

Welcome

Kicking Horse Canyon Project Phase 4



We would like to acknowledge that we are on the traditional territory of the Secwépemc and Ktunaxa Nations, and we would like to thank the Shuswap Indian Band and Akisqnuk First Nation communities for hosting us.

Project Governance and Delivery

The delivery of the Kicking Horse Canyon Project is a collaboration of several agencies, including:

Ministry of Transportation and Infrastructure

- Responsible for operating / maintaining the completed infrastructure

Transportation Investment Corporation

- Crown corporation with mandate to deliver major capital transportation projects in BC
- Subsidiary of BC Transportation Finance Authority

British Columbia Infrastructure Benefits Inc.

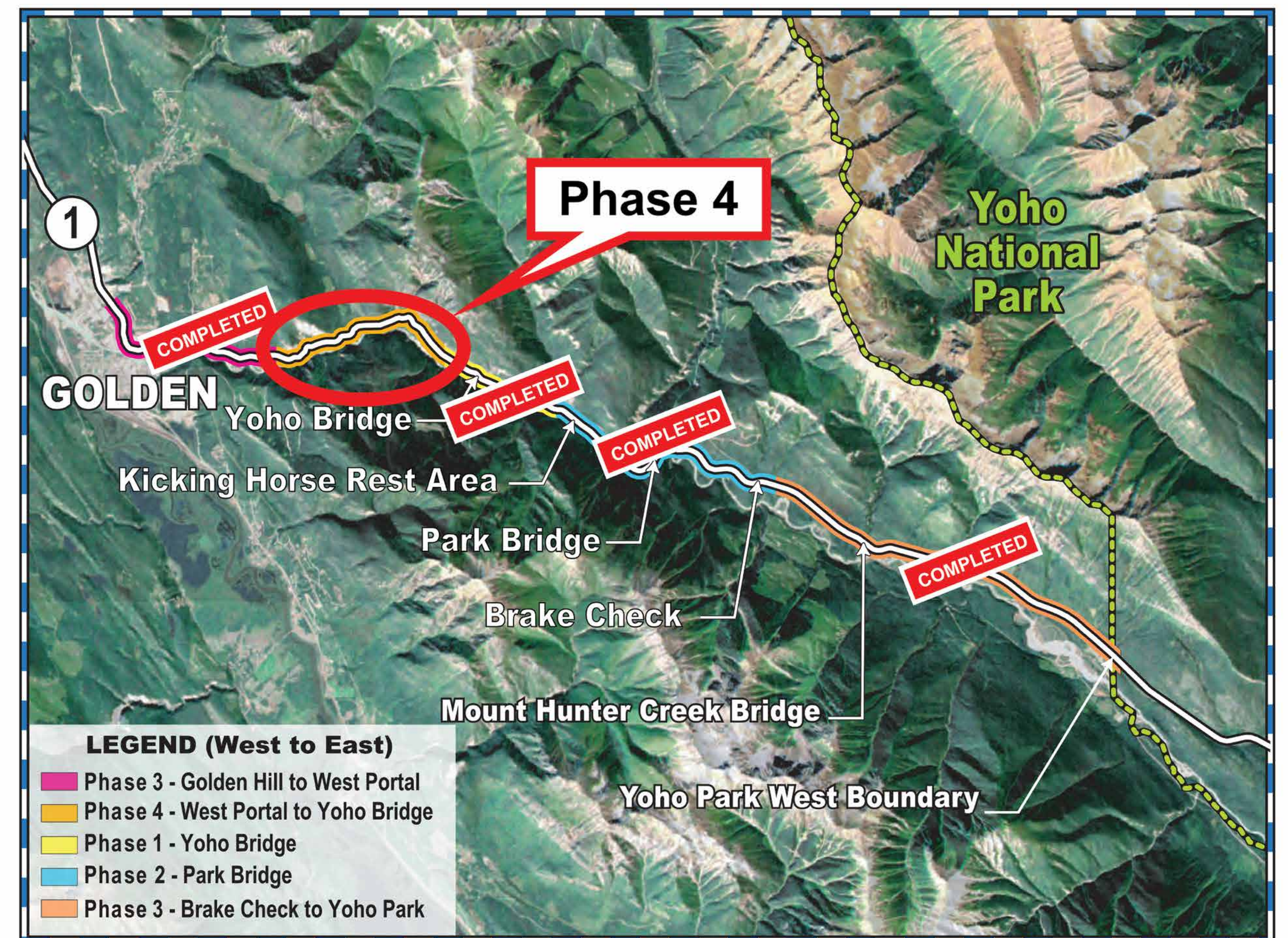
- Crown corporation established to provide a qualified workforce for the construction of public sector infrastructure projects operating under the Community Benefits Agreement

Government of Canada

- Funding partner

Background

- The Kicking Horse Canyon Project was launched in 2003 to upgrade the 1950's-era two-lane Trans-Canada Highway between Golden and Yoho Park to a modern 4-lane standard
- The corridor carries over 12,000 vehicles daily in the summer, including commercial trucks moving millions of dollars in goods
- It plays a key role in Asia-Pacific trade, the movement of people, goods, and services, and supports area tourism
- The project is within the asserted traditional territories of the Secwépemc and Ktunaxa Nations
- Construction of the fourth and final phase is to begin in 2020, with completion in Winter 2023/24
- Budget: \$601 million: \$215.2 million (Canada); \$385.8 million (BC)

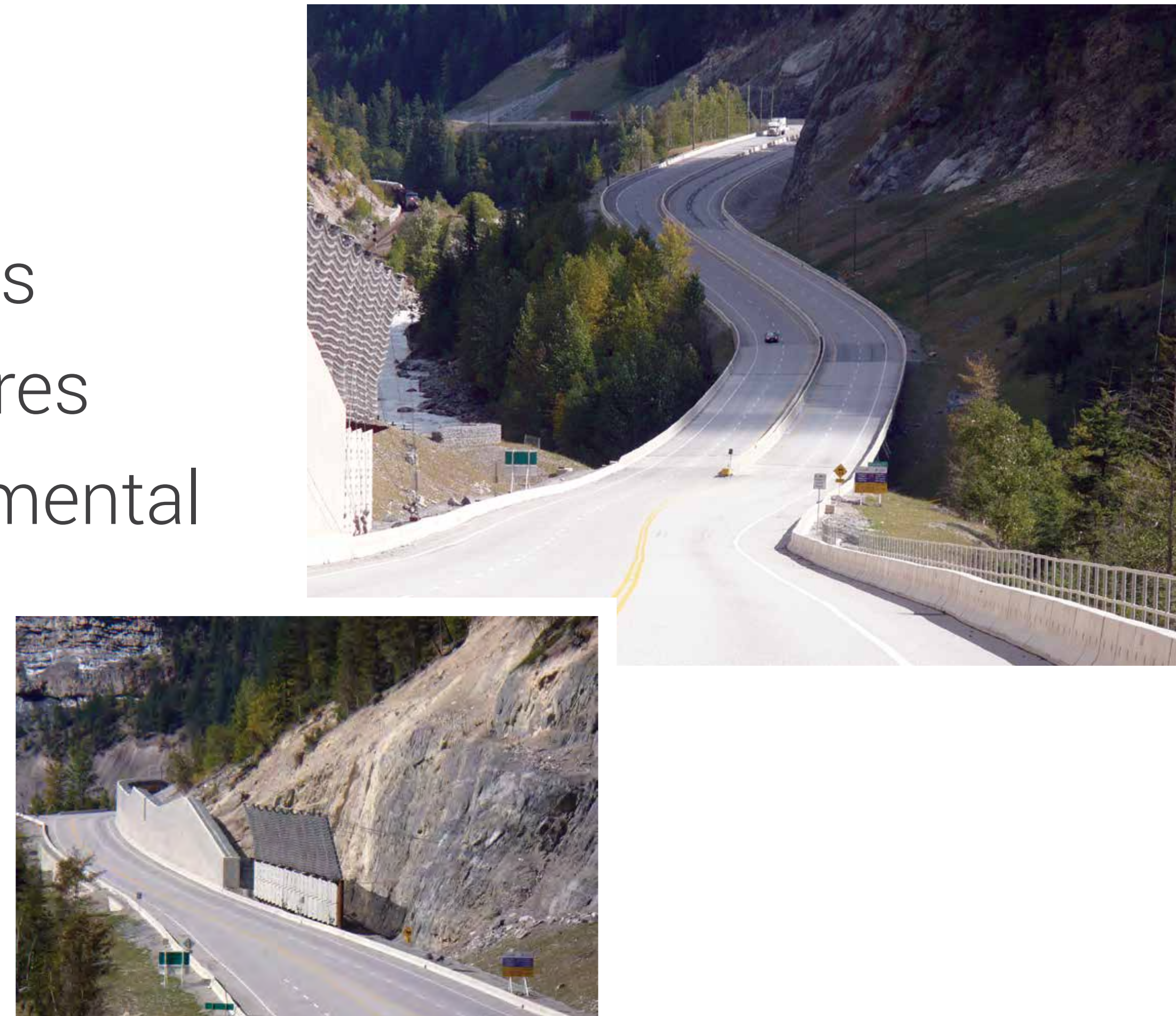


Progress to Date

Three phases of the Kicking Horse Canyon Project have been completed to date

Phase 1 (Yoho Bridge)

- Completed in 2006
- 3.2 km of highway upgrades
- 2 new (twin) bridge structures
- Also cost-saving & environmental impact-reducing cantilever bridge near Rafters' Pullout



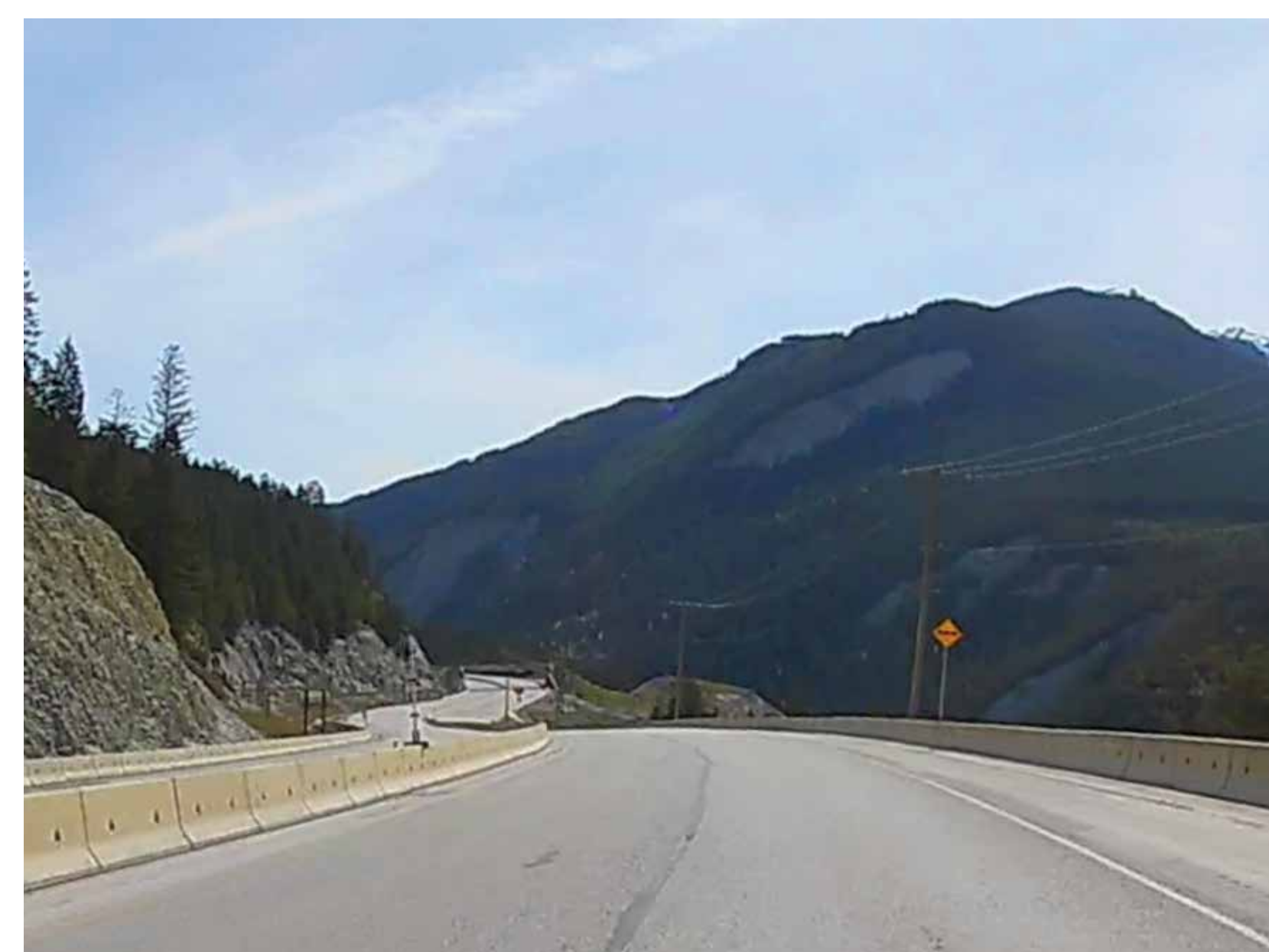
Phase 2 (Park Bridge)

