Advancing Local Road Safety with State DOTs and Locals

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Savannah, Georgia
Goals for Session

- Understand what a LRSP is
- Know the 6 steps of LRSP development
- Be aware of funding, resources, and partners
- Have a start on developing your own LRSP
Local Road Safety Plan Overview

- Initiated at different levels
  - FHWA pilots, state initiatives, locally-led
- All E’s vs engineering only
- Local staff vs consultants
6 Steps of LRSP Development

- Establish Leadership
- Analyze Safety Data
- Determine Emphasis Areas
- Identify Strategies
- Prioritize and Incorporate Strategies
- Evaluate and Update the LRSP
6 Steps of LRSP Development

• Establish Leadership
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Step 1: Establish Leadership

1. Identify a Champion
2. Convene a Working Group
3. Identify and Contact Stakeholders
4. Program Coordination and Sustainability

5. Develop a Vision, Mission Statement, and Goals
6. Gain Leadership Support
Identify Partners Exercise
<table>
<thead>
<tr>
<th><strong>Partners</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engineering</strong></td>
</tr>
<tr>
<td>• County Engineer, Road Superintendent</td>
</tr>
<tr>
<td>• Director of Public Works</td>
</tr>
<tr>
<td>• Transportation Planner / Engineer</td>
</tr>
<tr>
<td>• Local Engineering or Public Works Department</td>
</tr>
<tr>
<td>• County Highway Department</td>
</tr>
<tr>
<td>• State DOT Region or District Office</td>
</tr>
<tr>
<td>• Federal Highway Administration Division Office</td>
</tr>
<tr>
<td>• Bureau of Indian Affairs</td>
</tr>
<tr>
<td><strong>Enforcement</strong></td>
</tr>
<tr>
<td>• Chief of Police</td>
</tr>
<tr>
<td>• Local/Tribal Police Department</td>
</tr>
<tr>
<td>• County Sheriff’s Department</td>
</tr>
<tr>
<td>• State Police/Patrol</td>
</tr>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td>• Public Safety Stakeholders (e.g., AAA, SafeKids, Operation Lifesaver, League of American Bicyclists, etc.)</td>
</tr>
<tr>
<td>• Driving Education and Training Professionals</td>
</tr>
<tr>
<td>• Local Public Information Official</td>
</tr>
<tr>
<td><strong>Emergency Services</strong></td>
</tr>
<tr>
<td>• Local Emergency Service Providers</td>
</tr>
<tr>
<td>• Emergency Service Director</td>
</tr>
<tr>
<td>• Hospitals</td>
</tr>
<tr>
<td>• Fire Chief</td>
</tr>
<tr>
<td><strong>Other Stakeholders</strong></td>
</tr>
<tr>
<td>• School District (facilities and/or transportation)</td>
</tr>
<tr>
<td>• Local Planning and Zoning Department or Commission</td>
</tr>
<tr>
<td>• Governor’s or State’s Highway Safety Office</td>
</tr>
<tr>
<td>• Local Agency Budgeting Office</td>
</tr>
<tr>
<td>• Metropolitan Planning Organization (MPO) / Rural Planning Organization / Regional Council of Governments</td>
</tr>
<tr>
<td>• AARP</td>
</tr>
<tr>
<td>• Local Politicians/Commissioners</td>
</tr>
<tr>
<td>• Local/Tribal Technical Assistance Program</td>
</tr>
<tr>
<td>• Railroads</td>
</tr>
<tr>
<td>• Park District/Authority</td>
</tr>
<tr>
<td>• Transit Agency</td>
</tr>
<tr>
<td>• Community Groups (Chamber of Commerce, Tourism Agencies, etc.)</td>
</tr>
</tbody>
</table>
6 Steps of LRSP Development

• Establish Leadership
• Analyze Safety Data
• Determine Emphasis Areas
• Identify Strategies
• Prioritize and Incorporate Strategies
• Evaluate and Update the LRSP

