Rural Highway Safety and Speed Review

Post Implementation Update

June 28, 2016
Rural Safety and Speed Review

Recommendations:

Speed limits
- Increase speed on 1300km of rural highway
- Pilot variable speed limits at three locations

Winter tires
- Update winter tire regulations and post new winter tire signs

Slow moving vehicles
- Introduce new left lane legislation
- Revise pavement markings and signing at passing lanes
- Pilot pullover signing on Highway 4

Wildlife
- Implement 2 wildlife detection systems on Highway 3
- Install gateway wildlife signs
- Install LED wildlife signs
- CMS wildlife messaging
Speed Limit Review

- Reviewed over 9,100 km of rural provincial highways
- Assessment based on Institute of Transportation Engineers speed zone practices
  - 85th Percentile
  - Safety history, geometry, land use, consistency
- Increased speed limit to match operating speeds on 33 highway segments (approx 1,300 km)

<table>
<thead>
<tr>
<th>New Speed Limit km/h</th>
<th>Number of Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>9</td>
</tr>
<tr>
<td>100</td>
<td>17</td>
</tr>
<tr>
<td>110</td>
<td>4</td>
</tr>
<tr>
<td>120</td>
<td>3</td>
</tr>
</tbody>
</table>
Post Implementation Speed Surveys

- Changes in speeds varied by corridor
  - 14 of the sections had speeds remain the same or decline;
  - 19 saw increased speeds
    - Highway 99 north of Whistler dropped 5 km/h
    - Highway 5 from Hope to Kamloops remained unchanged
    - Highway 5 north of Kamloops increased 9 km/h
  - Average increase was 2 km/h
  - 19 sections were within ±3 km/h of their pre-implementation 85% speed
Safety Data Overview

- 1 year post-implementation review (November 1, 2014 to October 31, 2015)
- Serious collisions are reported as a collision rate
  - Traffic volume
  - Section length
Individual Segments Summary

- Over half of the segments (19 of 33) the collision rate stayed the same or decreased
- Of the 14 sections where crashes increased, speed decreased or stayed the same on 7
- 7 segments had the speed increase, serious collision increase

<table>
<thead>
<tr>
<th></th>
<th>Crashes Decreased or no change</th>
<th>Crashes Increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed Increased</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Speed decreased or</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>no change</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Collision Data Variability

- One year of data does not make a trend
  - Typically 3 years of data are used
- Year to year data can vary significantly
- Factors affecting crashes
  - Number of vehicles on the road
    - Economic activity
    - Price of fuel
  - Weather patterns

![Annual Serious Collision Rate Graph](image)
Over-all Safety Data

- 32% reduction in serious collision rate over 10 years
- UBC statistical model estimated 11% over-all increase in segments where the speed was changed
  - Trending down
  - too few crashes to come to segment specific conclusions
- Single year data shows a 9% increase in serious crashes across the whole provincial highway system
Contributing Factors

- **Top 3 contributing factors for all changed segments**
  - Driver inattentiveness showed an increase of 6%
  - Driving too fast for conditions showed a decrease of 4%
  - Road conditions remained the same
- Represent 54% of all crashes
# Safety Trends in Other Countries

<table>
<thead>
<tr>
<th>Fatalities in United States</th>
<th>Fatalities internationally</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jan to June 2015</strong></td>
<td></td>
</tr>
<tr>
<td>Oregon +59%</td>
<td>United Kingdom +5% (2014)</td>
</tr>
<tr>
<td>Florida +29%</td>
<td>Sweden +4% (2014)</td>
</tr>
<tr>
<td>Georgia +26%</td>
<td>Australia +2.5% (2015)</td>
</tr>
<tr>
<td>Minnesota +26%</td>
<td></td>
</tr>
<tr>
<td>Indiana + 23%</td>
<td></td>
</tr>
<tr>
<td>North Dakota +22%</td>
<td></td>
</tr>
<tr>
<td>South Carolina +21%</td>
<td></td>
</tr>
<tr>
<td>California +20%</td>
<td></td>
</tr>
<tr>
<td>Louisiana +20%</td>
<td></td>
</tr>
<tr>
<td>Maryland +19%</td>
<td></td>
</tr>
<tr>
<td>North Carolina +19%</td>
<td></td>
</tr>
<tr>
<td>Utah +19%</td>
<td></td>
</tr>
<tr>
<td>Wisconsin +19%</td>
<td></td>
</tr>
<tr>
<td>Arizona + 18%</td>
<td></td>
</tr>
<tr>
<td>Colorado +18%</td>
<td></td>
</tr>
<tr>
<td>Ohio +17%</td>
<td></td>
</tr>
<tr>
<td>Arkansas +14%</td>
<td></td>
</tr>
<tr>
<td>Vermont +12%</td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

- Ministry analysis aligns with UBC statistical modelling
- Operating speeds have not changed significantly
- Driver inattentiveness and Off-road collision types are showing an increase
- Recent changes aimed at improving safety have been implemented
  - 3 New Variable Speed Limit Systems
  - 2 New Wildlife Detection Systems
  - BC On the Move Road Safety Improvements
  - Increased distracted driving penalties
Thank You