PTH 10 & PTH 83 (Swan River) Intersection Improvements

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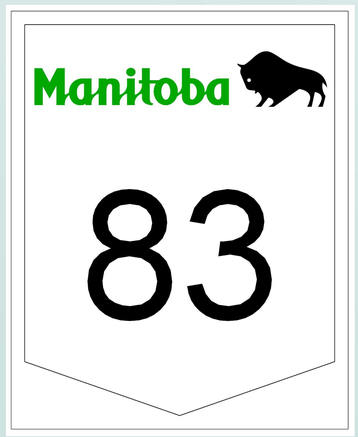


Online Public Engagement
March 23 – April 13, 2021

Manitoba

Purpose of Online Public Engagement

- ❑ Outline the need for intersection improvements
- ❑ Present intersection design alternatives
  - ❑ Option A – Addition of Protected/Designated Left Turn Lanes
  - ❑ Option B – New Roundabout
- ❑ Gather public input

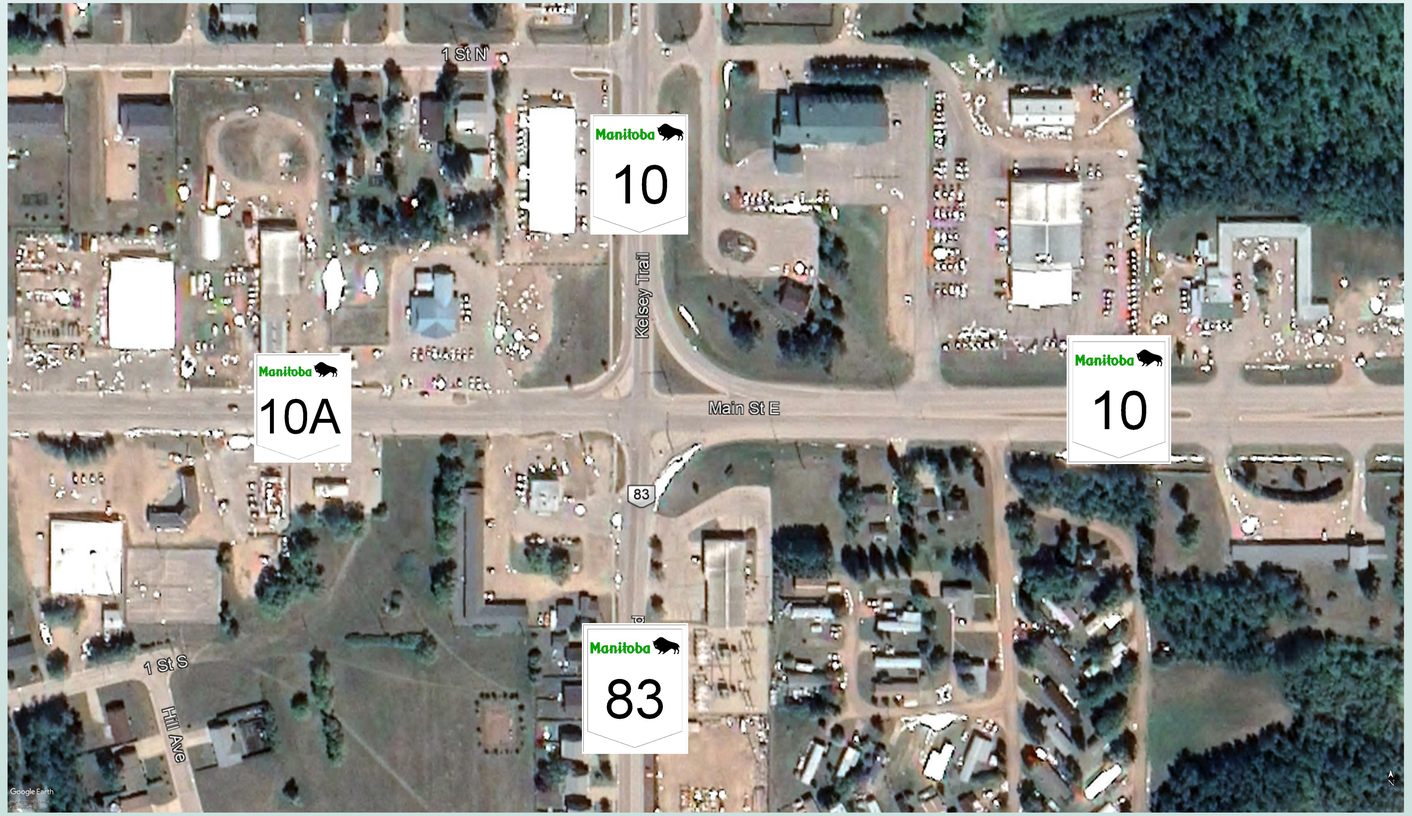
