



U.S. Department of Transportation  
**Federal Highway Administration**

# Driving FoRRRwD - A Systemic Approach to Reducing Roadway Departures

California Webinar  
September, 2019



**Safe Roads for a Safer Future**  
*Investment in roadway safety saves lives*

<http://safety.fhwa.dot.gov>



# The Rural RwD Component of Fatalities

**U.S. Traffic  
Fatalities  
35,230**



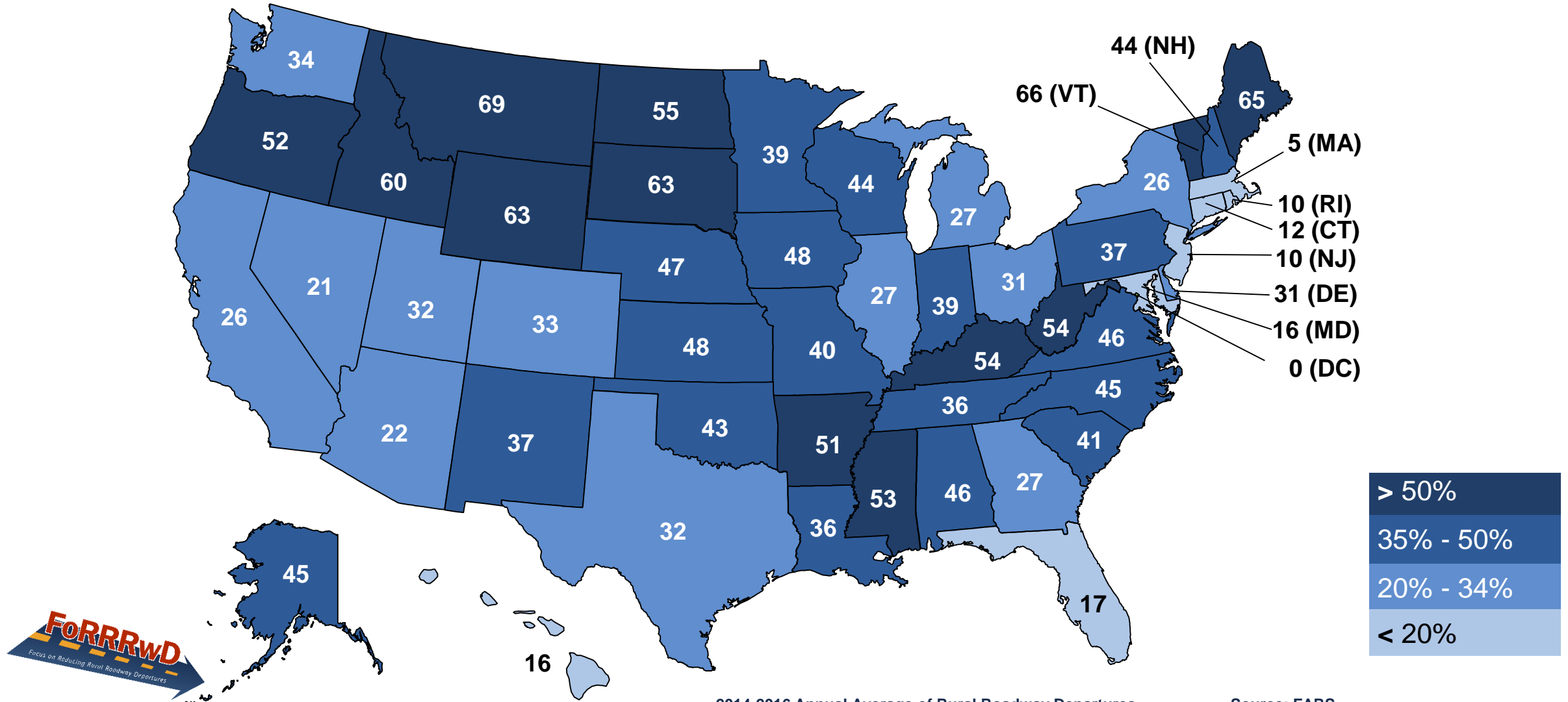
Source: NHTSA FARS (2014 – 2016 Annual Average)

**FHWA Definition:** A crash in which a vehicle crosses an edge line, a center line, or otherwise leaves the traveled way.



