

Developing a Safety Plan for Your Local Community: the Local Road Safety Plan

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Agenda

- ▶ Review of LRSP Background and Purpose
- ▶ Issues/Challenges
- ▶ Success Stories
- ▶ LRSP Process
- ▶ Questions

1 - Review of LRSP Background and Purpose



LRSP Background and Purpose

- ▶ What is a LRSP?
 - **Coordination** between agencies on driver-related countermeasures
 - Proactive safety improvements based on systemic **risk factor assessment**
 - Define a **focused plan** for practitioners to make informed, prioritized safety decisions
 - Use results of the local analysis to leverage and apply for **funding**
- ▶ Goal – **Proactive** safety improvement projects and programs that can be implemented by the agency

LRSP Background and Purpose

- ▶ Driver-related countermeasures
 - Survey for driver-related countermeasures
 - Workshop with representation from 5E's of safety
 - ▶ Engineering
 - ▶ Education
 - ▶ Enforcement
 - ▶ Emergency Response
 - ▶ Everyone
- ▶ Engineering countermeasures
 - List of proactive safety projects

LRSPs per the Feds:

*“The **systemic approach** to safety involves widely implemented improvements based on high-risk roadway features correlated with specific severe crash types.*

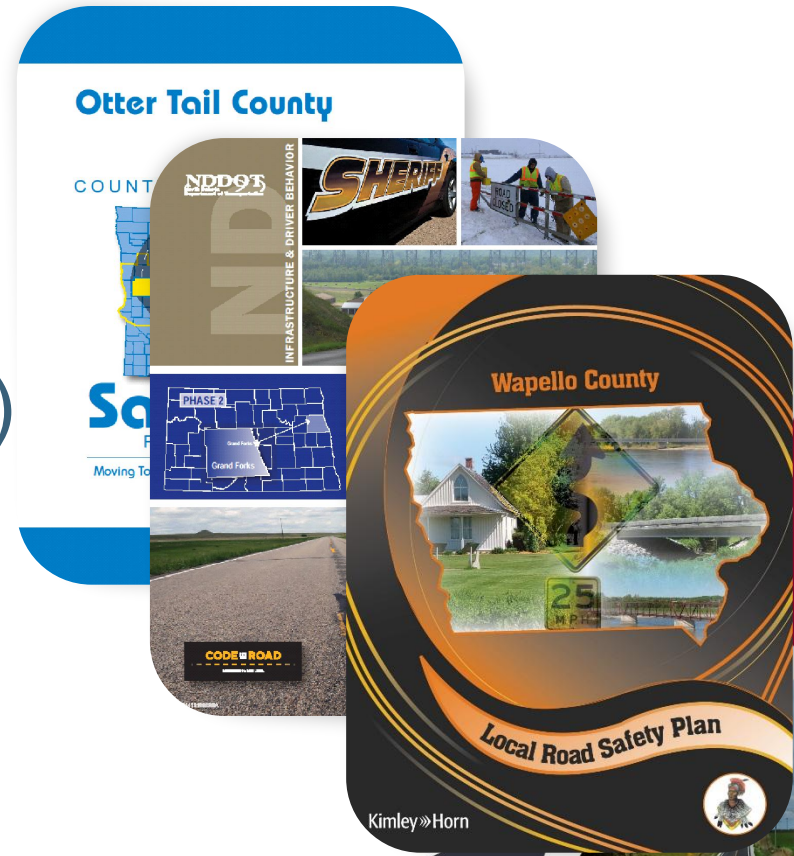
*The approach to safety planning is a **method for safety planning and countermeasures** that is **comprehensive** and **data-driven**.*

*It helps agencies to **identify high-risk roadway features** and **consider risk as well as crash history** when identifying where to make low-cost safety improvements.”*

FHWA – Office of Traffic Safety

Where have LRSPs been done?