Project Development Process

- ✓ Identify need for intersection improvements
- ✓ Develop alternatives
- ❑ Gather stakeholder and public input ← We are here
- ❑ Review inputs, costs, engineering analysis
- ❑ Select an alternative
- ❑ Complete Detailed Design and Tender Preparation
- ❑ Proceed to construction
  - Summer of 2021 or 2022

Project Need

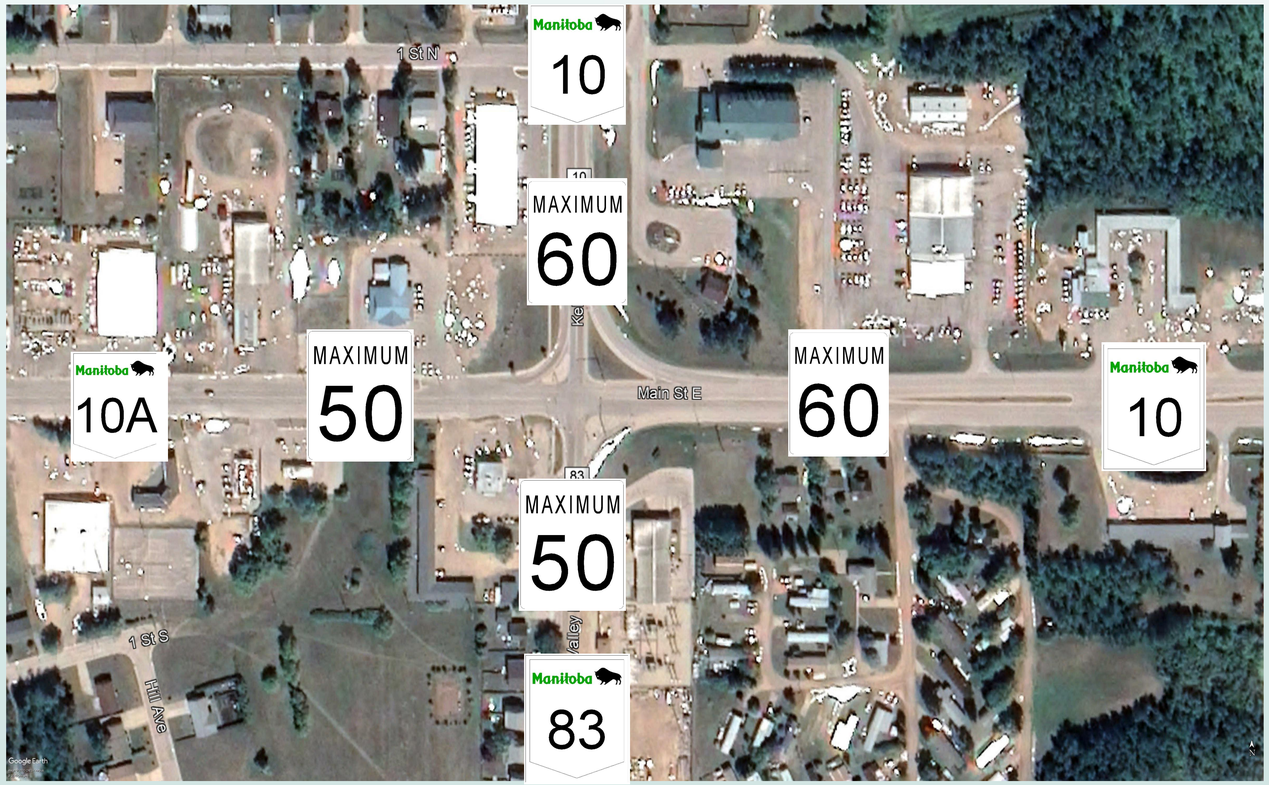
Issue: From safety concerns expressed by the Town of Swan River, MI determined that existing traffic volumes warranted intersection improvements.

