
Please share your thoughts with us by May 12, 2017 at:

officeoftrafficsafety@gov.ab.ca

Highway 1 / Highway 791 Intersection

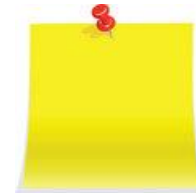
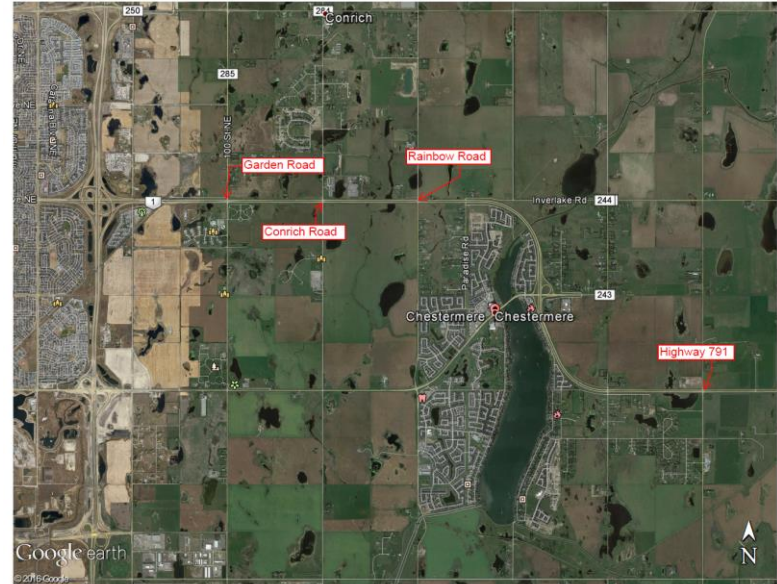
Aim

- Give you a sense of the “big picture”
- Get your feedback
- Get your input
- Get you engaged in the discussion



Format for this session

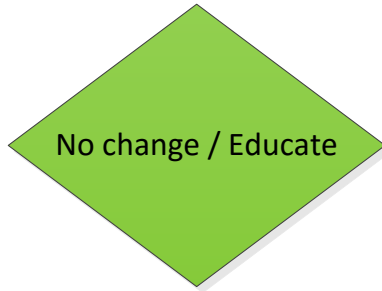
- Background
- Options for Highway 1 / 791 intersection
- Collision data
- Discussion and participant input



Background

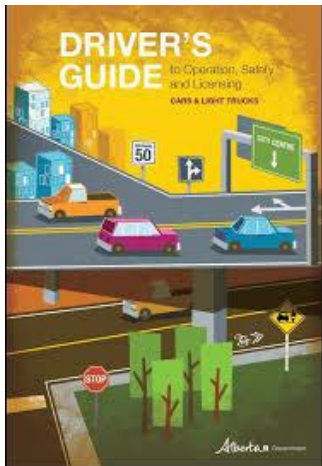
- Collision – June 2015
- Collision analysis by RCMP
- Range of intersection options identified
 - All options presented
 - Analysis of suitability
- Decisions made are based on the following assumptions:
 - Good driver attitude
 - Good driver behaviour
 - Driver decision making
 - Driver knowledge and experience
 - Culture shift from “me” to caring about all other road users

Option 1 – No change, educate

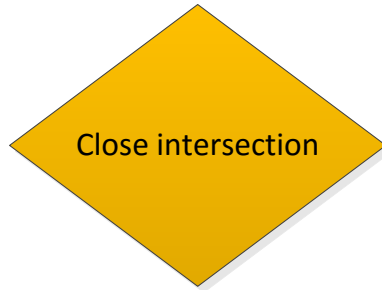


- 86% of collisions attributed to driver error

- Relies on change in driver behaviour

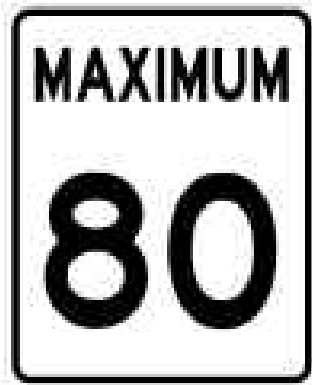
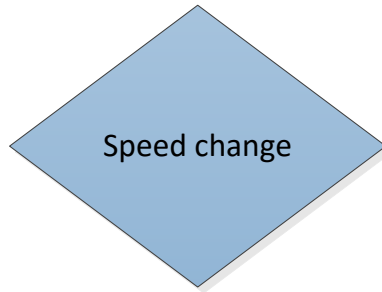