- ▶ Minnesota (2009 - Ongoing)
- ▶ North Dakota (2012-2015)
- ▶ Iowa (2015 – Ongoing)
- ▶ Kansas (2018 – Ongoing)
- ▶ Alabama (2020 – Ongoing)
- ▶ California (2019 – Ongoing)
- ▶ Nevada (2022 - Ongoing)



2 - Issues/Challenges

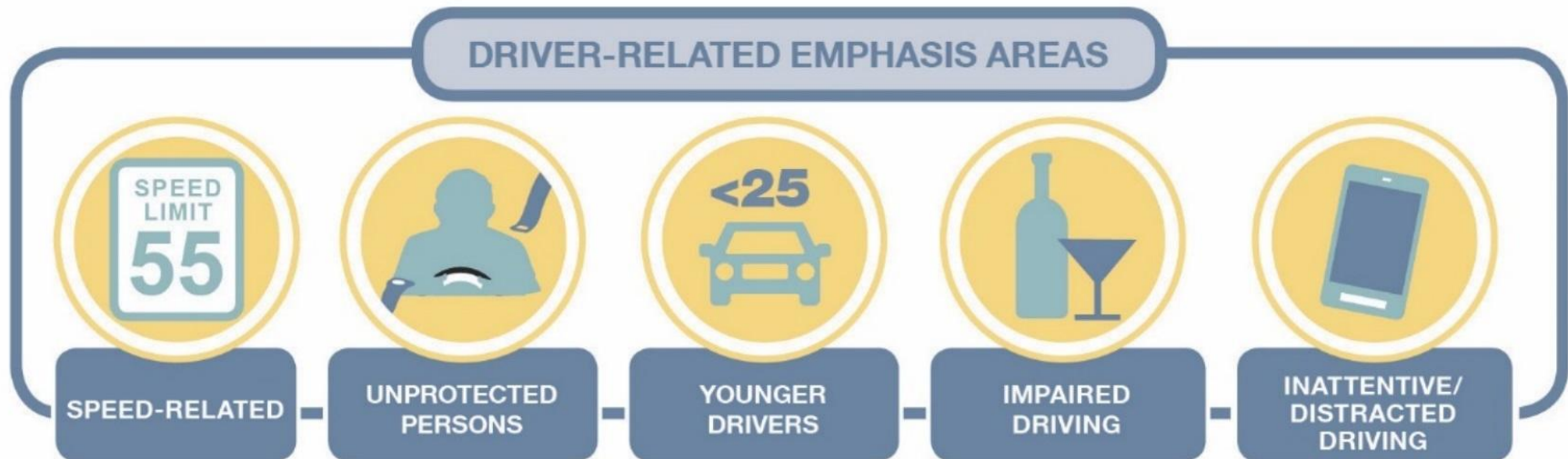
- ▶ Proactive versus reactive safety
- ▶ Involvement from other E's
- ▶ Data availability
- ▶ Implementation

Driver-Related Crashes

- ▶ Over 90% of Crashes Involve Driver Error (NHTSA)
 - Inattention
 - Internal and External Distractions
 - Driving too Fast
 - False Assumption of Others' Actions
 - Illegal Maneuvers
 - Sleep
 - Impairment

Driver-Related Emphasis Areas

- ▶ Unprotected Persons
- ▶ Younger Drivers
- ▶ Impaired Driving
- ▶ Inattentive/ Distracted Driving
- ▶ Speed-Related



Who can Improve Local Road Safety?



Involvement of the 5E's



Data Availability

- ▶ It's all about the data
 - Crash data
 - Roadway data
 - Intersection data
 - School, Transit, and Trails Data



Implementation

- ▶ Maintenance
- ▶ HSIP Applications
- ▶ Incorporation of safety countermeasures into other planned projects
- ▶ Continuing discussions in City between 5E's

3 - Success Stories

▶ Bike helmets



Success Stories

► School bus routing



4 - LRSP Process Overview

- ▶ Document Review
- ▶ Data Collection
- ▶ Data Analysis
- ▶ Countermeasure Selection (and workshop)
- ▶ Develop Projects (and workshop)
- ▶ Develop LRSPs