Proposed Solution: Improve safety and traffic flow by upgrading the existing intersection.



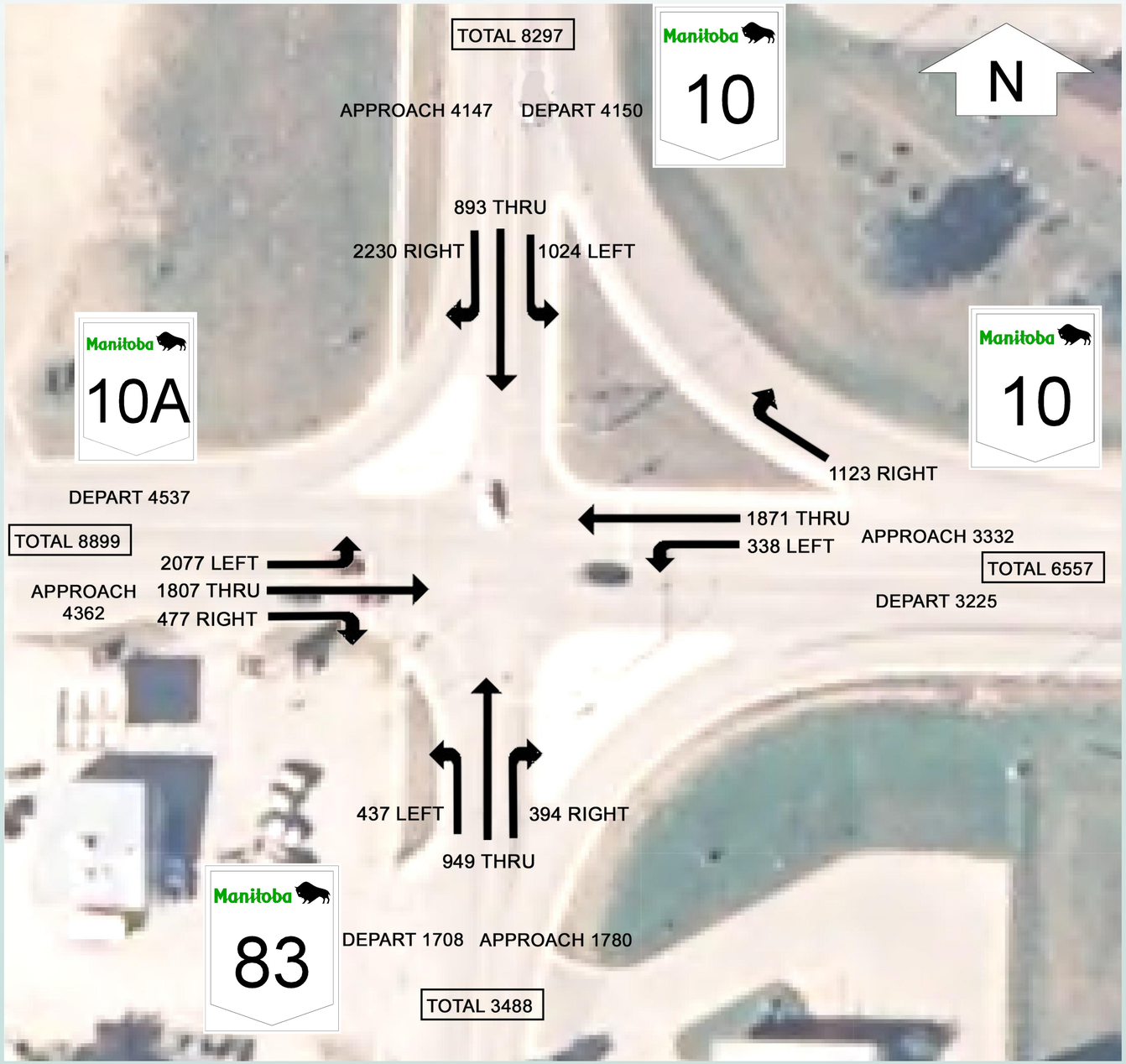
Existing Conditions

- Traditional signal controlled intersection
  - Traffic signal controlled in all four directions
  - No dedicated left turn phase (no green light left turn arrow). Double lane undivided eastbound and westbound traffic along PTH 10 and PTH 10A
  - Single lane undivided northbound and southbound traffic on PTH 10 and PTH 83
  - Right turn lane in three of the four corners
- Posted speed limits of 50 km/h & 60 km/h through the intersection

