

Road Safety Actions Alberta Transportation

Presentation to PIARC

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What % of Alberta's rural collisions are animal hits?

What are we doing?

Why?

Where?

Who?

When?

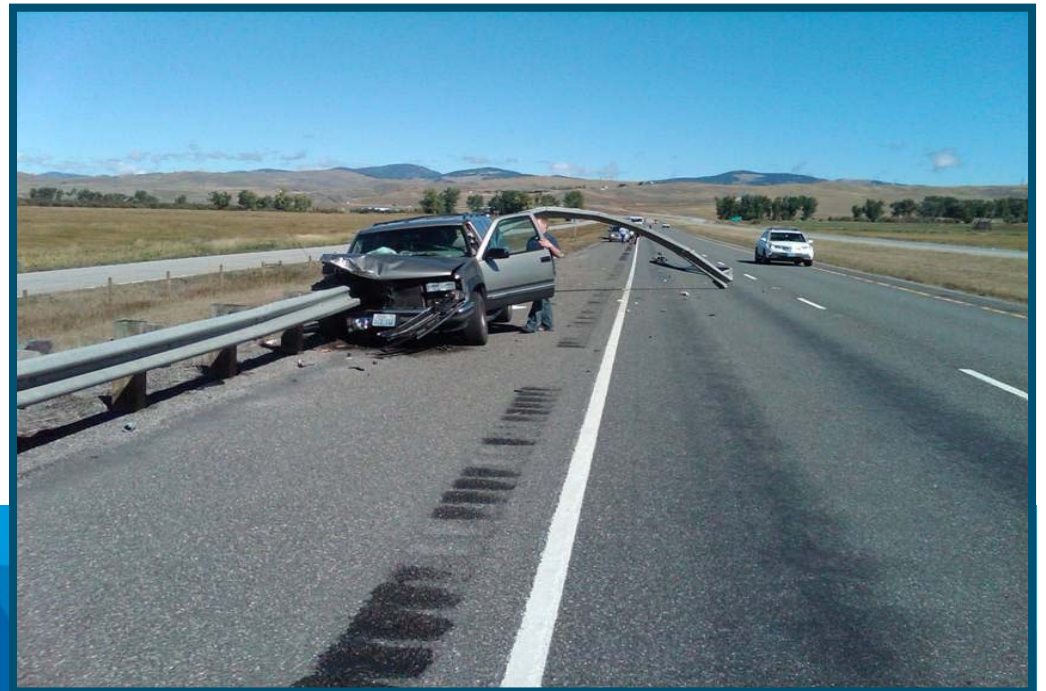
How?

I will return to what?

Why?

- Serious Public Health Issue
- Many fatalities, 350/year (Alberta), 1.2 million/year worldwide.
- Many injuries: 18,000 (Alberta)
- Much property damage (140,000 in Alberta)
- Annual societal cost in Alberta is \$4 billion (about 1.4% of GDP)

Because we can.



Leadership is aware of problem and wants action.

- A.T's Business Plan: "We shall have the safest roads in Canada"
- Alberta Traffic Safety Plan: Reduce serious injuries and fatalities
- Alberta Government: Results Based Budgeting
- Alberta Transportation: Performance Measures (not yet)

We have the technology, the engineering solutions, the analysis tools (economic and performance models), the budget, the will?



Alberta

Where?

