Bridge River Capital Projects:
La Joie Access and Accommodation Study

Upper Bridge River Valley, Virtual Open House – June 2024

BC Hydro
Power smart

Spring 2024 Virtual Open House

La Joie Access & Accommodation Study
BC Hydro Bridge River Capital Projects

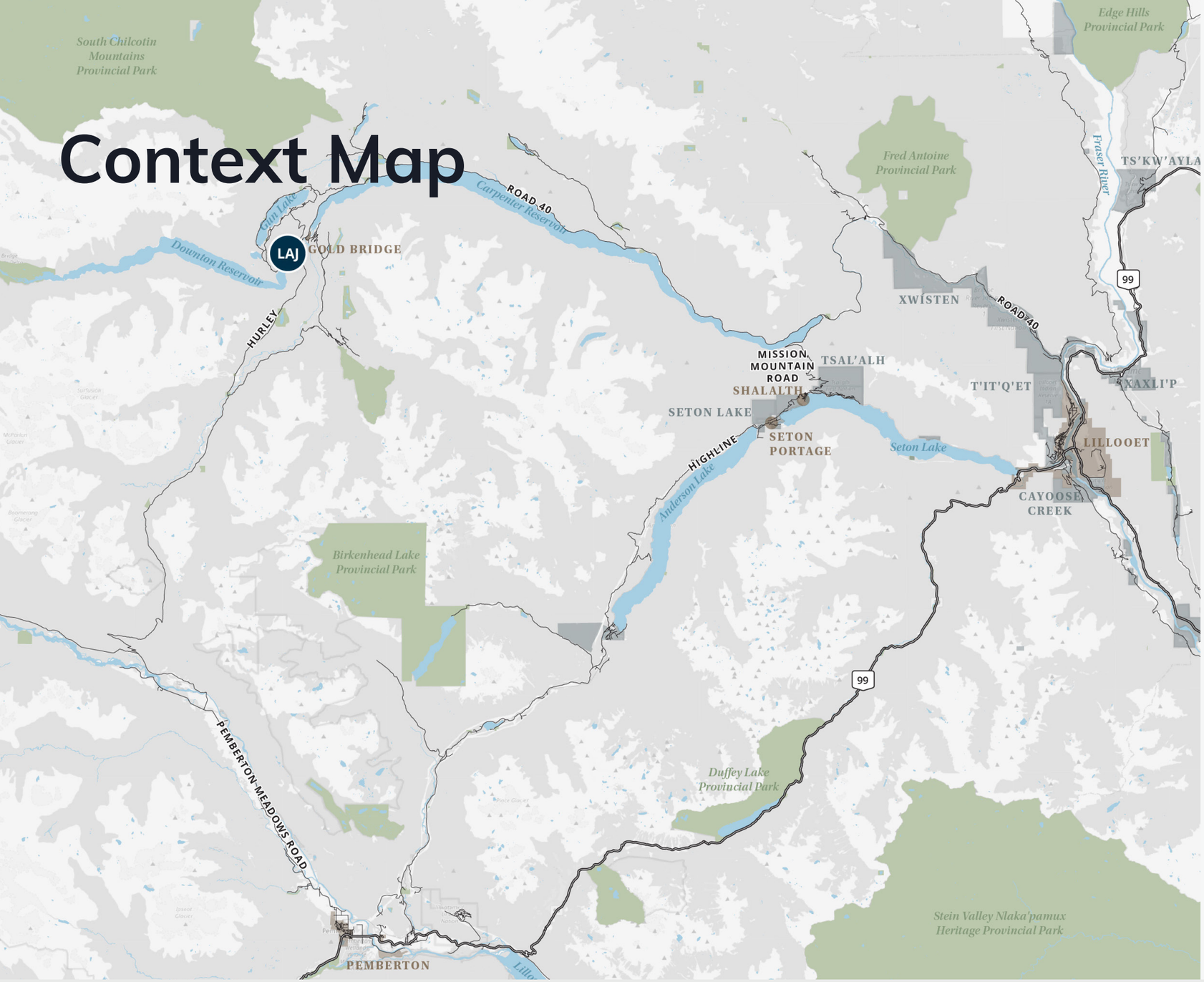
June 2024

Agenda

1. Study Overview
2. Evaluation Framework
3. Integrating Your Feedback
4. Draft Emerging Options
5. Next Steps

1 Study Overview

Context Map



Legend

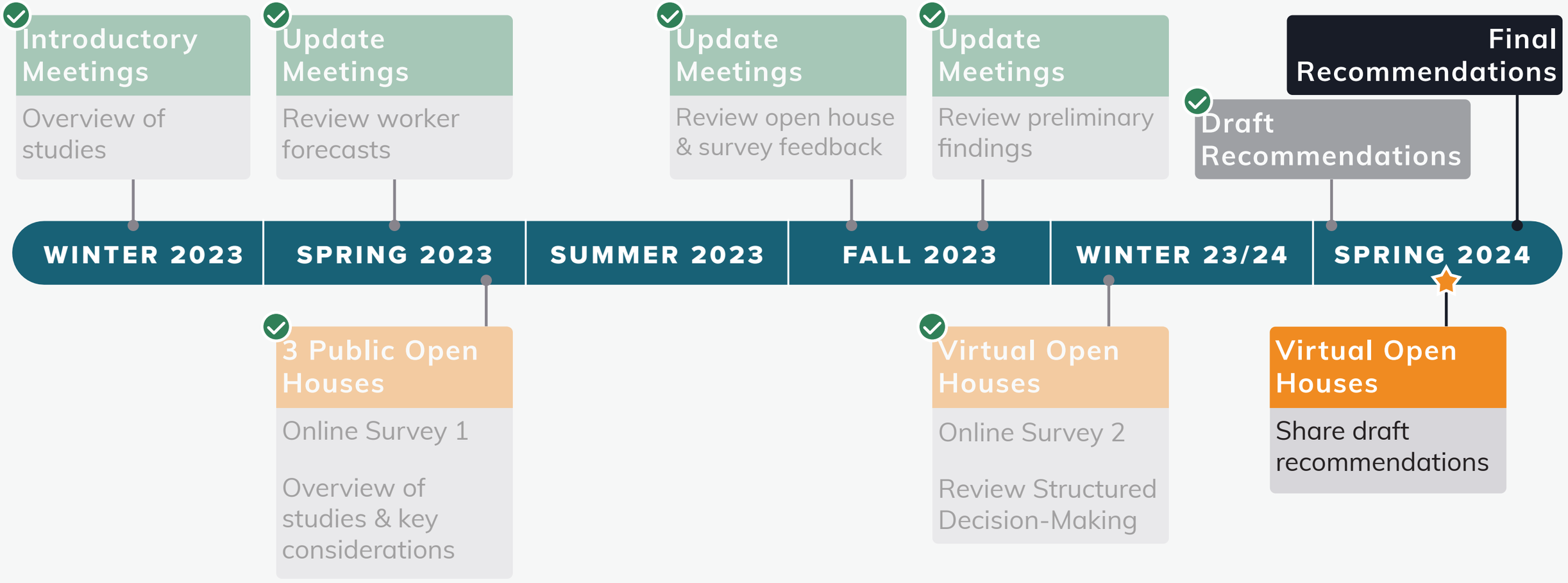
Lands & Transportation

- Provincial Parks
- Waterbodies
- Provincial Highway
- Regional Roadway

BC Hydro Facilities

- LAJ — La Joie Dam

Study Timeline



How Information Will Be Used

- This study represents a baseline of information and conceptual level analysis of options
- BC Hydro will complete further feasibility studies on leading options and recommendations
- As projects advance, BC Hydro will integrate new information and consider implementation planning

Engagement Activities (Phases 1 & 2)