- Completed in 2007
- Replace Park (10 Mile) Bridge
- 5.8 kilometres of 4-lane highway, reducing significant grades & improving horizontal alignment
- New rest area, brake check & recreational access point



Phase 3 West (Golden Hill to West Portal)

- Completed in 2013
- 4 kilometre 4-lane upgrade with median barrier
- Interchange at Golden-Donald Upper Road
- Wildlife fencing & crossing structures
- Pedestrian & cycling improvements



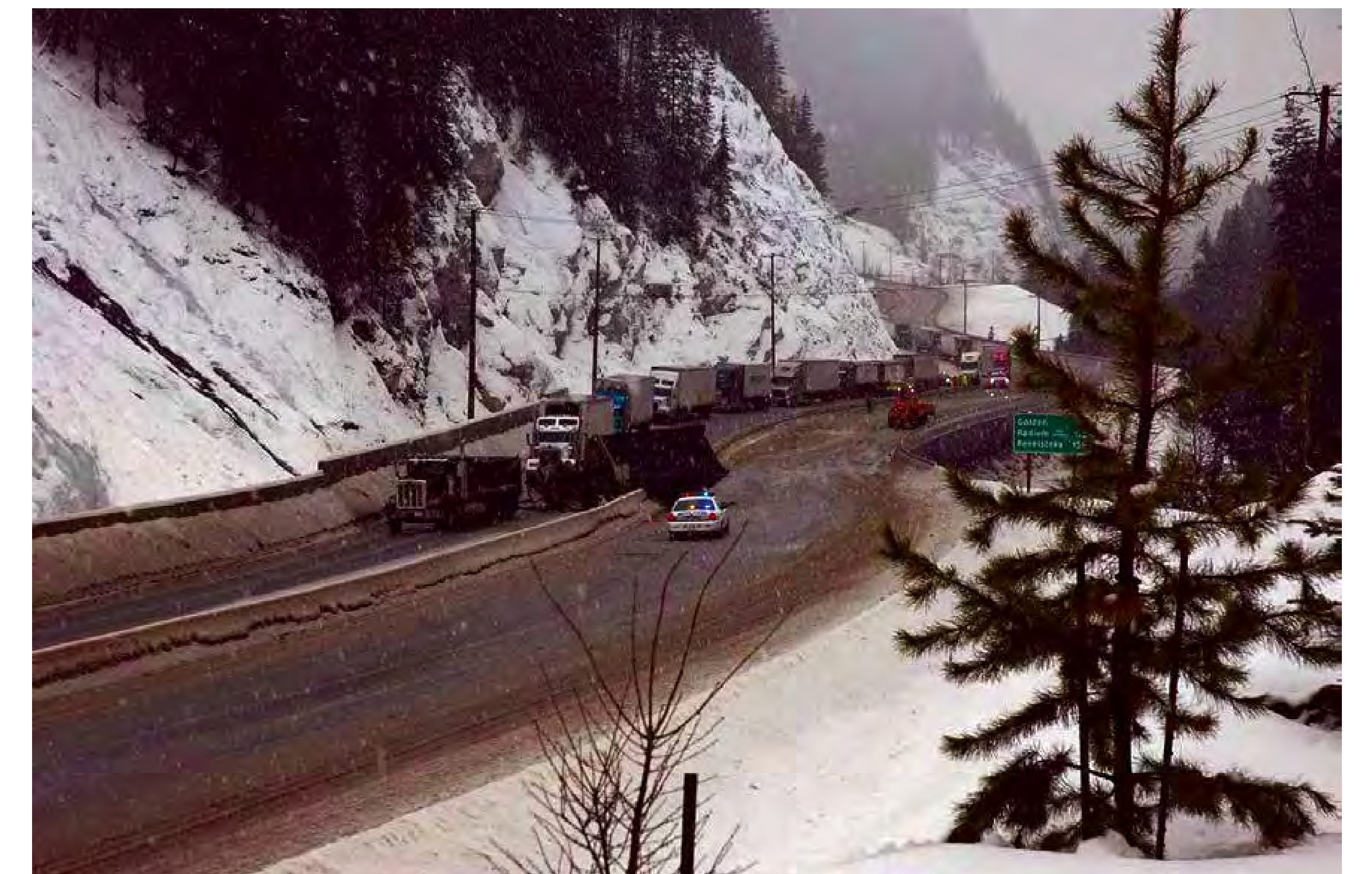
Phase 3 East (Brake Check to Yoho Park)

- Completed in 2011
- 8.8 kilometres of 4-lane highway with median barrier
- 3-metre shoulders to accommodate cyclists
- Wildlife fencing & crossing structures
- Replace Mt. Hunter Creek Bridge
- Access consolidation
- Beaverfoot Road interchange



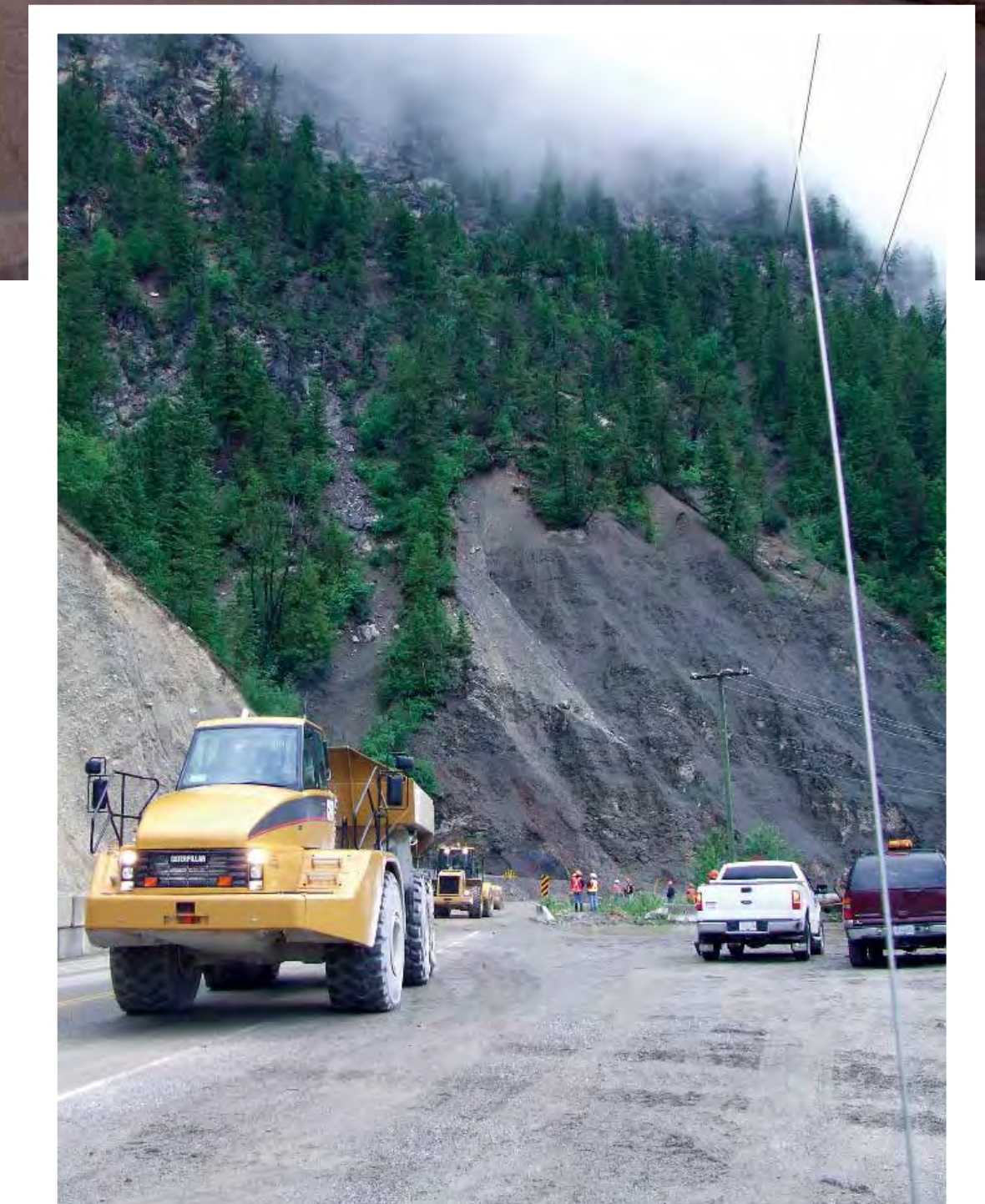
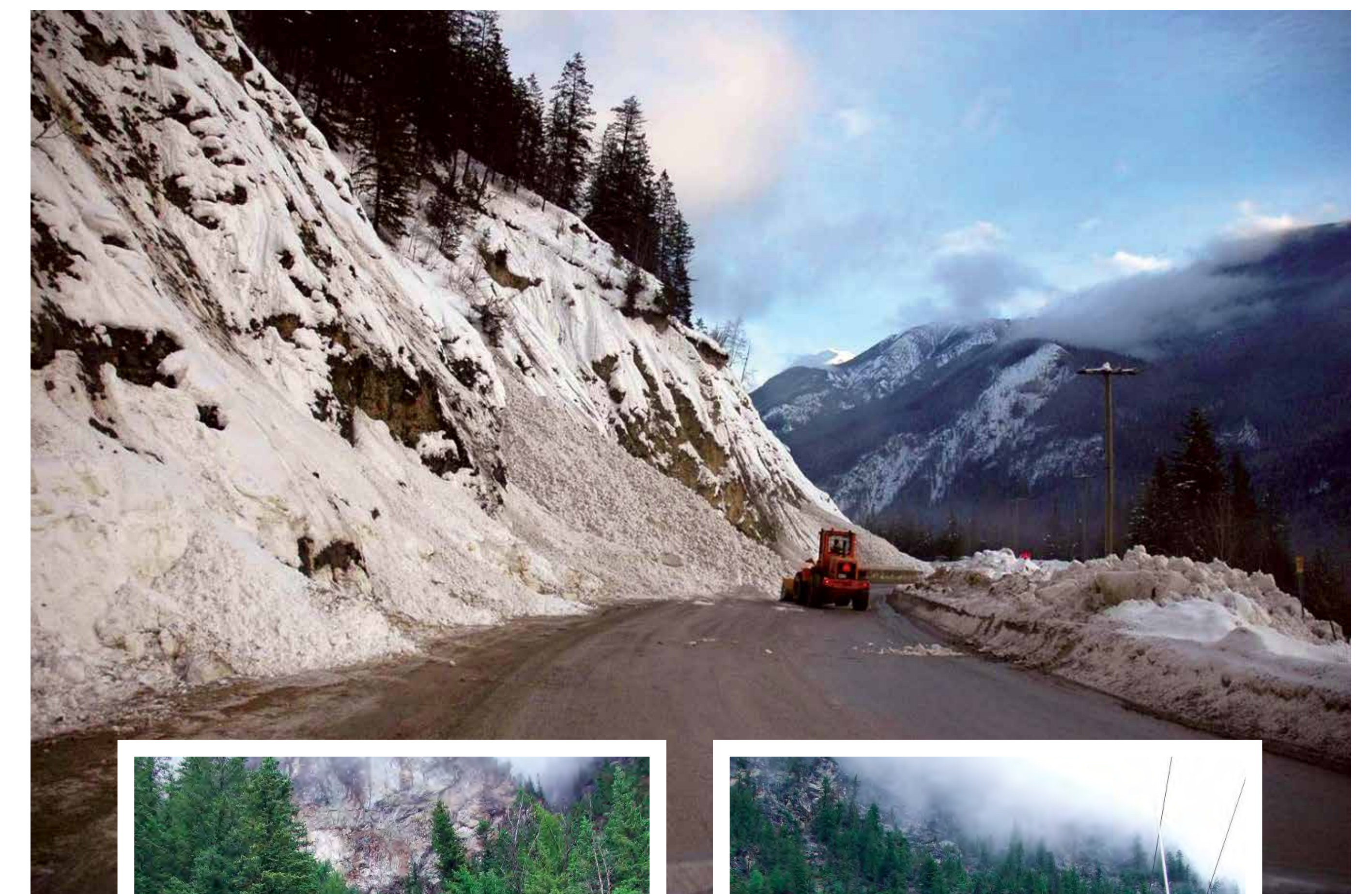
Meeting the Need for Improved Traveller Safety

