Traffic Safety

Joint Transportation Committee

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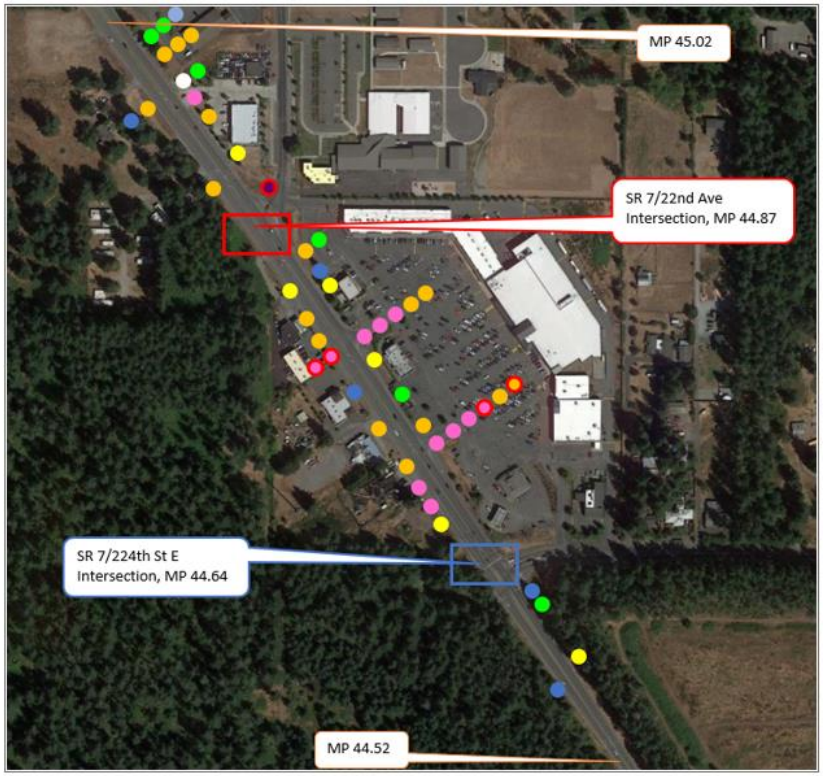
Roger Millar, Secretary of Transportation