Option 2 – Close the intersection



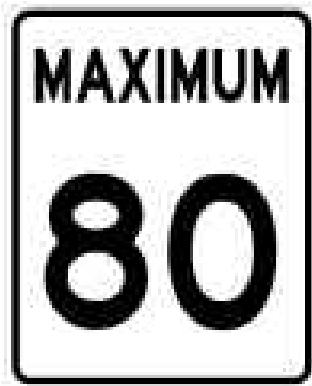
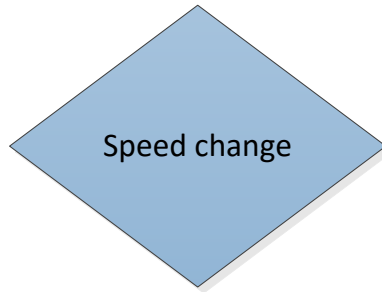
- Least expensive solution
- Anticipates freeway designation for Highway 1
- Affects local traffic patterns
- Will cause drivers to reroute on secondary roads
- Will impact local road planning and development.

Option 3 – Reduce speed on Highway 1



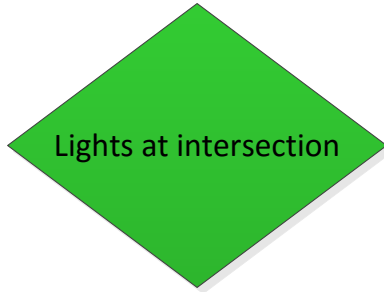
- Does not prevent future collisions, rather reduces the severity
- A reduction in speed may have a negative impact on collision frequency
- Could result in some congestion/platooning on the stretch through to Hwy 1A interchange

Option 3 – Reduce speed on Highway 1



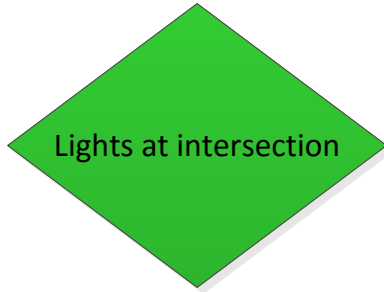
- Does not create larger gaps in Hwy 1 traffic, so doesn't actually do anything to address the root cause of the June 2015 collision
- Social impact:
 - Relies on driver reaction
 - Relies on driver behaviour
 - Relies on compliance with rules of the road for northbound/southbound traffic turning on to Highway 1

Option 4 – Install Traffic Lights



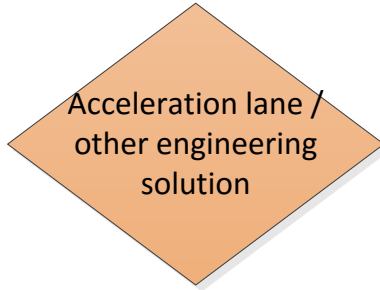
- Cost ~ \$800,000
- Concern over increase in rear end collisions
 - unexpected traffic control on major highway in rural setting
- Adding signals
 - increases the number of collisions but may reduce their general severity.

Option 4 – Install Traffic Lights



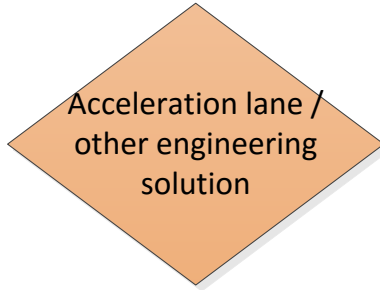
- Signals on a future freeway have been allowed in other locations as a temporary measure
- Would require speed reduction zones on Highway 1