- Improved alignment through flatter curves and grades consistent with adjacent highway segments and current standards
- Improved sightlines and stopping sight distance
- Additional lanes and median barrier to reduce collision potential
- 2.5 m shoulders to provide safer area for cyclists
- Improved connections to Dart Creek Forest Service Road and CP access roads
- Reduced potential for avalanche and rockfall to reach vehicles
- Reduced wildlife collisions
- Target: reduced collisions overall by 66%



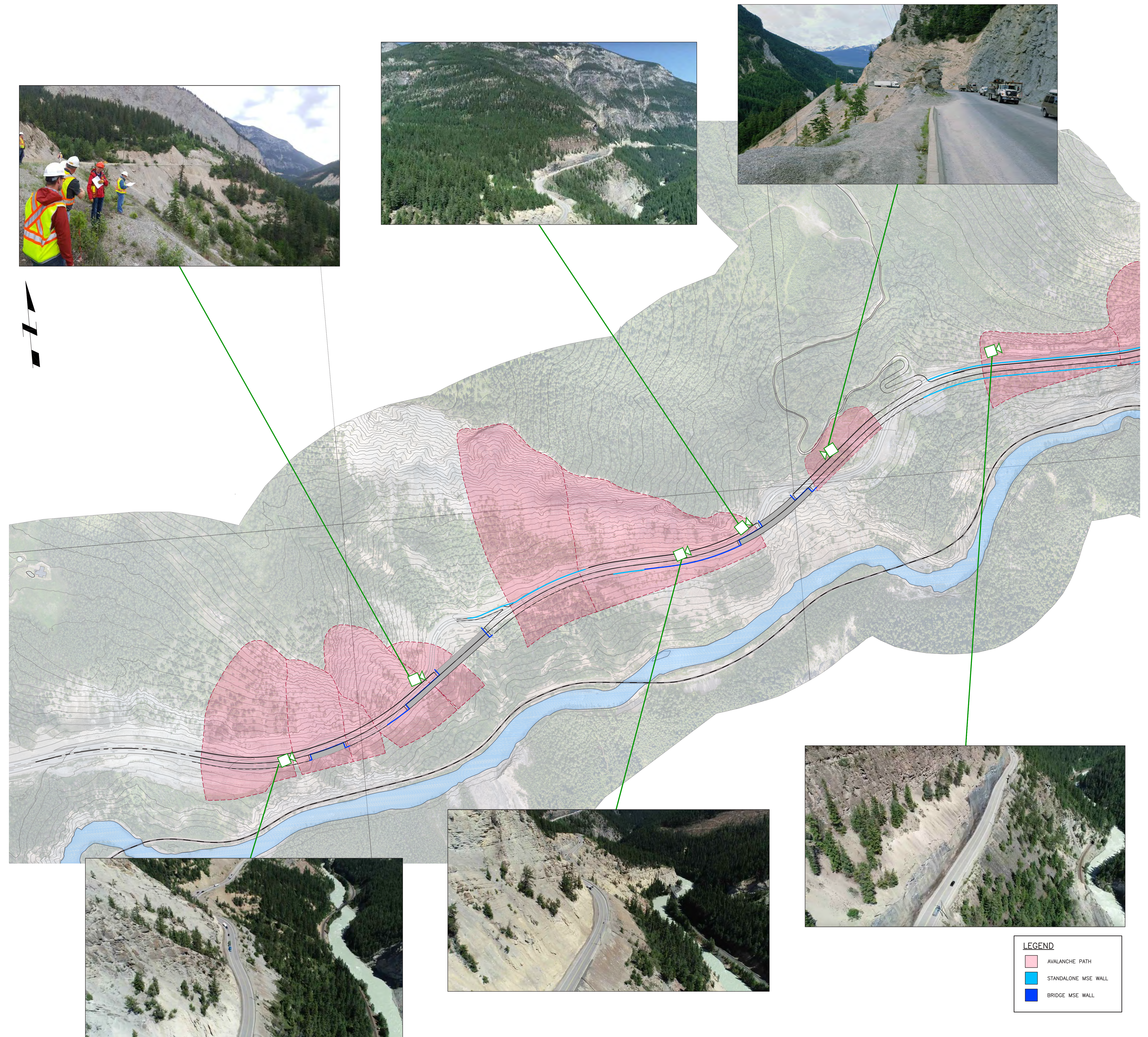
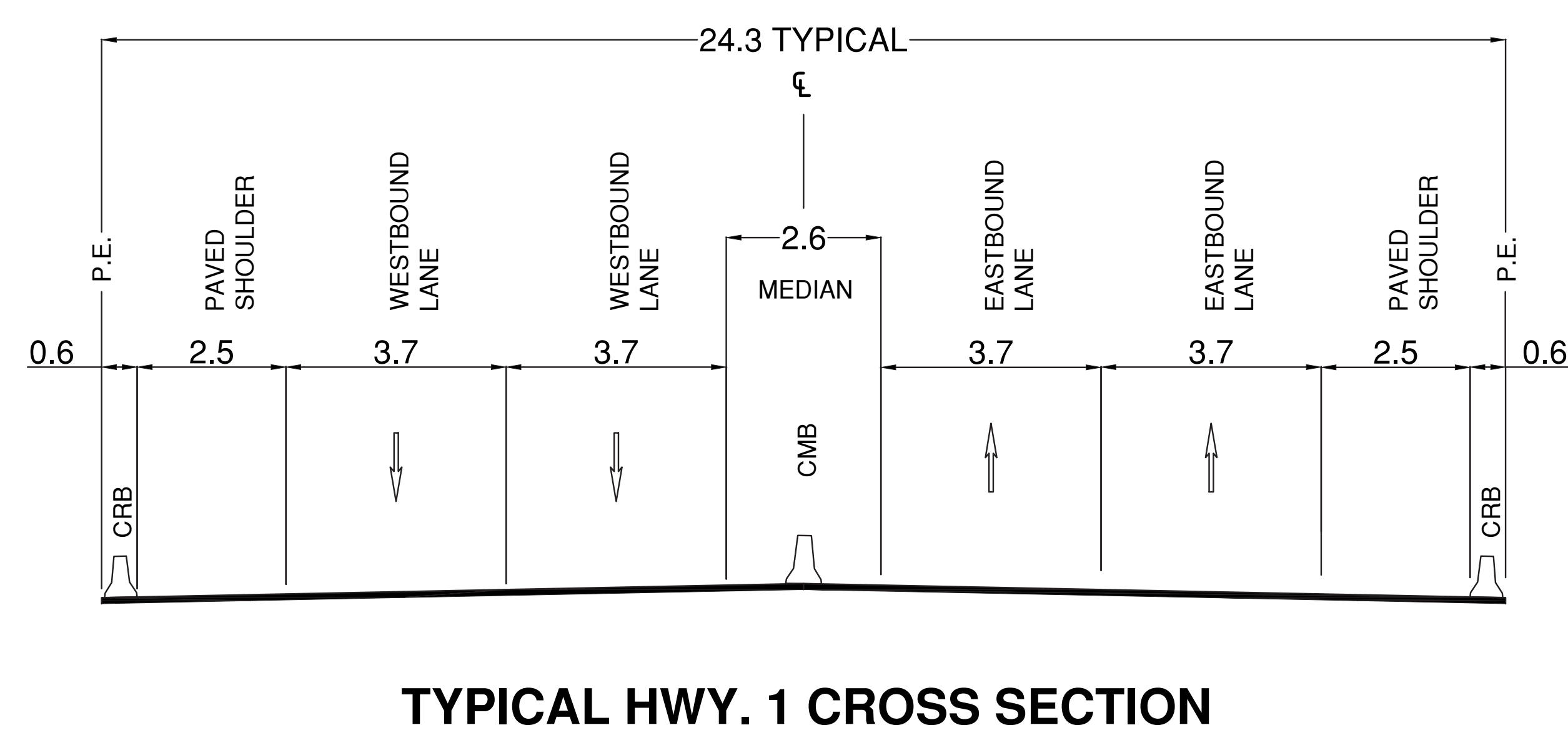
Meeting the Need for Improved Capacity and Reliability

- Improved capacity with 4-lane divided highway with 100 km/hr speed limit
- Reduced travel time through increased average speed
- Reduced potential for avalanches closing highway
- Reduced potential for rockfall closing highway lanes