Data Analysis

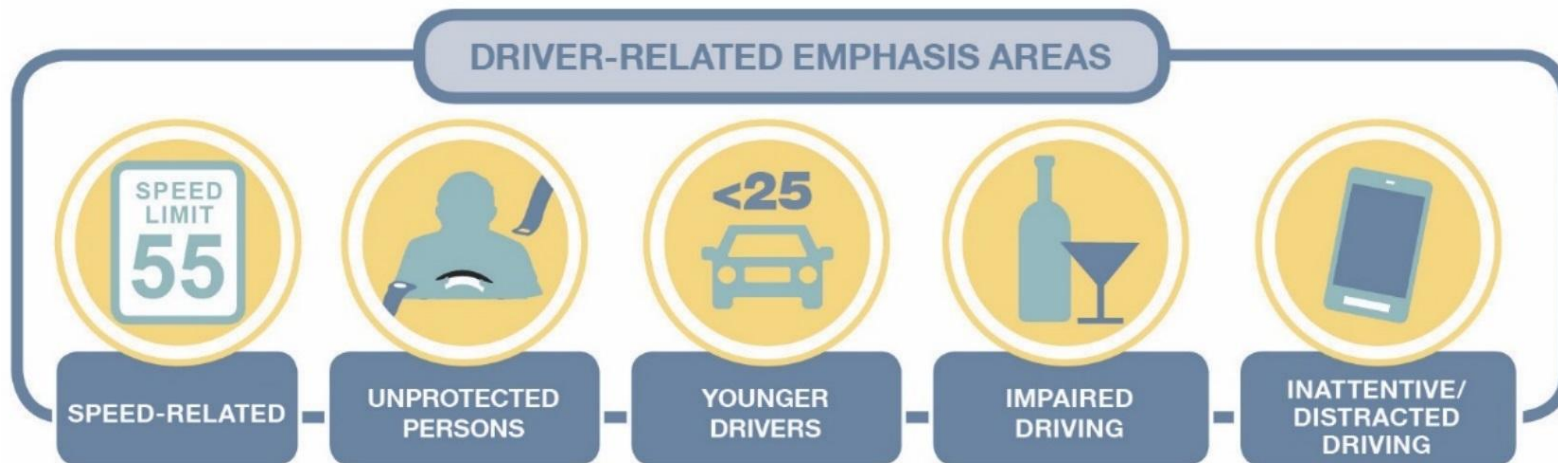
- ▶ The KABCO injury severity scale (National Safety Council, 1990) is used to summarize crash data.
- ▶ The KABCO scale is used by the investigating officer on the scene to classify injury severity for occupants with five categories:
 - K – killed/fatal injury
 - A – disabling/serious injury
 - B – evident/minor injury
 - C – possible/unknown injury
 - O – no apparent injury/Property Damage Only (PDO)

Data Analysis

- ▶ Crash maps
 - K and A (Fatal and Serious Injury)
 - KABCO (all crashes)
- ▶ Comparison of crashes to Strategic Highway Safety Plan (SHSP) emphasis areas
- ▶ Crash analysis breakdowns (crash trees)
 - Vehicle Crashes
 - Non-Motorist Crashes

Data Collection from Cities

- ▶ Questionnaire on driver-related emphasis areas
 - Countermeasures discussed at the first workshop



Data Collection from Counties

- ▶ **Example driver-related countermeasures**
 - **Younger drivers**
 - ▶ “Operation Prom” mock disaster
 - ▶ Enforcement of graduated driver’s license laws
 - **Inattentive/distracted driving**
 - ▶ Conduct education and awareness campaigns
 - ▶ Visibly enforce existing statutes to deter distracted driving

Project Selection Methodology



Risk Factors and Ranking

- ▶ Identification of systemic safety improvements
 - Risk factors can include:
 - ▶ Roadway features (speed limit)
 - ▶ Intersection features (lighting, # of approaches)
 - ▶ Traffic volumes (major, minor, DEV)
 - ▶ Non-Motorist Factors (nearby schools, etc.)
 - Risk factor ranking were conducted for:
 - ▶ Unsignalized Intersections
 - ▶ Signalized Intersections

Develop Project Sheets

Project Name: 1ST AVE N & ADVENTURELAND DR
 Agency Name: City of Altoona
 Contact Name: Dostart, John
 E-mail: jdostart@altoona-iowa.com