Option 5 - Acceleration Lane / Rumble strips



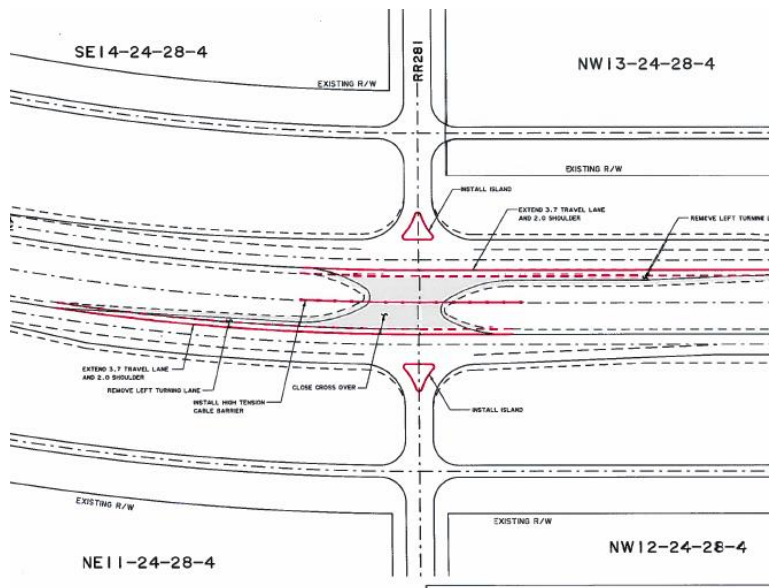
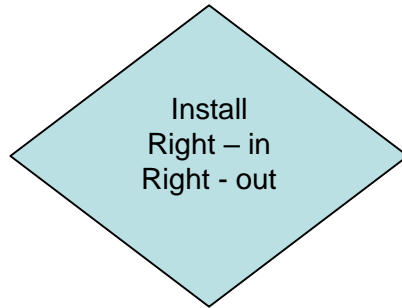
- Acceleration lane installed westbound lane of Highway 1
- Left side merge – non standard (2015)
- Consider eastbound acceleration lane on north side of eastbound lane of Highway 1.

Option 5 - Acceleration Lane / Rumble strips



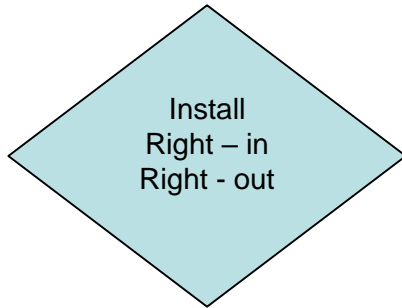
- Rumble strips installed on 791 to warn drivers of upcoming stop.
- Social impact:
 - Relies on driver reaction
 - Relies on driver behaviour
 - Relies on compliance with rules of the road for northbound/southbound traffic turning west on to Highway 1

Option 6 – Close median, add right-in, right-outs



- Simple solution
- Requires some construction and intersection work
- Affects local traffic patterns
- Could cause drivers to reroute on secondary roads

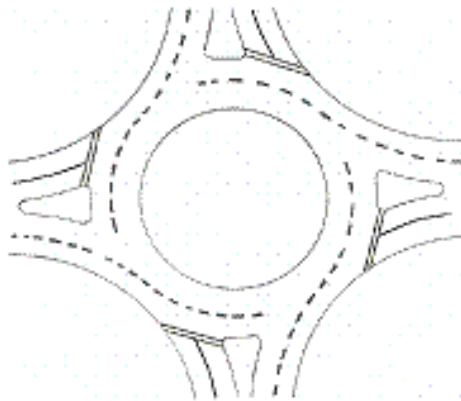
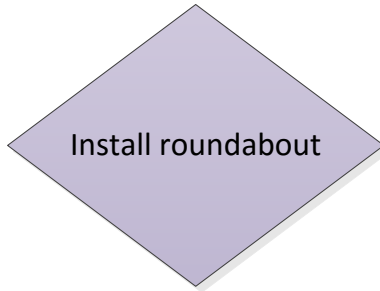
Option 6 – Close median, add right-in, right-outs



Paradise Road example

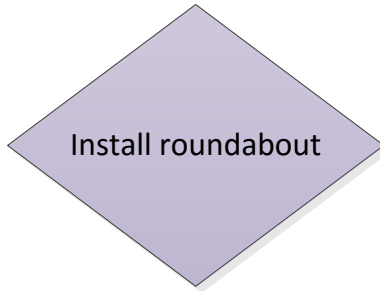
- Will require better local road planning and development
- Issues with respect to illegal median crossing
- Will require disciplined approach by drivers.