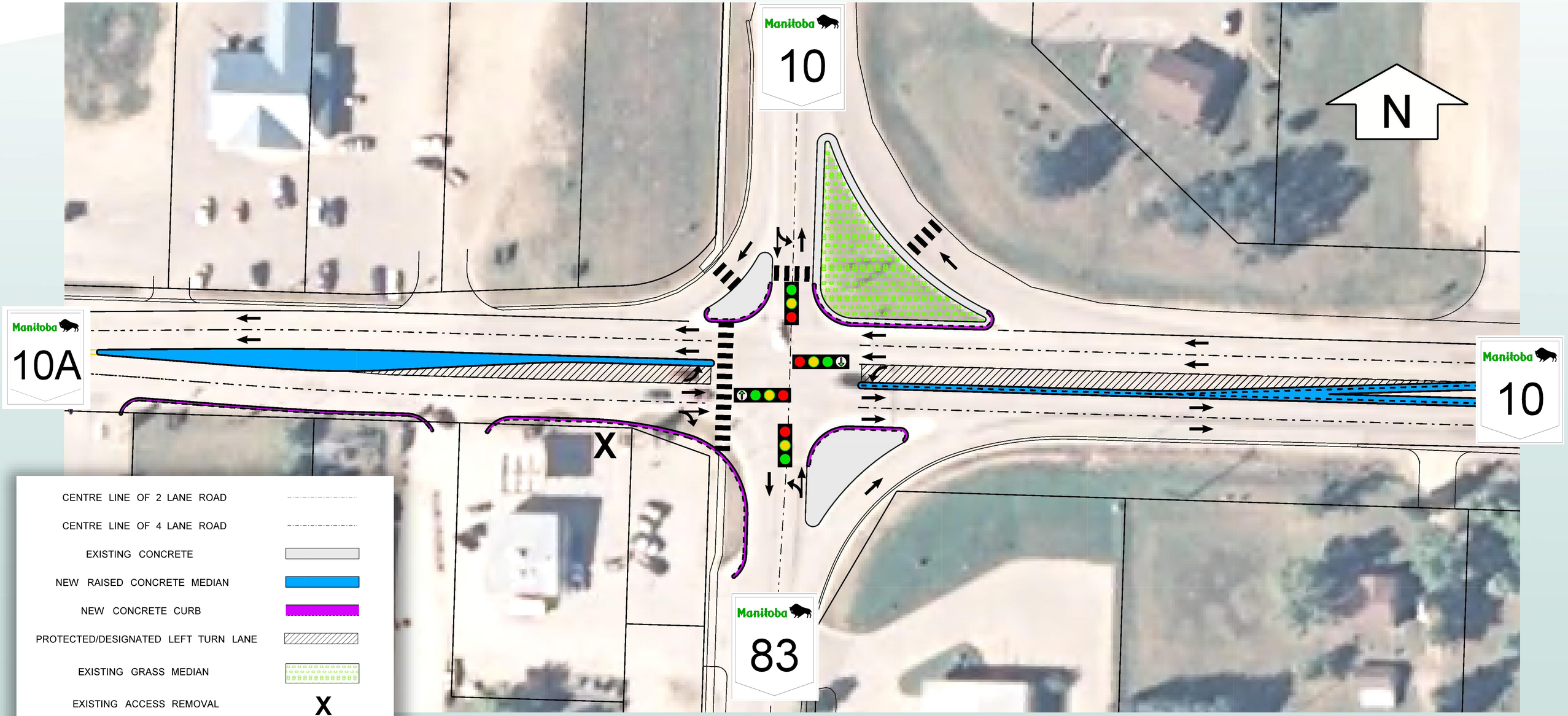


Posted Speeds approaching the intersection of PTH 10 & PTH 83 based on vehicle direction and motorist viewpoint

