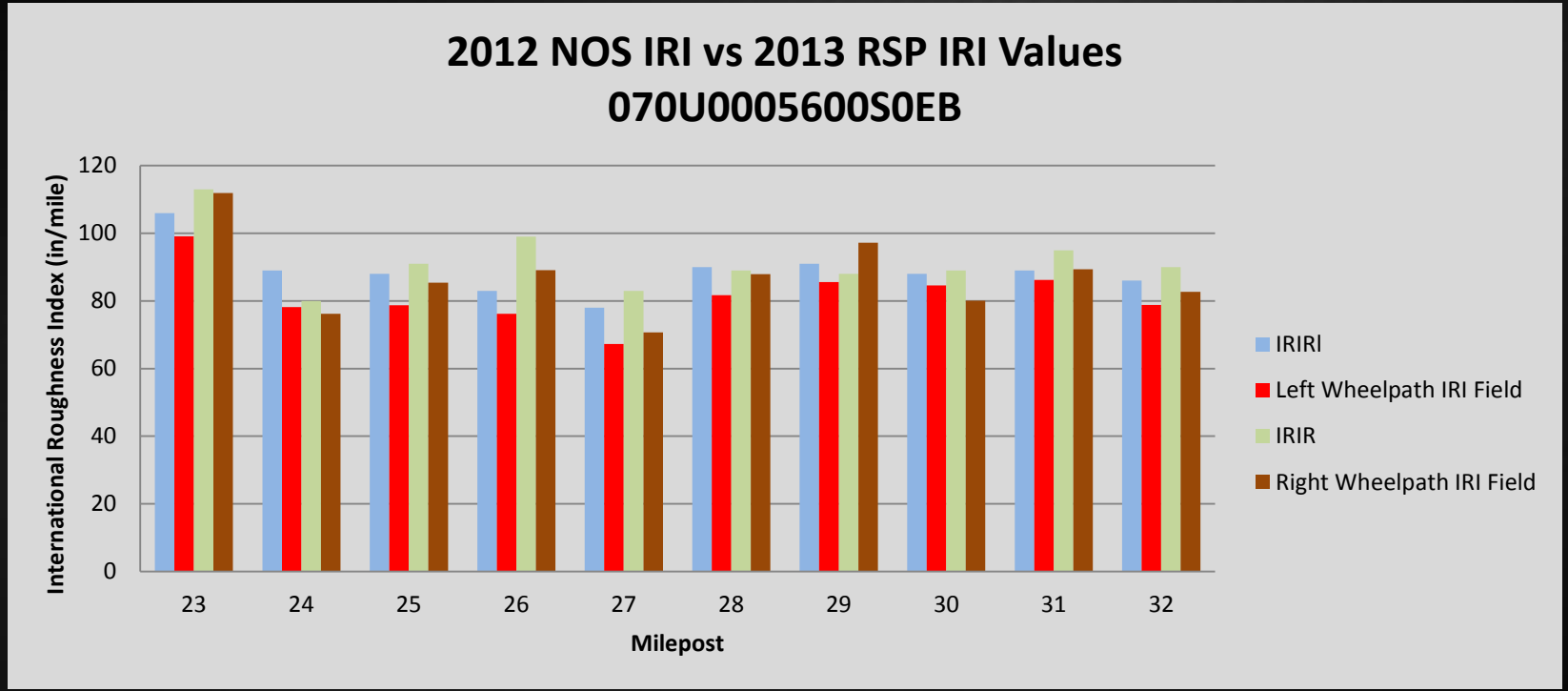
- At this point mimicking our previous data
  - Roughness from profile in wheelpath (simulated point or 4-inch spread)
  - Rutting from 5-point
  - Faulting from ????
  - Cracking well, this is hard to compare back…but that did not stop us.