Step 2: Analyze Safety Data

1. Gather Data
2. Data Analysis with Crash Data
3. Data Analysis with other Safety Data
## Safety Data

### Crash Data

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hit Fixed Object</td>
<td>1,164</td>
<td>43.5%</td>
<td>23</td>
<td>16%</td>
<td>8</td>
<td>10%</td>
<td>1</td>
<td>10%</td>
<td>11</td>
<td>11%</td>
<td>12</td>
<td>11%</td>
</tr>
<tr>
<td>Overturn</td>
<td>273</td>
<td>10.2%</td>
<td>4</td>
<td>8.0%</td>
<td>1</td>
<td>1.0%</td>
<td>10</td>
<td>0.1%</td>
<td>11</td>
<td>11%</td>
<td>12</td>
<td>11%</td>
</tr>
<tr>
<td>Head On</td>
<td>160</td>
<td>6.0%</td>
<td>4</td>
<td>8.0%</td>
<td>2</td>
<td>11%</td>
<td>0</td>
<td>0.1%</td>
<td>2</td>
<td>11%</td>
<td>12</td>
<td>11%</td>
</tr>
<tr>
<td>Hit Cyclist</td>
<td>87</td>
<td>3.3%</td>
<td>4</td>
<td>8.0%</td>
<td>1</td>
<td>11%</td>
<td>0</td>
<td>0.1%</td>
<td>2</td>
<td>11%</td>
<td>12</td>
<td>11%</td>
</tr>
<tr>
<td>Angle (Left Turn)</td>
<td>124</td>
<td>4.6%</td>
<td>2</td>
<td>4.0%</td>
<td>0</td>
<td>0.1%</td>
<td>2</td>
<td>0.1%</td>
<td>0</td>
<td>0.1%</td>
<td>2</td>
<td>0.1%</td>
</tr>
<tr>
<td>Wildlife</td>
<td>47</td>
<td>1.8%</td>
<td>1</td>
<td>2.0%</td>
<td>0</td>
<td>0.1%</td>
<td>0</td>
<td>0.1%</td>
<td>2</td>
<td>0.1%</td>
<td>2</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

### Roadway Data

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>2,674</td>
<td>50</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>11</td>
<td>12</td>
<td>15</td>
<td>7</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Fatal</td>
<td>654</td>
<td>24.5%</td>
<td>12</td>
<td>24.0%</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Injury</td>
<td>2,020</td>
<td>75.5%</td>
<td>17</td>
<td>34.0%</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>11</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Alcohol</td>
<td>706</td>
<td>26.4%</td>
<td>17</td>
<td>34.0%</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

### Traffic Data

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>71,219</td>
<td>1,314</td>
<td>290</td>
<td>285</td>
<td>259</td>
<td>259</td>
<td>259</td>
<td>221</td>
<td>259</td>
<td>261</td>
<td>231</td>
<td>292</td>
</tr>
<tr>
<td>2014</td>
<td>7,046</td>
<td>9.9%</td>
<td>156</td>
<td>11.9%</td>
<td>43</td>
<td>28</td>
<td>27</td>
<td>26</td>
<td>32</td>
<td>34</td>
<td>25</td>
<td>34</td>
</tr>
<tr>
<td>2015</td>
<td>3,422</td>
<td>4.8%</td>
<td>40</td>
<td>3.0%</td>
<td>17</td>
<td>10</td>
<td>4</td>
<td>9</td>
<td>11</td>
<td>12</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>2016</td>
<td>778</td>
<td>1.1%</td>
<td>11</td>
<td>0.8%</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2017</td>
<td>1,940</td>
<td>2.7%</td>
<td>137</td>
<td>10.4%</td>
<td>23</td>
<td>26</td>
<td>36</td>
<td>27</td>
<td>25</td>
<td>15</td>
<td>27</td>
<td>15</td>
</tr>
</tbody>
</table>
Data & Sources Exercise
6 Steps of LRSP Development

• Establish Leadership
• Analyze Safety Data
• **Determine Emphasis Areas**
• Identify Strategies
• Prioritize and Incorporate Strategies
• Evaluate and Update the LRSP