Community Surveys

SURVEY 1

71

Responses

SURVEY 2

233

Responses

St’át’imc Nation Consultation

Stakeholder Meetings & Calls

Public Open Houses

2

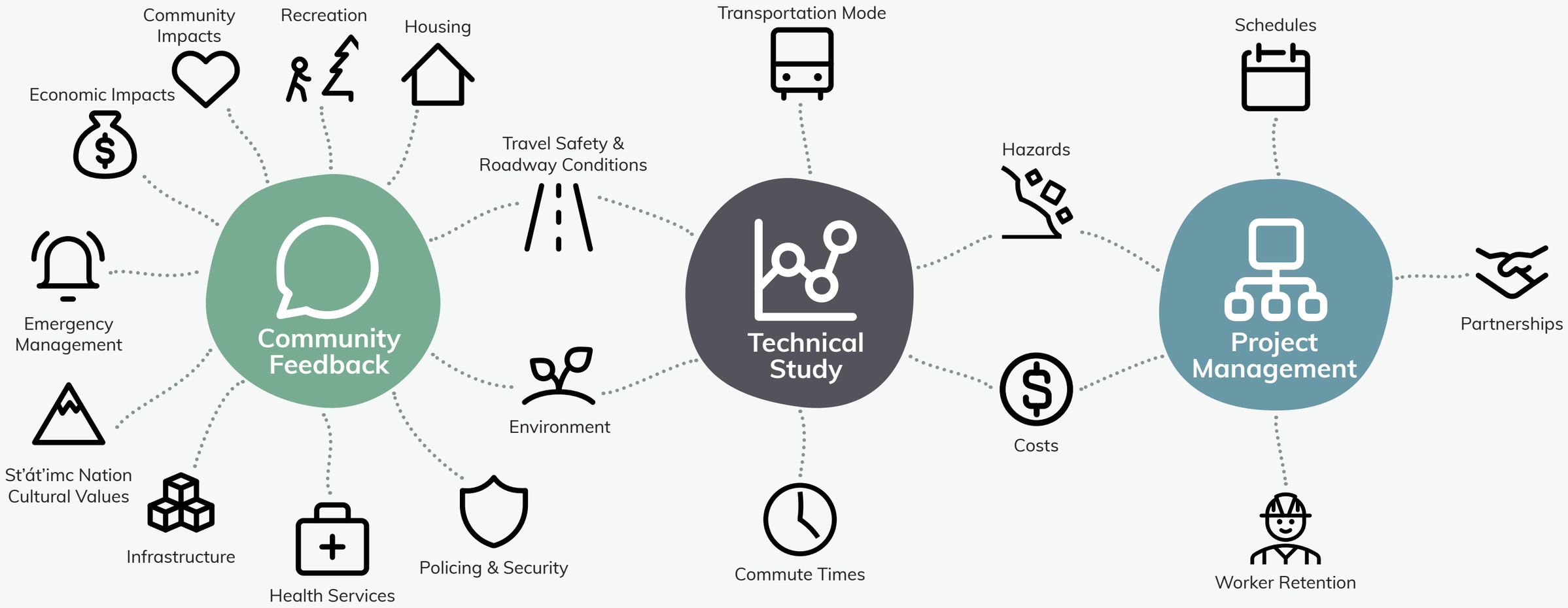
In-Person

3

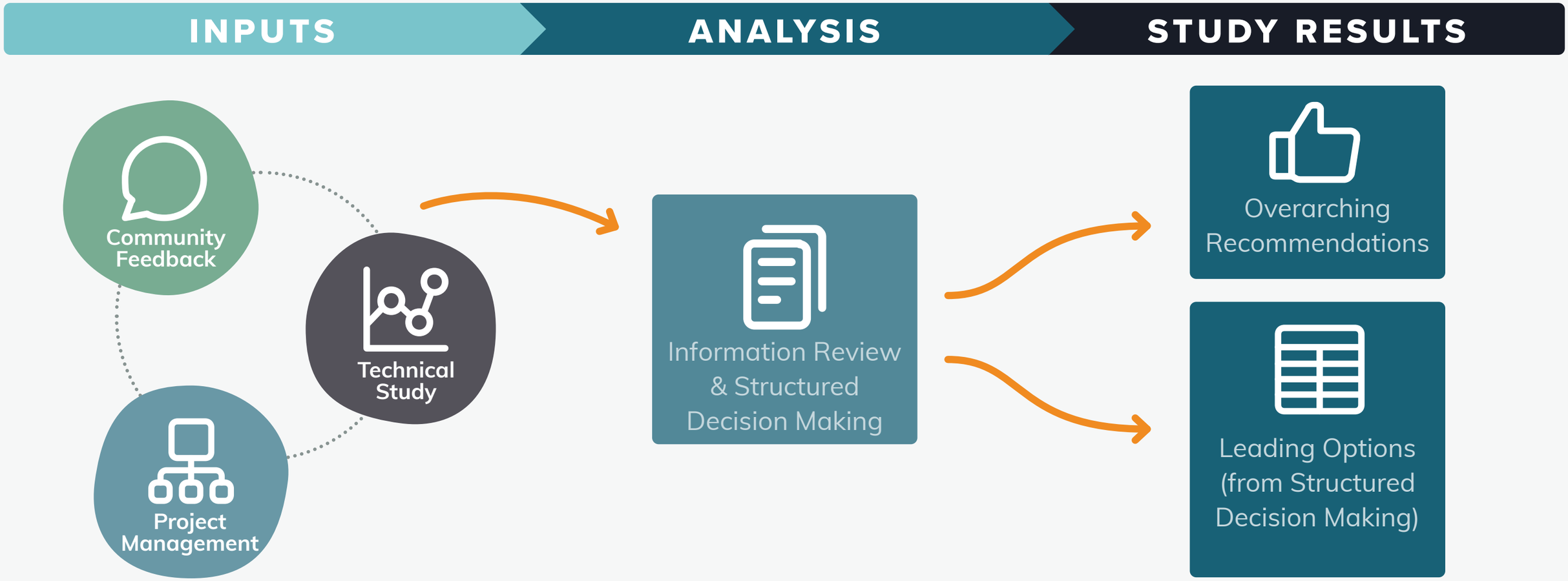
Virtual

2 Evaluation Framework

Study Inputs



Evaluation Process



Study Results

Overarching Recommendations

- Informed by technical data as well as St’át’imc, stakeholder, and public feedback
- Evaluated for implementation no matter which option is chosen

Example - Mitigating impacts to recreation amenities

Since the use of recreation amenities will occur no matter which option is selected, we have included recommendations for the Worker Code of Conduct and other tools to ensure recreation areas are used responsibly and environmentally sensitive areas are protected from overuse.

Study Results

SDM Objectives & Measures

- Informed by technical data as well as St’át’imc, stakeholder, and public feedback
- These **are differentiators** between potential options - concerns that help to choose between options
- Are used to **compare** each option’s benefits and trade-offs

Example - Accommodation Costs

Each option presents different associated costs. These differences are used to compare the options

3 Integrating Your Feedback

St’át’imc Nation, Stakeholder, & Public Engagement

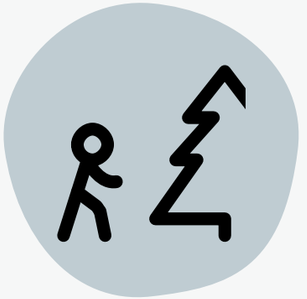
KEY THEMES

Travel Safety & Roadway Conditions

Housing

Community Impacts

Environment



Recreation

Emergency Management

St’át’imc Nation Cultural Values

Infrastructure

Economic Impacts

Health Services

Policing & Security

