Lane Area Transportation Safety and Security Plan – Vulnerable Users Focus Group
Agenda

1. Planning Process Review

2. What are Emphasis Areas?

3. Your Role Today

4. Data Review

5. Small group discussion on countermeasures
Planning process review

- Federal Highways emphasis on safety
- Two Plans (One Process): MPO, Lane County
- Be prepared for competitive funding streams; build capacity;
- Collaboration and partnerships (Issue is multi-dimensional)
- Traffic safety outcomes still taking a toll
Planning process review:
Solution Set & Stakeholders – The E’s of Safety
Planning process review:
Data driven process

Datasets being used:

- Oregon Department of Transportation Crash Data System (CDS)
- Fatal Accident Reporting System (FARS)
- Citation and Arrest data from Lane County Public Safety agencies
- Latest research and evidence based science
Overview:
What’s the transportation safety problem?

• Motor vehicle deaths leading cause of death under 45 years of age

• The number of traffic deaths in the United States rose 8% between 2014 and 2015, the largest increase in 50 years, with the biggest increases in Oregon (27%).

• In 2015, 57 people died in Lane County traffic crashes, up from 45 fatalities in 2014.

• Annual costs of crashes over $300 million a year in Lane County
Agenda

1. Planning Process Review

2. What are Emphasis Areas?

3. Your Role Today

4. Data Review

5. Small group discussion on countermeasures
## What are Emphasis Areas?
Summary of all Emphasis Areas – the problems we’re trying to solve

<table>
<thead>
<tr>
<th>Emphasis Areas by Selection Criteria and Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-url" alt="Emphasis Areas Table Image" /></td>
</tr>
</tbody>
</table>

### Emphasis Areas by Selection Criteria and Geography

<table>
<thead>
<tr>
<th>Emphasis Area</th>
<th>Quantitative Criteria</th>
<th>Qualitative Criteria</th>
<th>Geographic Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Severity</td>
<td>Trend</td>
</tr>
<tr>
<td>Risky Behaviors (Why)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impaired Driving</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Speed Involved</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Unrestrained Occupants</td>
<td>●</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Inattention</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Vulnerable Users (Who)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Bicycle</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>●</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Young Drivers (15-21)</td>
<td>●</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Infrastructure (Where)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principle Arterials - Other</td>
<td>●</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Minor Arterials</td>
<td>●</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Major Collectors</td>
<td>●</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Intersections</td>
<td>●</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Foundational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMS, Data, Training, Leg.</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Agenda

1. Planning Process Review

2. What are Emphasis Areas?

3. Your Role Today

4. Data Review

5. Small group discussion on countermeasures
Your Role Today

Vision

Goal 1  Goal 2  Goal 3  Goal 4  Goal 5  Goal 6

Risky Behaviors (Why?)
- Impaired Driving
- Speed Involved
- Inattention
- Unrestrained Occupant

Priority B: Vulnerable Users (Who?)
- People Walking
- People on Bikes
- Young Drivers
- Elderly Drivers
- Motorcycles

Priority C: Infrastructure (Where?)
- Intersections
- Minor Arterials (Urban)
- Major Collectors (Rural)
- Principle Arterials (Both)

Priority D: System Support
- Data (collecting and sharing)
- Funding support
- Legislative

ACTIONS (Barriers and Challenges)
Agenda

1. Planning Process Review
2. What are Emphasis Areas?
3. Your Role Today
4. Data Review
5. Small group discussion on countermeasures
In Lane County, 45% (554) of all fatal and severe injuries (1,227) involve Vulnerable Users.

Vulnerable Users related fatal and severe injuries by geography:
- CLMPO = 61%
- Non-CLMPO = 38%
Vulnerable Users Data Review

1. People Walking
2. People Riding a Bicycle
3. Motorcycle
4. Young Drivers (15-21)
5. Older Drivers (65+)
People Walking Data Review

- Mostly flat trajectory
- Ped Crashes mostly an urban phenomenon
People Walking Data Review

- Over 50% of pedestrian fatal and severe injuries occur on minor and principle arterials.
- Likely where systematic issues exist.
Top motorist errors:
- Not yielding right-of-way
- Inattention

Top Pedestrian errors:
- Crossing between intersections
- Disregarding traffic signal
Vulnerable Users Data Review

1. People Walking
2. People Riding a Bicycle
3. Motorcycle
4. Young Drivers (15-21)
5. Older Drivers (65+)
People Riding Bikes

Fewer fatal and severe injuries for people riding bikes (9% of total in CLMPO)

Many more injuries compared to pedestrians
People Riding Bikes

- High frequency locations for bike crashes include minor arterials and principle arterials (65%)
- Intersections and driveways pose most significant area of concern
- Mostly an urban condition
People Riding Bikes

- 65% of bicycle crashes occur on minor and principle arterials.
- Locations with bike lanes attract bicyclists, and bike crashes.

**Bicycle Injuries by Facility Availability (2007-2014)**

<table>
<thead>
<tr>
<th>Bicycle Facility Availability</th>
<th>Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike Lane</td>
<td>180</td>
</tr>
<tr>
<td>No Bike Facility</td>
<td>110</td>
</tr>
<tr>
<td>Bike Lane</td>
<td>100</td>
</tr>
<tr>
<td>No Bike Facility</td>
<td>80</td>
</tr>
</tbody>
</table>

The bar chart shows that bicycle lanes significantly reduce the number of injuries compared to areas without bike lanes.
• Bike lanes actually offer significant protection, reducing the injury crash rate by 77%

• Compared with motorized transport, bicycle travel much riskier, nearly 5 times riskier (on minor arterials)
People Riding Bikes and Walking