Comparisons(not Calibration)

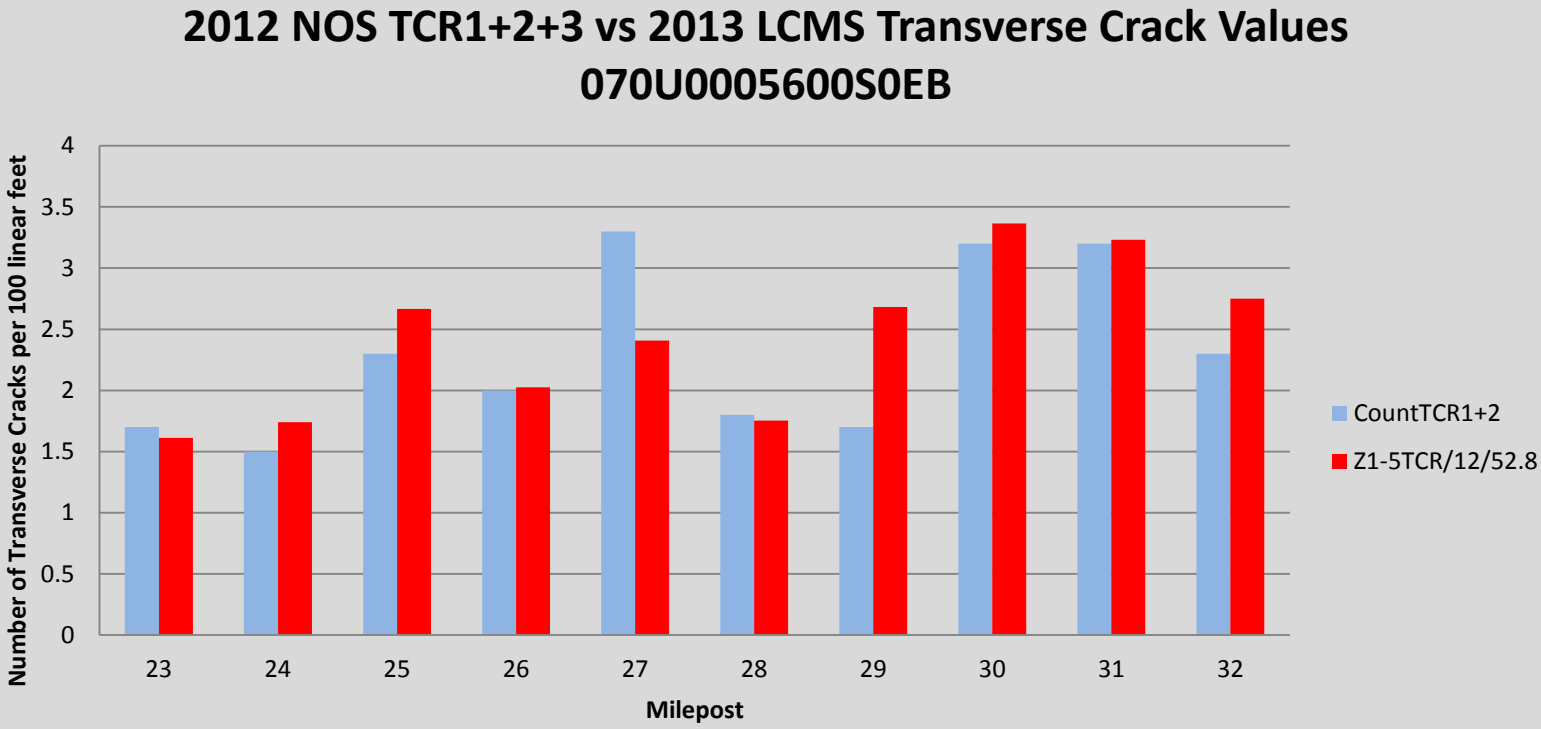
Range and Intensity on U-56



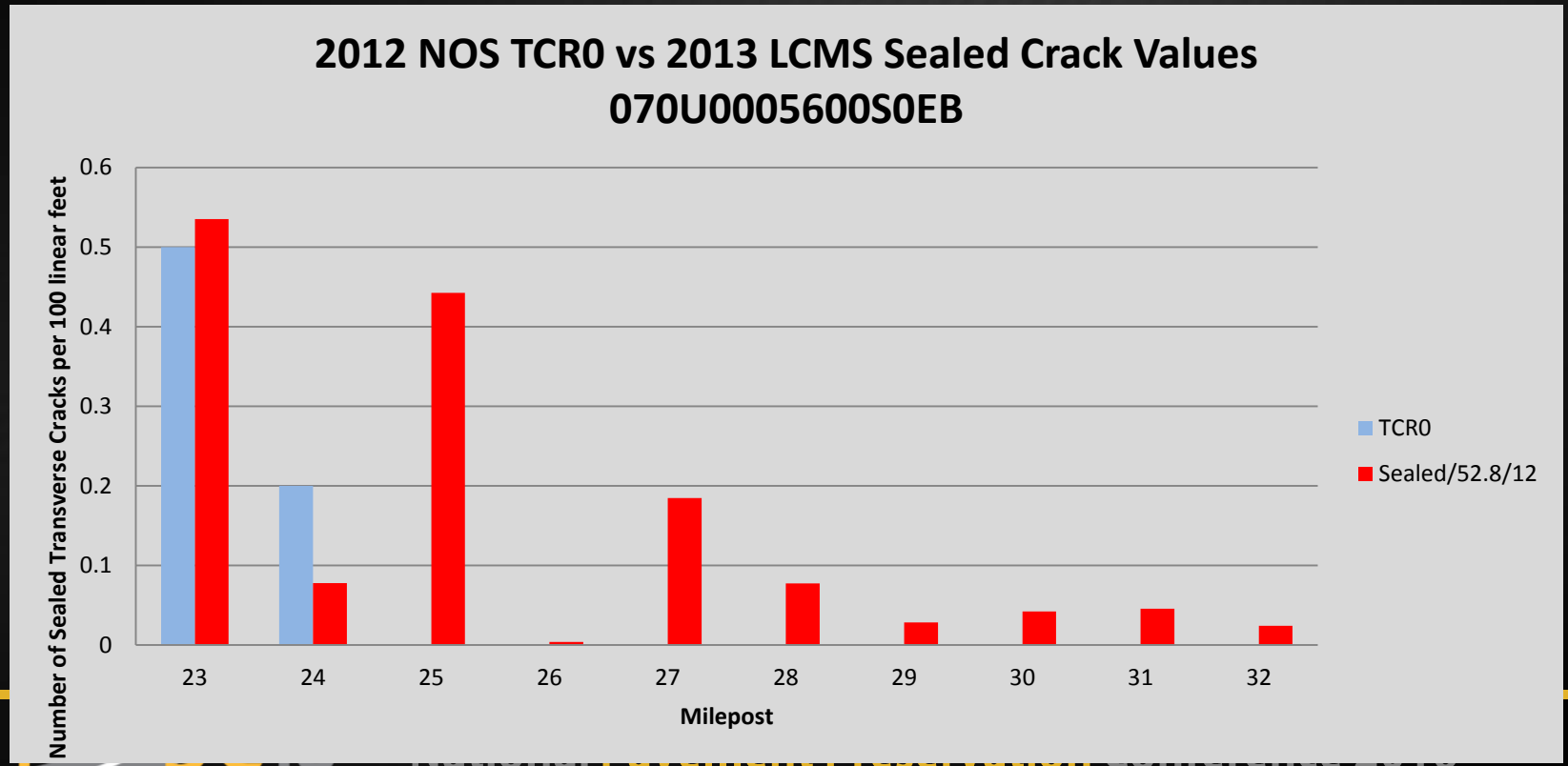
2012 NOS vs 2013 RSP IRI



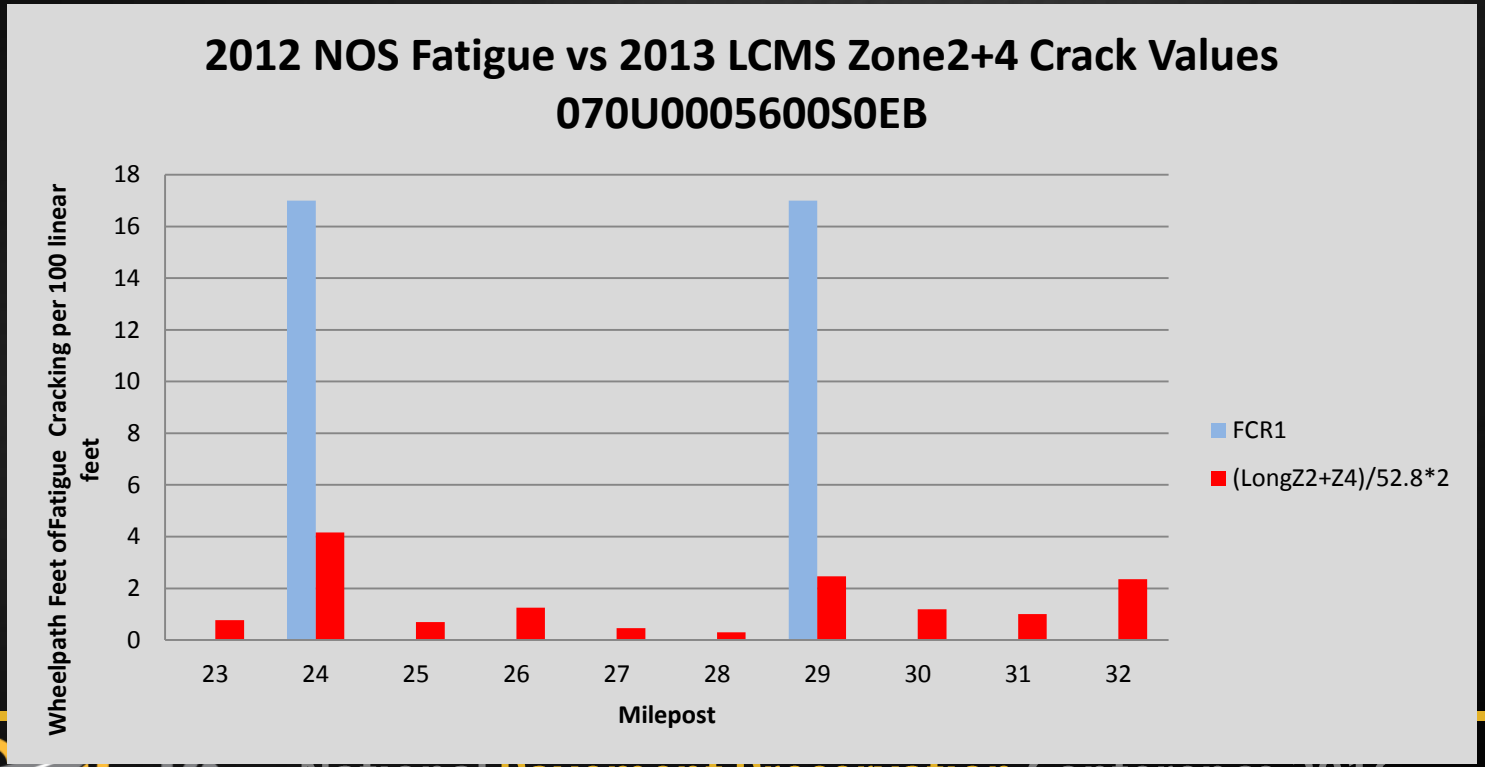
Comparing Transverse Cracks



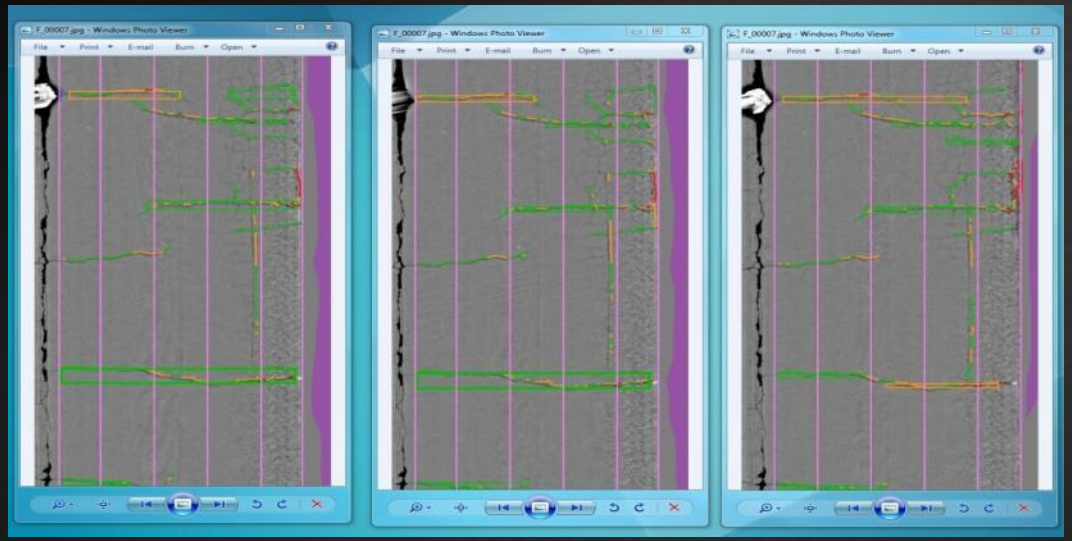
2012 NOS Sealed Transverse vs LCMS Sealed Cracks

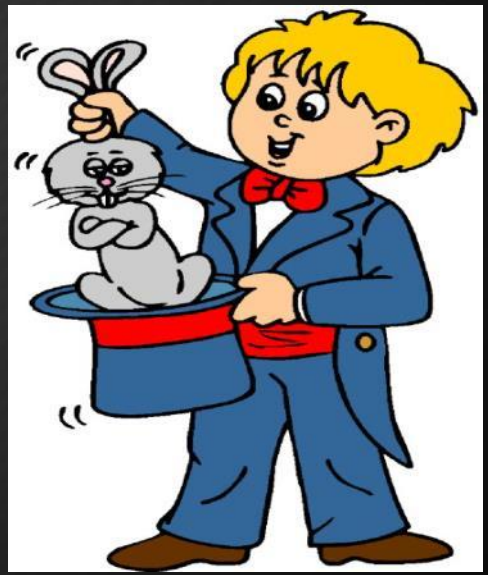


Fatigue Cracking Comparison



Lessons Learned? From 2013





Lessons Learned Since 2013

- Finally got over comparing new to old data
  - Profiler – gave us a continuous linear set of elevations. From those we could easily compute the IRI statistic and faulting. With 3 of these we could even compute rutting.
- Finally started thinking about opportunities to use the new data
  - Today we can get a 3-D surface elevation (and intensity map).
  - What do we do with all this data?
  - Why collect a surface of data and then throw most of it away to get back to where we were?

How do we use all this data?

- Evaluate different parts of the data to use to generate the input profiles to compute IRIs.
  - Maybe the roughness in the wheelpath relative to the roughness not in the wheel paths becomes meaningful
- Evaluate rutting using different methods of determining the 5 points; generate different statistics for pavement deformation
  - Maybe rutting needs to be tied to cross slope and vertical curvature to be meaningful
- Evaluate faulting at various locations relative to the joints (which were also found automagically)

So Much Data; So Many Choices

- Kansas has learned a lot through pavement condition data
- We are proud that we use the data to make decisions
- We continue to evaluate how to better use the data.