Traffic Safety

Joint Transportation Committee

Dongho Chang, State Traffic Engineer
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Roger Millar, Secretary of Transportation
Amy Scarton, Deputy Secretary of Transportation
Safe System Approach

SR 7 fatal and serious collision review
- Six-mile section in Spanaway/Elk Plain
- Increasing development
Safe System Approach

Compact roundabout option
- Benefit of 300% compared with costs
- Gateway and safer operating speed
Roundabouts- FHWA proven safety countermeasure

Mattawa WA- SR 243

- 65 mph
- 21 crashes (2007-2012)
- 22 serious injuries, 2 fatalities
Mattawa WA- SR 243

- Roundabout identified as an option
- Constructed in 2014
- No fatal/serious injury crash (7 years)
Selection of Proven Safety Countermeasures

**SPEED MANAGEMENT**
- Speed Safety Cameras
- Variable Speed Limits
- Appropriate Speed Limits for All Road Users

**PEDESTRIAN/BICYCLIST**
- Crosswalk Visibility Enhancements
- Bicycle Lanes
- Rectangular Rapid Flashing Beacons

**ROADWAY DEPARTURE**
- Wider Edge Lines
- Enhanced Delineation for Horizontal Curves
- Longitudinal Rumble Strips and Stripes

Source: FHWA
Crash Modification Factor: Formation Tool

- Agency developed* assessment tool to calculate Crash Reduction
  - Methodology from Federal Highway Safety Manual
  - Supports between 1-1,000 sites
  - Supports up to 10 yrs B & 5 yrs A
    - Flexible to evaluate on an annual basis to anticipate trends

*Developed by Kelvin Daratha, Clay Peterman, Dina Swires
Evaluating Effectiveness Using Local Data

Intersection Conflict Warning System
Clearinghouse CMF = 0.52 (~48% crash reduction)
WSDOT CMF = 1.12 (~12% increase in crashes!!)

Vehicle waiting at stop sign
Evaluating Effectiveness
Better Data = Better Decisions

Prepare To Stop When Flashing system
Clearinghouse CMF = 0.81 (~19% crash reduction)
WSDOT CMF = 0.75 (~25% crash reduction)
Implementation details were noted/standardized
Evaluating Effectiveness
Better Data = Better Decisions

High Friction Surface Treatment
  Clearinghouse CMF = 0.43 (~57% crash reduction)
  WSDOT CMF = 0.074 (~92% crash reduction)
  (low sample size)
Low-Cost Enhancements
Rainier Ave and I-90

Before: aerial of ramp with two full-time lanes, a general-purpose lane, and an HOV bypass

After: ramp reduced to a single-lane entrance with a metered shoulder downstream of the striping
**Aurora Avenue (SR 99) and N 92^{nd} St**

- 92^{nd} 6 crashes (3yrs prior to project). No crashes (16 months after)
- 88^{th}-94^{th} (26% drop in all crashes, 47% drop in injury crashes)

Source: City of Seattle
School Crossings

<table>
<thead>
<tr>
<th>Change in speeding over 25 mph</th>
<th>Graham Hill</th>
<th>Highland Park</th>
<th>Olympic Hills</th>
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<td>-79%</td>
<td>-73%</td>
<td>-88%</td>
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Source: City of Seattle
For additional information on Traffic Safety, please contact:

Dongho Chang, State Traffic Engineer

ChangDo@wsdot.wa.gov.