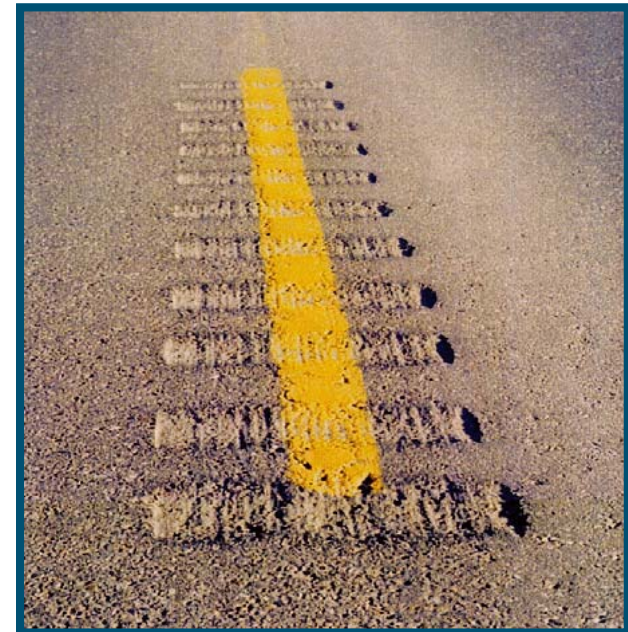
- All roads in Alberta – various jurisdictions
- Direct involvement – Alberta highways: mostly rural and high speed (30,000 km)
- Indirect involvement – all municipal roads and streets
- All modes on roadways
- Private motor vehicles
- Commercial vehicles
- Large loads
- Motorcycles
- Bicycles
- Pedestrians
- Trail users (e.g. ATVs, snowmobiles)

Who?

- Holistic approach – total system – include engineering, education, enforcement – all part of one system
- Highway engineering includes planning and design, traffic, operations, bridges, safety, vehicle, human factors, crash reconstruction, emerging trends in technology, designs and infrastructure
- ATSP – department staff, municipalities, universities, engineering consultants, auto insurance industries
 - A forum to share ideas and experiences
 - An opportunity to initiate research
 - Disseminate information
 - Awareness of worldwide state-of-the-art developments

When

- All the time
- Some enhancements at construction
- Some at time of rehabilitation
- Some advanced through catch-up program
- Some triggered due to operational needs



How?

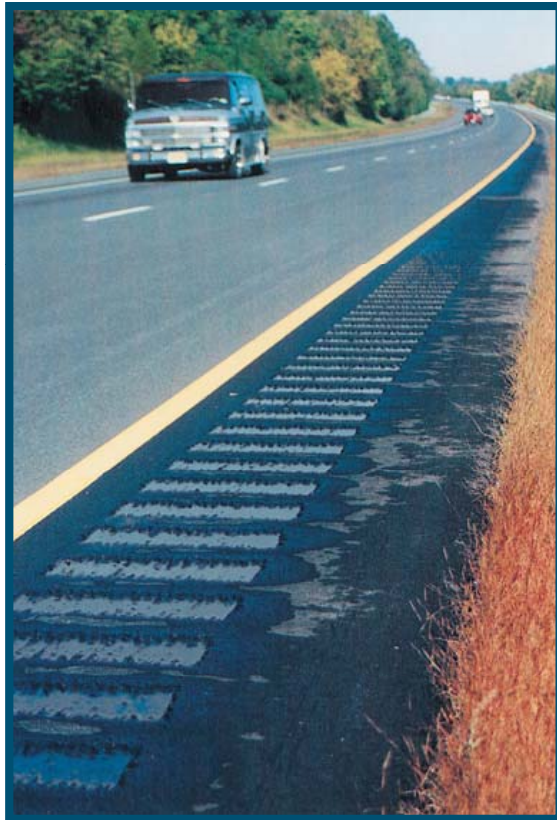
- Keep up with best practices (e.g. literature, websites, travel, talk)
 - Use the most effective products
 - Implement proven products / solutions asap to appropriate extent
 - Use economic analysis tools to identify alternatives and programs
 - Influence other jurisdictions to follow best practices
-
- Scan the collision database
 - Identify patterns, clusters, hot spots, and segments
 - Identify countermeasures (some proven and some trials)
 - If proven and cost effective: implement
 - If trials are needed: do trials
 - Identify: Low Hanging Fruit, Mid-Range, Long Range

What?

