

All Roads Transportation Safety (ARTS) Program

Doug Bish

Traffic Services Engineer

Oregon Department of Transportation

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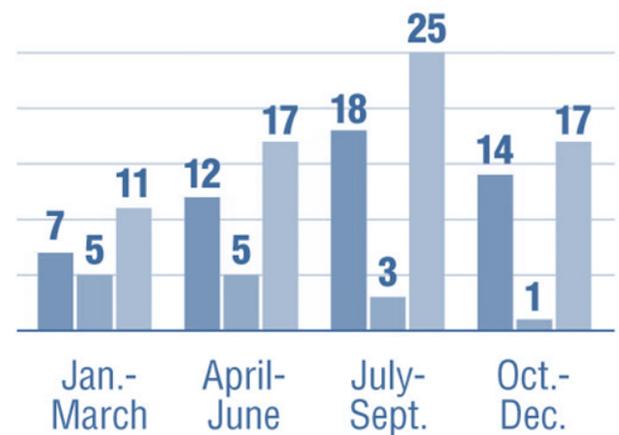
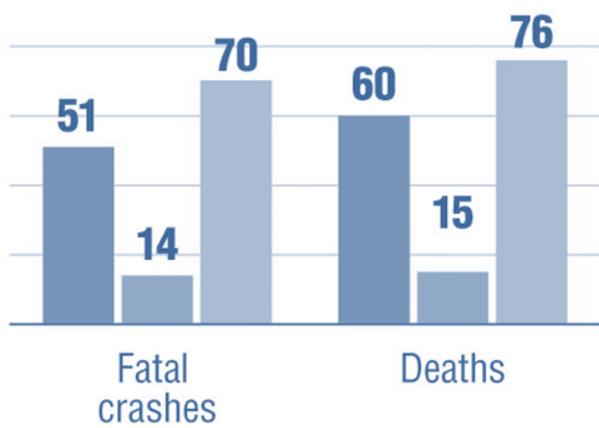
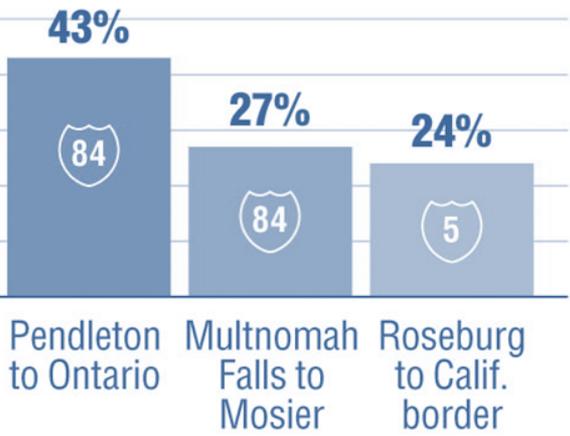




Oregon averages 1700 fatal and serious injury crashes each year



HSIP was traditionally only spent on State Highways, but 50% of our Fatal and Serious injury crashes occur on local agency roads



OTHER CRASH STATISTICS

from Jan. 1, 2002, to Dec. 31, 2011



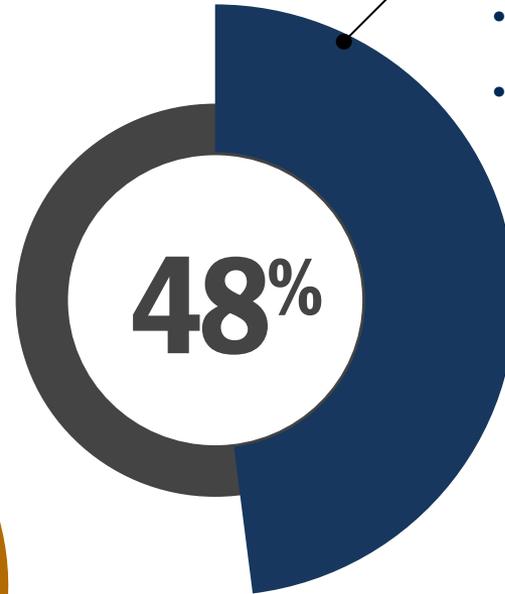
We developed a data driven process targeted at reducing Fatal and serious injuries

