

Meeting the Highway Safety Challenge through Innovation

Nebraska Highway Safety Conference
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Federal Highway Administration

- Who We Are:
 - The Federal Highway Administration (FHWA) is an agency within the U.S. Department of Transportation
- Our Mission:
 - To support State and local governments in the design, construction and maintenance of the Nation's highway system
- Our Vision:
 - To ensure that America's roads and highways continue to be among the safest and most technologically sound in the world

Highway Safety Improvement Program (HSIP)

- Purpose of HSIP is to significantly reduce fatalities and serious injuries
- HSIP is implemented by NDOR in partnership with FHWA
- Strategic Highway Safety Plan (SHSP) is a requirement of the HSIP
- While the HSIP focuses on safety, all roadway construction projects are safety projects

Nebraska 2017-2021 SHSP

- FHWA's program focus is primarily on the infrastructure critical emphasis areas (CEAs) of the SHSP
- Infrastructure CEAs
 - Reducing Roadway Departure Crashes
 - Reducing Intersection Crashes
- Using innovation to address the infrastructure CEAs
 - During an American Association of State Highway and Transportation Officials (AASHTO) briefing on March 1st, U.S. DOT Secretary Chao mentioned the importance of continuing the development of new technologies with potential safety benefits

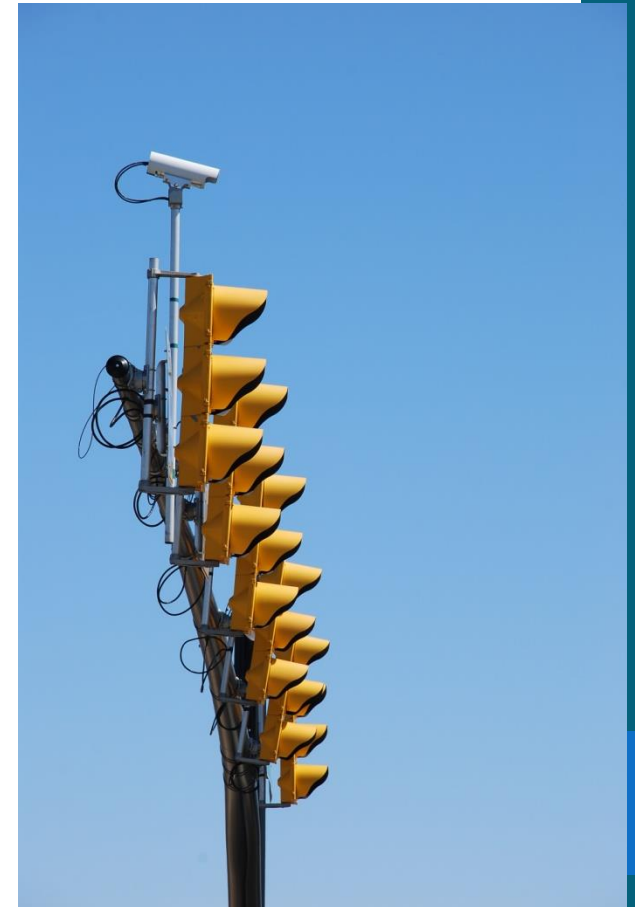
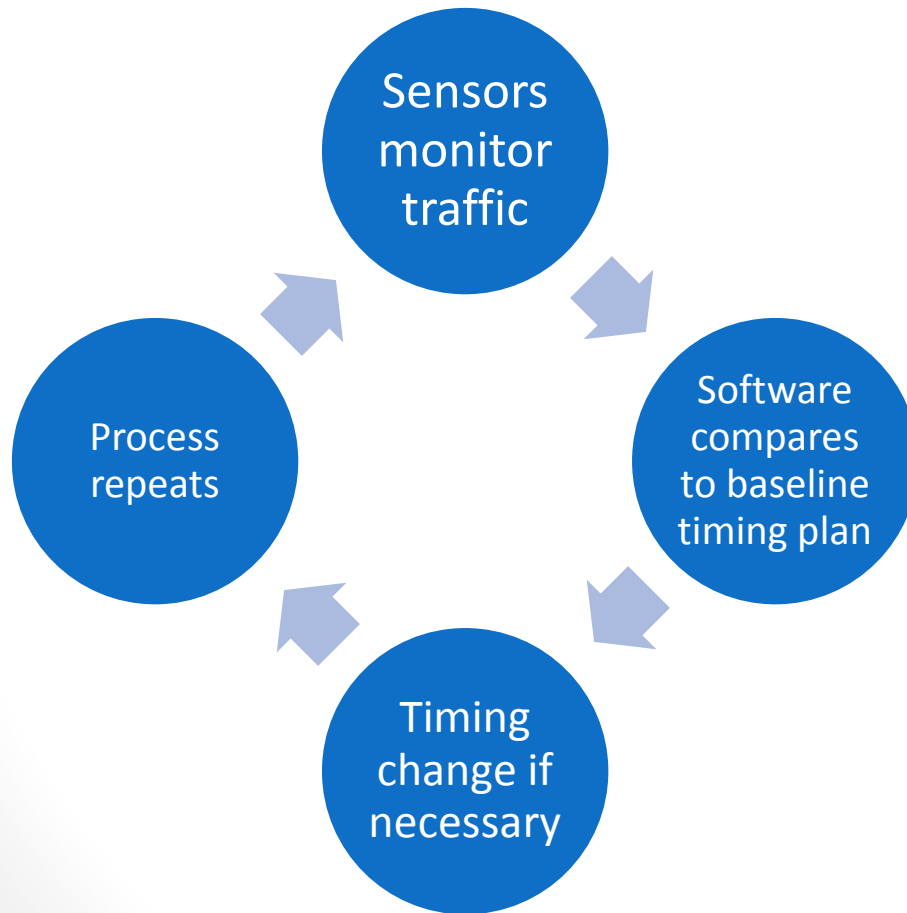
Every Day Counts (EDC)