Source: Oregon State Police

# Percent Rural RwD Fatalities





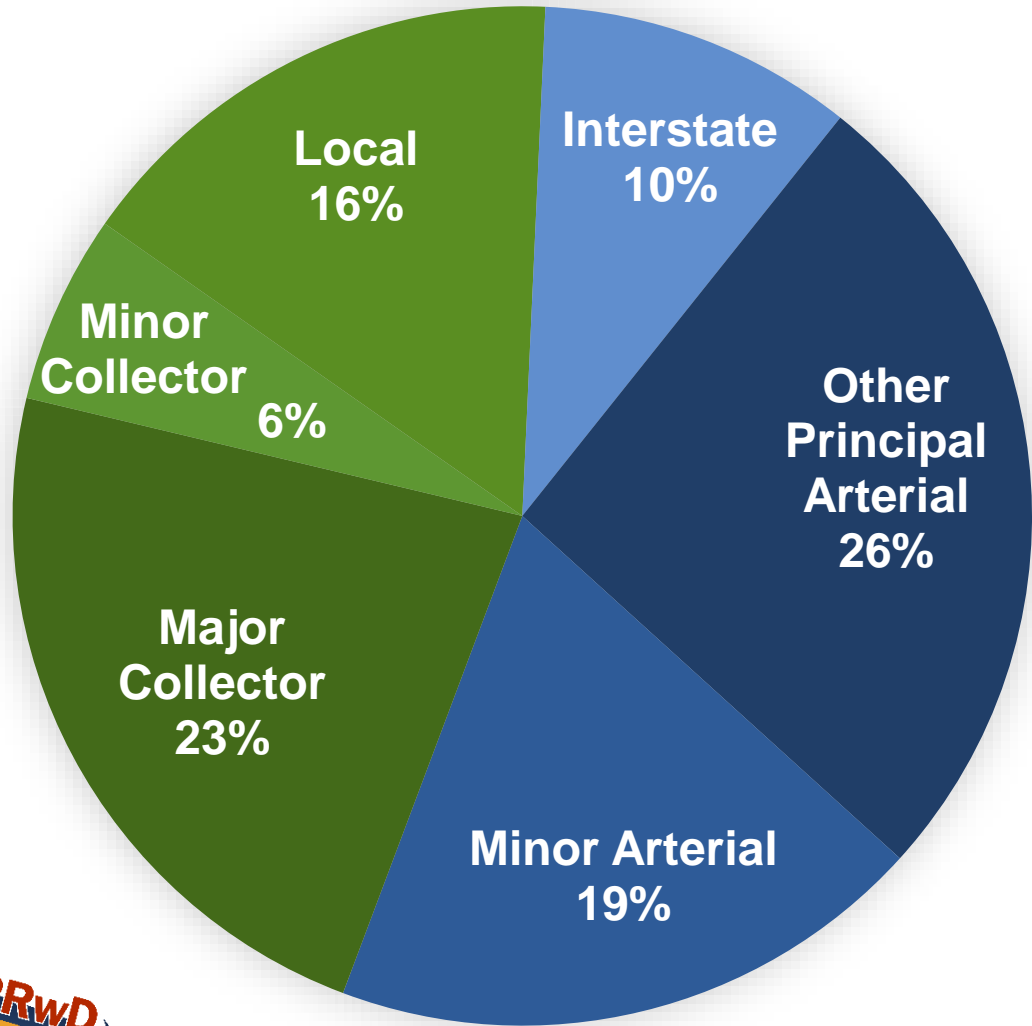


*30 people will die today from rural roadway  
departure crashes.*

*Let's save the people behind the numbers.*

More than 2  
of these will  
be in  
California

# Where do rural roadway departures occur?



NACE estimates that 40-60% of fatalities occur on roads under local jurisdiction.