2009 - 2011

Fatal and serious injury crashes in Oregon by jurisdiction

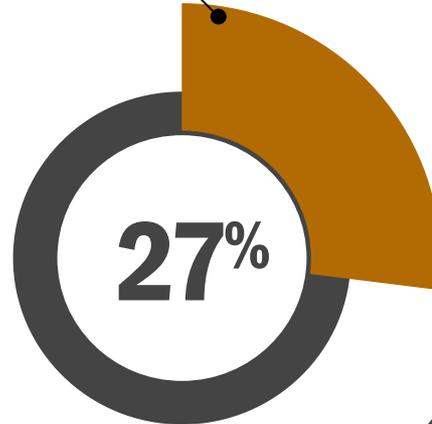
State Highways

- 2,100 fatal and serious injury crashes;
- 8,000 miles



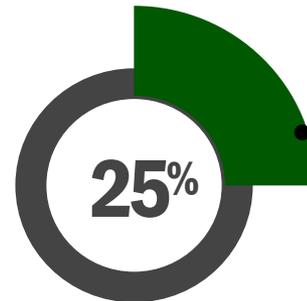
City Streets

- Urban Non-state;
- 1,200 fatal and serious injury crashes;
- 10,000 miles



County Roads

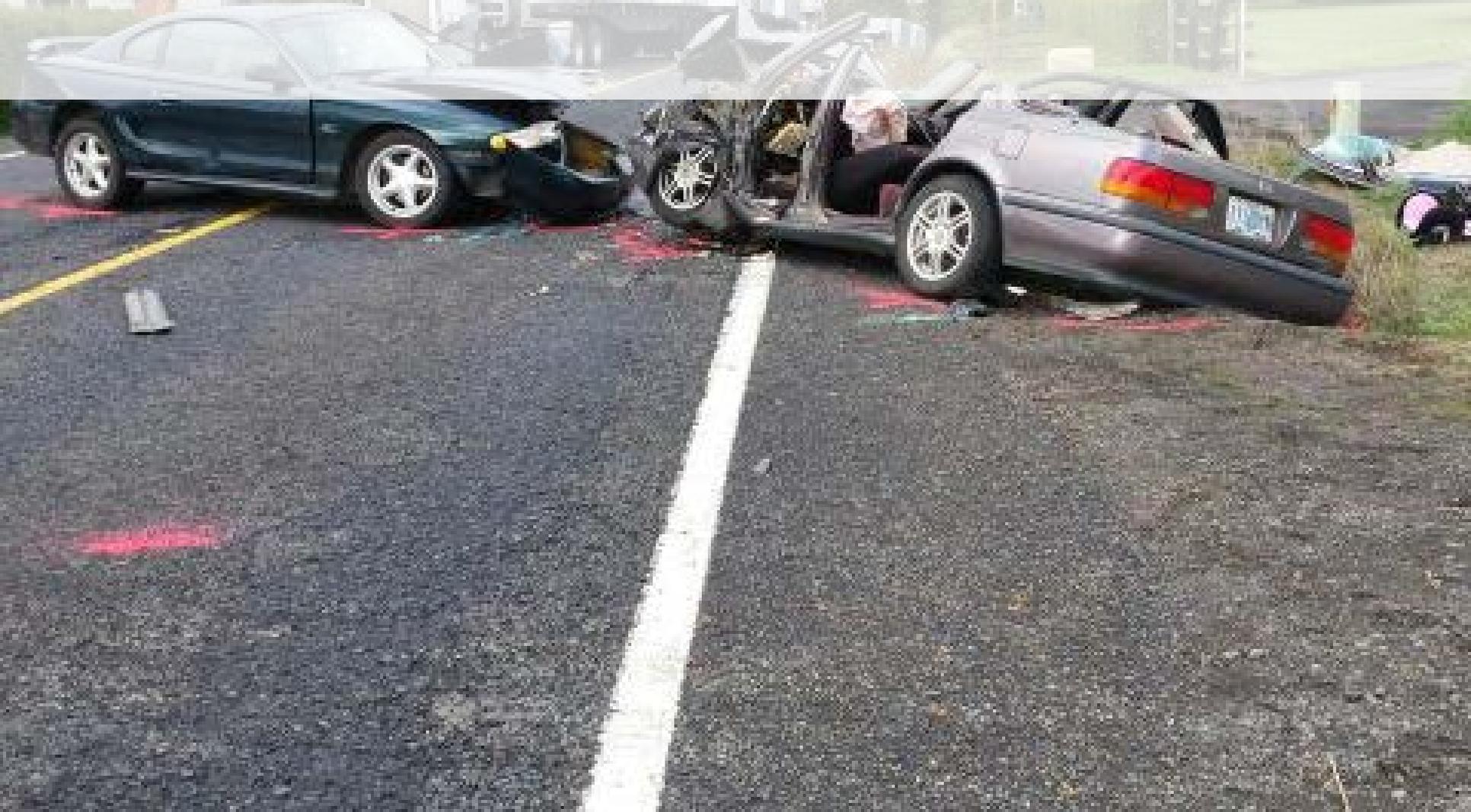
- Rural Non-state;
- 1,000 fatal and serious injury crashes;
- 26,000 miles





Using proven Safety Countermeasures and prioritizing based benefit/cost, we can get the most good for dollar spent

Using traditional hot spot methods we targeted locations with histories of fatal and serious crashes



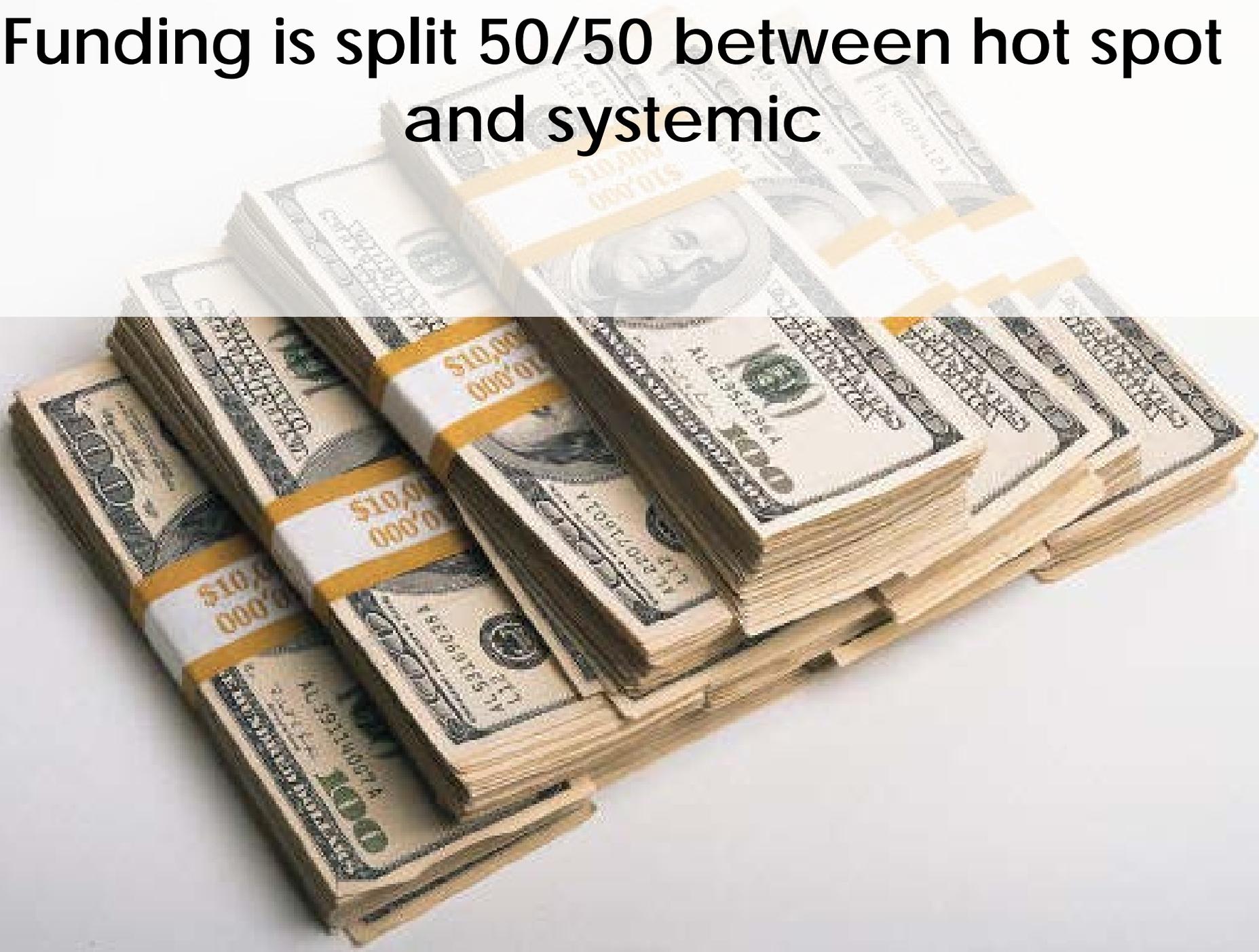
Using the Systemic approach half the funding will be used for low cost measures that can be widely implemented