- In 2009, the FHWA launched the EDC initiative in cooperation with AASHTO
 - The objective of EDC is to rapidly deploy proven but underutilized innovations to enhance roadway safety as well as other priorities
 - Many of the innovations were developed through the Second Strategic Highway Research Program (SHRP 2)
- NDOR and FHWA, Nebraska have partnered in several EDC/SHRP 2 safety innovation initiatives

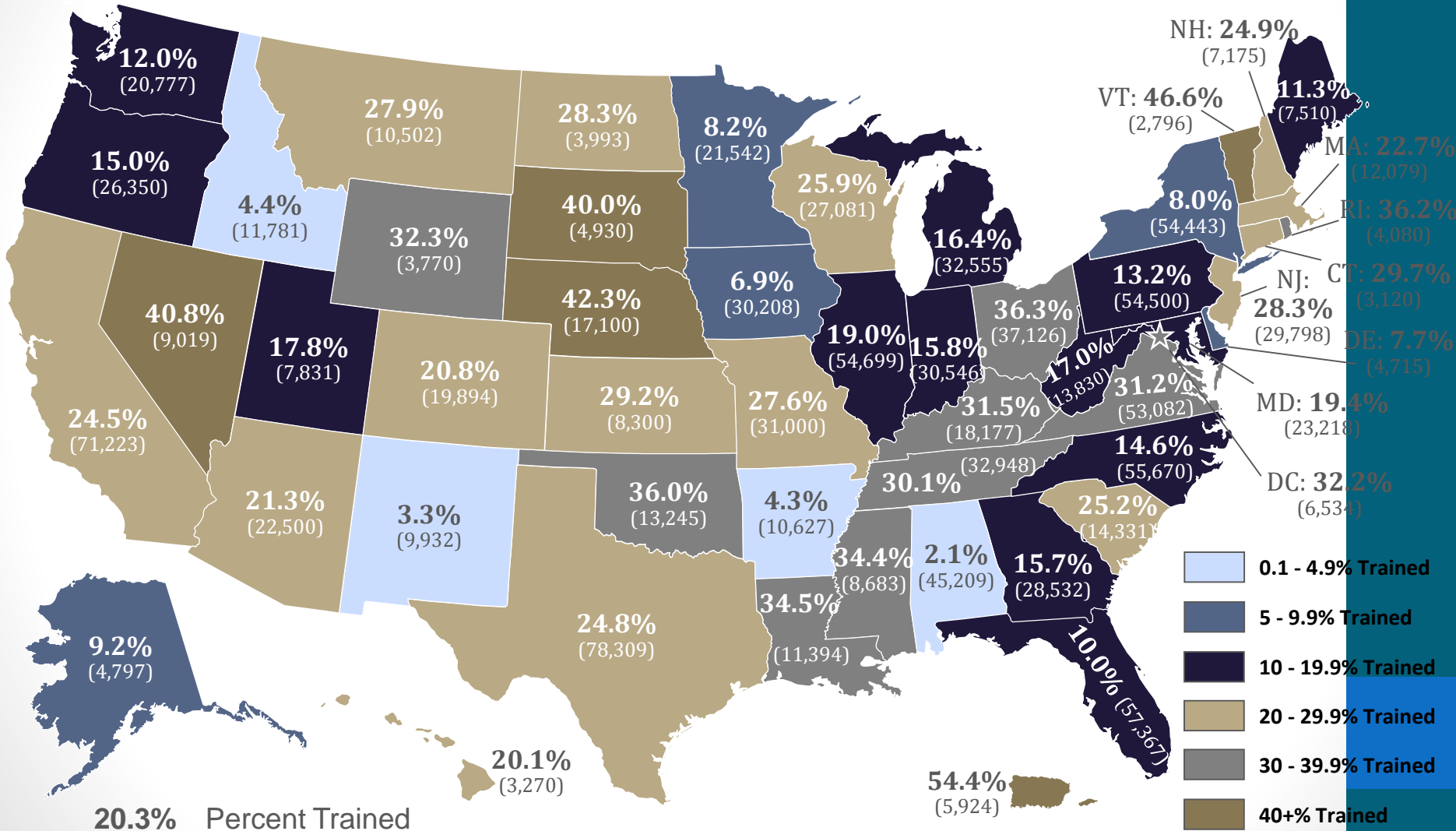
The Safety Edge



Adaptive Signal Control Technology



National Traffic Incident Management Responder Training



20.3% Percent Trained

(1,178,022) Total Responders To Be Trained

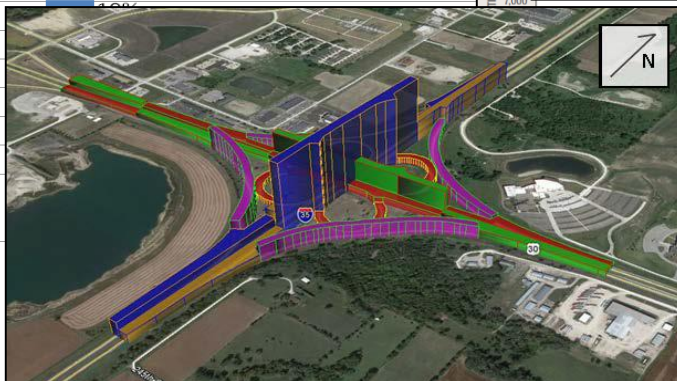
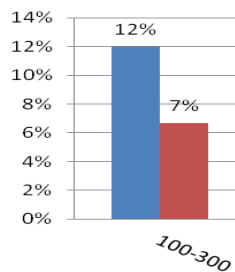
High Friction Surface Treatments



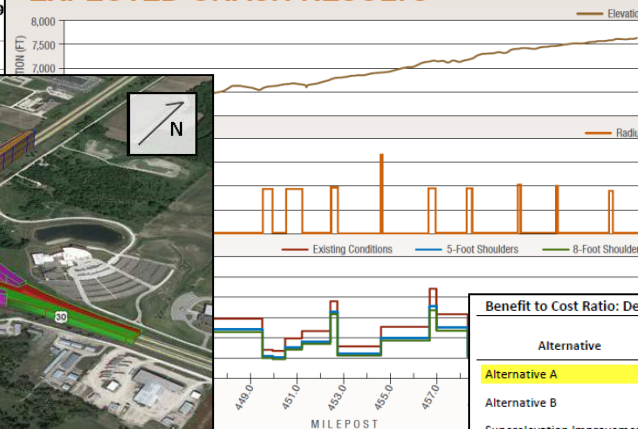
Data-Driven Safety Analysis

General Information		Output Summary				
Project description:	Sample Data					
Analyst:	LARS	Date:	0/18/2011	Area type:	Urban	
First year of analysis:	2013					
Last year of analysis:	2015					
Crash Data Description						
Freeway segments	Segment crash data available?	Yes	First year of crash data:	2005		
	Project-level crash data available?	No	Last year of crash data:	2007		
Ramp segments	Segment crash data available?	Yes	First year of crash data:	2005		
	Project-level crash data available?	No	Last year of crash data:	2007		
Ramp terminals	Segment crash data available?	Yes	First year of crash data:	2005		
	Project-level crash data available?	No	Last year of crash data:	2007		
