NACE LRSP Pilot Kickoff Agenda

Introductions

Background
- NACE Overview
- Partnerships

Pilot Overview
- Purpose
- Expected Outcomes
- Roles
- Schedule

Data Discussion
- Safety Data Requests from States
- Safety Data Analysis

Open Discussion

Next steps
- Webinar schedule in 2018
- Workshop on April 22 in Wisconsin
Background

- NACE Overview
- NACE Safety Priorities
- Need for LRSPs
- Do IT Yourself Concept/Vision

- Partners
  - DOT, FHWA, LTAPs
  - Counties
NACE – More Than Engineers, County Road Professionals Titles:

* County Engineer * Highway Superintendent
* Road & Bridge Superintendent
* Parish Engineer * Road Supervisor
* Commissioner of Public Works
* Highway Administrator * Transportation Director
* Road Operations Manager
* Public Works Director * Highway Commissioner
* Engineer-Manager Road Commission
* Road Master * Road Administrator
NACE Regions & State Affiliates

(31 State Affiliates Shown in Green)
NACE Strategic Safety Goals

From TZD Implementation:

• Participation in SHSPs
• Data Collection and Analysis
• Development of LRSPs
Purpose of LRSP Pilot

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 highest risk for severe crashes. Practitioners can then prioritize projects based on risk and apply low-cost safety treatments to reduce severe crashes across the whole at-risk system.

**Symptoms**
Severe roadway departure crashes on curves.

**Possible Risk Factors:**
- Avg. Daily Traffic > 1,000 vehicles
- Curve Radius < 1,000 feet
- Intersection within Curve
- Visual Trap within Curve
- Severe Crash within Curve

**Diagnosis**
11% of all curves have 3 or more risk factors.

**Lab Results:**
- Curve A
- Curve B
- Curve C
- Curve D
- Curve E

**Treatment**
Prioritize highest risk sites and treat with 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.
Expected Outcomes from Pilot

- Realistic goals and process
- Scalable Plans
Roles during Pilot
Participating Counties (working list)

**California** – Humboldt, Trinity, Marin, Yolo, Nevada

**Nevada** – Elko, Lincoln, Douglas

**Colorado** – Mesa, Garfield, Archuleta, El Paso, Adams, Yuma

**Wisconsin** – Price, St Croix, Columbia, Eau Claire, Brown, Crawford

**Ohio** - Delaware, Franklin, Champaign

**Florida** – Marion, Jefferson, Alachua
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Core Safety Plans and Programs

State Strategic Highway Safety Plan (SHSP)
- Updated at least every five years
- Infrastructure and behavioral countermeasures
- SHSP process approved by FHWA
- Requirement of HSIP

Highway Safety Improvement Program (HSIP)
- Report submitted annually
- Infrastructure improvements
- FHWA approved

Highway Safety Plan (HSP)
- Plan submitted annually
- Behavioral programs
- NHTSA approved

Local Road Safety Plan (LRSP)

To access your state’s SHSP:
https://safety.fhwa.dot.gov/shsp/other_resources.cfm
## Roadway and Intersection Features

- Number of lanes
- Lane width
- Shoulder surface width and type
- Median width and type
- Horizontal curve, superelevation, delineation, or advance warning devices
- Horizontal curve density
- Horizontal curve and tangent speed differential
- Presence of a visual trap at a curve or combinations of vertical grade and horizontal curvature
- Roadway gradient
- Pavement condition and friction
- Roadside or edge hazard rating (potentially including sideslope design)
- Driveway presence, design, and density
- Presence of shoulder or centerline rumble strips
- Presence of lighting
- Presence of on-street parking
- Intersection skew angle
- Intersection traffic control device
- Number of signal heads vs. number of lanes
- Presence of backplates
- Presence of advanced warning signs
- Intersection located in or near horizontal curve
- Presence of left-turn or right-turn lanes
- Left-turn phasing
- Allowance of right-turn-on-red
- Overhead versus pedestal-mounted signal heads
- Pedestrian crosswalk presence, crossing distance, signal head type

