

Crash Type	Safety Issue/Concern	Treatment	Effectiveness
Pedestrian and bicyclist crashes	Vehicles turning into pedestrians/bicyclists at intersections	Install leading pedestrian intervals (LPI) (ODOT, 2018)	0.63 (all severities, pedestrian and bicyclist crashes, ODOT ID=BP3)
		Restrict right-turn-on-red movements at intersections (HSM, 2010)	0.92 (all severities, all crash types, Clearinghouse ID=5194)
		Replace permissive or protected/permissive left turn with protected only (ODOT, 2018)	0.01 (all severities, left turn crashes, ODOT ID=14)
		Provide high visibility/raised crosswalks at intersections (PedPDX, 2019)	0.60 (all severities, pedestrian crashes, Clearinghouse ID=4123, 2 Stars)
		Install left turn calming (PBOT Pilot Program, 2019)	Unknown
		Install curb extensions, marked crosswalks according to PedPDX crossing spacing guidelines and pedestrian warning signs (e.g. rectangular rapid flashing beacon). (ODOT, 2018)	0.63 (all severities, pedestrian crashes, ODOT ID=BP12)
Speeding related crashes	Motor vehicles traveling at unsafe speeds	<ul style="list-style-type: none"> <li>Road diet: Change 5 lane section to 3 lane section with buffered bike lanes (PBOT, 2014)</li> <li>Install buffered bicycle lanes (NACTO, 2013)</li> </ul>	<ul style="list-style-type: none"> <li>0.63 (all severities, all crash types, no ID available)</li> <li>Unknown</li> </ul>
		<ul style="list-style-type: none"> <li>Install raised median (ODOT, 2018)</li> <li>Reduce driveway density (ODOT, 2018)</li> </ul>	<ul style="list-style-type: none"> <li>0.78 (all injury, all crash types, ODOT ID=H34)</li> <li>0.71 (all injury, all crash types, ODOT ID=H30)</li> </ul>
		<ul style="list-style-type: none"> <li>Install automated speed enforcement (Vision Zero Action Plan, 2016)</li> <li>Install individual changeable speed warning signs (ODOT, 2018)</li> </ul>	<ul style="list-style-type: none"> <li>0.83 (fatal and injury, all crash types, Clearinghouse ID=4583)</li> <li>0.59 (all severities, all crash types, ODOT ID=H47)</li> </ul>
		Lower posted speed limit from 30 miles per hour to 25 miles per hour (CMF Clearinghouse, 2019)	0.74 (all severities, all crash types, Clearinghouse ID=8076)
		Reduce cycle lengths and use slower signal progressions (NACTO, 2013)	Unknown
Crashes in dark conditions	All mode crashes in dark light conditions along segments	Increase average illuminance on roadway segments and sidewalks (CMF Clearinghouse, 2019)	0.96 (all severities, crashes during dark lighting conditions, Clearinghouse ID=8798, 3 Stars)
Fixed object crashes	Road departure crashes with utility poles and light poles	Reduce fixed object density, increase offset to fixed objects (HSM, 2010)	0.78 (all severities, fixed object crashes, Clearinghouse ID=35)