Low Hanging Fruit – Immediate Action

- Rumble Strips:
 - Shoulder
 - Centerline
 - Stop Condition
- Flexible Barrier Systems (median and roadside)
- Rest Areas: Add washrooms
- Pedestrian Countdown Signals

Rumble Strips



Typical Barrier Installation



Some barrier hits



Mid-Range Actions

- Roundabouts
- Provide crash-worthy ends
- Replace outdated barrier systems

Trials

- Culvert ride -over end treatments
- Enhanced delineation
- Gateway treatments
- Transverse pavement markings
- Active warning systems for animal crossings

Very safe and efficient: Modern Roundabouts

- 3 Leg Roundabout in Michigan, USA
- 2 and 1 lane arrangement



Alberta Weak Post W Beam System



Blocked Out Strong Post W Beam System

Tested and approved as TL-3



Gateway Treatments



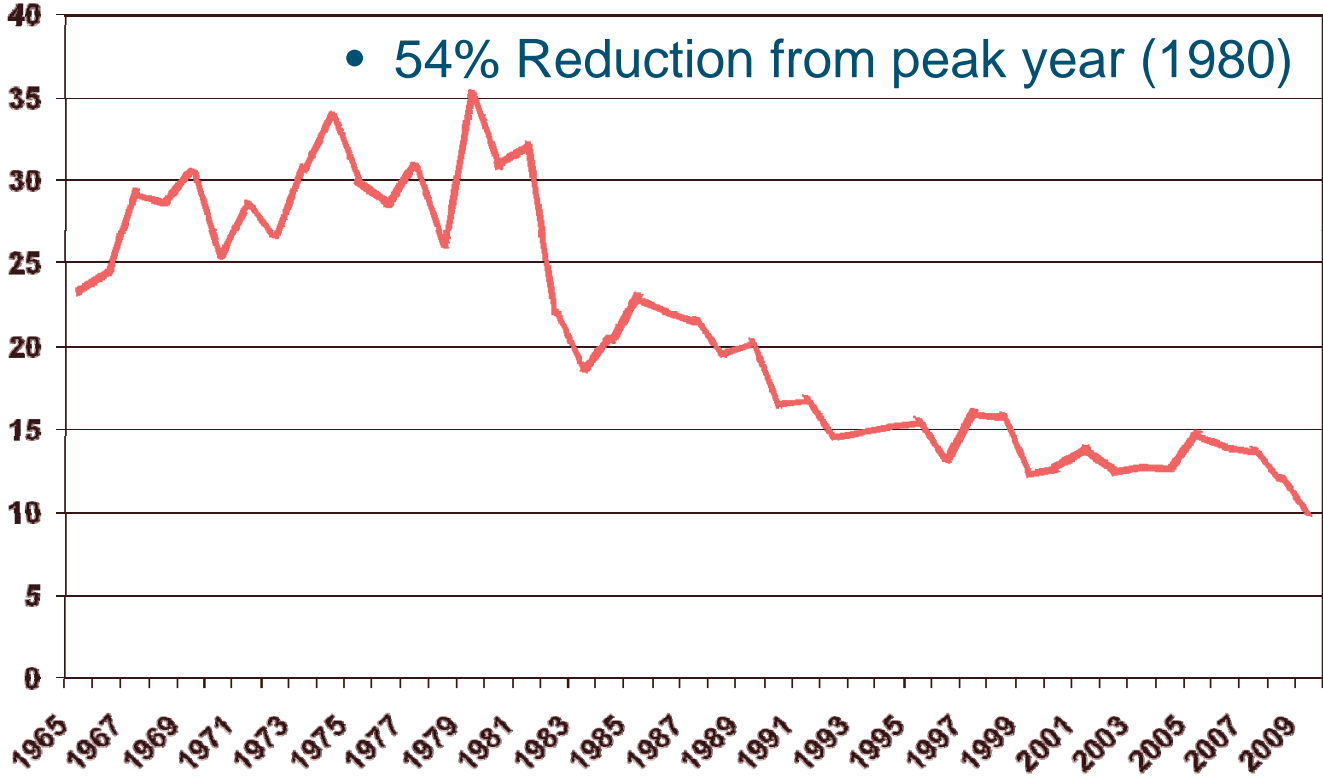
Long Range Actions

- Variable speed limits
- Fixed object removal
- Obstruction removal (intersections)
- Positive offset left turn lanes
- High visibility pavement markings
- Horizontal / Vertical realignment
- Impact attenuators