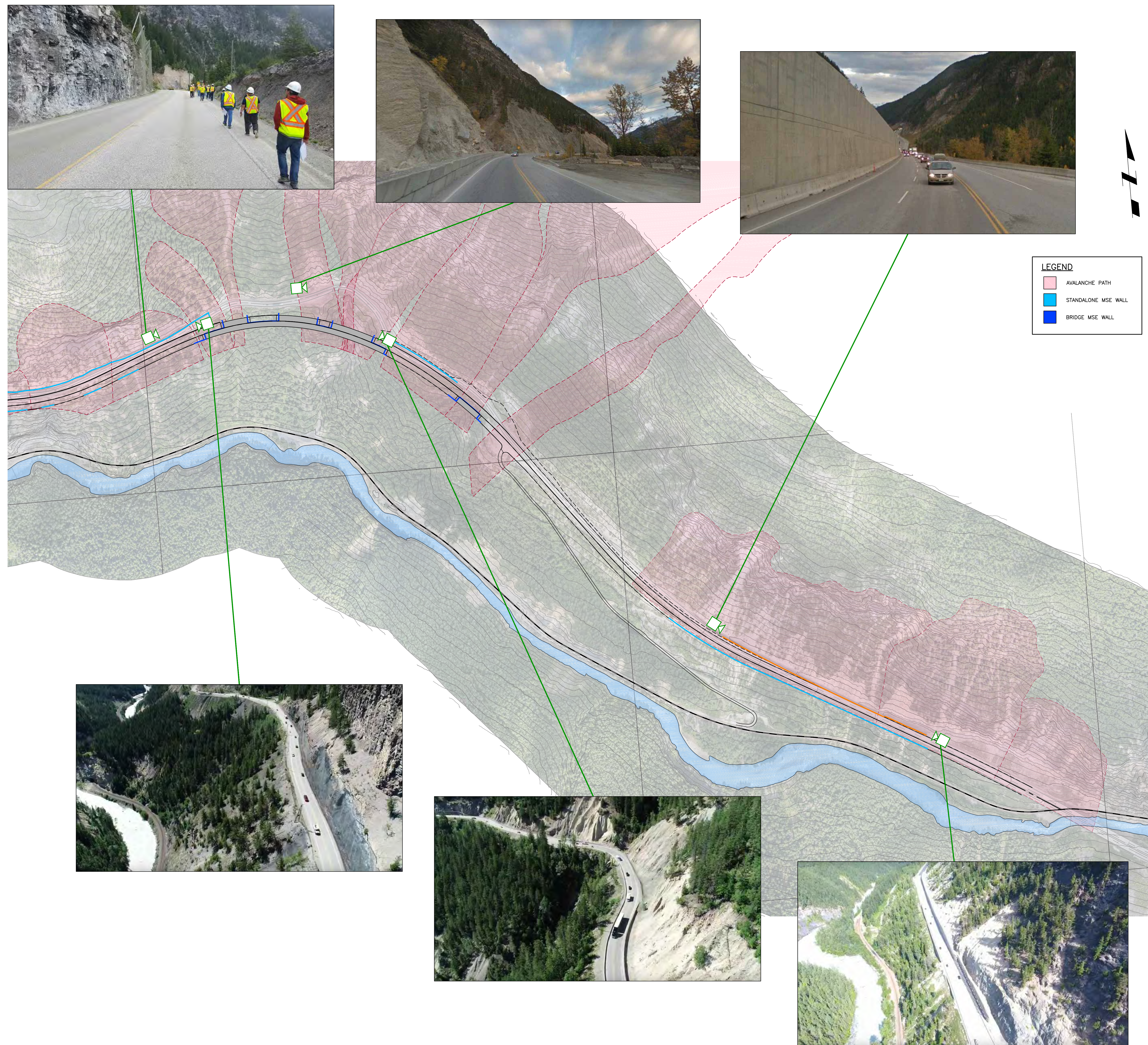


One Possible Solution

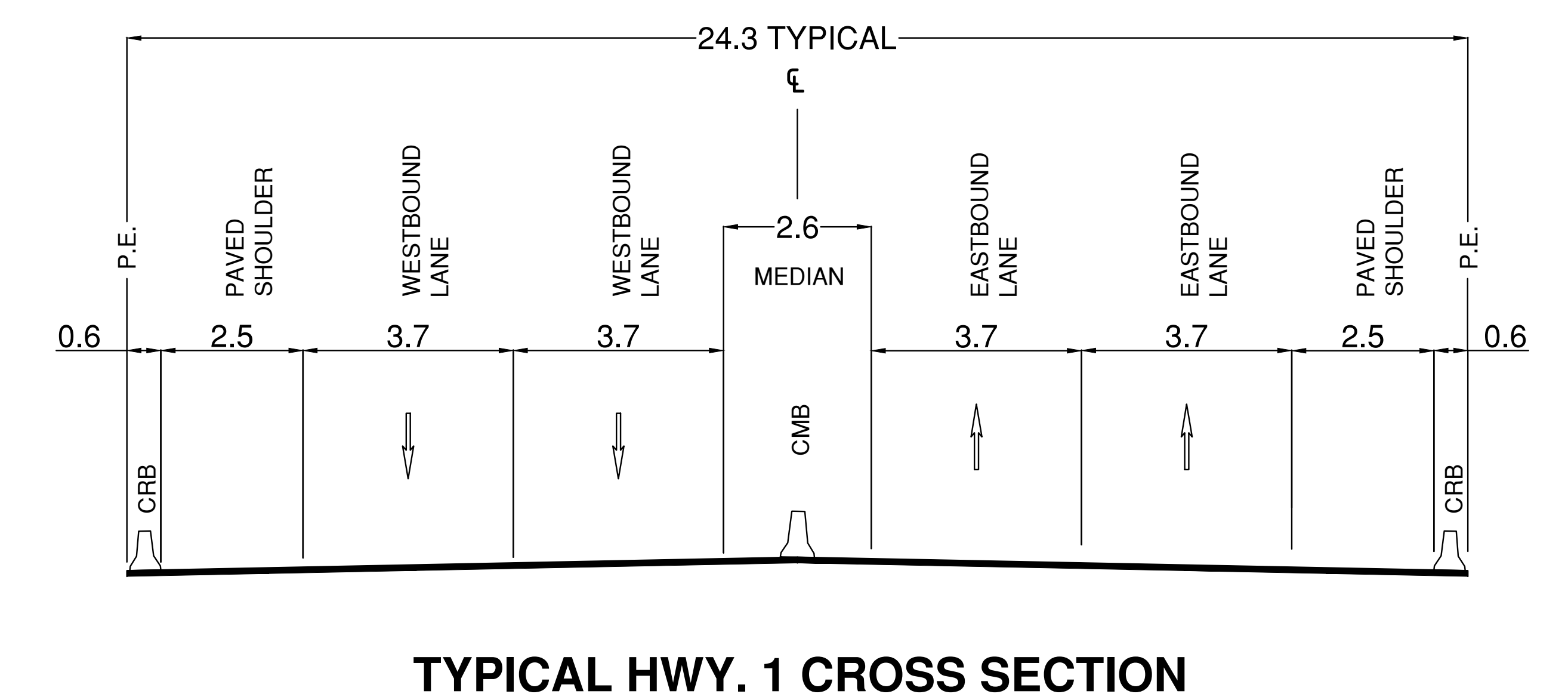
- To prove the project can be built, the Ministry has prepared a “reference concept”, which would bring the road up to a modern 100 km/hour standard
- It includes:
 - Straightening 13 sharp curves
 - Five bridges
 - Reduced impact potential of 13 avalanche paths
 - Median barrier
 - Wildlife fencing
 - Wildlife passage



One Possible Solution

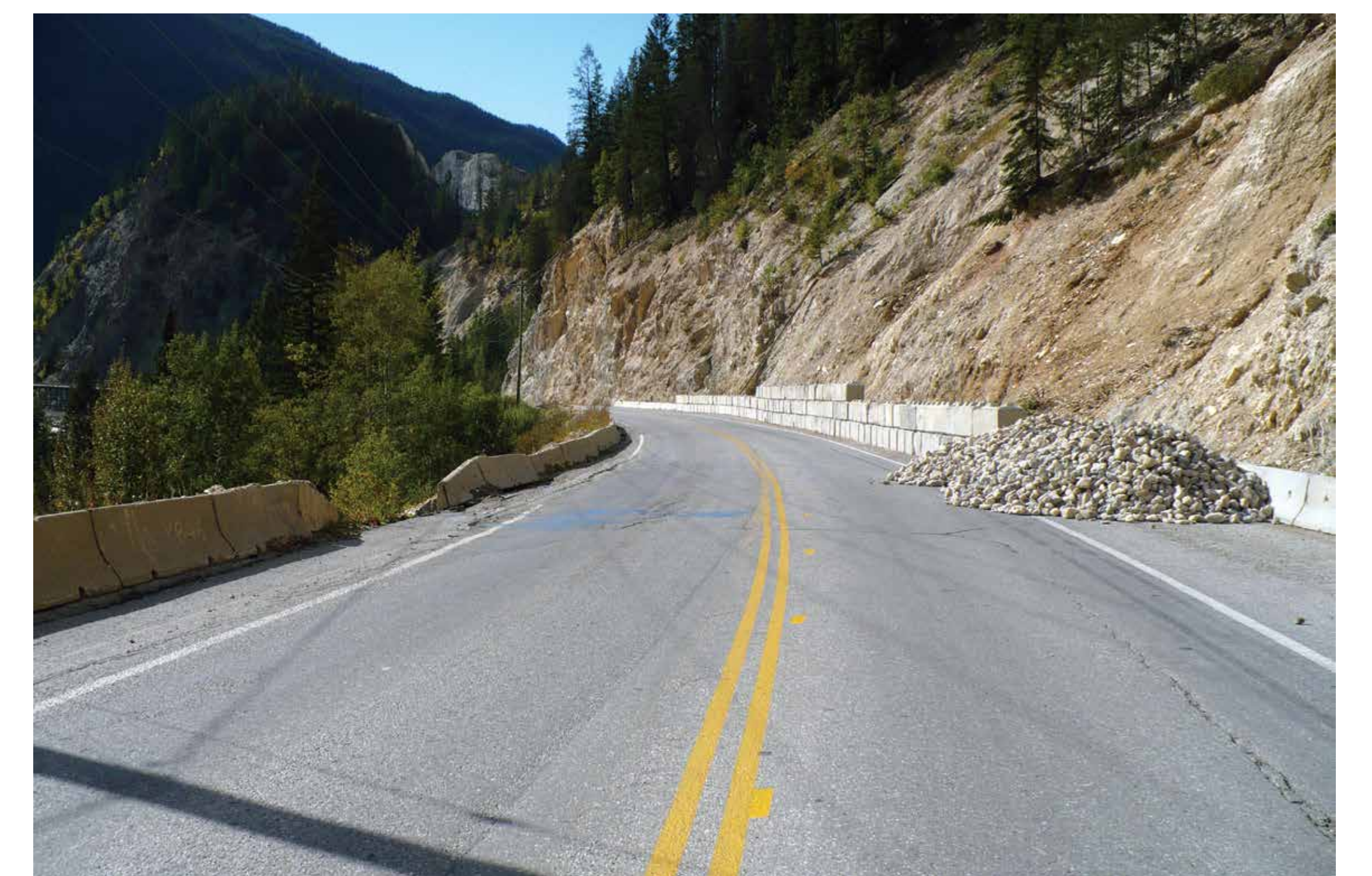


- This project will be delivered as a “Design-Build” contract, meaning the contractor will be responsible for both the design and construction of the works
- The contractor will be expected to apply innovative ideas and approaches to meet or exceed the project objectives



The Challenges Ahead

- Phase 4 is the last and most challenging section of the project
- With avalanche and rockfall hazards above and steep, slippery slopes reaching to the railway and whitewater below, carrying out the work while keeping construction crews and the travelling public safe will be a major undertaking



Meeting the Challenge

- The top challenges for construction are:
 1. Safety of the travelling public and construction workers
 2. Constructability
- These challenges are caused by the constraints in this area of the corridor, which include:
 - Very narrow roadway and working area for removal of large sections of mountainside
 - Unstable, steep slopes both above and below the roadway
 - Need to prevent impacts to the CP Rail line, which averages 30 trains daily
 - Need to prevent impacts to the Kicking Horse River



How the Traffic Management Strategy Was Developed

- Extensive consultation which included:
 - The community, local governments, businesses and School District
 - Emergency services, Parks Canada and BC Trucking Association
 - Ministry of Transportation and Infrastructure
- Detailed on-site assessments were carried out to identify and analyse all the possible solutions



Operational Assessment

- A detailed operational assessment was carried out in spring 2019 to determine if the alternate route would be able to support detour traffic including:
 - Traffic engineering capacity analyses
 - Vehicle and pedestrian traffic counts and site observations
 - Discussions with local governments, provincial government and Parks Canada
 - Assessment confirmed adequate capacity on the route during detour periods to accommodate the expected traffic volume
 - Some improvements suggested to enhance the operations of the detour route, including temporary signals, signing, and increases in storage bay lengths as shown in other displays
 - Performance and inappropriate shortcutting by highway traffic to be monitored

Safety Assessment

- A detailed safety assessment was conducted in spring 2019 to identify safety concerns along the proposed detour route including:
 - Review of the detour route by Senior Road Safety Engineer
 - Site visits along the route during daytime and nighttime conditions
 - Meetings with local governments
 - School bus and bus stop tour with staff from the School District
- Concluded that the detour route is generally safe and made some suggestions to enhance safety, including additional signage, crosswalk improvements, and school bus stop enhancements

Selected Traffic Management Strategy

- Underlying principles:
 - Safety of crews and travelling public
 - Minimizing Highway 1 closures while enabling construction to be completed within a reasonable timeframe
 - Avoiding closures during high traffic periods (e.g. summer daytime)
 - Minimizing impacts to local communities and businesses (e.g. no extended closures during rafting or ski season)

The proposed strategy blends the following:

- Single lane alternating traffic (SLAT)
 - Delays of up to 20 minutes
- Scheduled short closures (2 hours or less)
- Scheduled overnight closures (2-10 hours)
- Extended 24-hour scheduled closures (Spring, Fall)
 - 30 minute window for commuters, school buses and other essential local trips in morning and evening

Incident Management:

- Access through the work zone for emergency services will be provided as needed
- In the event of an incident closing Kicking Horse Bridges in Golden or otherwise restricting the use of the alternate route during longer closures, the Design-Builder will open the Trans-Canada Highway

Traffic Management Strategy – A Closer Look

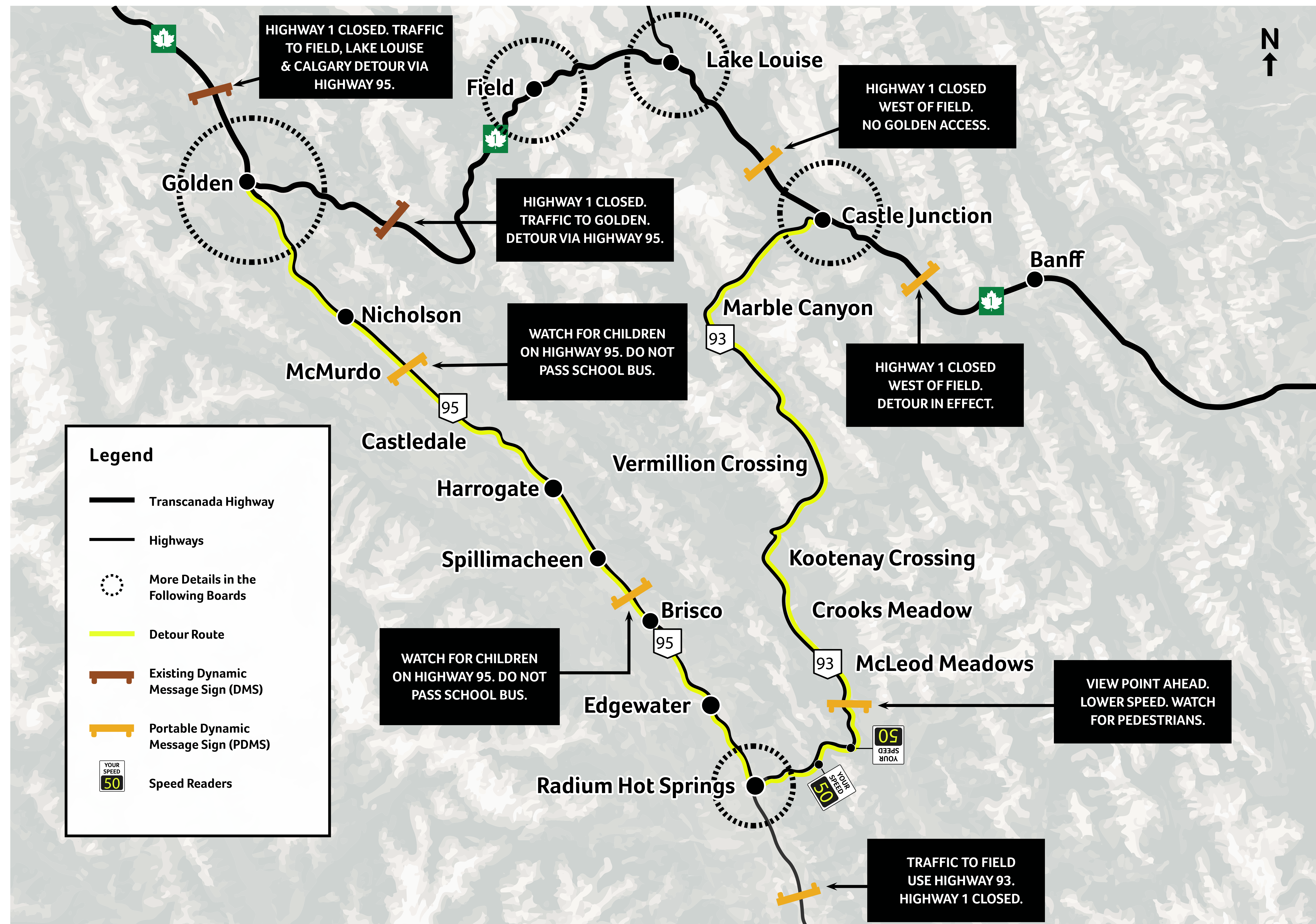
Proposed Traffic Stoppages

TYPE OF STOPPAGE	J	F	M	A	M	J	J	A	S	O	N	D
Extended 24-hour shoulder-season closures				Except Easter weekend						Except September, Thanksgiving & Remembrance Day weekends		
Night closures 2-10 hours	7:30 pm – 5:30 am					9:30 pm – 5:30 am						7:30 pm – 5:30 am
Closures 2 hours or less	Anytime except peak hours					Nights only 7:30 pm – 5:30 am						Anytime except peak hours
Single-lane alternating traffic (SLAT) (20 minute delays)	Anytime					Nights only 7:30 pm – 6:30 am						Anytime