Existing 24 hour Traffic Volumes



Option A: Addition of Protected/Designated Left Turn Lanes

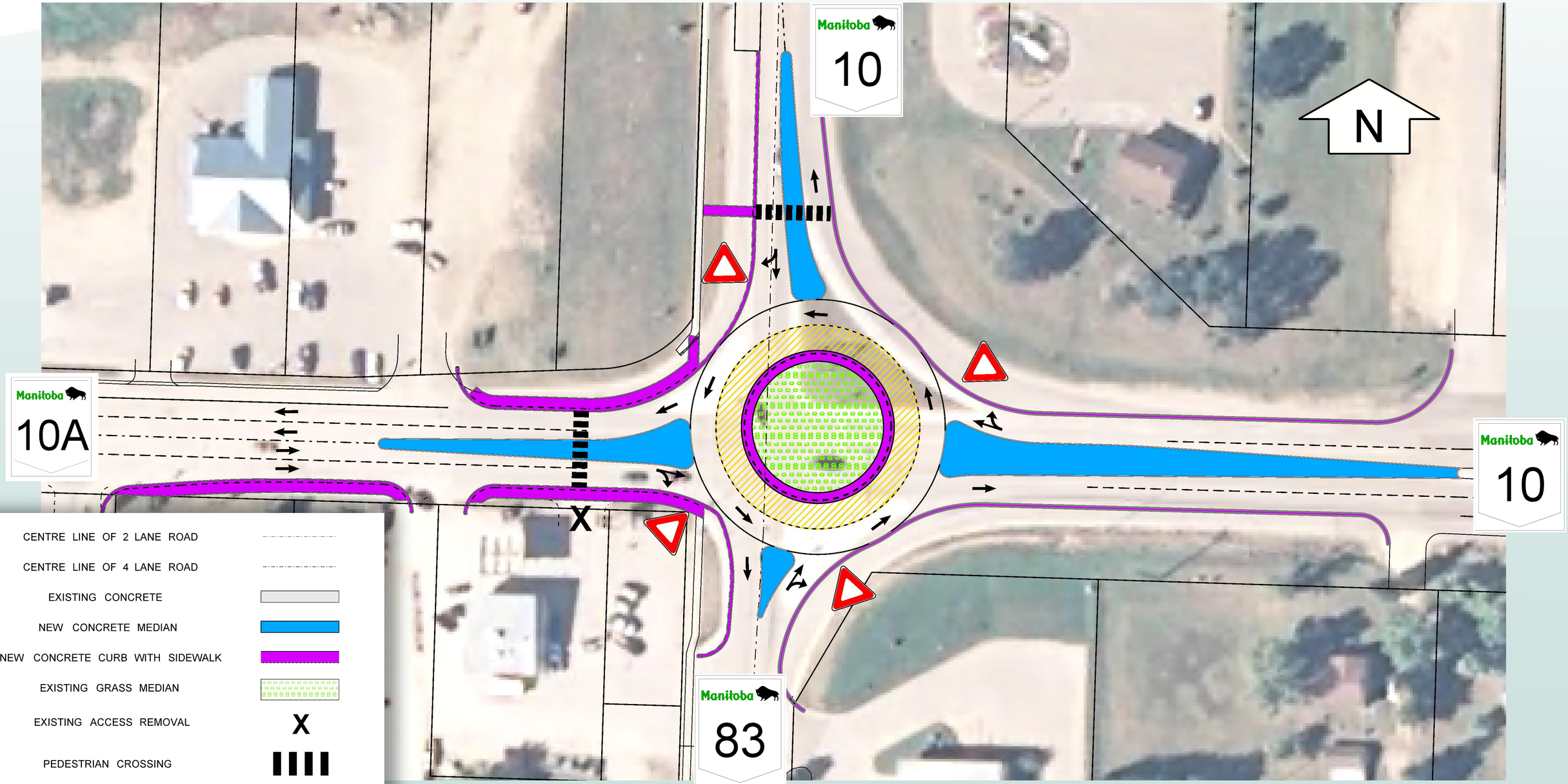


Aerial photo of existing intersection with proposed addition of protected/designated left turn lanes at PTH 10 & PTH 83 in Swan River

Option A: Addition of Protected/ Designated Left Turn Lanes

- ❑ Stop light controlled
- ❑ 39 vehicle conflict points (See slide 11)
- ❑ Posted speed limits of 50 km/h & 60 km/h though the intersection
