

Improve Safety at Saskatchewan's Least Safe Highway to Highway Intersections Terry(Zhongzheng) Yu, Jesinraj Rajaratnam, Mario Selvamohan University Government Supervisor : Ben Lichtenwald, Rebekah Vasylyeva, Dr. Andrew Liu Saskatchewan

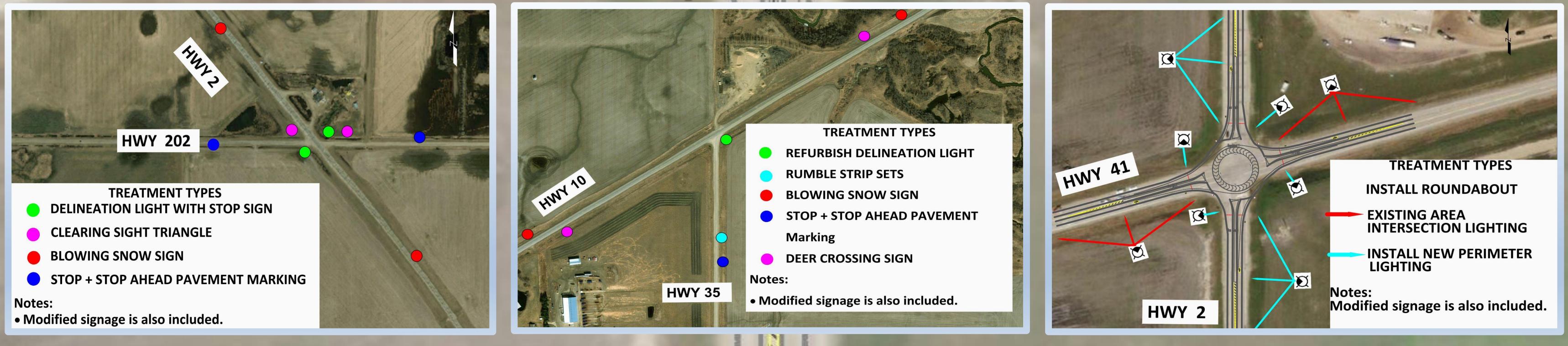
Objective: Select the most cost-effective intersection safety improvements that will increase the level of safety at 3 of Saskatchewan intersections. A Cost-Benefit Analysis (CBA) for treatments of each location was then developed to determine which combination of solutions for each of the 3 intersections is the most economical while improving safety. A high-level design is completed, and the findings are presented to the Ministry of Highways for potential consideration.

Tuxford

- Collision History : 5 years (2014 2018)
- Property Damage Only 4
- Injuries 3
- Fatal 0

- Location Deficiencies
- Missing Signage
- Sight Obstructions
- Improper Lighting

	Treatment	Preventative Collision Cost	Treatment Cost	B/C		Treatment	Preventative Collision Cost	Treatment Cost	B/C					
Major Leg	Delineation light	\$103,800	\$20,000	3.68	Major Leg	Delineation light	\$277,400	\$2,500	78.78					
	Clearing Sight	\$277,400	\$100,000	0.47		Deer Crossing Sign	\$182,100	\$600	1.00			Preventative		
	Triangle					Blowing Snow Sign	\$190,600	\$600	1.00		Treatment	Collision Cost	Treatment Cost	B/C
	Blowing Snow Sign	\$95,300	\$600	1.03	Minor Leg	STOP AHEAD	¢9 E00	¢2.650	2.21	Malan Lan Minardan	Davidahavit		ća 500.000	0.22
Minor Leg	STOP AHEAD	\$8,500	\$5,300	1.11		Pavement Markings	\$8,500	\$2,650		Major Leg, Minor Leg	Roundabout	\$1,170,900	\$2,500,000	0.33
	Pavement Markings					Rumble Strips	\$8,500	\$102,750	0.05					
Total		\$294,400	\$125,900	2.17	Total		\$294,400	\$109,100	2.60					



Fort Qu'Appelle

- Collision History : 5 years (2014 2018) **Property Damage Only - 3** Location Deficiencies Injuries - 4 Missing Signage Fatal - 0
 - Improper Road Condition
 - Improper Lighting

Results (Benefit Cost Analysis)

Proposed Treatments

Wakaw

Collision History : 5 years (2014 – 2018)							
Property Damage Only - 5	Location Deficiencies						
Injuries - 13	 Missing Signage 						
Fatal - 0	 Improper Lighting 						