ODOT rolled out a Transition program in 2013 to begin addressing local road safety with systemic measures



**Funding is split 50/50 between hot spot
and systemic**



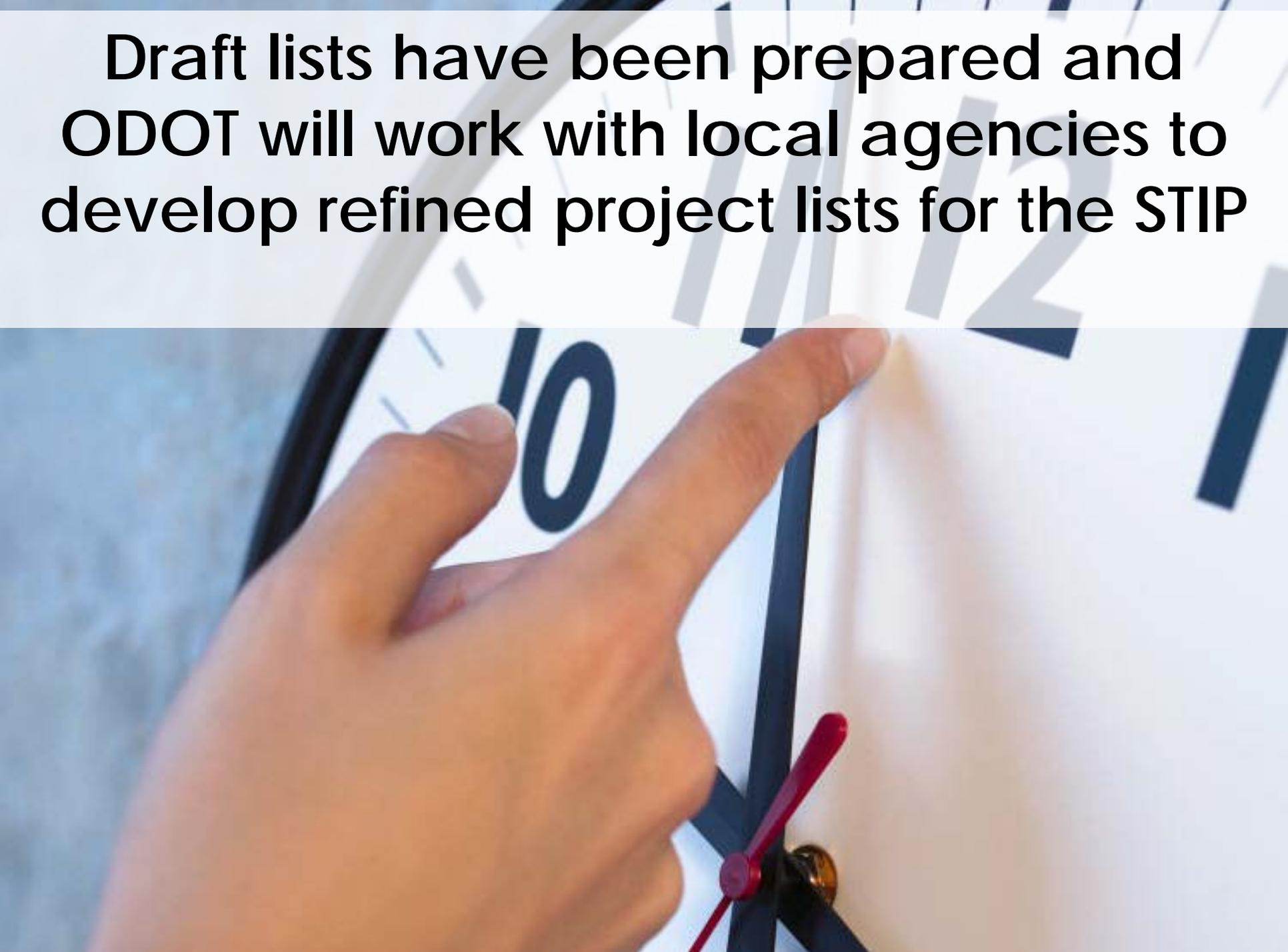


Hot Spot lists were developed and shared with local agencies who gave input into the selection of the projects