Travel Safety & Roadway Conditions

WHAT WE HEARD

- Unsafe driver behaviour
- Worsening roadway conditions and geohazards (rockfall, debris, etc.)
- Increased roadway incidents
- Road closures and slower travel times

> "The road condition is already pretty bad getting in and out of the Upper BRV, this is inevitably going to be worse with the increased traffic. In saying that, **we do not want the Hurley paved**. Ever."

Quote from Phase 2 survey

> "More traffic on Road 40 would not be a positive impact however, if the **Hurley F.S.R** were to be **opened up year round that would be fantastic**."

Quote from Phase 2 survey

Travel Safety & Roadway Conditions
INTEGRATING FEEDBACK

Overarching Recommendations

- Shuttle buses for transporting workers
- Worker Code of Conduct including safe driving practices
- Local communication regarding project traffic
- Road surfacing
- Geohazard mitigations (roadside barriers, scaling, drape mesh, etc.)

SDM Objectives

- Minimize increase in traffic on main and residential roadways
- Minimize project related traffic on the road networks
- Minimize risk to road user safety due to increased traffic

Housing

WHAT WE HEARD

- Increased rental and housing prices
- Limited rental and housing availability
- Exacerbated homelessness

"I live in Gold Bridge. It is **very hard to find accommodation for rent**, almost impossible. There is also a huge lack of property to purchase."

Quote from Phase 2 survey

"**Rental prices and hotel rates will increase** which will impact locals and **discourage tourism** which we have been working for years to encourage."