## Traffic Volume

- Average daily traffic volumes
- Average daily entering vehicles
- Proportion of commercial vehicles in traffic stream

## Other Features

- Posted speed limit or operating speed
- Presence of nearby railroad crossing
- Presence of automated enforcement
- Adjacent land use type (e.g., schools, commercial, or alcohol-sales establishments)
- Location and presence of bus stops
Common Risk Factors (2017)

- **CRASHES/SEVERITY/RATE**: 23
- **ADT**: 19
- **HORIZONTAL CURVES**: 16
- **FUNCTIONAL CLASS**: 14
- **POSTED SPEED**: 12
- **FIXED OBJECTS/CLEAR ZONE**: 12
- **ROAD/LANE WIDTH**: 11
- **SHOULDER WIDTH**: 9
- **SURFACE TYPE**: 5
- **EMBANKMENT SLOPE/HEIGHT**: 5
- **ILLUMINATION PRESENCE**: 5

Avg = 6
### Example Crash Data

#### 2011-2015 County X Data

<table>
<thead>
<tr>
<th></th>
<th>All Public Roads</th>
<th>All Counties</th>
<th>West Counties</th>
<th>County X</th>
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</thead>
<tbody>
<tr>
<td><strong>Fatal/Serious Injury Crashes Only</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Total # of Collisions</td>
<td>11,001</td>
<td>2,699</td>
<td>1,951</td>
<td></td>
</tr>
<tr>
<td>6 # of Fatal Collisions</td>
<td>2,188 (19.9%)</td>
<td>652 (24.8%)</td>
<td>424 (21.1%)</td>
<td></td>
</tr>
<tr>
<td>7 # of Serious Injury Collisions</td>
<td>8,813 (80.3%)</td>
<td>2,067 (76.6%)</td>
<td>1,539 (78.9%)</td>
<td></td>
</tr>
<tr>
<td>8 # of Alcohol-Related Crashes</td>
<td>2,664 (24.3%)</td>
<td>854 (33.0%)</td>
<td>573 (29.4%)</td>
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<tr>
<td>9 Total # of Fatalities</td>
<td>2,876</td>
<td>679</td>
<td>435</td>
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<tr>
<td>10 Total # of Injuries</td>
<td>15,491</td>
<td>3,736</td>
<td>2,727</td>
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<tr>
<td>11 By Collision Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hit Fixed Object</td>
<td>8,159 (28.7%)</td>
<td>1,169 (48.2%)</td>
<td>887 (42.9%)</td>
<td></td>
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<tr>
<td>Overturn</td>
<td>965 (3.3%)</td>
<td>111 (4.5%)</td>
<td>82 (4.1%)</td>
<td></td>
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<tr>
<td>Head On</td>
<td>582 (2.0%)</td>
<td>162 (6.3%)</td>
<td>132 (6.9%)</td>
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</tr>
<tr>
<td>Wildlife</td>
<td>96 (3.4%)</td>
<td>19 (0.8%)</td>
<td>77 (4.1%)</td>
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<tr>
<td>Angle [T]</td>
<td>1,269 (4.3%)</td>
<td>176 (12.0%)</td>
<td>201 (10.3%)</td>
<td></td>
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<tr>
<td>Head On</td>
<td>373 (1.2%)</td>
<td>111 (4.5%)</td>
<td>262 (13.5%)</td>
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<tr>
<td>Other</td>
<td>774 (26.8%)</td>
<td>104 (4.0%)</td>
<td>670 (34.6%)</td>
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<tr>
<td>12 By Roadway Surface</td>
<td></td>
<td></td>
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<tr>
<td>Dry</td>
<td>8,174 (28.3%)</td>
<td>1,169 (48.2%)</td>
<td>887 (42.9%)</td>
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<tr>
<td>Wet</td>
<td>1,049 (35.9%)</td>
<td>111 (4.5%)</td>
<td>938 (48.8%)</td>
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<tr>
<td>Snow / Slush</td>
<td>144 (4.9%)</td>
<td>16 (0.6%)</td>
<td>128 (6.6%)</td>
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<tr>
<td>Ice</td>
<td>238 (8.1%)</td>
<td>29 (1.1%)</td>
<td>209 (10.8%)</td>
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<tr>
<td>Other</td>
<td>154 (5.2%)</td>
<td>50 (1.9%)</td>
<td>104 (5.4%)</td>
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#### Total Crashes