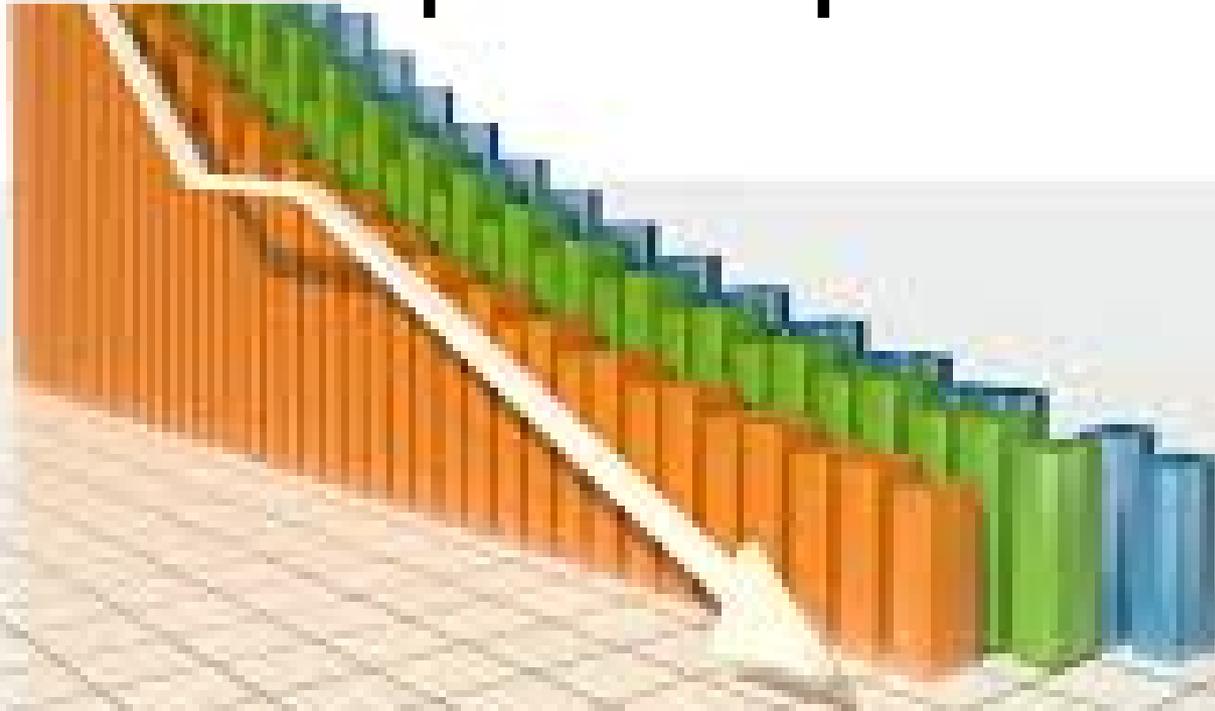
Systemic selection was through an application process, funding for each emphasis area was split roughly proportional to the amount of F&A

Draft lists have been prepared and ODOT will work with local agencies to develop refined project lists for the STIP



What impact could ARTS have on reduction of fatal and serious injuries?

Expect the combination of systemic and hot spot to outperform previous results



What are we hearing about ARTS?

We are hitting the target,
for the most part!!



What do is good about the process?

The data driven process

The transparency of the process

The involvement of the local agencies

The goal of the program

**Good projects are coming out of the
process**



What do they not like?