Notes:

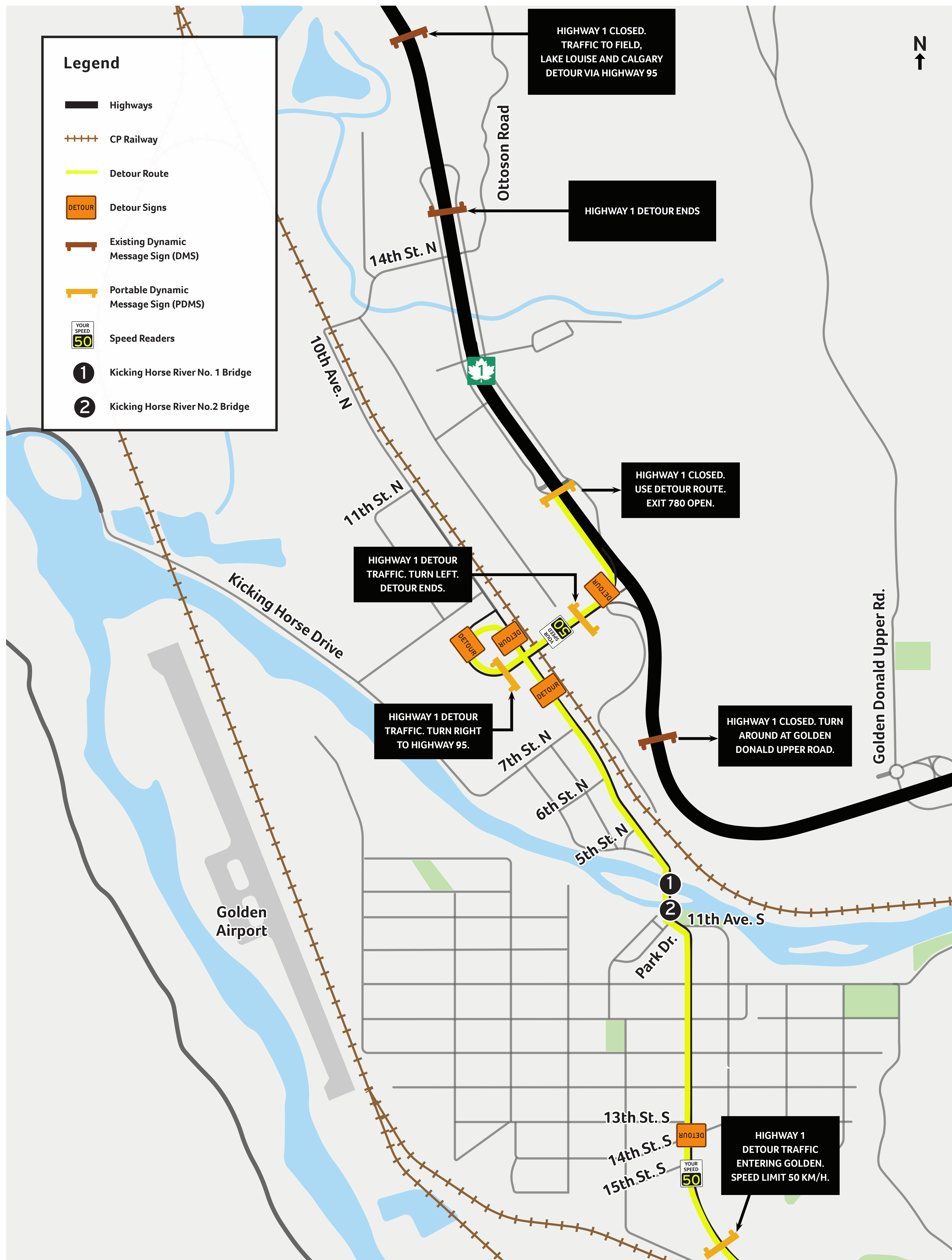
- Strategy to be refined with help of public input
- No daytime stoppages in the summer
- Extended closures may begin with the fall 2020 shoulder season
- During extended 24-hour closures, brief openings are planned twice daily for commuters, school buses and other essential trips; a commuter pass system is under consideration
- Contractor will be required to provide advance notification of closure schedule to allow the public to make reliable travel plans

Traffic Management Concept for the Alternate Route



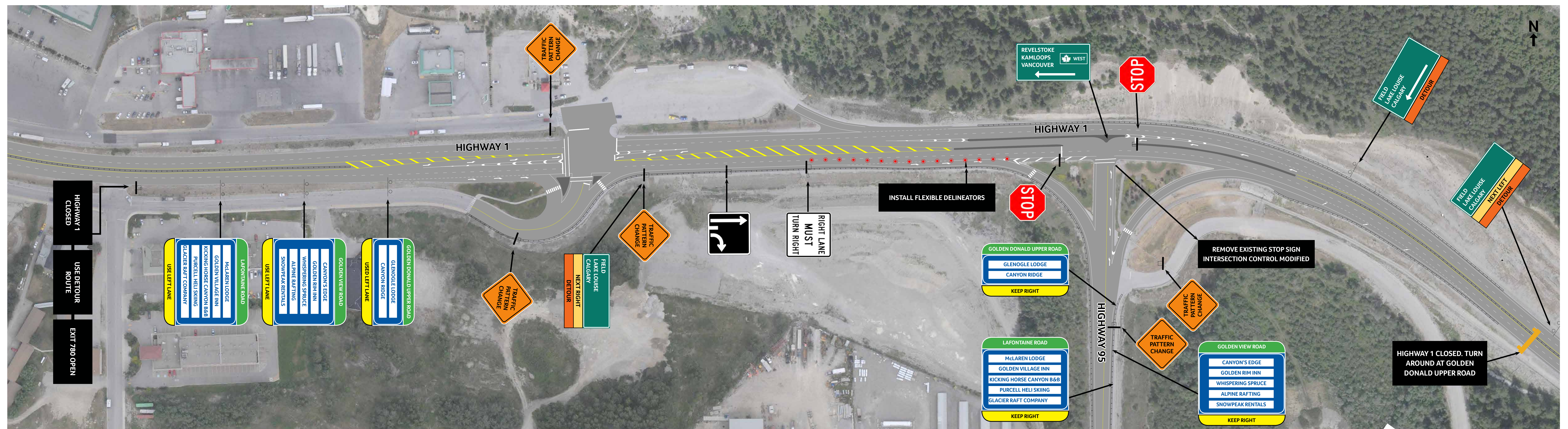
Traffic Management Concept Overview - Golden

- Clear signing along detour route
- Combination of static and dynamic signs
- Speed reader boards for traffic entering the town



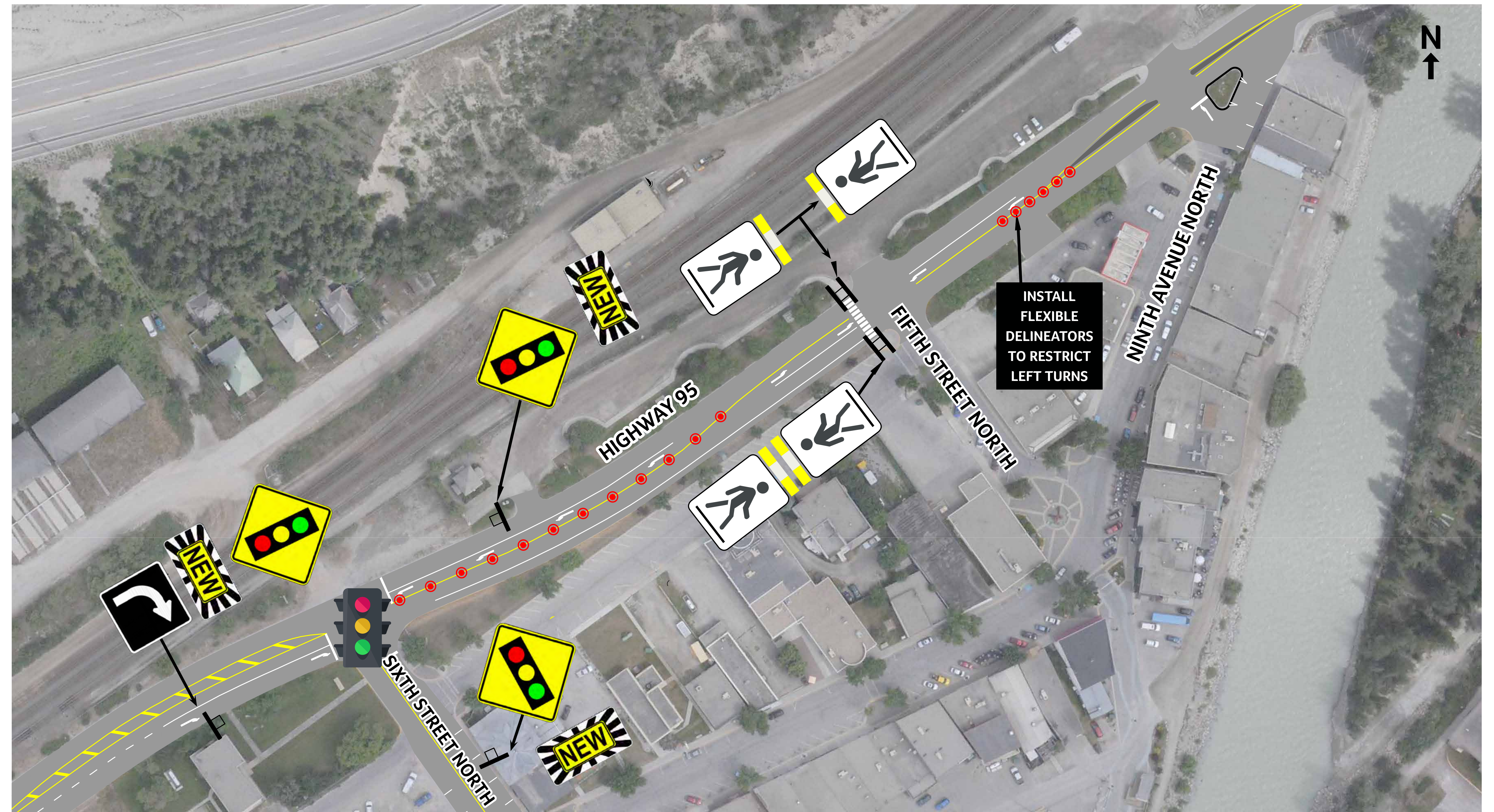
Detour Signage Concept: Highway 1 / Highway 95

- Traffic management:
 - Alter traffic priority at intersection to reduce impacts of higher traffic volumes turning left from Highway 95 to Highway 1
 - Delineate eastbound detour movement from Highway 1 to Highway 95
- Access to local businesses east of Highway 95 retained and clearly signed