# Focusing on Reducing Rural Roadway Departures (FoRRRwD)

- **Mission** - Reduce the potential for serious injury and fatal roadway departure crashes on **all public rural roads** by increasing the systemic deployment of proven countermeasures.





# Why do drivers leave the roadway?

Roadway Condition

Collision Avoidance

Vehicle Component Failure

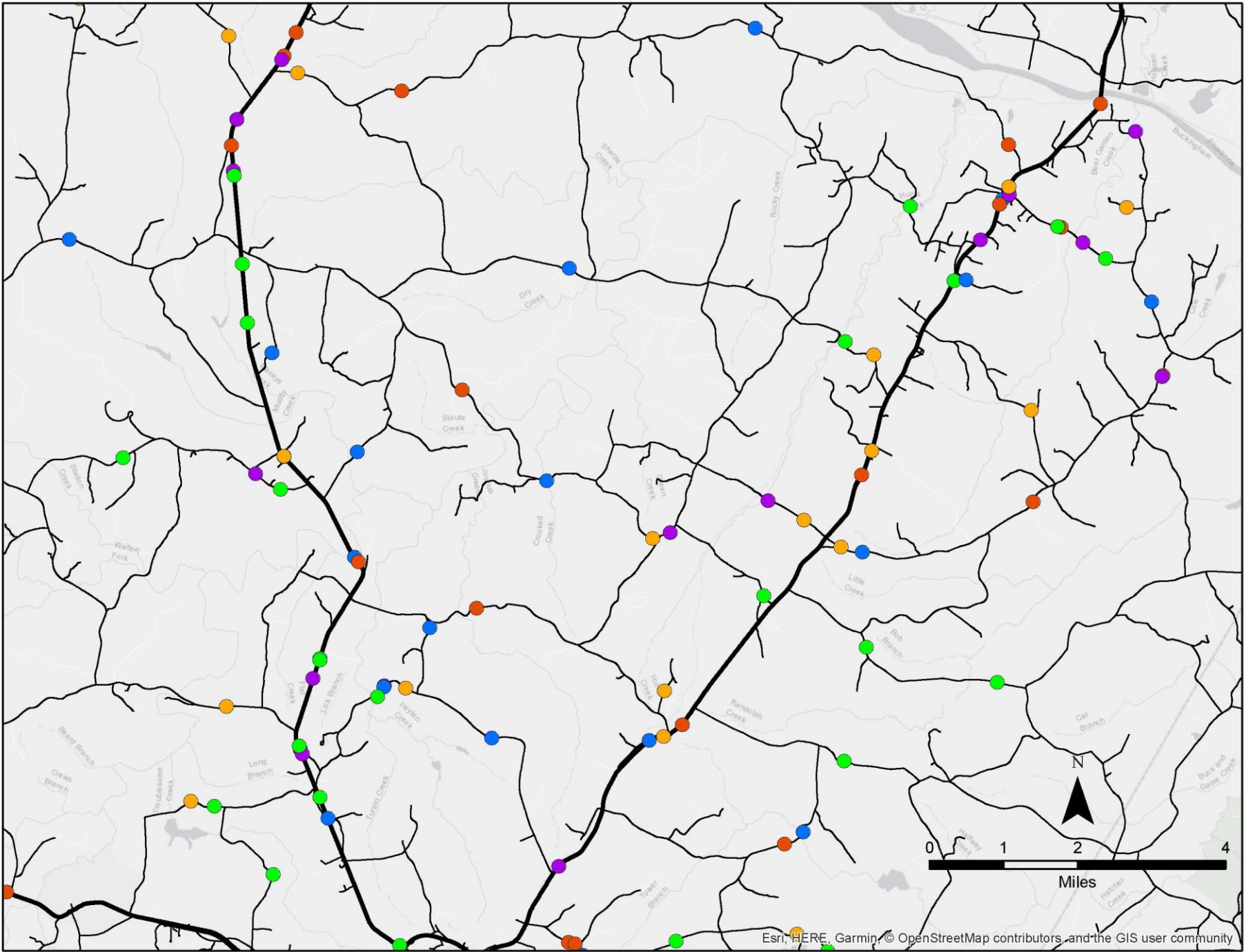
**Driver Error**





# Where would you invest money to improve safety?

- 2014
- 2015
- 2016
- 2017
- 2018





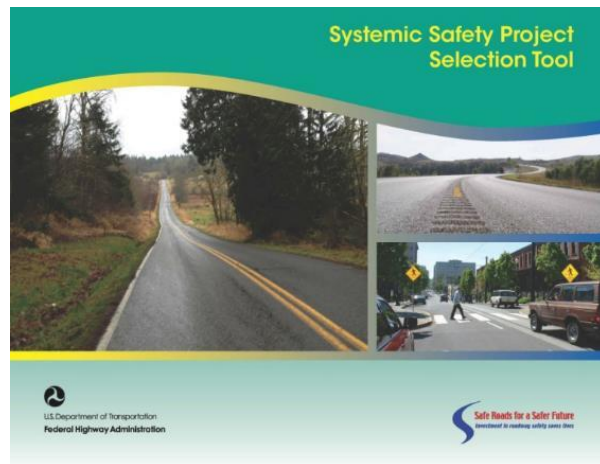
# Systemic Safety Improvements

## Systemic

- Based on Risk
- Correlated with particular severe crash types

“Systemic safety improvement” means an improvement that is widely implemented based on **high-risk roadway features** that are correlated with **particular crash types, rather than crash frequency.**

— 23 USC 148 (a)(12) Systemic safety improvement.



<http://safety.fhwa.dot.gov/systemic/index.htm>



# R<sub>x</sub> How Healthy is Your Road System?

Find out with systemic analysis

Systemic analysis is like a health screening for your road system. Just as your doctor identifies risk factors for illness, systemic analysis identifies locations that are at risk for crashes. By treating these locations first, you can prevent more crashes and save money.

# You don't have to wait until a crash occurs to make improvements!

Low-cost countermeasures such as chevron signs or rumble strips.

