

Island County Road Safety Plan



Island County Public Works
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Overview

Island County was provided collision data from the Washington State Department of Transportation (WSDOT) that was categorized by a variety of factors. Areas of specific concern were highlighted, based on the percentage of collisions observed and how the percentage varied from other counties. Based on this collision data, the County's top priority is 'Hit Fixed Object' collisions. Within that category the data was plotted and graphically evaluated to determine additional prioritizations. That analysis recommended that our safety plan focus is on reducing 'Hit Fixed Objects' collision types on rural classified roads. Countermeasures identified include shoulder widening, installing new guardrail, and improving delineation, and replacing nonconforming guardrail.

Prioritization

Island County utilized the Target Zero Priority matrix to identify locations and specific strategies, for two priority levels.

- Priority Level 1: Contributing factors that are involved in 30% or more of fatality or serious injury accidents.
- Priority Level 2: Item (#5) from the 2014 Safety Plan that was not addressed in previous projects.

Identification of Relevant Risk/Crash Types

System Accident Evaluation

Our data analysis began with data provided by Washington State Department of Transportation. Highlighted are factors that exceed the state average for accidents involving fatalities or serious injury accidents. By determining contributing factors, establishing a risk rating, and prioritizing sites with multiple features connected with higher risk rates, safety projects can be targeted to provide the maximum benefit to the traveling public, reducing the risk of serious injury or fatality accidents on Island County roads.

Appendix A includes the 2011 – 2015 Island County Data that was provided by WSDOT. Areas highlighted in the data are those areas where the Island County data is overrepresented compared to the percentage of crashes in other Washington Counties or on all Washington Public Roads.

We have developed the following factors for the priority levels:

- Priority Level 1 – Contributing factors that are involved in 30% or more of fatality or serious injury accidents. These contributing factors are hit fixed object, dry roadway, daylight, non-intersection, straight & level or horizontal curve, rural functional class, exceeding safe/stated speed, passenger cars and 50 MPH roads.

The factors that will be rated for Priority Level 1 will include non-intersection related segments of roads, roads with horizontal curves, shoulder widths of less than 2', presence of embankments, collision history, and presence of fixed objects within the clear zone.

Evaluation of County Road System

Once the contributing factors have been determined, the next step in the plan is to evaluate the existing County road system to determine where the high risk factors currently occur and to determine the appropriate countermeasures to employ. Locations are then prioritized based on how many of the high risk factors are present. A priority array is prepared that includes the high risk factors and assigns a star(*) if the risk factor is present, and an "X" if not. The following tables contain the result of the road evaluation.

Explanation of risk factors

- Horizontal Curves: More than one horizontal curve is present in the road section
- Shoulders < 2': If there is a road section that has less than 2 feet of paved shoulder
- Embankments: Slopes within clear zone that meet recommended barrier installation criteria
- Collision History: A 'critical collision rate' of 1 fatal/serious collision per mile during the time period being analyzed for the road section was chosen due to the fact that the average of all roads in the list is 0.6. A star is given for roads with a rate greater than 1
- Clear zone work: Fixed objects (trees, utility poles, etc.) in the clear zone

Priority Level 1

Road Name	Road Number	Horizontal Curves	Shoulders < 2'	Embankments	Collision History	Clear Zone work
EAST CAMANO DR	70130	*	*	*	*	*
SOUTH CAMANO DR	97190	*	*	*	*	*
JONES RD	96030	*	*	*	X	*
NORTH CAMANO DR	97090	*	X	*	*	*
SILVER LAKE RD	64460	*	*	X	*	*
UTSALADY RD	98300	*	*	X	*	*
ZYLSTRA RD	95170	*	*	*	X	*
BAKKEN RD	32280	X	*	X	*	*
COLES RD	10950	*	*	X	X	*
CROSS ISLAND RD	98120	*	X	X	*	*
DAY RD	32280	X	*	*	X	*
EAST CAMANO DR	97190	*	X	*	*	X
LONE LAKE RD	10510	*	*	*	X	X
MAXWELTON RD	91150	*	X	X	*	*
MONTICELLO DR	74280	X	*	*	*	X
PATMORE RD	46900	*	*	X	X	*
POLNELL RD	96160	*	X	*	X	*
RESERVATION RD	96160	*	X	*	*	X
STRAWBERRY POINT RD	96160	*	X	*	X	*
WANAMAKER RD	94230	*	X	X	*	*
WEST CAMANO DR	97090	*	X	*	X	*
AMBLE RD	91250	X	*	X	X	*
BOB GALBREATH RD	11810	*	X	*	X	X
BRAINERS RD	91250	X	*	X	X	*
BUSH POINT RD	92250	*	X	X	*	X
CAMANO RIDGE RD	81750	*	X	*	X	X
CLASSIC RD	31260	X	*	X	X	*
DE VRIES RD	64730	*	X	*	X	X
DEER LAKE RD	90100	*	X	*	X	X
EAST HARBOR RD	17410	*	X	*	X	X
EAST HARBOR RD	91250	X	X	*	*	X

