


The Value of Roundabouts:

Improving intersection safety and operations in Oregon

Kevin J. Haas, P.E.
Traffic Standards Engineer
Oregon Department of Transportation (ODOT)

Central Oregon Area Commission on Transportation (COACT)
September 8, 2016



Source: KGW News, April 20, 2016
<http://www.kgw.com/news/local/two-girls-hit-by-van-in-gresham/146350154>




Source: KPTV News, April 7, 2014
<http://www.kptv.com/clip/10028804/driver-18-passenger-19-killed-in-hwy-47-crash-near-forest-grove>




Which of these crashes results in greater outrage from the general public? Why?



TWO GIRLS HIT BY VAN IN GRESHAM



LIVE

FOREST GROVE
FIRST. LIVE. LOCAL.



The same scene is repeated throughout Oregon

Deadly crash happened at intersection with state-of-the-art crosswalk



NEWS 310
Pedestrian killed in Medford



Redmond police ID victim in fatal car-pedestrian crash
Police say victim was crossing against light, wore dark clothes
Bartley Larson
POSTED: 10:40 AM EDT November 24, 2013
UPDATED: 7:46 PM EDT November 24, 2013



REDMOND, Ore. - A 13-year-old Redmond man who was struck and fatally injured by a car at a southwest Redmond intersection Monday evening was crossing the street against the pedestrian control light when "signal broke east" Tuesday.



"Just install a traffic signal and all the safety problems will go away."




IHS HLDI Insurance Institute for Highway Safety
Highway safety research & communications

RATINGS NEWS TOPICS VIDEO STATUS REPORT

- Red light running & aggressive driving have become chronic problems both locally & nationally
- Over 126,000 people were either killed or injured in a red light running crash in the U.S. in 2014

Source: Insurance Institute for Highway Safety (IHS)

IHS HLDI Insurance Institute for Highway Safety
Highway safety research & communications

RATINGS NEWS TOPICS VIDEO STATUS REPORT

Distracting behaviors are common at red lights, less so at roundabouts

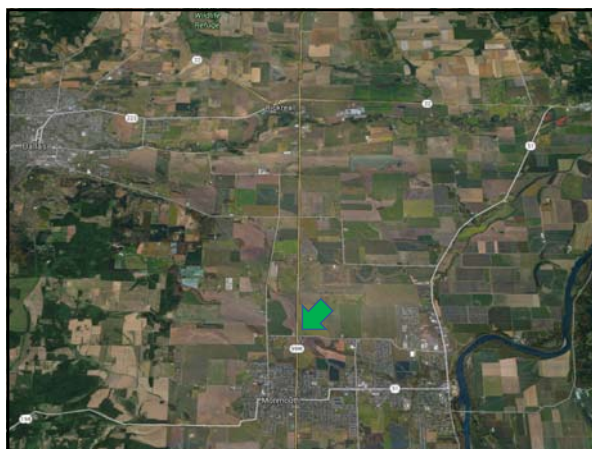
- Researchers observed 17,000 drivers in Northern Virginia
- Drivers were **41-66% more likely** to engage in distracting behavior **at signals**
- Drivers were **40-73% less likely** to engage in distracting behavior **at roundabouts**

Source: Insurance Institute for Highway Safety (IHS) March 31, 2015 Status Report

Distracting behavior at signalized intersections
Source: AAA Foundation for Traffic Safety



FWD +0.03 LAT -0.02 Time -7.75

Roundabouts focus attention on the driving task
Source: Washington State Department of Transportation (WSDOT)



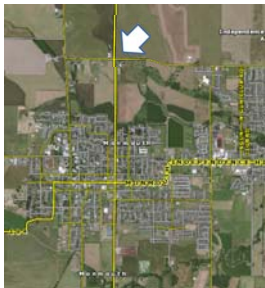

**OR 99W @ Hoffman Rd north of Monmouth
1995-2000**

- 1995-1999
 - 19 crashes
 - 12 crashes involving fatalities or injuries
 - 7 crashes only involved property damage
- 2000
 - ODOT installs traffic signal after public involvement process