Benefit to Cost Ratio: Design Alternatives						
Alternative	Annual Benefit	Annual Cost	Benefit/Cost Ratio			
Alternative A	\$3,873,681	\$1,680,561	2.30			
Alternative B	\$5,084,207	\$2,678,713	1.90			
Superelevation Improvements	\$41,807	\$135,464	0.31			

State System Lane Departures
Undivided Rural 2 Lane
Posted Speed 55 mph - Curve Radii between 100-9



EXPECTED CRASH RESULTS



	Total	K	A	B	C	PDO
Est. crashes	129.3	0.4	1.9	12.3	43.0	71.7
Est. crashes/yr	43.1	0.1	0.6	4.1	14.3	23.9
Mile Sites						
Total	K	A	B	C	PDO	
1	33.4	0.2	0.8	3.6	7.0	21.9
6	4.8	0.0	0.1	0.7	1.1	2.9
9	91.1	0.1	1.2	8.0	34.9	46.9
Year						
Total	K	A	B	C	PDO	
2005						
2006						
2007						
2008						
2009						
2010						
2011						
2012						
2013	43.1	0.1	0.6	4.1	14.3	23.9
2014	43.1	0.1	0.6	4.1	14.3	23.9
2015	43.1	0.1	0.6	4.1	14.3	23.9
2016						
2017						
2018						
2019						
2020						
2021						
2022						
2023						
2024						
2025						
2026						

More Informed Decision Making

Better Targeted Investments

Fewer Fatalities & Serious Injuries

Road Diets (Roadway Reconfiguration)



What's Ahead?

- Continue Data-Driven Safety Analysis
- Using Data to Improve Traffic Incident Management

FHWA Safety Resources

- One-stop gateway to a wide variety of safety information on the FHWA web page at <https://safety.fhwa.dot.gov/>:
 - Highway Safety Improvement Program
 - Intersection Safety
 - Roadway Departure Safety
 - Roadway Safety Data and Analysis
 - Pedestrian and Bicycle Safety
 - Local and Rural Road Safety

Questions?