Quote from Phase 2 survey

Housing
INTEGRATING FEEDBACK

Overarching Recommendations

- Avoid relying solely on private accommodations for worker accommodations
- Monitor the private accommodation market

**Many concerns regarding impacts to housing are mitigated through the use of a work camp to accommodate the temporary workforce throughout the project*

Community Impact

WHAT WE HEARD

- Safety for women and girls
- Damage to infrastructure and local amenities
- Opportunities for new positive social connections
- Noise, nuisance, and disorderly conduct incidents
- Employment opportunities for locals

"It will be nice to have an influx of different people and enjoy their stories and **share our valley with them**."

Quote from Phase 2 survey

"A **signed Code of Conduct** for the workforce reviewed and **signed on a yearly basis**. It should state the outcomes of bad behavior in the community."

Quote from Phase 2 survey

Community Impact

INTEGRATING FEEDBACK

Overarching Recommendations

- Develop ongoing communication strategy
- Dust mitigation
- Worker Code of Conduct
- Coordination with local service providers

SDM Objectives

- Minimize noise and nuisance due to project traffic in residential areas
- Minimize camp visibility and aesthetic impact

Environment

WHAT WE HEARD

- Impact to wildlife and wildlife habitat
- Disturbance of natural environment
- Respect for land, local environment, and wildlife
- Impact to environmental recovery following wildfires

"Consideration to **wildlife** already impacted by **reduced habitat from forest fires**."

Quote from Phase 2 survey

"Impact of invasive plant species on area... will require **invasive species control and monitoring** during and after project completion."

Quote from Phase 2 survey

Environment

INTEGRATING FEEDBACK

Overarching Recommendations

- Invasive Species Management Plan
- Post-construction site re-vegetation
- Worker Code of Conduct

SDM Objectives

- Minimize proximity to environmentally sensitive areas
- Minimize clearing of trees required for work camp

**Environmental screening through desktop review is currently ongoing and will be incorporated into the evaluations when completed.*

Recreation
WHAT WE HEARD

- Overuse of existing recreation amenities
- Unauthorized trail use and trail building
- Vandalism and litter

"Putting workers closer to **trails** is great for them but our **committee that manages those trails is small** and will need help with the influx of people."

Quote from Phase 2 survey

"There needs to be some arrangement between local trails committee and BC Hydro to **support maintenance of our outdoor recreation spaces**."

Quote from Phase 2 survey

Recreation
INTEGRATING FEEDBACK

Overarching Recommendations

- Worker Code of Conduct
- Communication regarding appropriate use of recreation amenities
- Recreation facilities will be available in work camp for workers

Emergency Management

WHAT WE HEARD

- Emergency management planning, including evacuation planning
- Emergency response capacity, especially in remote areas

"The **rescue teams need additional resources** to respond to increased traffic. Accidents shut down the road for a long period of time."

Quote from Phase 2 survey

"Minimal to no emergency communication and **emergency response time from centers is lengthy**."

Quote from Phase 2 survey

Emergency Management
INTEGRATING FEEDBACK

Overarching Recommendations

- Emergency management planning for access and accommodation (with consideration for wildfires, wildlife encounters, domestic animal encounters, and large-scale evacuation planning)
- Planning sessions with local authorities

SDM Objectives

- Minimize worker travel time
- Provide route redundancy

St’át’imc Nation Cultural Values

WHAT WE HEARD

- Lack of cultural awareness among workers
- Disturbance of cultural and spiritual sites
- Disturbance of areas used for traditional activities
- Impact on Indigenous women and girls

“Our Indigenous population is vulnerable and there should be **cultural training** provided to the Hydro workers.”

Quote from Phase 2 survey

“Our **First Nation communities** and members should be **key benefactors** and be provided **meaningful engagement and consultation** on decisions.”

Quote from Phase 2 survey

St’át’imc Nation Cultural Values
INTEGRATING FEEDBACK

Overarching Recommendations

- Cultural awareness training
- Coordination with local social service organizations

SDM Objectives

- Minimize proximity to environmentally sensitive areas
- Minimize clearing of trees required for work camp
- Minimize impacts to cultural and socio-economic values

Infrastructure

WHAT WE HEARD

- Some infrastructure either near or at capacity
- Further strain on services
- Increased costs for services for locals

"**Limited amounts of potable water** for additional housing."