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

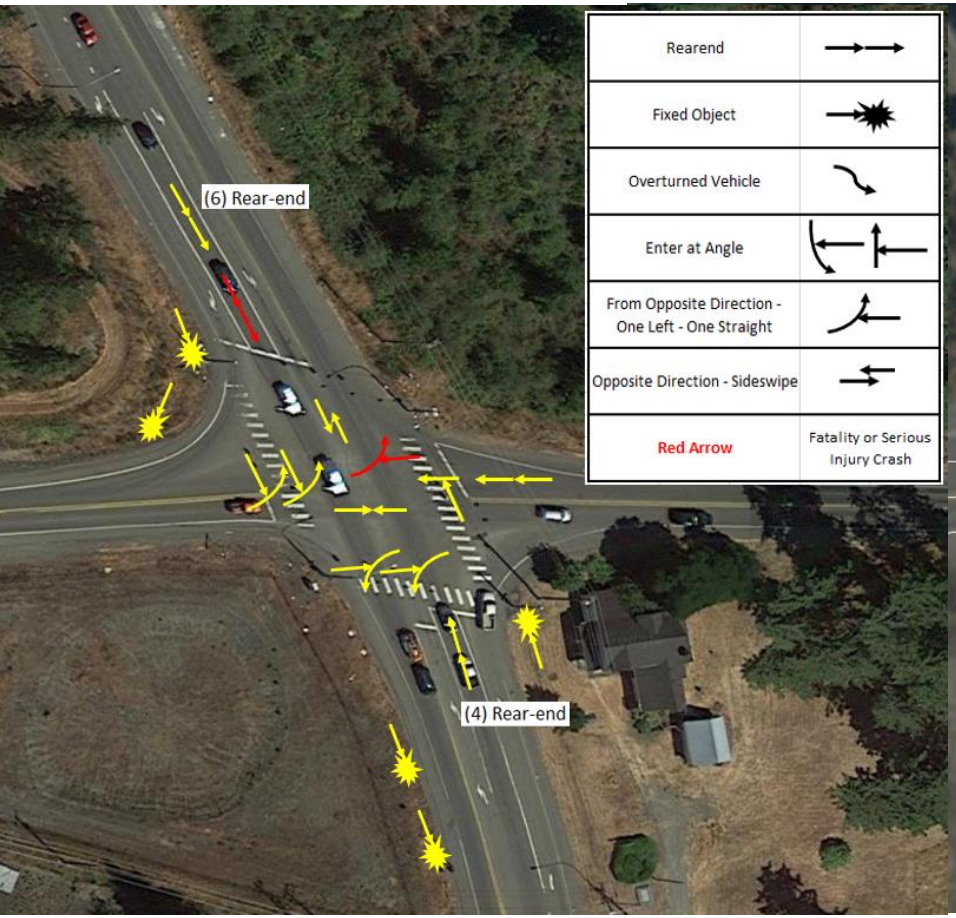


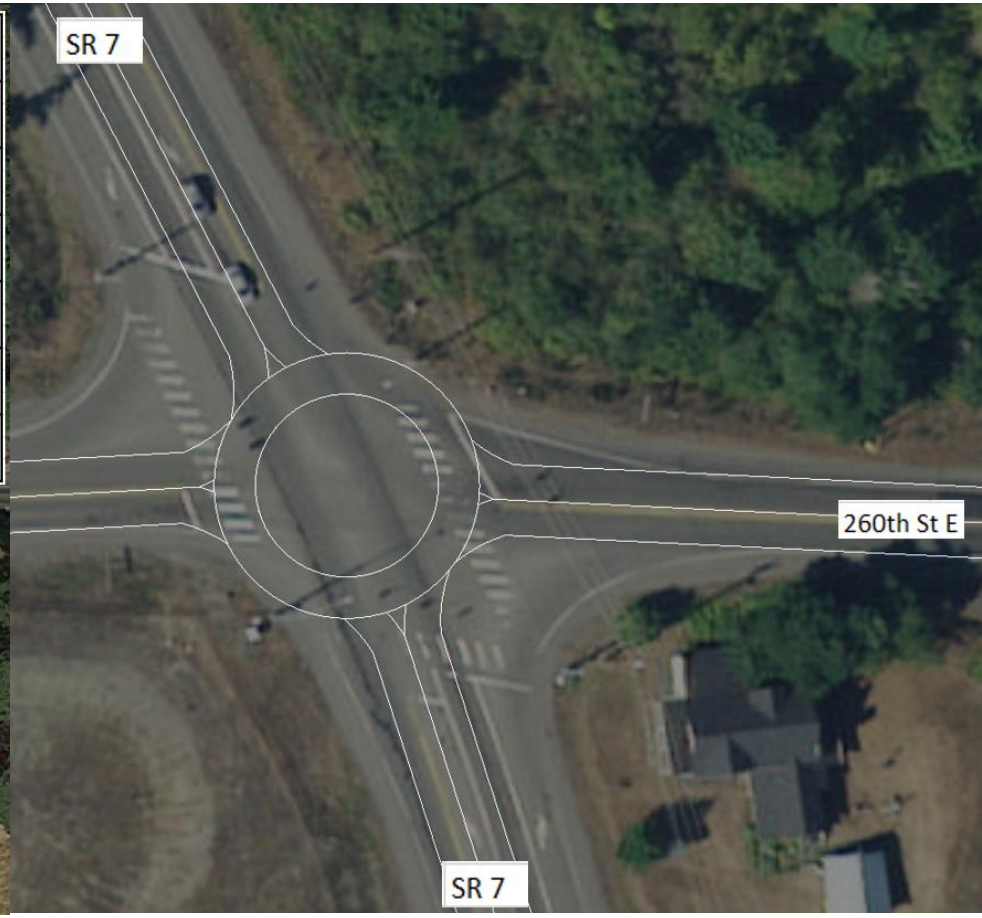
Rear-end		Same Direction Sideswipe		Vehicle Hits Bicycle	
Opposite Direction - Head-on		At Angle		Vehicle Hits Pedestrian	
Opposite Direction - One Straight, One Turning Left		Opposite Direction Sideswipe		Fixed Object	

Safe System Approach

Compact roundabout option

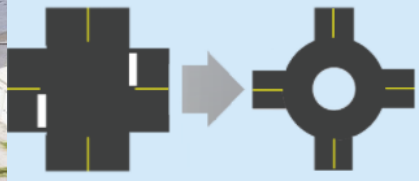
- Benefit of 300% compared with costs
- Gateway and safer operating speed





Roundabouts- FHWA proven safety countermeasure

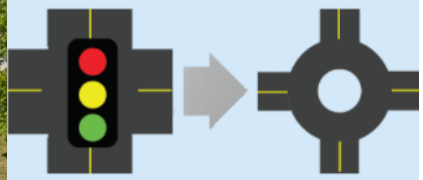
Two-Way Stop-Controlled Intersection to a Roundabout



82%

Reduction in fatal and injury crashes[1]

Signalized Intersection to a Roundabout



78%

Reduction in fatal and injury crashes[1]

1. AASHTO. The Highway Safety Manual, American Association of State Highway Transportation Professionals, Washington, D.C., (2010).