Road Name	Road Number	Horizontal Curves	Shoulders < 2'	Embankments	Collision History	Clear Zone work
FRENCH RD	90130	*	X	*	X	X
HENNI RD	67440	X	*	X	X	*
KEYSTONE HILL RD	45550	X	*	X	X	*
LAGOON POINT RD	32280	X	*	X	X	*
LANGLEY RD	91190	X	X	*	*	X
MAXWELTON RD	90190	*	X	X	X	*
MONKEY HILL RD	96250	X	*	X	X	*
RUSSELL RD	98190	X	X	X	*	*
SUNRISE BLVD	98190	X	*	X	X	*
TAYLOR RD	96030	*	X	*	X	X
TROXELL RD	96030	X	X	*	X	*
VAN DAM RD	51280	X	*	X	X	*
WAHL RD	20250	X	*	X	X	*
WILKINSON RD	12690	*	X	*	X	X
ZYLSTRA RD	51890	*	*	X	X	X
CAMANO HILL RD	97300	*	X	X	X	X
DUCKEN RD	96250	X	*	X	X	X
ENGLE RD	45390	*	X	X	X	X
GOOD RD	98300	X	*	X	X	X
GREEN RD	64590	X	*	X	X	X
HANSTAD RD	88390	X	*	X	X	X
HASTIE LAKE RD	51700	X	X	X	X	*
SMUGGLERS COVE RD	92250	*	X	X	X	X
WEST BEACH RD	95030	X	X	X	*	X
CULTUS BAY RD	90030	X	X	X	X	X
FORT CASEY RD	94230	X	X	X	X	X
FORT NUGENT RD	95300	X	X	X	X	X
KOONTZ RD	68380	X	X	X	X	X
MOUNTAIN VIEW RD	73120	X	X	X	X	X
MOUNTAIN VIEW RD	97090	X	X	X	X	X
MUTINY BAY RD	30050	X	X	X	X	X
SHUMWAY RD	83280	X	X	X	X	X

Selection of Countermeasures

Countermeasures are recognized methods for reducing transportation safety risks. After determining higher-risk locations for fatal/serious injury crashes, the most effective countermeasures for addressing the risks are then considered. Countermeasures have been evaluated through FHWA's crash modification factors (CMF) clearinghouse. The CMF clearinghouse contains safety countermeasures and the effectiveness at reducing crashes. The preferred countermeasures were chosen from the table in the Washington State Strategic Highway Safety Plan 2016: Target Zero.

The countermeasures considered as a part of this plan are as follows:

Objective	Countermeasure
Reduce the number of vehicles leaving the roadway	Improve roadway geometry
	Improve roadway signing and shoulder delineation, especially in curves
	Install delineation on fixed objects that cannot be removed from the clear zone
Minimize the consequences of leaving the roadway	Install roadside safety hardware such as guardrail

Project Priority Selection

The list below contains the project priorities with an estimated cost for each:

Priority 1: Construct paved shoulders on East Camano Drive, MP 5.41-7.57, \$500,000

Priority 2: Install guardrail on South Camano Drive, MP 7.96 - 8.14, 9.82 - 9.87, 13.81 - 13.895, 13.955 - 14.015, 13.94 - 14.025, \$200,000

Priority 3: Delineation on East Camano Drive, MP 1.99 - 8.14, South Camano Drive, MP 7.9 – 12.05, 12.47 – 14.31, North Camano Drive MP.075 - .92, 1.13 - 2.73, \$45,000

Priority 4: Install guardrail on East Camano Drive, MP 2.975-3.025, 5.625-5.695, 5.76-5.855, \$101,000

Priority 5: Replace guardrail on Rural Collectors where speed limit is 50 mph, countywide, \$883,000

Conclusion

Island County employs a data-based approach for prioritizing transportation safety improvements. It is apparent that a majority of the crashes in Island County are strongly associated with hitting a fixed object. Data propels Island County to seek safety features that can address the primary risk factors associated with fixed objects crashes. County roads showing specific risk criteria have been identified, and safety improvements were prioritized for roads with greater opportunity to mitigate risk. This plan should be updated in order to evaluate the success of the program and to identify additional risk factors and employ new countermeasures as needed. In addition, criteria used to evaluate locations, such as ADT, should be updated concurrently.