## Follow-Up

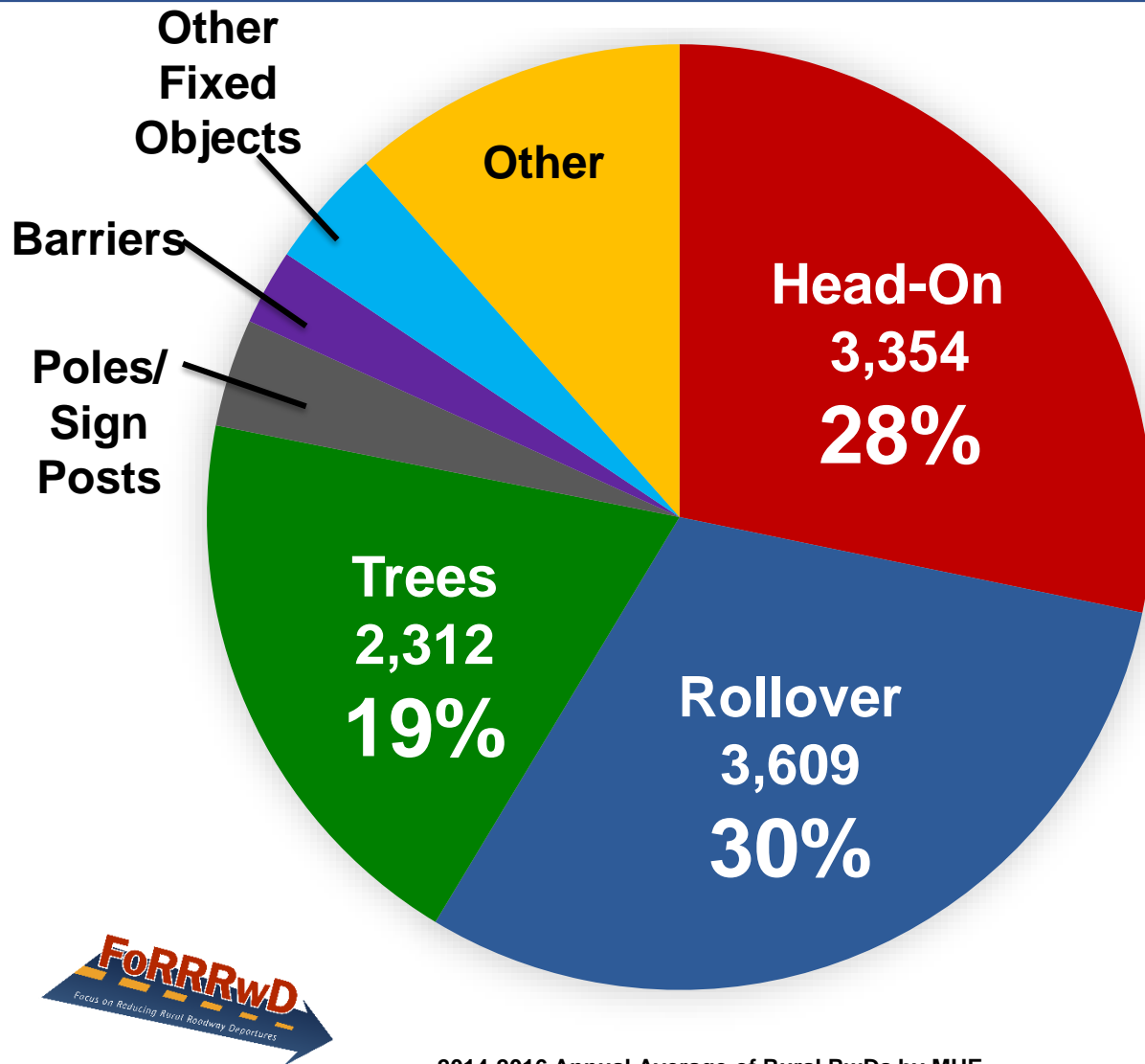
Track and evaluate safety improvements. Further remediation can be implemented as needed.

## Systemic vs. Systemwide

Systemic does not mean treating all locations. It allows agencies to treat the highest-risk sites within limited budgets.