**OR 99W @ Hoffman Rd north of Monmouth
2011-2015**

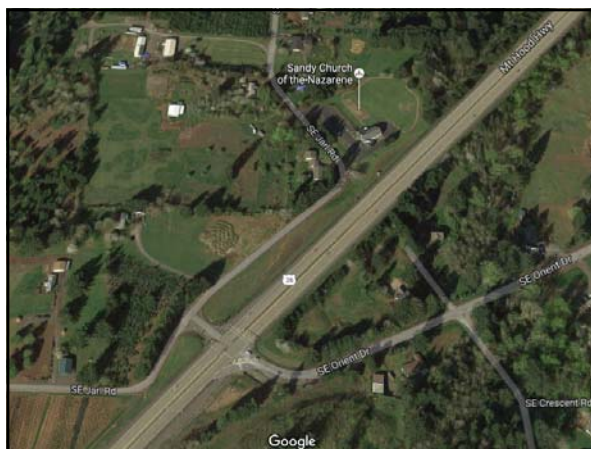
- 2011-2015
 - 17 crashes
 - 13 crashes involving fatalities or injuries
 - 4 crashes only involved property damage


1995-2004
15 Fatal + Injury Crashes

2006-2015
13 Fatal + Injury Crashes

OR 140 @ OR 66 outside of Klamath Falls





Portland teens killed in Oregon 47 crash near Forest Grove were Pacific University students



Source:
The Oregonian/OregonLive
April 7, 2014

ODOT will push for roundabout at Oregon 47 and Verboort Road near Forest Grove, spokesperson says



Source:
The Oregonian/OregonLive
April 8, 2014



Sen. Bruce Starr asks ODOT to install roundabout at OR47/Verboort Road, but funding uncertain



Source:
The Oregonian/OregonLive
April 10, 2014



Online petition spurs more than 2,400 signatures for traffic signal at Oregon 47/Verboort Road



Source:
The Oregonian/OregonLive
April 16, 2014



ODOT lays out plans for Oregon 47/Verboort Road during Wednesday town hall in Forest Grove



Source:
The Oregonian/OregonLive
April 23, 2014





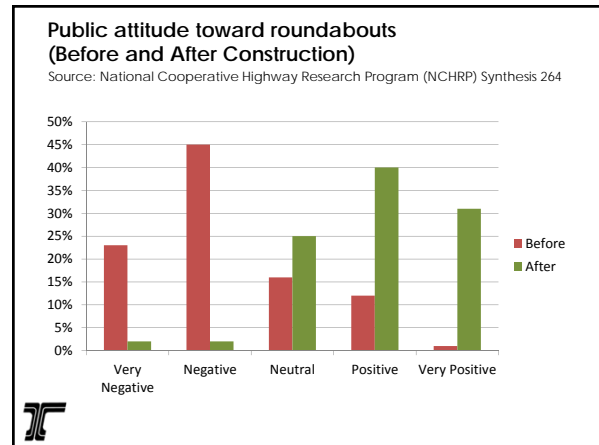
Why Roundabouts?

Properly designed roundabouts can:

- **Improve Safety**
 - Almost 100% reduction in fatal & serious injury crashes in many States
- Reduce Delay
- Reduce Emissions
- Fuel Savings

Data driven decision making based on facts
Oregon intersection crash severity data 2009-2013

	Unsignalized	Signalized	Roundabout
Fatal & Serious Injuries	7% (230 Fatalities)	3% (120 Fatalities)	1% (0 Fatalities)
Minor Injuries	48%	47%	34%
Property Damage Only	45%	50%	65%



If Roundabouts are so good why are there so many impediments in getting them constructed?

- Overcoming initial public negative attitude on roundabouts
- Dealing with misconceptions
 - Freight mobility
 - Traffic signals fix all safety problems
 - Cost

Questions?

Kevin J. Haas, P.E.
Traffic Standards Engineer
ODOT Technical Services
Traffic-Roadway Section

Email: Kevin.J.Haas@odot.state.or.us
Phone: (503) 986-3583

Central Oregon Area Commission on Transportation (COACT)
September 8, 2016