Option 7 – Install roundabout



- Single Multilane Roundabout (two / three lanes) or Two Multilane Roundabouts
- Transportation has 10 roundabouts in operation across the province on major roadways.
- Advantages
 - Safety benefits include:
 - Fewer conflict points
 - Decreases the probability of a collision.
 - Reduce collision severity
- Operation benefits
 - often operates at lower delays and shorter queues

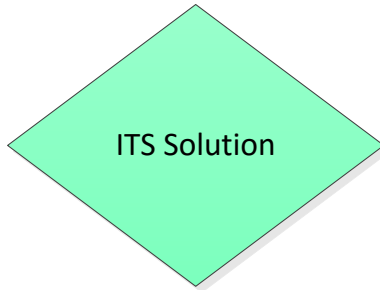
Option 7 – Install roundabout



Hwy 55 & 892, near Cold Lake, AB

- Disadvantages
 - Constructability
 - traffic accommodation during construction
 - Spatial requirement
 - Throw away cost in the future
 - Public education
 - may require public education and outreach prior to implementation
 - Operation
 - locations of high uneven balance of traffic

Option 8 – Install Rural Intersection Collision Warning System

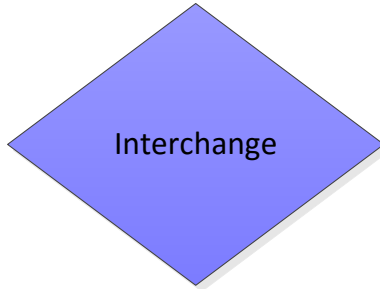


Approaching Highway 1, the signs will show a warning of approaching traffic.



- Relatively new intervention
- Will need a secondary backup system in the event of failure, where drivers become over-reliant on the primary system
- Based on Intelligent Transportation Systems
- “Advanced warning system”
- Pilot systems in place in Minnesota
- Availability here in Alberta is unknown
- Likely cost \$2-5 million
 - Relies on driver reaction
 - Relies on driver behaviour
 - Relies on compliance with rules of the road

Option 9 – Interchange

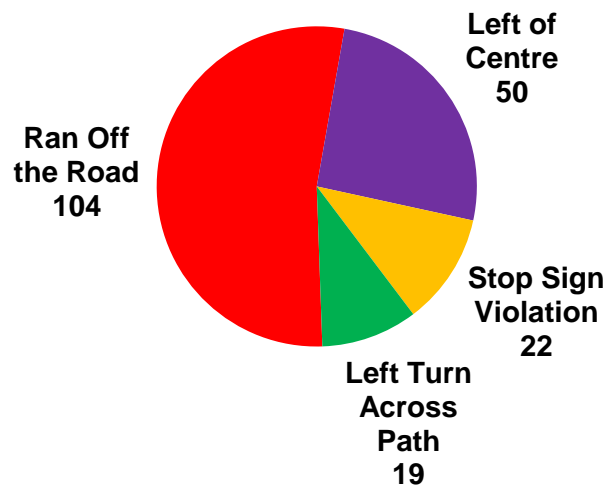


- Cost ~ \$50 million
- Future interchange identified
- Preliminary schedule (funding to start construction) – 2023
- Could be advanced through cost-sharing agreement, with municipality recovering funds from development levies
- Use temporary traffic signals before & during construction (combination with Option 4)