- ❑ Dedicated turning lanes required
- ❑ Keep traffic signals
- ❑ New raised center median and left turn signals

Option B: New Roundabout



Aerial photo of existing intersection showing proposed new single lane roundabout at PTH 10 & PTH 83 in Swan River

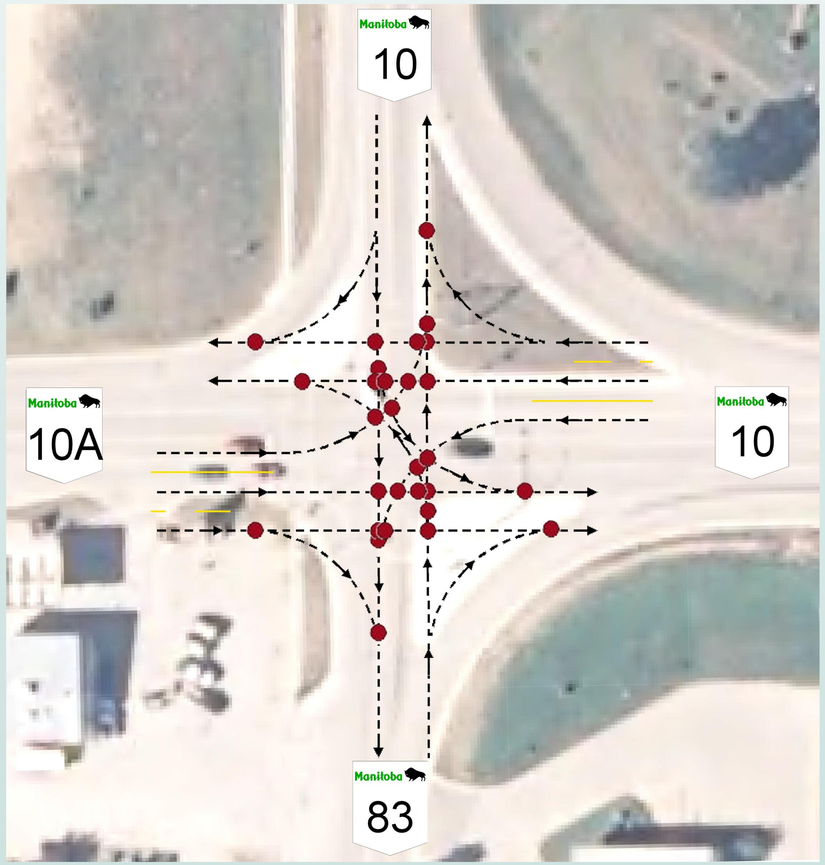
Option B: New Roundabout

- ❑ Free flow conditions
- ❑ 8 vehicle conflict points (See slide 11)
- ❑ 30 km/h through the intersection
- ❑ No dedicated turning lanes required
- ❑ Traffic signals to be removed