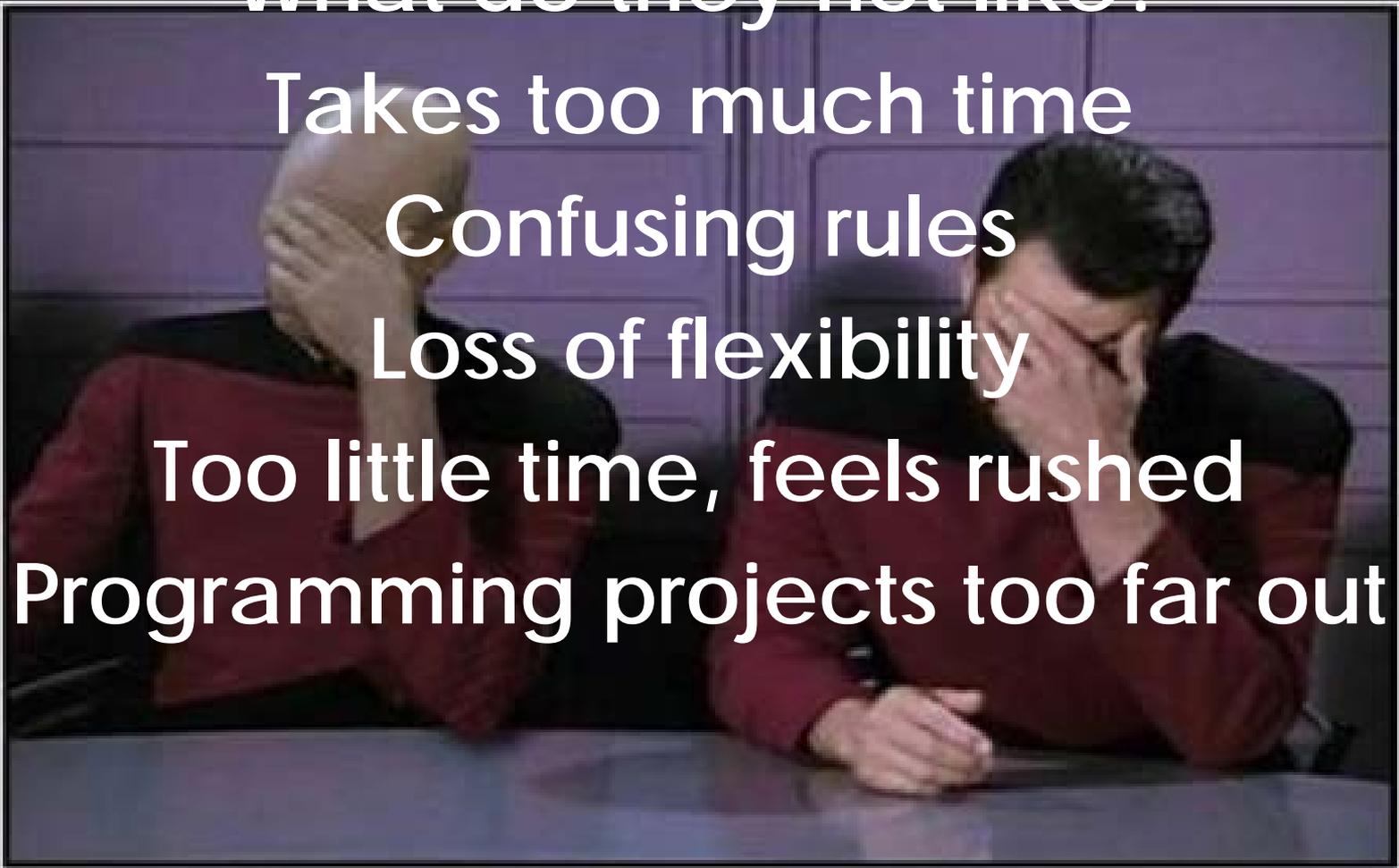
Takes too much time

Confusing rules

Loss of flexibility

Too little time, feels rushed

Programming projects too far out

A photograph of two men in Star Trek uniforms sitting at a table. Both men have their hands covering their faces in a gesture of exasperation or frustration. The man on the left is wearing a red and black uniform, and the man on the right is wearing a black and red uniform. They are sitting at a dark table with some papers on it. The background is a purple wall with a grid pattern.

DOUBLE FACEPALM

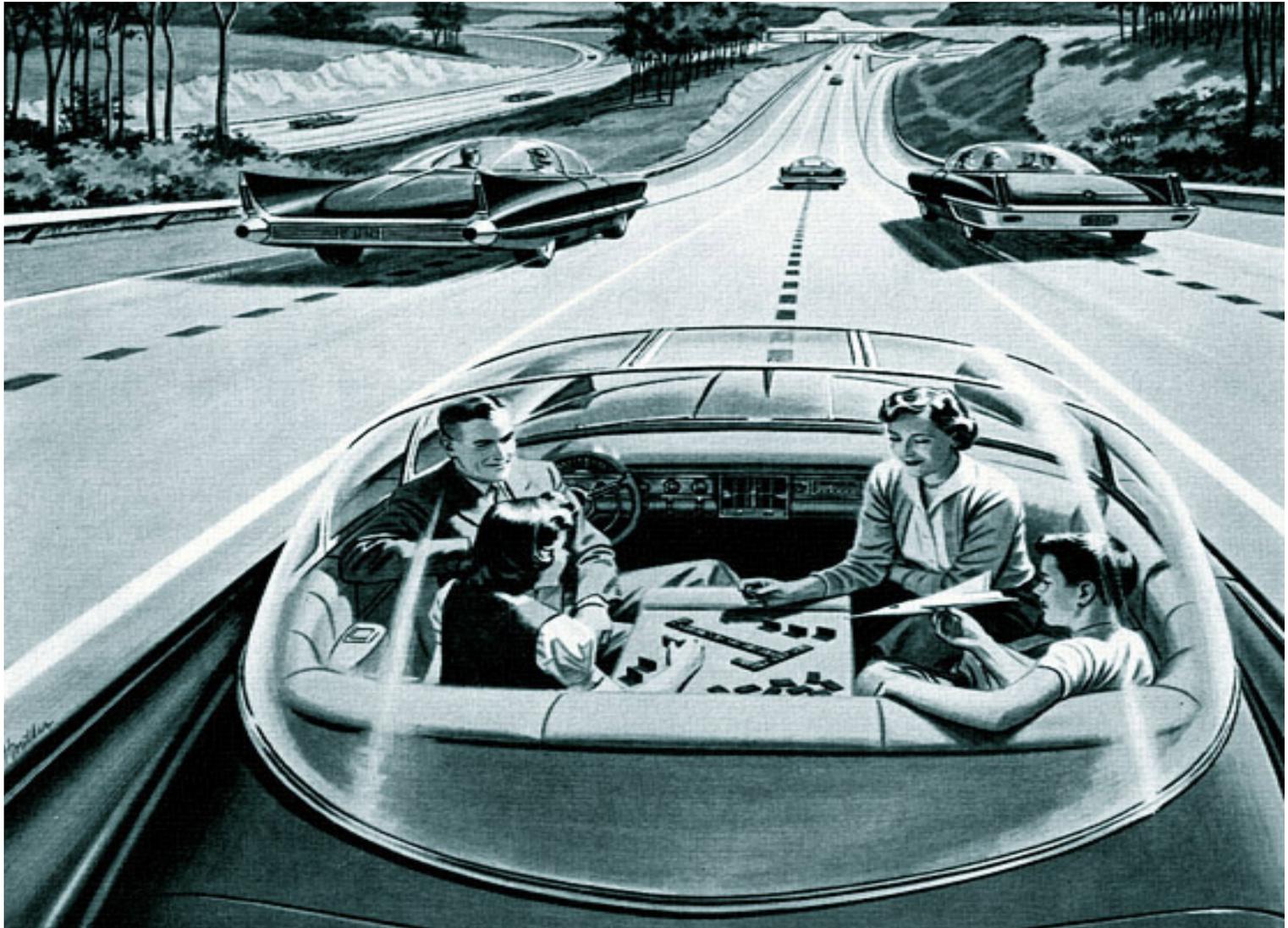
Because one facepalm is not enough to convey how much you fail...

Process Improvement

- We will learn from this effort and make improvements for next time
- It might have felt a little confusing to start but we had strong goals and a vision of how to get there



Where is Safety going? What is our vision for the future?



More Data Driven

- A data driven process focuses on identifying safety problems through data analysis.
 - Crash Data
 - Roadway Characteristics
 - Traffic Volumes
- Identifying effective countermeasures to address the problems.
- Prioritizing projects to achieve the maximum benefit.