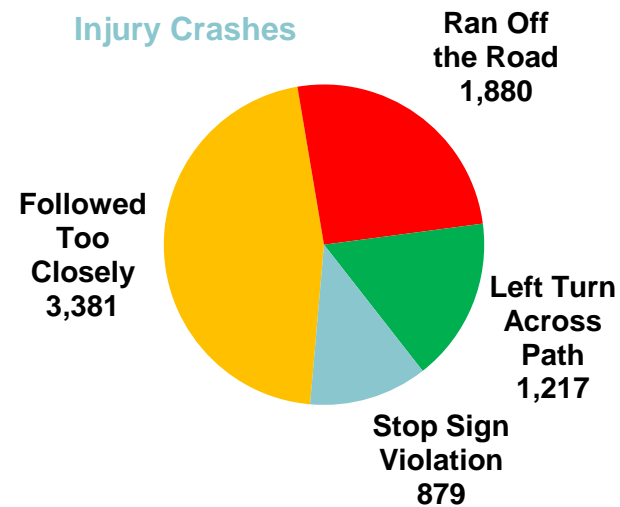
2015 Alberta Collision data*

- 140,729 collisions
 - 13,556 injury collisions
 - **329 fatalities**
 - 17,946 injuries
- 86.4% collisions – driver error
 - **Speed** a major factor (25.7%)

Fatal Crashes



Injury Crashes

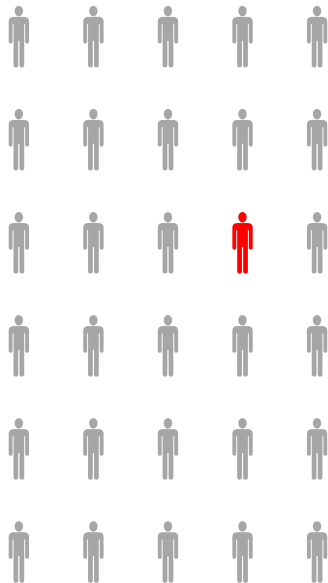


2015 Alberta Collision data* – Alcohol involvement

1 in 5 Drivers in Fatal Crashes Drank (19.6%)



1 in 30 Drivers in Injury Crashes Drank (3.1%)



720 drivers in fatal and injury crashes consumed alcohol prior to the crash

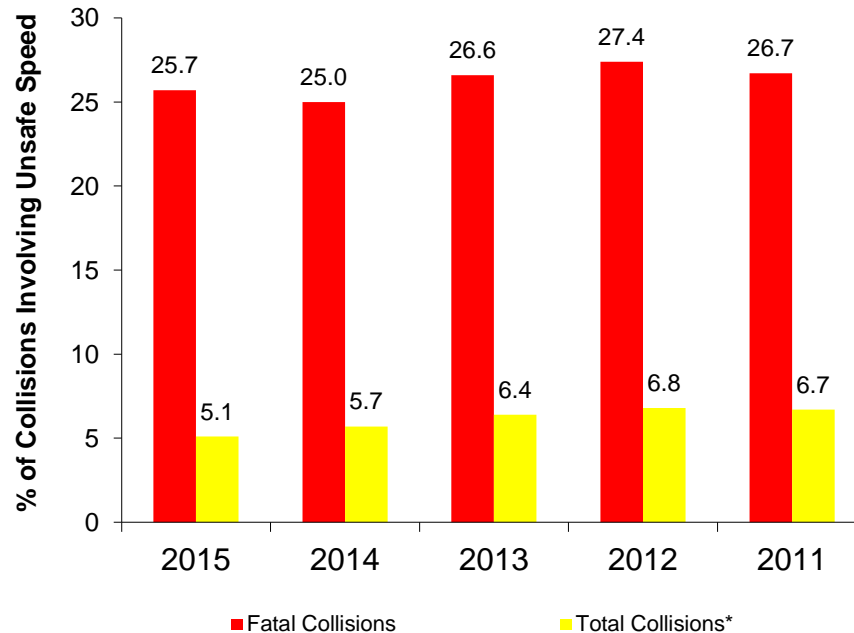
84 people died

402 people sustained major injuries

640 people sustained minor injuries

2015 Alberta Collision data* – Speed involvement

Alberta Collisions Involving Unsafe Speed 2011 - 2015*



- 2014 had the lowest proportion of speed-involved fatal collisions over the five years, followed by 2015
- But, still one in four fatal collisions involved unsafe speed and this is unacceptable

Questions, discussion and feedback

- Questions?
- Discussion of treatment options
 - Technical clarification?
 - Costs?
 - Timings?
- Feedback
 - Use “stickies”, option forms, or mark up the posters to give us your comments on any, or all option(s)
 - Staff in the room can provide clarification for you, if needed

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THANK YOU FOR YOUR PARTICIPATION