Road: 1ST AVE N
 Road: ADVENTURELAND DR

SICL Rank: 18

Date: 4/30/19
 Prepared By: DJG/DVM
 Checked By: MMO



Local Road Safety Plan **Signalized Intersection**
 Project Description for Intersection Improvements Location Description GPS ID: 681148

Project Name: 1ST AVE N & ADVENTURELAND DR
 Agency Name: City of Altoona
 Contact Name: Dostart, John
 E-mail: jdostart@altoona-iowa.com

Road: 1ST AVE N
 Road: ADVENTURELAND DR

SICL Rank: 18

Date: 4/30/19

Prepared By: DJG/DVM
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Number of Approaches	4
Number of Paved Approaches	4
Major Street Volume	11,000
Minor Street Volume	3,550
Destination Lighting	Yes
Control Type	Signalized

Crash Severity	
K	0
A	0
B	0
C	3
O	8
Total	11

Crash Data, 2008-2017	
Total Crashes	11
K and A Crashes	0
Right Angle, Rear-end, or Turning Crashes	9
Total Nighttime Crashes	5
Nighttime/Daytime Crash Ratio**	2.5

Major Cause of Crashes***	
Other	3
FTYROW: Making left turn	2
Driving too fast for conditions	2
Ran Traffic Signal	1

Manner of Crashes***	
Rear-end (front to rear)	6
Broadside (front to side)	2
Sideswipe, same direction	2
Angle, oncoming left turn	1

Improvements)

WB	Quantity	Unit	Unit Price	Item Cost
	4	HEAD	\$ 100	\$ 400
	1	INT	\$ 500	\$ 500
X	4	LEG	\$ 100	\$ 400
X	4	LEG	\$ 250	\$ 1,000
	2	LEG	\$ 1,200	\$ 2,400
	4	SIGN	\$ 250	\$ 1,000
	2	LEG	\$ 250	\$ 500
	1	INT	\$ 5,000	\$ 5,000

Short Term Improvements Subtotal:	\$ 11,200
Mobilization: (% +/-)*	10% \$ 2,500
Traffic Control: (% +/-)	5% \$ 660
Contingency: (% +/-)	20% \$ 2,640
Short-Term Improvements Project Cost:	\$ 17,000

Improvements)

WB	Quantity	Unit	Unit Price	Item Cost
X	4	LEG	\$ 150,000	\$ 600,000
X	4	LEG	\$ 3,200	\$ 12,800

Long Term Improvements Subtotal:	\$ 612,800
Mobilization: (% +/-)*	10% \$ 61,280
Traffic Control: (% +/-)	5% \$ 30,784
Contingency: (% +/-)	20% \$ 123,136
Estimated Long-Term Improvements Project Cost:	\$ 828,000

Estimated Project Costs: \$ 845,000

Recommendations Summary

GPS ID	Intersection	SICL Rank	Vehicle Risk Score	Bike/Ped Risk Score	Estimated Project Cost
Unsignalized Intersections					
433512	NE 56 TH ST & NE 62 ND AVE	-	67%	12%	\$ 1,769,000
435121	17TH AVE NW & ADVENTURELAND DR	-	58%	32%	\$ 430,000
681034	17TH AVE SW & 4TH ST SW	-	54%	48%	\$ 38,000
433578	34TH AVE NW & ADVENTURELAND DR	-			*
Unsignalized Intersections Total (4 Intersections)					\$2,237,000
Signalized Intersections					
434897	34TH AVE SW & 8TH ST SW	3	-	-	\$ 620,000
681007	36TH AVE SW & 8TH ST SW	6	-	-	\$ 26,000
429189	US 6 & ADVENTURELAND DR	8			\$ 283,000
434929	17TH AVE SW & 8TH ST SW	12	-	-	\$ 66,000
681148	1ST AVE N & ADVENTURELAND DR	18	-	-	\$ 845,000
433485	1ST AVE S & 24TH ST SE	**	-	-	\$ 45,000
Signalized Intersections Total (6 Intersections)					\$1,885,000
Intersection Total (10 Intersections)					\$4,122,000

* This intersection was under construction and no improvement recommendations were made.

** A signal is planned for this location.



Thank you

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