Systemic is an example of a data driven process-

- A system wide screening
- Data screened based on:
 - Severe crash types
 - Presence of roadside features
 - Traffic volumes
- Produces a list of potential locations
- Still have to investigate the sites to see if they make good candidates for correction



Systemic Approach

- Identify types of crashes most common to Oregon
- Select low-cost, effective measures to address the data trends
- Search crash data system for crashes of the target type
 - Determine priority locations
 - Top locations may for example represent 5% of locations but account for 20% of the crashes
 - Given the funds estimate impacts in terms of
 - projected statewide crashes prevented,
 - fatal and serious injuries reduced.
- Implement low-cost, cost-effective countermeasures on a priority basis



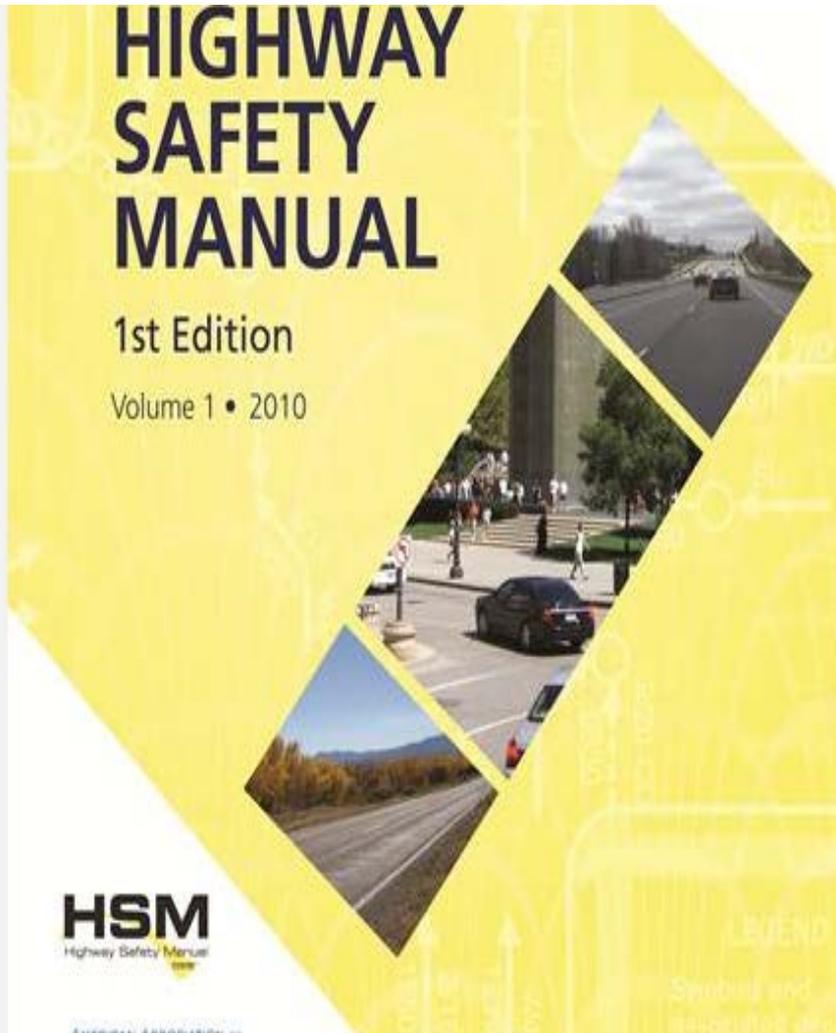
The Systemic approach allows users to:

- Identify factors contributing to crashes
- Identify good potential countermeasures
- Identify sites with most potential to reduce crash severity
- Have lists for potential sites on hand if funding comes available
- Very cost effective!

Takes some rethinking of Safety – less about addressing where there are crashes more about implementing statewide



Predictive Analysis using the Highway Safety Manual



- Equations
- Spreadsheets
- Software (Safety Analyst)
- Crash Modification Factors