- Past research confirms higher risk for people walking and biking

**Table 2.** Annualized fatal injury rates per 100 million person-trips, by mode of travel, sex, and age, United States, 1999–2003

<table>
<thead>
<tr>
<th>Person category</th>
<th>Passenger vehicle</th>
<th>Motorcycle</th>
<th>Walking</th>
<th>Bicycle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate</td>
<td>95% CI</td>
<td>Rate</td>
<td>95% CI</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12.4</td>
<td>12.1, 12.6</td>
<td>551.2</td>
<td>426.2, 676.2</td>
</tr>
<tr>
<td>Female</td>
<td>6.3</td>
<td>6.2, 6.5</td>
<td>434.1</td>
<td>234.6, 633.7</td>
</tr>
<tr>
<td>Age group (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–4</td>
<td>2.5</td>
<td>2.3, 2.8</td>
<td>6.0</td>
<td>4.8, 7.2</td>
</tr>
<tr>
<td>5–14</td>
<td>2.8</td>
<td>2.6, 3.0</td>
<td>4.5</td>
<td>3.9, 5.1</td>
</tr>
<tr>
<td>15–24</td>
<td>21.3</td>
<td>20.4, 22.1</td>
<td>12.4</td>
<td>11.0, 13.9</td>
</tr>
<tr>
<td>25–64</td>
<td>7.7</td>
<td>7.6, 7.9</td>
<td>517.0</td>
<td>397.5, 636.5</td>
</tr>
<tr>
<td>≥65</td>
<td>15.0</td>
<td>14.5, 15.6</td>
<td>536.6</td>
<td>419.8, 653.4</td>
</tr>
<tr>
<td>Total</td>
<td>9.2</td>
<td>9.1, 9.4</td>
<td>536.6</td>
<td>419.8, 653.4</td>
</tr>
</tbody>
</table>

Beck, Dellinger, and O’neil (2007)

**Table 3.** Estimated Crude Traffic Crash Fatality and Injury Rates in British Columbia, by Road User Class*, With Population, Person-trip and Distance Travelled Denominators

<table>
<thead>
<tr>
<th>Exposure-based Fatality and Injury Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Fatalities per 100,000 Population†</td>
</tr>
<tr>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Drivers and passengers</td>
</tr>
<tr>
<td>Pedestrians</td>
</tr>
<tr>
<td>Motorcyclists and passengers</td>
</tr>
<tr>
<td>Bicyclists</td>
</tr>
</tbody>
</table>

* Numerator data not available for transit riders, so no rates could be calculated.
† Population of British Columbia, 2006 Census - 4,113,482.
– Denominator data not available for exposure-based rate calculations.

Teschke et al. (2013)
Vulnerable Users Data Review

1. People Walking
2. People Riding a Bicycle
3. Motorcycle
4. Young Drivers (15-21)
5. Older Drivers (65+)
People Riding a Motorcycle

- Past research confirms riding a motorcycle incredibly risky – 58 times more dangerous compared to driving

<table>
<thead>
<tr>
<th>Person category</th>
<th>Passenger vehicle</th>
<th>Motorcycle</th>
<th>Walking</th>
<th>Bicycle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate</td>
<td>95% CI†</td>
<td>Rate</td>
<td>95% CI</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12.4</td>
<td>12.1, 12.6</td>
<td>551.2</td>
<td>426.2, 676.2</td>
</tr>
<tr>
<td>Female</td>
<td>6.3</td>
<td>6.2, 6.5</td>
<td>434.1</td>
<td>294.6, 633.7</td>
</tr>
<tr>
<td>Age group (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–4</td>
<td>2.5</td>
<td>2.3, 2.8</td>
<td>6.0</td>
<td>4.8, 7.2</td>
</tr>
<tr>
<td>5–14</td>
<td>2.8</td>
<td>2.6, 3.0</td>
<td>4.5</td>
<td>3.9, 5.1</td>
</tr>
<tr>
<td>15–24</td>
<td>21.3</td>
<td>20.4, 22.1</td>
<td>12.4</td>
<td>11.0, 13.9</td>
</tr>
<tr>
<td>25–64</td>
<td>7.7</td>
<td>7.6, 7.9</td>
<td>15.7</td>
<td>14.9, 16.5</td>
</tr>
<tr>
<td>≥65</td>
<td>15.0</td>
<td>14.5, 15.6</td>
<td>29.8</td>
<td>27.1, 32.5</td>
</tr>
<tr>
<td>Total</td>
<td>9.2</td>
<td>9.1, 9.4</td>
<td>536.6</td>
<td>419.8, 653.4</td>
</tr>
</tbody>
</table>
People Riding a Motorcycle

- Past research confirms riding a motorcycle incredibly risky – 58 times more dangerous compared to driving.
- Helmet worn in 91% of fatal and severe injuries.
Vulnerable Users Data Review

1. People Walking
2. People Riding a Bicycle
3. Motorcycle
4. Young Drivers (15-21) & Older Drivers (65+)
Young Drivers (15-21) & Older Drivers (65+)

Lane County Population age 15-24 with a driver’s license:
- 2010 – 62%
- 2014 – 58%
Young Drivers (15-21) & Older Drivers (65+)

- Young drivers over represented in fatal and severe injuries
- Lane County Population age 15-24 with a driver’s license:
  - 2010 – 62%
  - 2014 – 58%
- Older drivers are under represented
- Number of Older driver crashes relatively flat
Break Into Smaller Groups

Guided Group Considerations

• Discuss potential countermeasures
• Consider level of difficulty
• Discuss Barriers
Summary

What are the highlights from the discussion?
Questions?

• Ellen Currier
  • ecurrier@lcog.org

• Josh Roll
  • jroll@lcog.org

• Becky Taylor
  • Becky.TAYLOR@co.lane.or.us