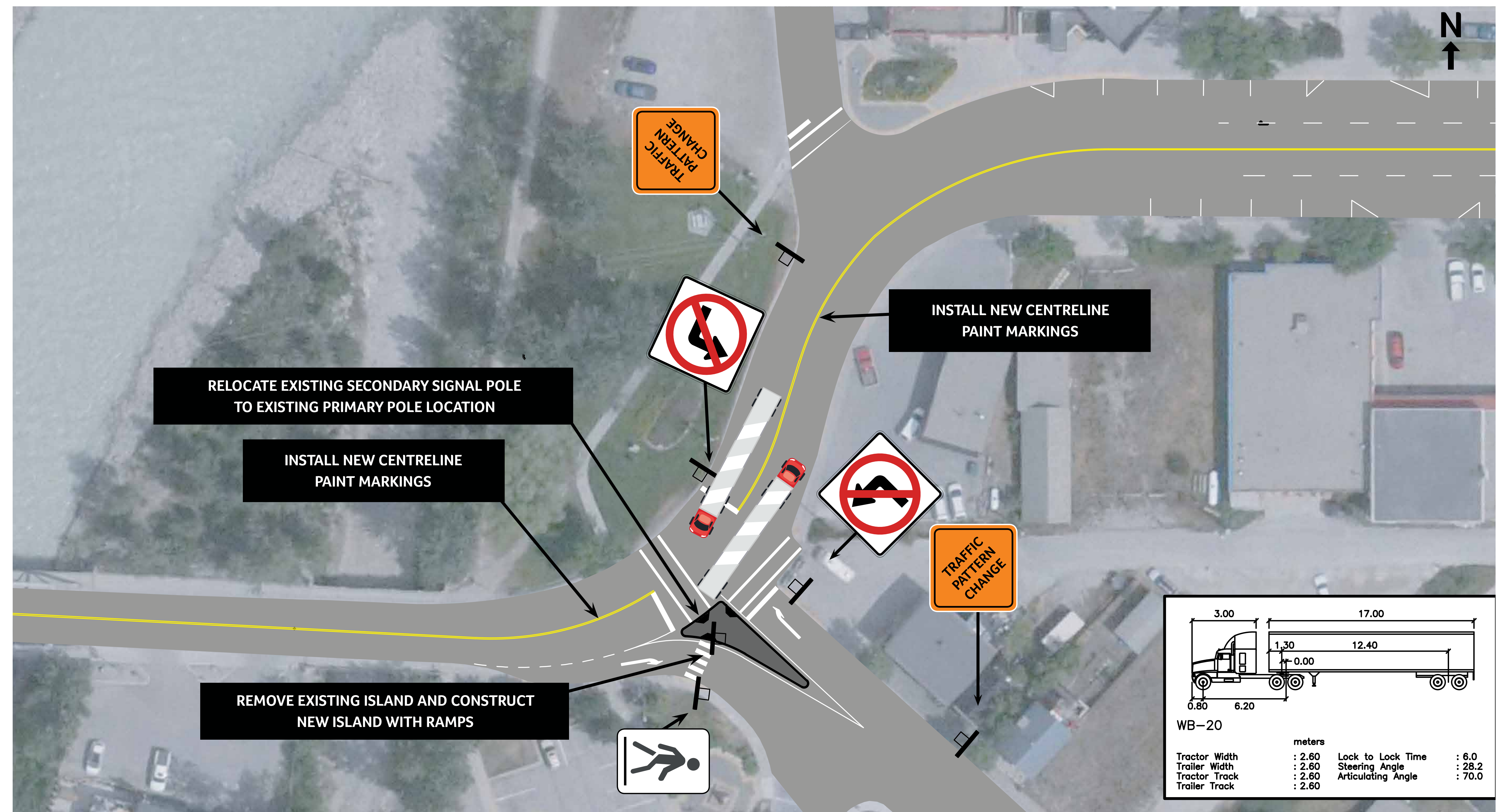
Highway 95 at 6th Street and 5th Street Signals

- Temporary traffic signal at the Highway 95 and 6th Street North intersection
 - Provides a location for side street traffic to access Highway 95 when volumes are increased on Highway 95 during the detour
 - Creates “ platoons” of traffic to provide regular gaps in traffic at adjacent intersections including the Highway 95 loop ramp
- Increase storage of the existing left turn bay for northbound traffic using pavement markings, with delineators to be added during detour operation
- Install flashing beacons to enhance visibility of pedestrian crossing on Highway 95 at 5th Street



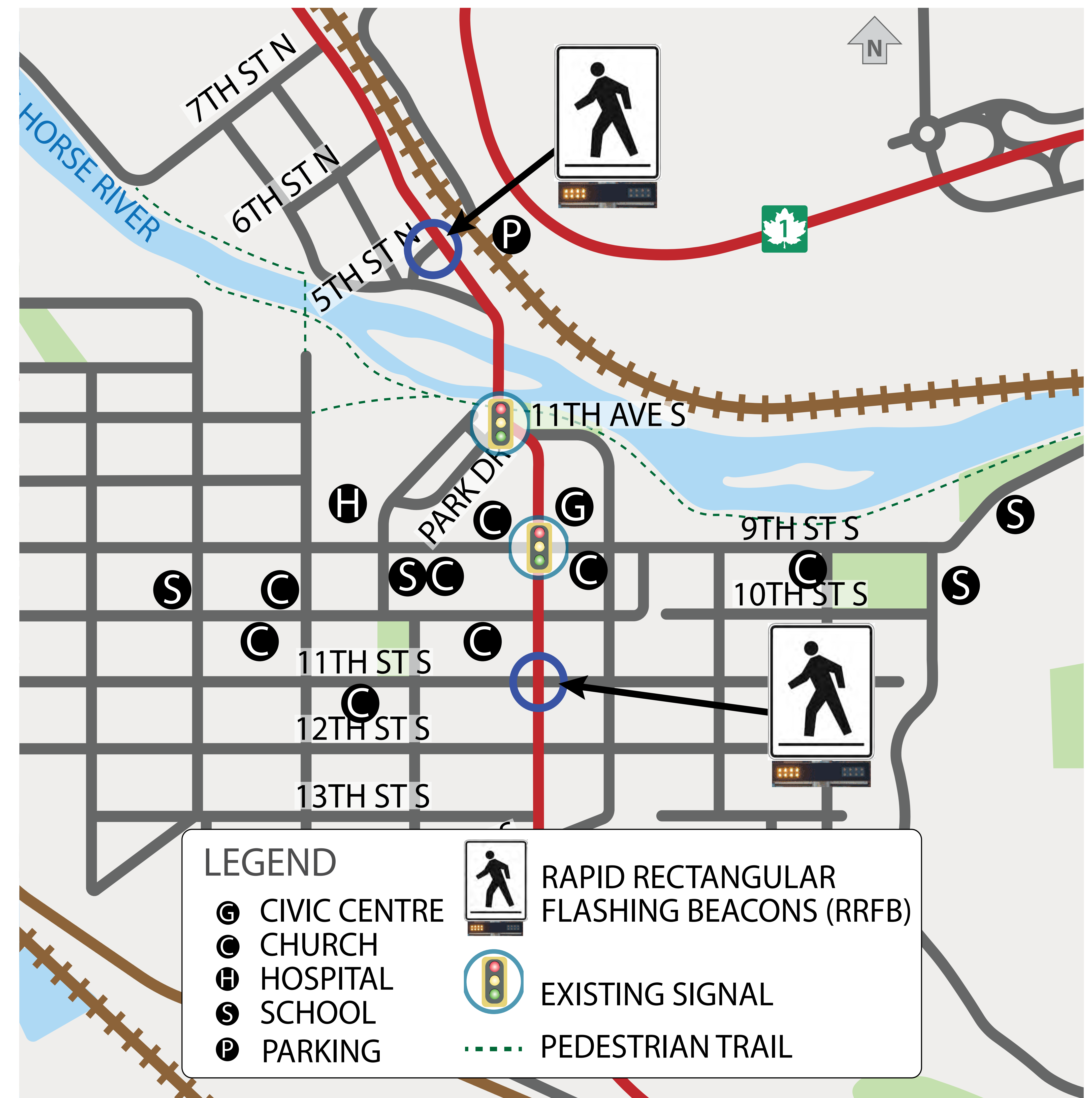
Realign Highway 95 near Park Dr (permanent change)

- Re-align the Highway 95 centreline to reduce heavy vehicle overtracking issues at the approach to the Kicking Horse Bridges
- Relocate existing traffic island at Park Drive to create more road width
- Convert Park Drive to right-in/right-out (RIRO)
- Relocate crosswalk to new island
 - Move pathway connections to new crosswalk
 - Coordinate pedestrian signal with traffic signals to the north and south



Golden Pedestrian Mobility

- Safe routes for pedestrians supported by:
 - New Rapid Rectangular Flashing Beacons (RRFB) added at 5th Street North & 11th Street South pedestrian crossings
 - Temporary traffic signal to be added at 6th Street North
 - Existing traffic signals

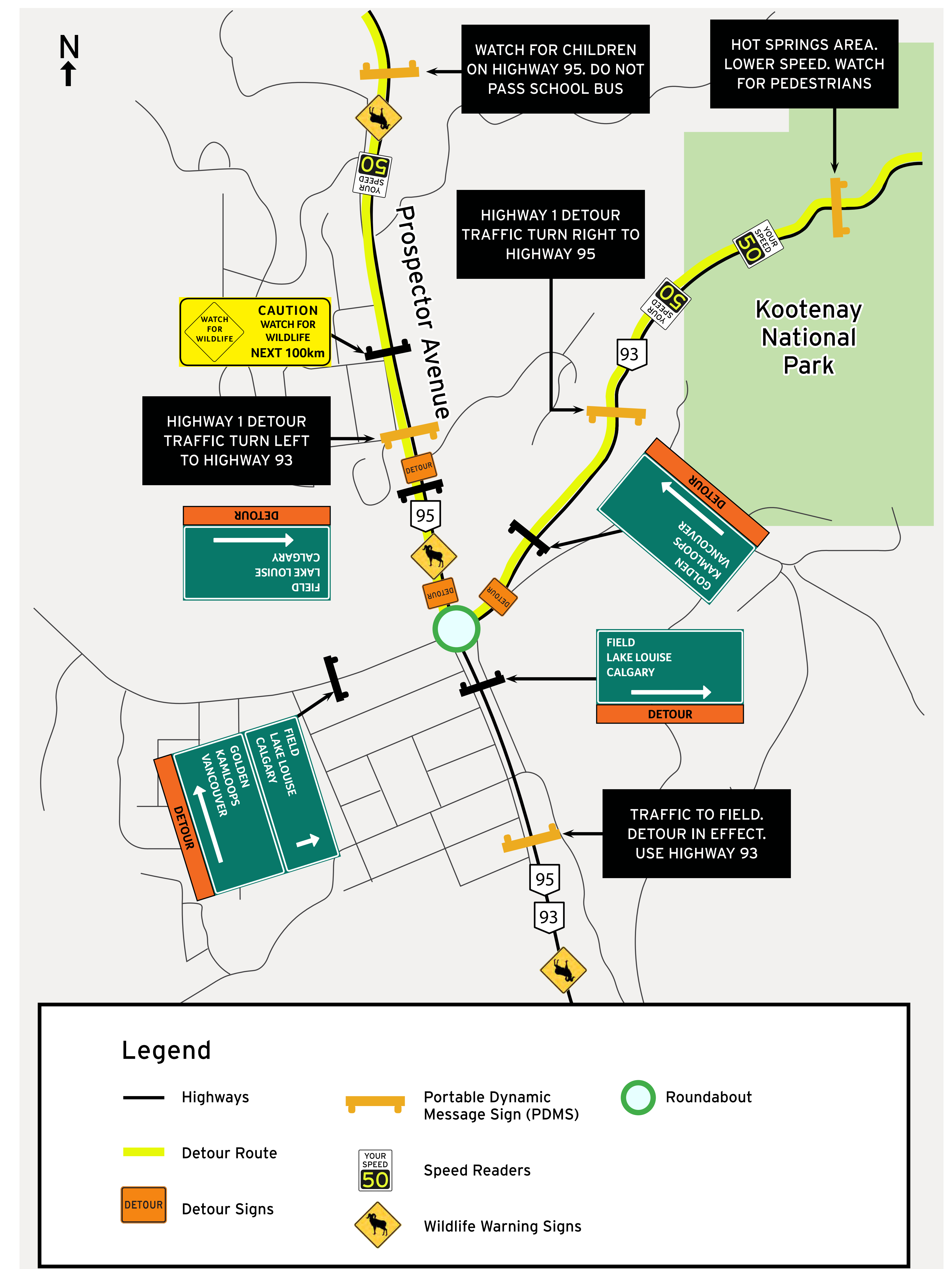


Traffic Management Concept – Radium Hot Springs

- Clear signing along detour route
- Combination of static and dynamic signs
- Speed reader boards
- Future roundabout at Highway 93 / Highway 95 scheduled to open before detours commence, providing ample capacity to support detour traffic