<table>
<thead>
<tr>
<th>Step 3: Determine Emphasis Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify Emphasis Area Objectives and Performance Measures</td>
</tr>
</tbody>
</table>
Emphasis Area Exercise
WA State Counties Risk Factors (2017)

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRASHES/SEVERITY RATE</td>
<td>23</td>
</tr>
<tr>
<td>ADT</td>
<td>19</td>
</tr>
<tr>
<td>HORIZONTAL CURVES</td>
<td>16</td>
</tr>
<tr>
<td>FUNCTIONAL CLASS</td>
<td>14</td>
</tr>
<tr>
<td>POSTED SPEED</td>
<td>12</td>
</tr>
<tr>
<td>FIXED OBJECTS/CLEAR ZONE</td>
<td>12</td>
</tr>
<tr>
<td>ROAD/LANE WIDTH</td>
<td>11</td>
</tr>
<tr>
<td>SHOULDER WIDTH</td>
<td>9</td>
</tr>
<tr>
<td>SURFACE TYPE</td>
<td>5</td>
</tr>
<tr>
<td>EMBANKMENT SLOPE/HEIGHT</td>
<td>5</td>
</tr>
<tr>
<td>ILLUMINATION PRESENCE</td>
<td>5</td>
</tr>
</tbody>
</table>

Avg = 6
Risk Factors

Systemic Safety Project
Selection Tool

Potential Risk Factors

Roadway and Intersection Features
- Number of lanes
- Lane width
- Shoulder surface width and type
- Median width and type
- Horizontal curvature, 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

ruralsafetycenter.org
Qualitative Data

• Use the data that you have
• Use qualitative ratings when needed
  • Good, fair, not-so-good (curve radius, roadside, etc.)
  • Number per segment, mile, roadway (curves, driveways, intersections, etc.)
  • High, medium, low (traffic volumes, pedestrian volumes, crash frequency, etc.)

• It is important to include the risk factors that are key to your roadway network
6 Steps of LRSP Development

- Establish Leadership
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- **Identify Strategies**
- Prioritize and Incorporate Strategies
- Evaluate and Update the LRSP

**Step 4: Identify Strategies**

Identify Strategies Exercise
WA State Counties Top Countermeasures (2017)

- Guardrail: 21
- Signing: 13
- Guideposts: 7
- Data Collection: 7
- Bridge Rail: 6
- Centerline Rumble Strips: 5
- Striping: 5
- Shoulder Improvements: 4
- Illumination/Crosswalk Illumination: 4
- Flatten Slopes: 4
- Traffic Signal: 4
- Sight Distance: 4
6 Steps of LRSP Development

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**Step 5: Prioritize and Incorporate Strategies**

1. Identify Priorities
2. Determine Intended Implementation Approach for Strategies
3. Draft the Plan
Prioritize Locations

- 5: 6 locations
- 4: 12 locations
- 3: 24 locations
- 2: More locations
- 1: Even more locations
- 0: Locations+
6 Steps of LRSP Development

• Establish Leadership
• Analyze Safety Data
• Determine Emphasis Areas
• Identify Strategies
• Prioritize and Incorporate Strategies
• **Evaluate and Update the LRSP**

**Step 6: Evaluate and Update the LRSP**

1. Monitor Progress
2. Plan Evaluation
3. Living Document
Funding Opportunities (or Challenges!)

• Federal Highway Safety Improvement Program (HSIP) funds
• State funds
• Local funds
Resources

• FHWA Systemic Safety Project Selection Tool
  • https://safety.fhwa.dot.gov/systemic/fhwasa13019/

• FHWA Crash Modification Factor Clearinghouse
  • http://www.cmfclearinghouse.org/

• State SHSP

• Every Day Counts 5
  • https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/index.cfm

• Reducing Rural Roadway Departures
Partners

- LTAP Center
- FHWA
- NACE Safety Committee
- APWA Safety Committee
Questions?

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