Predictive Illustration

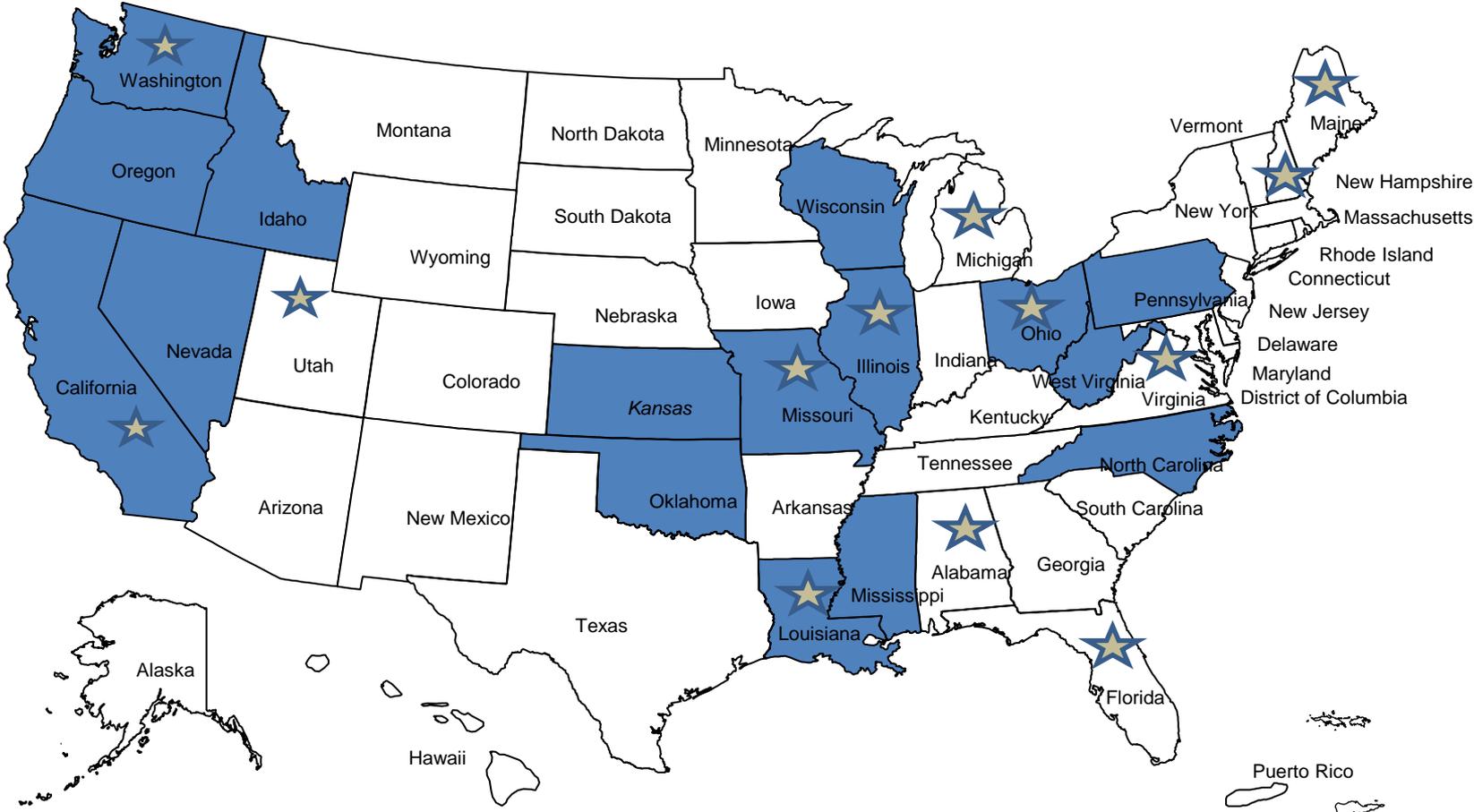
All three of these meet design standards...



but predictive analysis tells us they would perform very differently from a safety perspective.



Highway Safety Manual



-  HSM Implementation Pooled Fund States (13)
-  HSM Lead States (16)

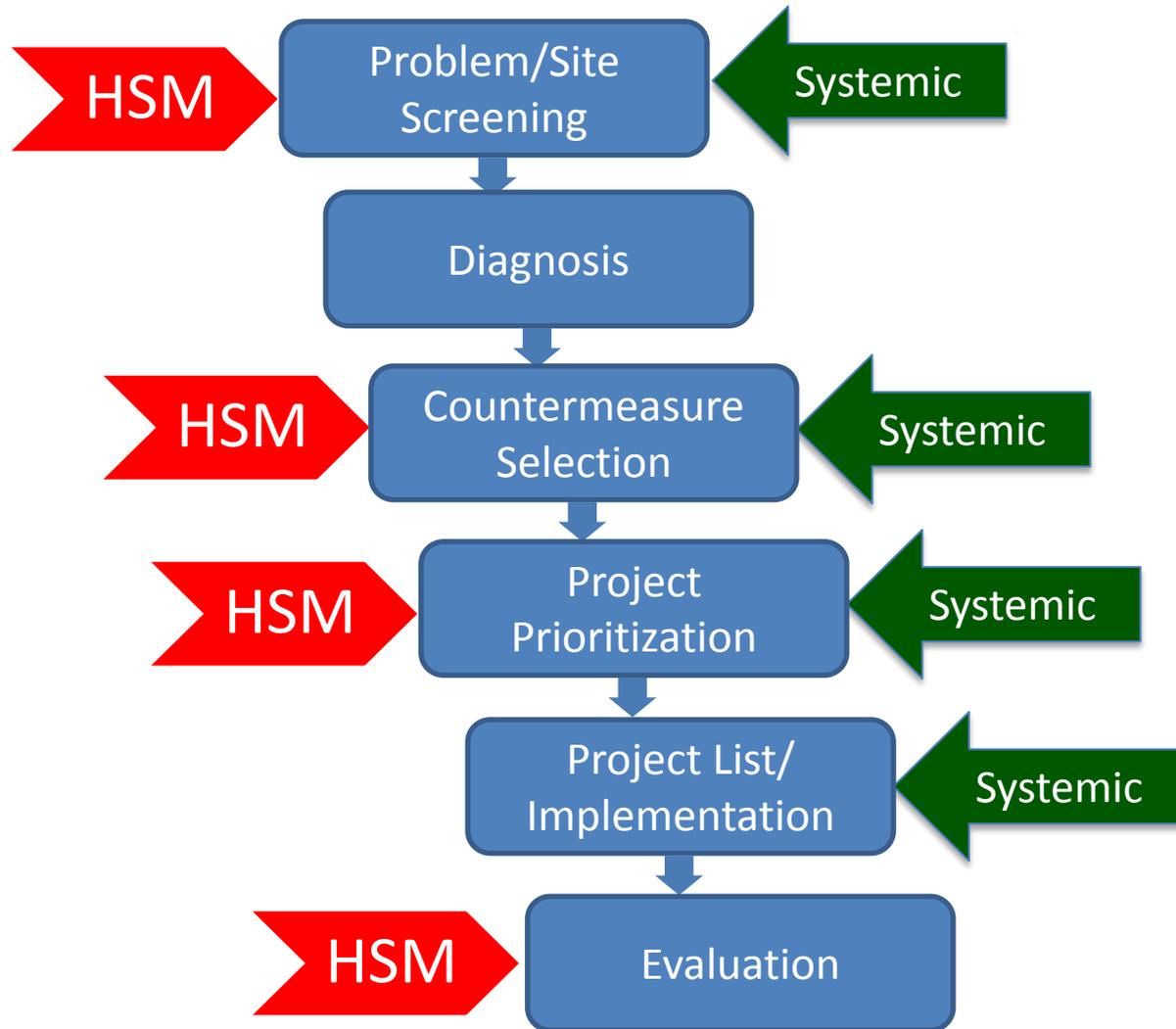


What is the Highway Safety Manual going to do for us?