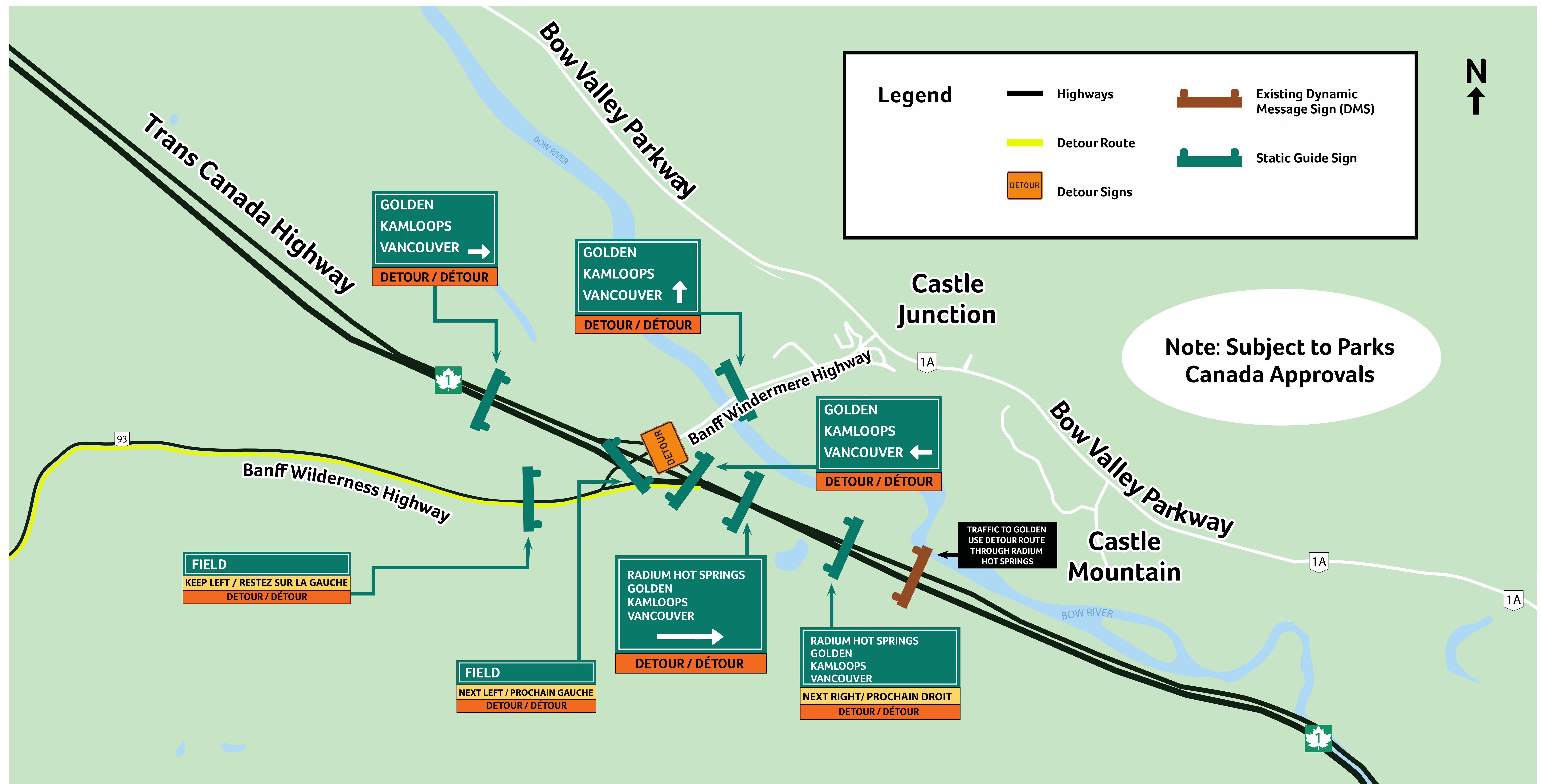


Note: Concept subject to change. Image from September 4, 2019 Radium Roundabout Open House



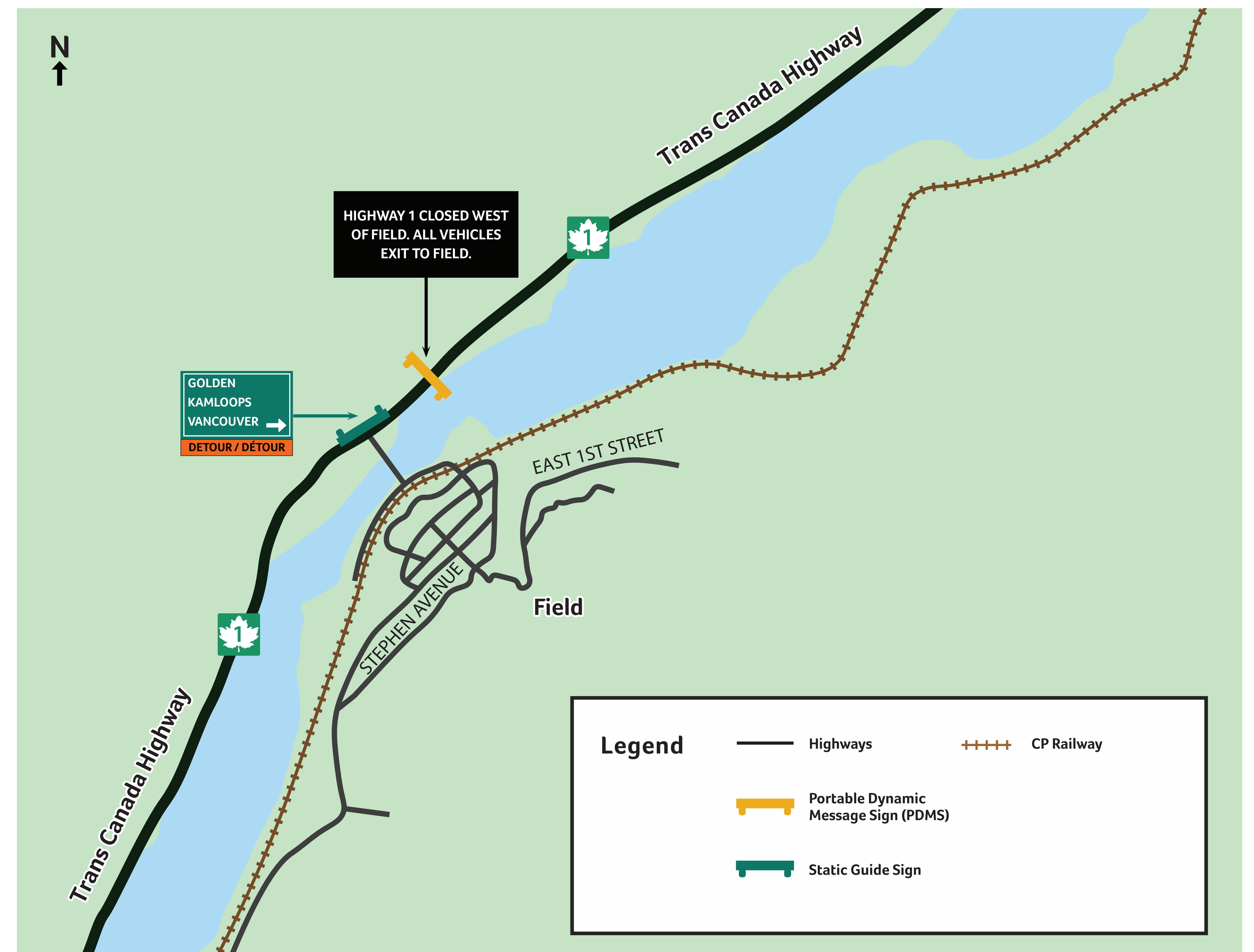
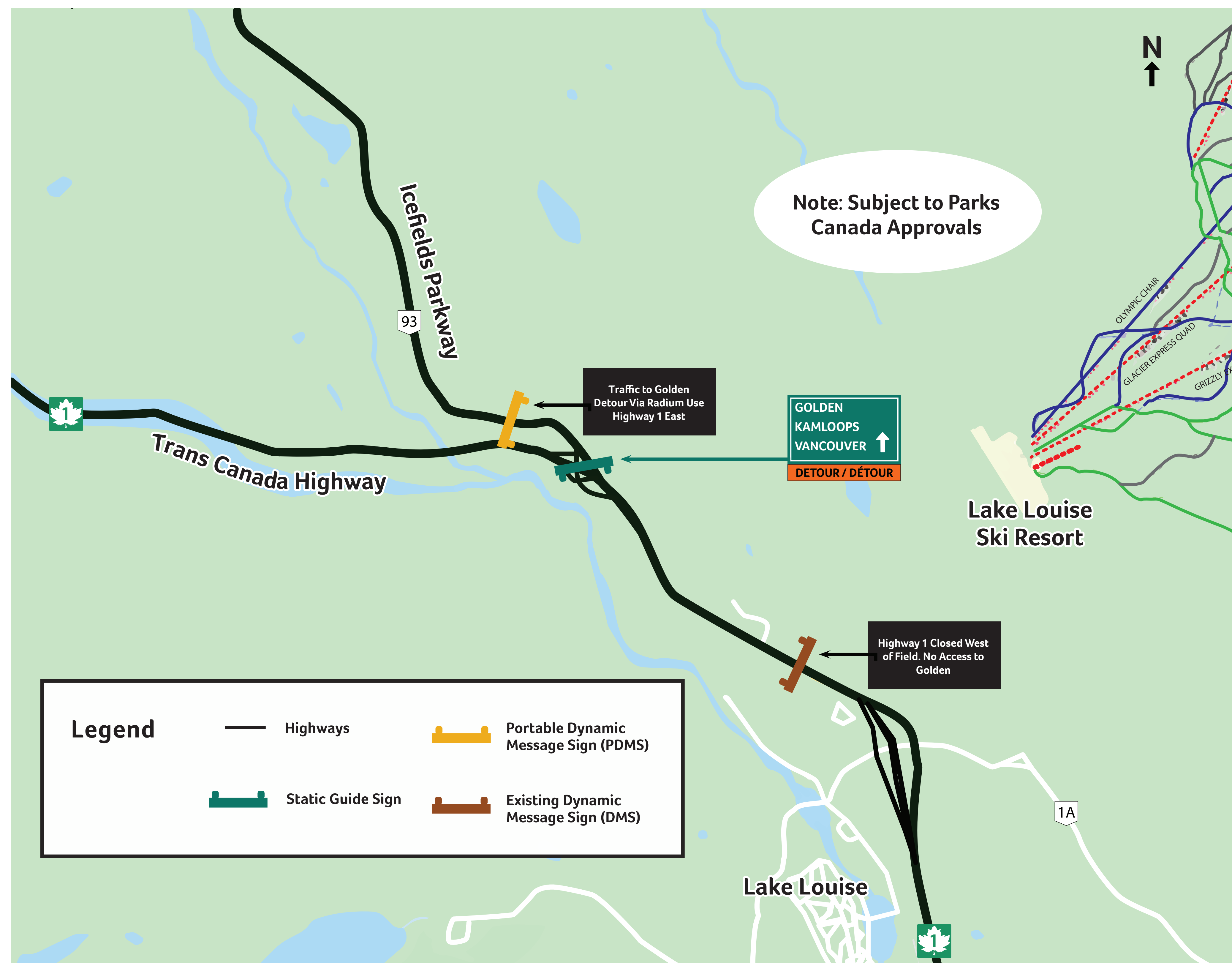
Traffic Management Concept – Castle Junction