Vehicle conflict points of each Alternative

OPTION A

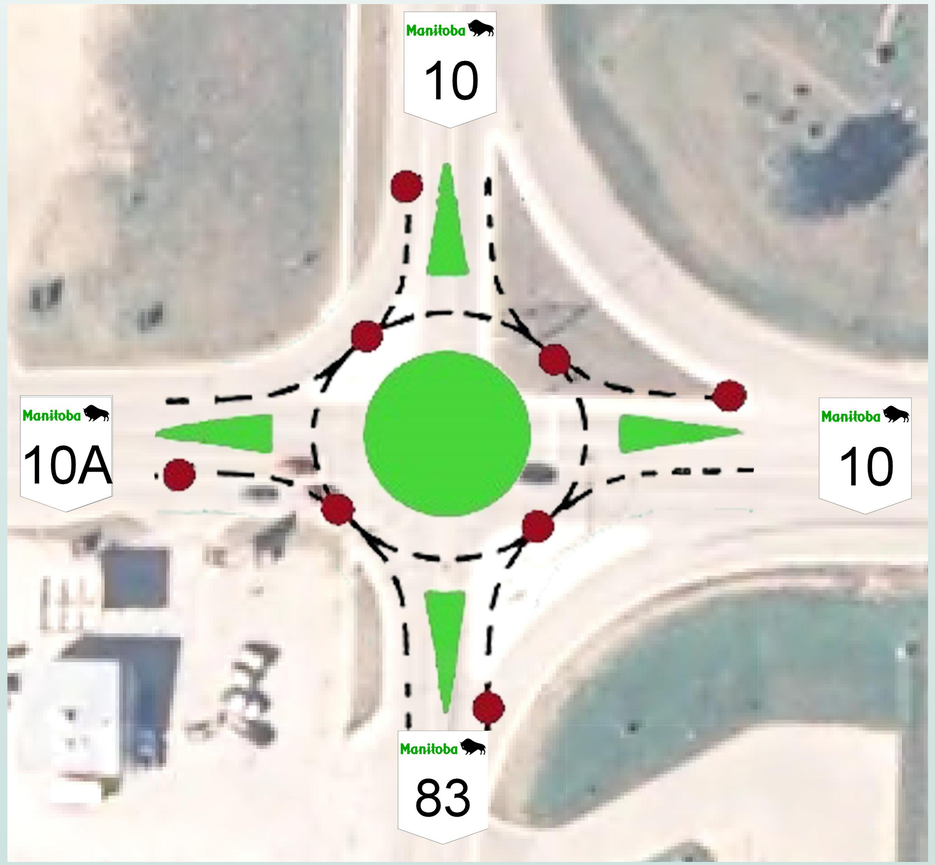
Addition of Protected/Designated Left Turn Lanes



39 vehicle conflict points

OPTION B

New Roundabout



8 vehicle conflict points

Vehicle conflict points are represented by…. Some points in Option A overlap

Safety Analysis of historical data

Option A

Addition of Protected/Designated Left Turn Lanes

- ❑ Reduced collision frequency
- ❑ Collision severity remains high
- ❑ Right-angle (T-Bone) collisions are possible
- ❑ High speeds through the intersection
- ❑ Vehicle conflict points remains at 39

Option B

New Roundabout

- ❑ Increased collision frequency
- ❑ Reduced collision severity
- ❑ Eliminate right-angle (T-Bone) collisions
- ❑ Low speeds through the intersection
- ❑ Vehicle conflict points reduced to 8

Pedestrian safety

Option A

Addition of Protected/Designated Left Turn Lanes

PROS

- Signal controlled intersection

CONS

- Higher vehicle speeds
- More pedestrian/vehicle conflict points
- Pedestrians are required to cross five lanes of traffic during the signal control phase