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

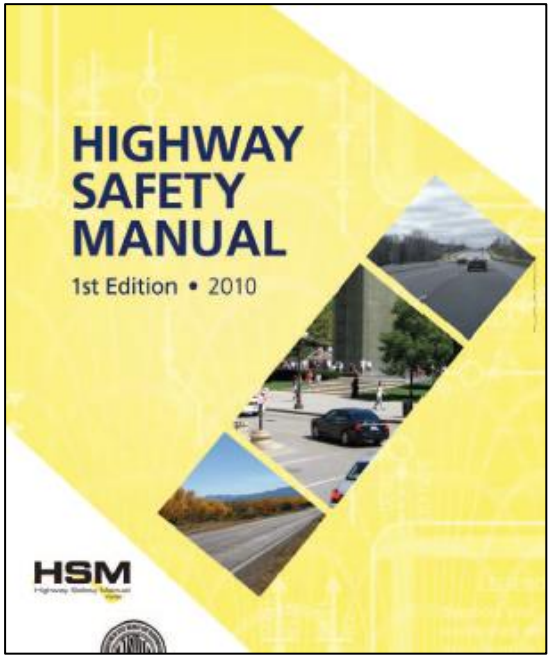
Enhanced Delineation for Horizontal Curves

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

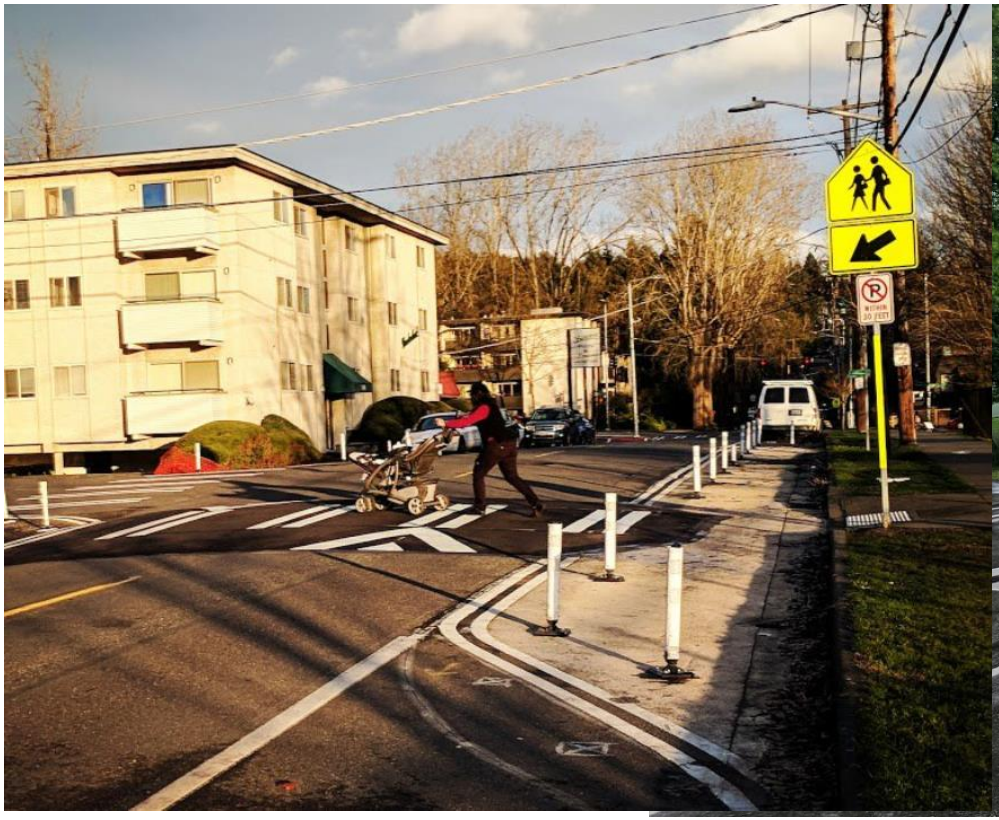
Aurora Avenue (SR 99) and N 92nd St

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

Source: City of Seattle

School Crossings

	Graham Hill	Highland Park	Olympic Hills
Change in speeding over 25 mph	-79%	-73%	-88%
Change in speeding over 35 mph	-80%	-81%	-91%



Source: City of Seattle

Question?

For additional information on
Traffic Safety, please contact:

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