- Clear signing for detour route
- Combination of static and dynamic signs



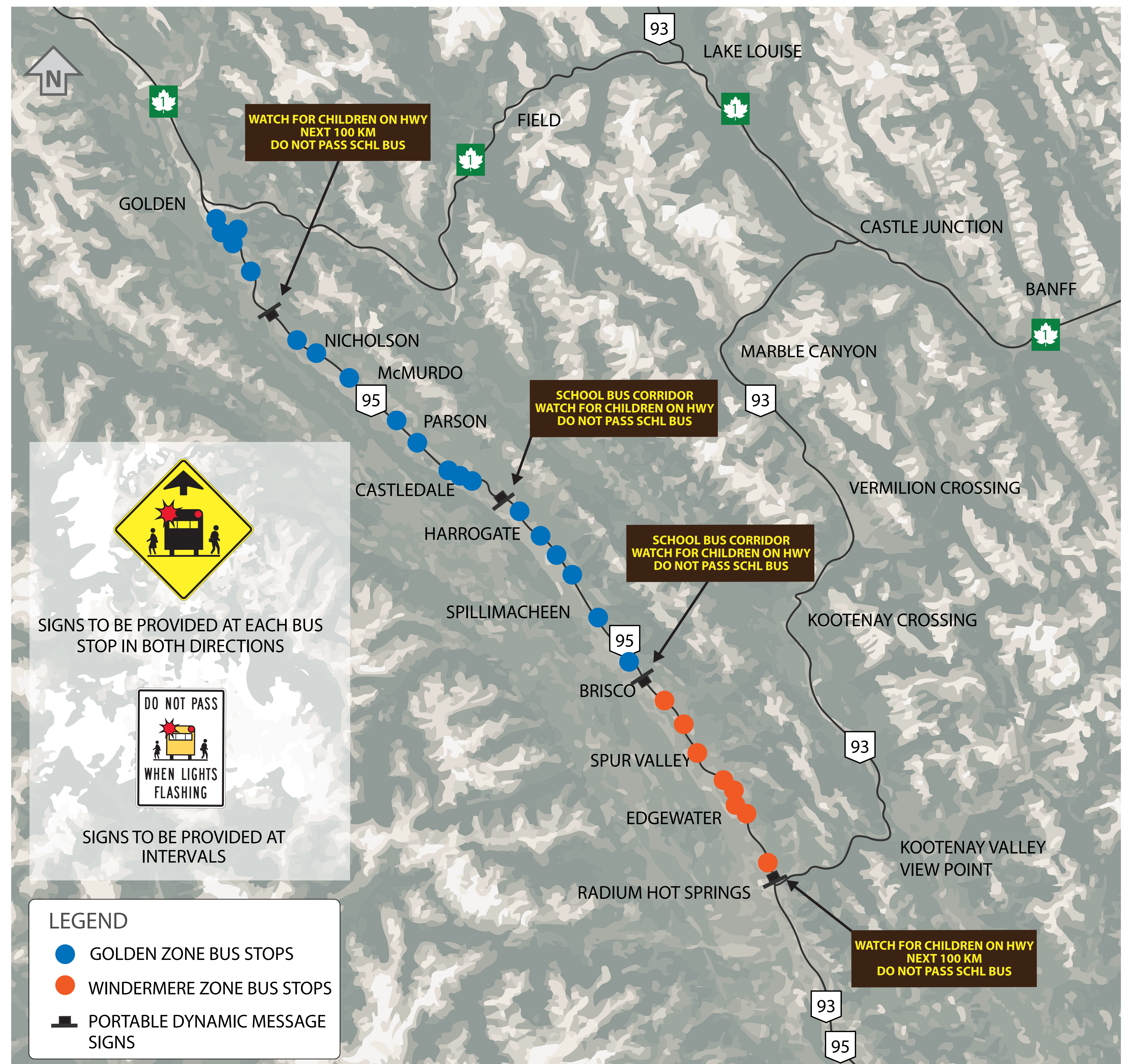
Traffic Management Concept – Lake Louise and Field

- Clear guide signs for detour
- Combination of static and dynamic signs



Highway 95 School Bus Route

- General awareness signage for corridor, with additional signs at school bus stops
- Media campaign
- (Seasonal) In-school safe route to school/bus stop safety awareness presentations/ lessons (working with School District)
- (Seasonal) Parent/driver awareness campaign (working with School District and RCMP)

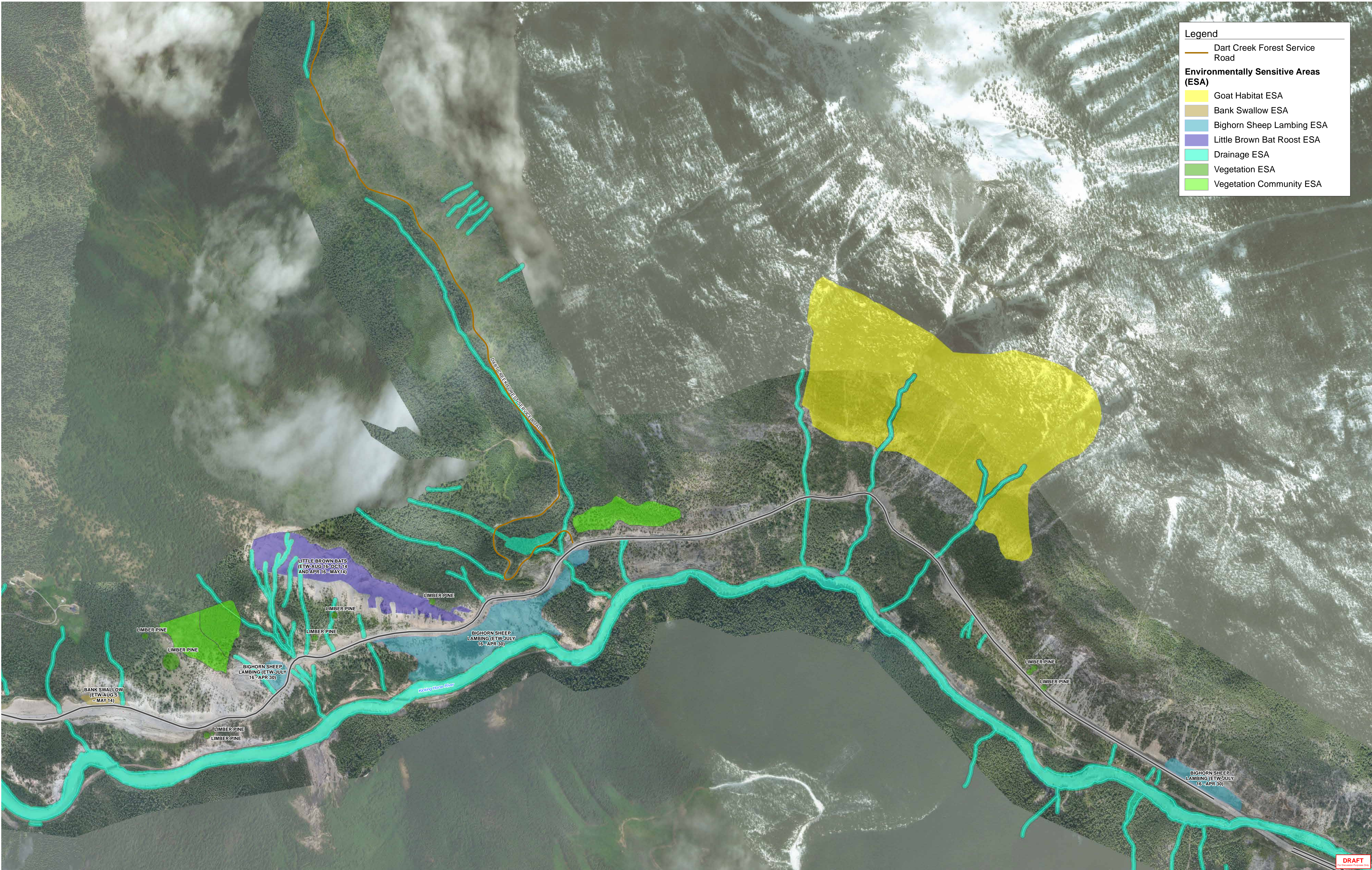


Commitment to the Environment

- Design provides for wildlife fencing and wildlife passage
- Collaborating with the Golden District Rod and Gun Club and Wildsight on wildlife research
- Protecting air and water quality is vital
- Environmental protection measures for construction include:
 - Timing restrictions for bird nesting, sheep lambing and bat roosting
 - Erosion and sediment control
 - Dust control
 - No-idling and no-burn policy



Environmental Constraints



Engaging with Indigenous Communities

- Project location is within the traditional territory of the Secwépemc (Shuswap Indian Band, Splatshin, Neskonlith Indian Band, Adams Lake Indian Band, and Little Shuswap Lake Indian Band) and Ktunaxa (Akisqnuk First Nation, ?Aq'am – St. Mary's, Yakan Nukiy, and Tobacco Plains) Nations
- The Ministry of Transportation and Infrastructure is committed to a strong working relationship with Indigenous communities and ensuring that all Indigenous interests are recognized through the entire project life cycle
- Through collaboration and ongoing engagement with the Indigenous communities, areas of traditional, cultural and archaeological values have been identified and MoTI will continue to work to look for ways to protect areas of significant values
- The Indigenous communities have taken a leading role on the project by providing archaeological and other services. MoTI will continue to maximize indigenous involvement through construction, including employment, training, and business opportunities



Community Engagement

- In past year, there have been dozens of meetings with key stakeholder groups and organizations
- Community Liaison Committee (CLC) established October 2018
- Dialogue has included considerations for:
 - Traffic management, including timing, communications & alternate route
 - Environment, including wildlife; air and water quality
 - Local and regional economy during and after construction
 - Employment and business opportunities

Community Liaison Committee	
Sector/Interest/Role	Agency
Municipal	Town of Golden
District municipality	CSRD
Indigenous communities	Shuswap Indian Band Ktunaxa First Nation
Tourism	Tourism Golden Golden / highway accommodators
Business	Kicking Horse Country Chamber of Commerce
Social / local amenities	Golden Community Social Services Co-op
Elementary / secondary education	Rocky Mountain School District #6
Post-secondary education	College of the Rockies
Recreational	Kicking Horse River Outfitters Association Kicking Horse Mountain Resort (RCR) Parks Canada
Commercial transportation	BC Trucking Association
Emergency services & safety	Police Fire Rescue Ambulance Search & Rescue / Emergency Management
Environmental	Wildsight Rod & Gun Club Golden and District Air Quality Committee



Moving Forward

- Design-Build procurement underway
- Contract award and construction start 2020
- Completion Winter 2023/24

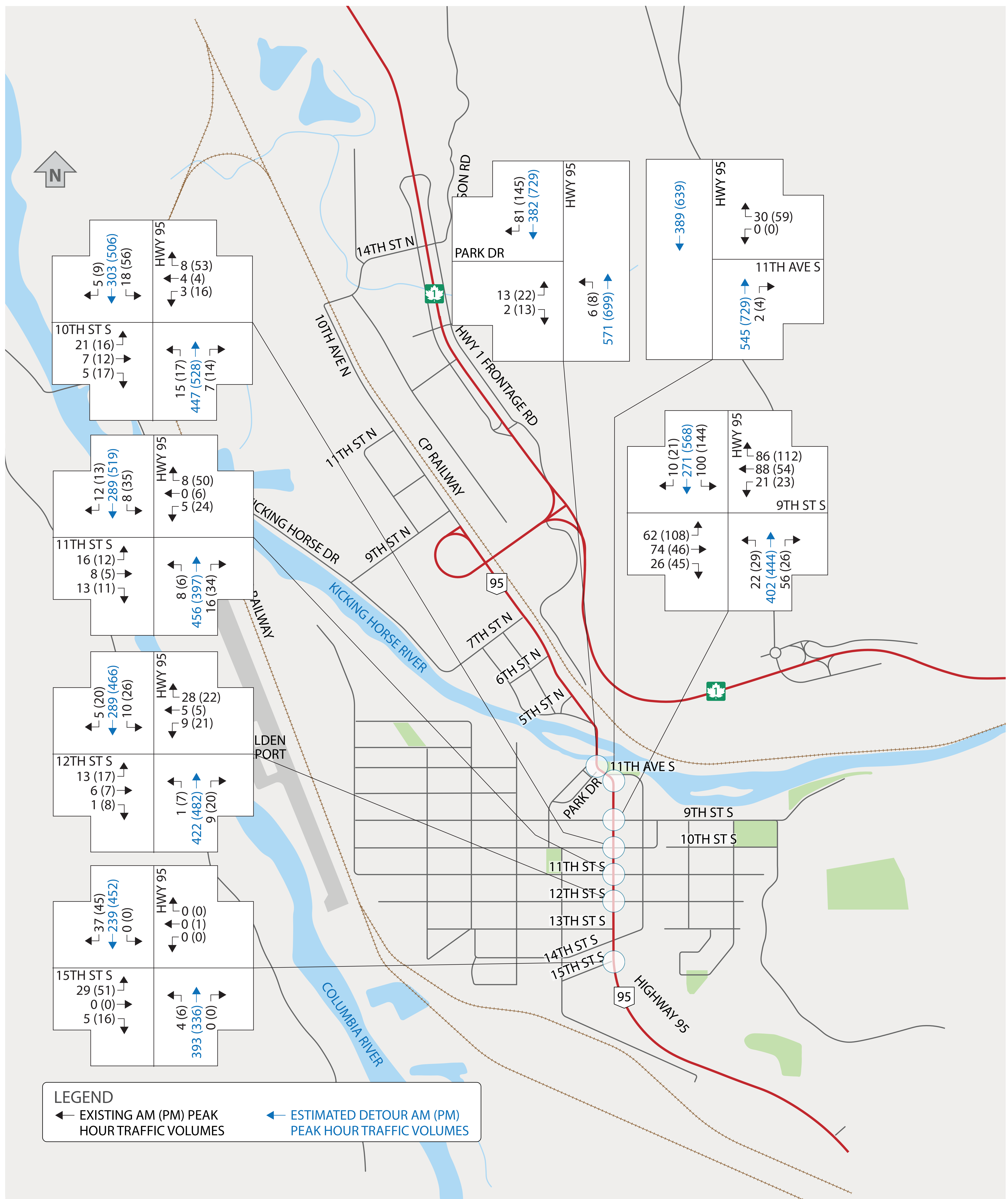


Keeping in Touch

- Complete a comment form
 - We welcome your ongoing input
- Reach us directly:
 - Visit www.kickinghorsecanyon.ca for the latest information
 - Email us at KHCPAdmin@gov.bc.ca
 - Call us at **778-940-0711**



North of River



Traffic Volumes

South of River