Option B

New Roundabout

PROS

- Lower vehicle speeds
- Fewer pedestrian/vehicle conflict points
- Pedestrians are required to cross one lane of traffic at a time under yield control for vehicles

CONS

- Will require public education

Cyclist safety

Option A

Addition of Protected/Designated Left Turn Lanes

PROS

- Motorist and cyclist are more accustomed to interaction at traditional intersection

CONS

- More Cyclist/Motorist conflict points
- Decreased cyclist safety as there are higher vehicle speeds

Option B

New Roundabout

PROS

- Less Cyclist/Motorist conflict points
- Lower vehicle speeds

CONS

- Motorist and cyclist are less accustomed to interaction at new roundabouts
- It can be noted that the lower vehicle speeds may still be significant for a cyclist

Functionality

Option A

Addition of Protected/Designated Left Turn Lanes

- ❑ Stop controlled conditions - vehicles must come to a complete stop until left turn is permitted
- ❑ Accommodate oversize/over width vehicles and farm implements
- ❑ Require dedicated turning lanes to accommodate left turns
- ❑ Ongoing traffic signal maintenance

Option B

New Roundabout

- ❑ Free flow conditions – vehicles not required to come to a complete stop
- ❑ Accommodate oversize/over width vehicles and farm implements
- ❑ Eliminate the need for dedicated turning lanes
- ❑ Traffic signals to be removed

Societal/Economic Impacts

Option A

Addition of Protected/Designated Left Turn Lanes

- Lower upfront capital costs and higher future societal costs
- Impacts to adjacent landowners, four accesses impacted, one removed
- Possible right-of-way required, with locations to be determined during detailed design phase

Option B

New Roundabout

- Higher upfront capital costs and lower future societal costs
- Impacts to adjacent landowners, two accesses impacted, one removed
- No additional right-of-way required

Evaluation Summary

Poor

Fair

Good

	Criteria	Existing	Option A: Install Turning Lanes	Option B: Install Roundabout
Vehicle Safety	Collision Frequency	Fair	Good	Fair
	Collision Severity	Fair	Fair	Good
	Cost of Collisions	Poor	Fair	Good
	T-Bone Collisions	Poor	Fair	Good
	Speeds through Intersection	Fair	Fair	Good
	Conflict Points	Fair	Fair	Good
Pedestrian Safety	Pedestrian Crossing Control	Good	Good	Fair
	Vehicle Speeds	Fair	Fair	Good
	Pedestrian/Vehicle Conflict Points	Fair	Fair	Good
	Pedestrian Lanes Crossing Safety	Fair	Poor	Good
Cyclist Safety	Motorist and Cyclist Comfort	Good	Good	Fair
	Cyclist and Vehicle Conflict Points	Fair	Fair	Good
	Vehicle Speeds	Fair	Fair	Good
Functionality	Stop Control Points	Fair	Fair	Good
	Oversize Vehicles/Farm Equipment	Good	Good	Good
	Accommodation of left turns	Poor	Fair	Good
	Traffic Control Maintenance	Fair	Fair	Good
Impacts	Adjacent Landowner Impacts	Good	Poor	Fair
	Possible Right-of-Way Required	Good	Fair	Good
	Capital Costs	Good	Fair	Poor
	Lifecycle Costs	Fair	Fair	Good
	Public Education	Good	Good	Fair

What you can do to help

- ❑ Provide your feedback on the proposed alternatives on EngageMB.ca

What's Next

- ❑ Incorporate public and stakeholder input, along with costs and engineering analysis to select the best option
- ❑ Results from the Online Public Engagement will be communicated to the Public online via EngageMB.ca
- ❑ The selected intersection improvement option will be constructed during summer of 2021 or 2022

Thank You

If you would like to contact us to discuss this project,
staff will be available to answer any questions.

Email: R4Engagement@gov.mb.ca

Phone: (204) 622-2061