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FHWA’s Proven Safety Countermeasures

- Roadside Design Improvement at Curves
- Reduced Left-Turn Conflict Intersections
- Systemic Application of Multiple Low Cost Countermeasures at Stop-Controlled Intersections
- Leading Pedestrian Interval
- Local Road Safety Plan
- USLIMITS2
- Enhanced Delineation and Friction for Horizontal Curves
- Longitudinal Rumble Strips and Stripes on Two-Lane Roads
- Median Barrier
- Safety EdgeSM
- Backplates with Retroreflective Borders
- Corridor Access Management
- Dedicated Left- and Right-Turn Lanes at Intersections
- Roundabouts
- Yellow Change Intervals
- Medians and Pedestrian Crossing Islands in Urban and Suburban Areas
- Pedestrian Hybrid Beacon
- Road Diet
- Walkways
- Road Safety Audit

https://safety.fhwa.dot.gov/provencountermeasures/
WA County Survey Information (2014)

Hours of staff time to complete local road safety plan
- Ranged from 20 hours to 500 hours
- Most said about 80 hours (7 of 13 counties)
- 250+ hours (4 of 13 counties)
- Under 40 hours (2 of 13 counties)

Was the funding award commensurate with the effort required?
- Yes (77%), No (15%)

Would you submit again if a LRSP was required again?
- Yes (100%)
Open Discussion
DOT/LTAP/Division Office Roles

• Identify local agencies/safety partners to participate (done)
• Provide data and analysis support as needed
• Participate in the webinars (live if possible)
  • Jan 24, Feb 21, Mar 21 at 1PM Eastern
• Facilitate remote discussions amongst local agency stakeholders
• Participate in the April 22, 2018 in-person workshop
• Serve as eyes and ears
  • Sharing information between counties and respective stakeholders
  • Provide information and feedback to the delivery team throughout the process
• Think about opportunities programs, policies or procedures that could be developed or modified to effectively reduce severe crashes on local roads
County Lead Role

- Be a champion in the development of your county’s LRSP
- Include and engage necessary stakeholders
- Ensure the data is complete and accurate
- Lead the development of the plan content (there will be “homework”!)
- Provide input and feedback to your state leads
- Participate in the webinars and consider hosting them in a county conference room (live if possible)
  - Jan 24, Feb 21, Mar 21 at 1PM Eastern
- Participate in the April 22, 2018 in-person workshop
- Serve as eyes and ears
  - Sharing information between stakeholders
- Think about opportunities programs, policies or procedures that your county could develop or modify to effectively reduce severe crashes in your county
County Stakeholder Role

- Participate in the development of your county’s LRSP
- Inform others from your agency
- Review the data for completeness and accuracy (what additional data can you provide?)
- Help with the development of the plan content (there will be “homework”!)
- Provide input and feedback to your county lead
- Participate in the webinars (live if possible)
  - Jan 24, Feb 21, Mar 21 at 1PM Eastern
- Think about opportunities programs, policies or procedures that your agency could develop or modify to effectively reduce severe crashes in your county
Webinar 1 – Overview of LRSPs and NACE Pilot Project – January 24, 2018

- What is a LRSP?
- LRSP Options and Examples
  - Question based with Template
  - Risk Based
  - Safety data based
- Homework (prompt sheets)
  - Who are your stakeholders?
  - What safety data do you have access to?
  - What is your vision, goals for a LRSP?
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 Execute!

“A goal without a plan is just a wish”

- Antione de Saint-Exupery

“A good plan, violently executed now, is better than a perfect plan next week.”

- General George Patton
Next Steps and Questions

• Confirming counties who will participate
• Talking with the Counties
• Individual State phone calls – early January
• State DOT Safety Data
Have a Safe and Happy Holiday Season!