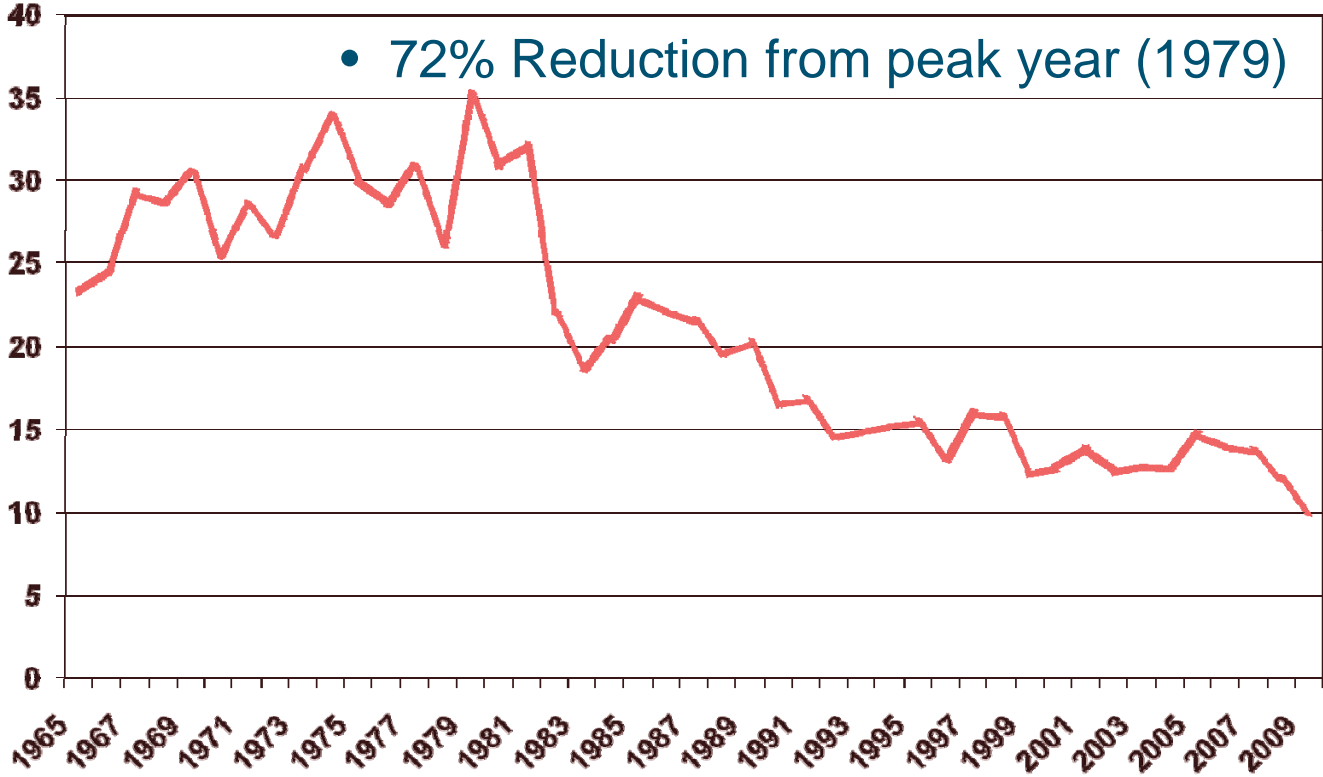
Crash Attenuators



Traffic Injuries per 100,000 population*



Traffic Fatalities per 100,000 population*



50%



Alberta