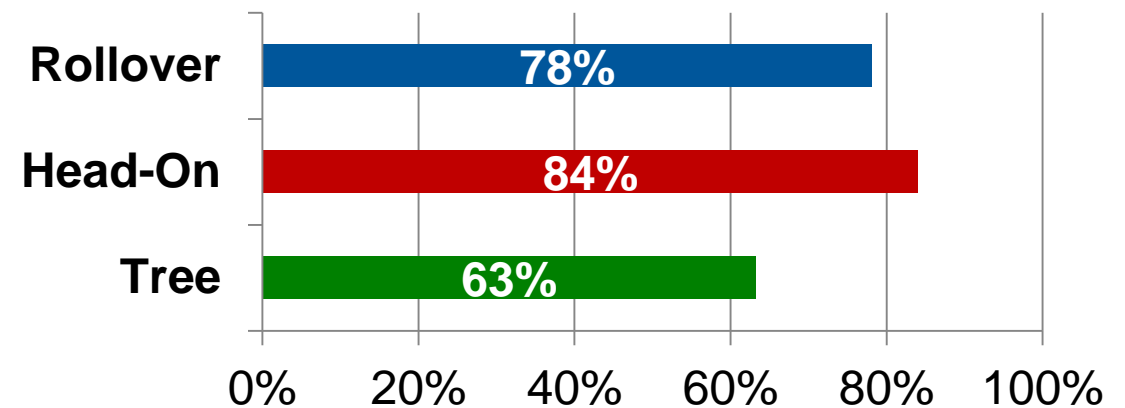
# Rural Roadway Departure Fatalities

by Most Harmful Event

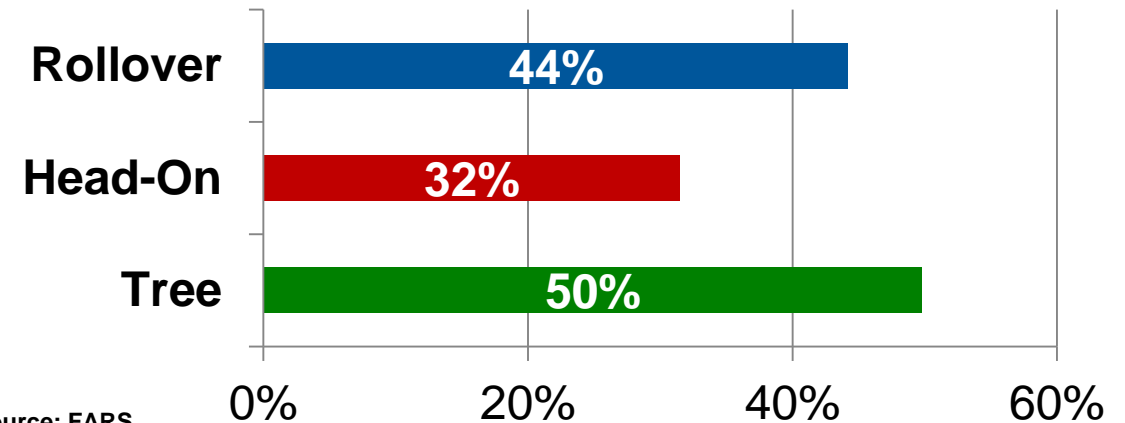


2014-2016 Annual Average of Rural RwDs by MHE

## Rural RwD fatalities where speed limit is $\geq 50$ MPH

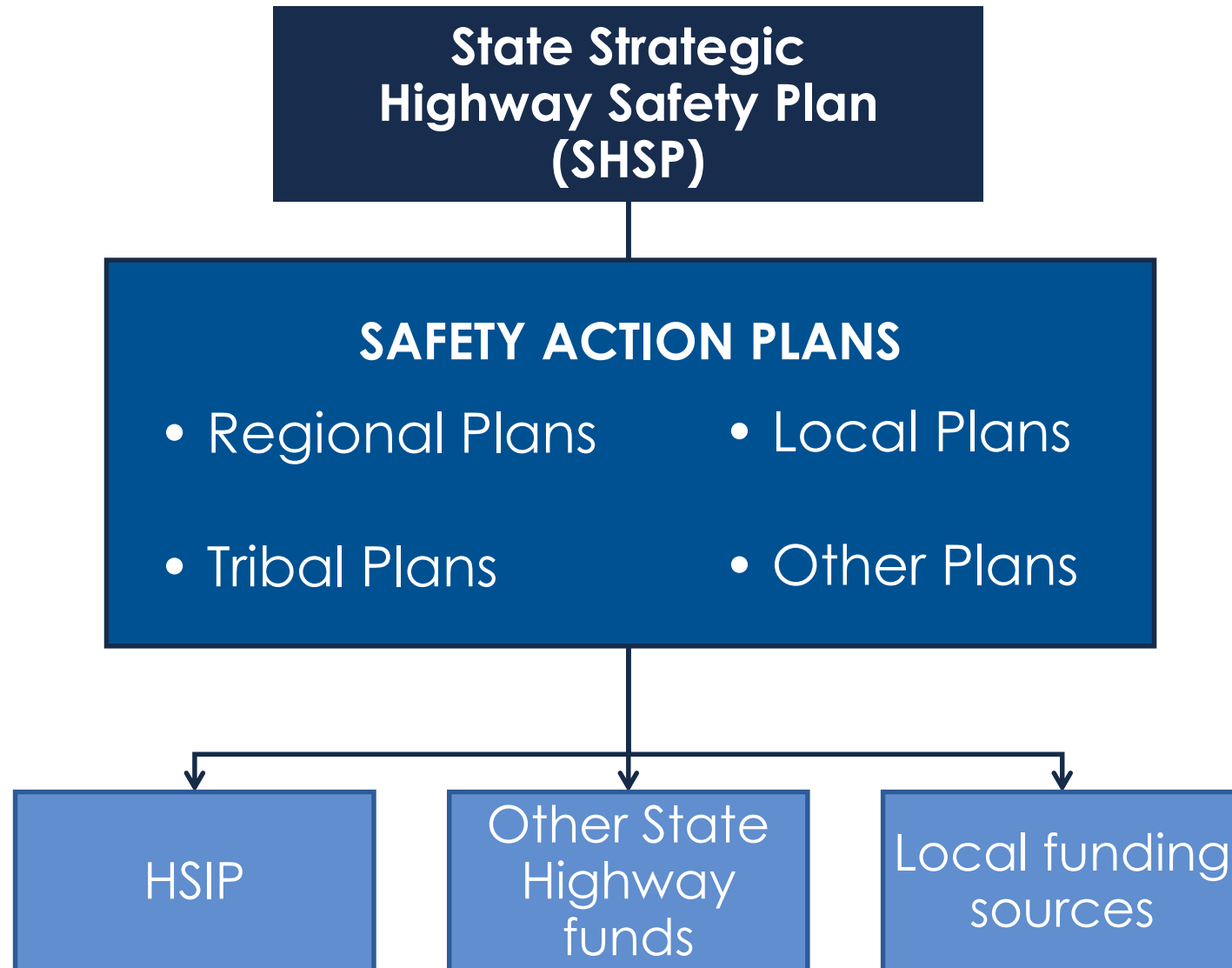


## Curve-related Rural RwD Fatalities



Source: FARS

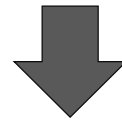
# Safety Action Plans



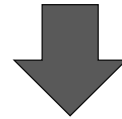


# Roadway Departure Objectives

1<sup>st</sup> - Keep vehicles on the road



2<sup>nd</sup> - Reduce the potential for crashes



3<sup>rd</sup> - Minimize the severity

# 1<sup>st</sup> - Keep vehicles on the road

Improved curve delineation

Friction treatments in curves and other spot locations

Edge line, shoulder & center line rumble strips.



## 2<sup>nd</sup> - Reduce the potential for crashes

Shoulder Widening

SafetyEdge<sup>SM</sup>

Maintained clear zones

Traversable roadside

slopes



## 3<sup>rd</sup> - Minimize the severity

- **Breakaway Features**
  - Signs and luminaire supports
  - Utility poles
- **Barriers to shield obstacles including:**
  - Trees and shrubbery
  - Other fixed objects
  - Slopes





# Focusing on Reducing Rural Roadway Departures

- **Mission** - Reduce the potential for serious injury and fatal roadway departure crashes on **all public rural roads** by increasing the systemic deployment of proven countermeasures.



How can we help you?



# Contact

## Cate Satterfield

- FHWA Office of Safety
- [Cathy.Satterfield@dot.gov](mailto:Cathy.Satterfield@dot.gov)

## Dick Albin

FHWA Resource Center  
[Dick.Albin@dot.gov](mailto:Dick.Albin@dot.gov)



# Questions and Discussion