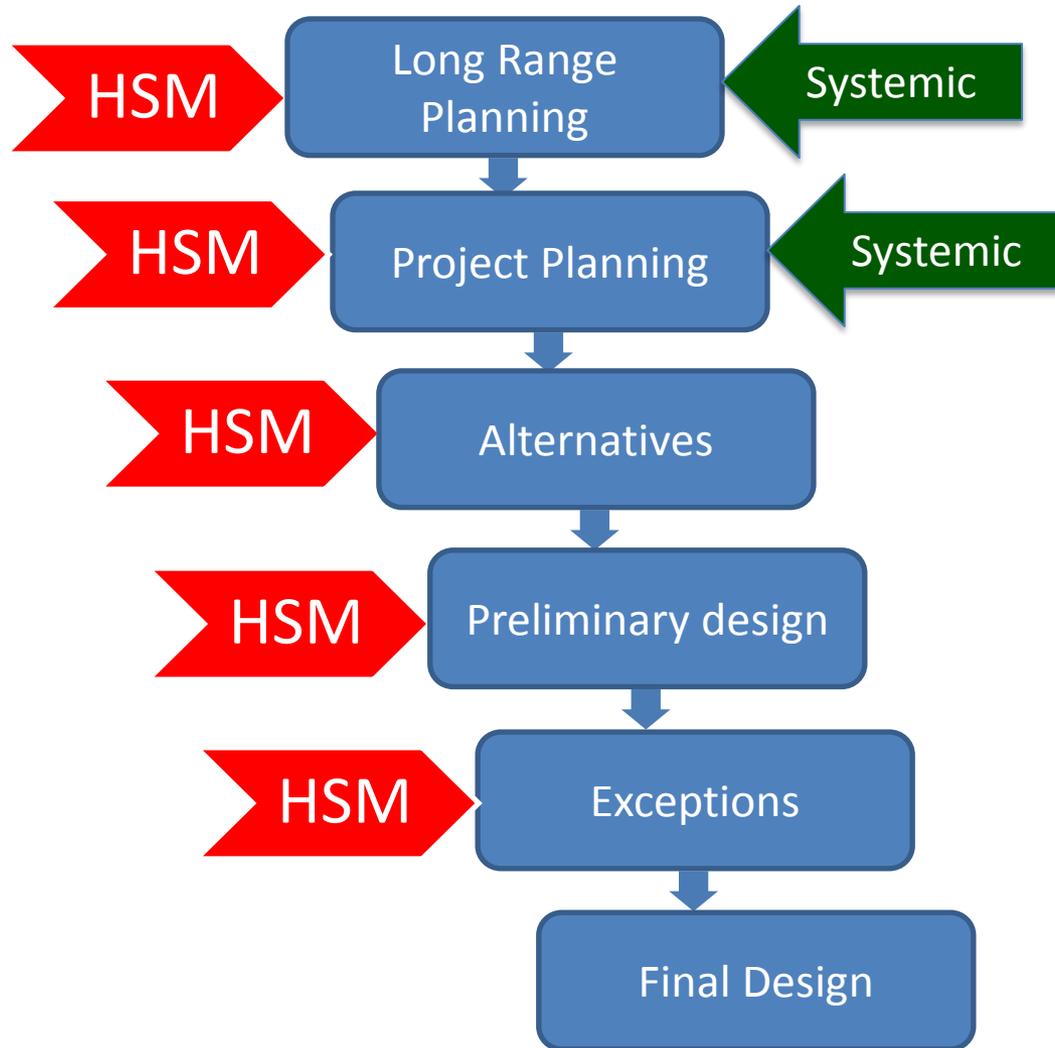
- Provides a more Quantitative measure of safety (for better decisions)
 - Corrects for regression to the mean (helps take out highs in the data that are just random highs)
- Identify sites with higher than expected numbers of crashes
 - Helps to identify the sites with most potential for reducing crashes
- Estimate the potential effect on crash frequency and severity for
 - Planning,
 - Design,
 - Operations, and
 - Policy decisions
- Evaluate the crash reduction benefits of implemented treatments



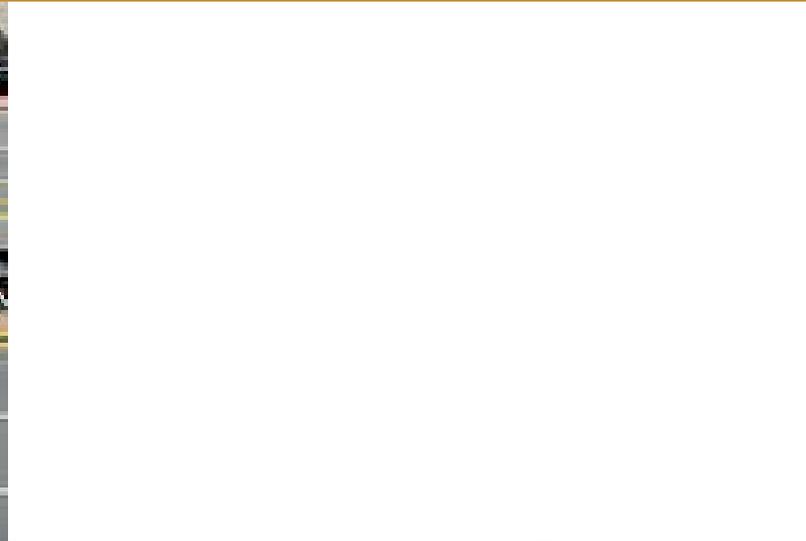
Highway Safety Process



Project Development Process



What does the future hold???



Thank You

For more info, please contact:

Doug Bish

ODOT Traffic Services Engineer

Douglas.W.Bish@odot.state.or.us

503-986-3594