Quote from Phase 2 survey

"Our infrastructure is barely able to cope with the current demand and will need to be addressed. **Water, sewage, garbage, provisions etc. will be impacted**."

Quote from Phase 2 survey

Infrastructure
INTEGRATING FEEDBACK

Overarching Recommendations

- Coordination with Lillooet Landfill
- Assessment and mitigation of project infrastructure needs

**Work camp is expected to include self-contained water and sewer.*

Economic Impacts

WHAT WE HEARD

- Ability of businesses to adapt to changes in demand
- Support for local businesses

"**More people** in the Valley the better. **Positive business development**."

Quote from Phase 2 survey

"Hosting incoming workers in the area would help to **stimulate the local economy** within the Bridge River Valley."

Quote from Phase 2 survey

Economic Impacts
INTEGRATING FEEDBACK

Overarching Recommendations

- Communicate employment opportunities to local community members
- Communicate with local businesses regarding fluctuations in service demand

Health Services
WHAT WE HEARD

- Strained hospital services
- Limited first responder capacity, especially for remote areas

"The biggest problem is the **fluctuations** … from **high demand to very low demand** … so it is difficult to provide support services for example health services."

Quote from Phase 2 survey

"Medical services would be one thing that I would be worried about as right now our local **hospital … [is] strained to the hilt**."

Quote from Phase 2 survey

Health Services
INTEGRATING FEEDBACK

Overarching Recommendations

- Consider employing a qualified medical professional to address and triage minor injuries at work site
- Encourage workers to refill prescriptions before coming to the region
- Ensure workers are able to consult virtually with their family doctor

Policing & Security
WHAT WE HEARD

- Added strain on RCMP services
- Increased policing on roadways

> "Rd. 40 … needs **policing** to ensure ALL drivers are **driving to road conditions** and on their side of the road, slowing down and crawling if necessary."

Quote from Phase 2 survey

> "There is currently no police presence, the **closest RCMP detachments being Lillooet and Pemberton**; the impact of 250-500 workers will be significant on Gold Bridge."

Quote from Phase 2 survey

Policing & Security
INTEGRATING FEEDBACK

Overarching Recommendations

- Worker Code of Conduct
- Planning sessions with local RCMP

4 Draft Emerging Options

Options Considered

ROADWAYS

- Road 40 (Lillooet to Gold Bridge)
- Hurley FSR (Pemberton to Gold Bridge)

AIR

- Gun Lake airstrip
- Fixed wing and helicopter

Options Considered
ACCESS

Highway 40

- 15-16% increase in vehicle volumes (average of ~50 project-related vehicles per day)
- Workers are assumed to travel by 10-person shuttle vans
- Localized geohazard mitigations

Hurley FSR

- 17% increase in vehicle volumes (average of ~50 project-related vehicles per day)
- Workers are assumed to travel by 10-person shuttle vans
- All-season road upgrades
- Winter access - only for duration of project
- Investigating options for controlling public use/ access

Airplane

- 37 passenger capacity
- 3-4 round-trip flights per week, split over 2 days
- Supplies and equipment move by road
- Airstrip upgrades

Helicopter

- 10 passenger capacity
- 8-14 round-trip flights per week
- Supplies and equipment move by road

Options Considered
ACCESS

Highway 40

- 15-16% increase in vehicle volumes (average of ~50 project-related vehicles per day)
- Workers are assumed to travel by 10-person shuttle vans
- Localized geohazard mitigations

Hurley FSR

- 17% increase in vehicle volumes (average of ~50 project-related vehicles per day)
- Workers are assumed to travel by 10-person shuttle vans
- All-season road upgrades
- Winter access - only for duration of project
- Investigating options for controlling public use/ access

Airplane

- 37 passenger capacity
- 3-4 round-trip flights per week, split over 2 days
- Supplies and equipment move by road
- Airstrip upgrades

Helicopter

- 10 passenger capacity
- 8-14 round-trip flights per week
- Supplies and equipment move by road

**Initial evaluation showed the use of helicopters to be ill-suited as the primary mode of transporting workers due to overall cost, reliability, and potential for nuisance. It is no longer being evaluated as a primary option.*

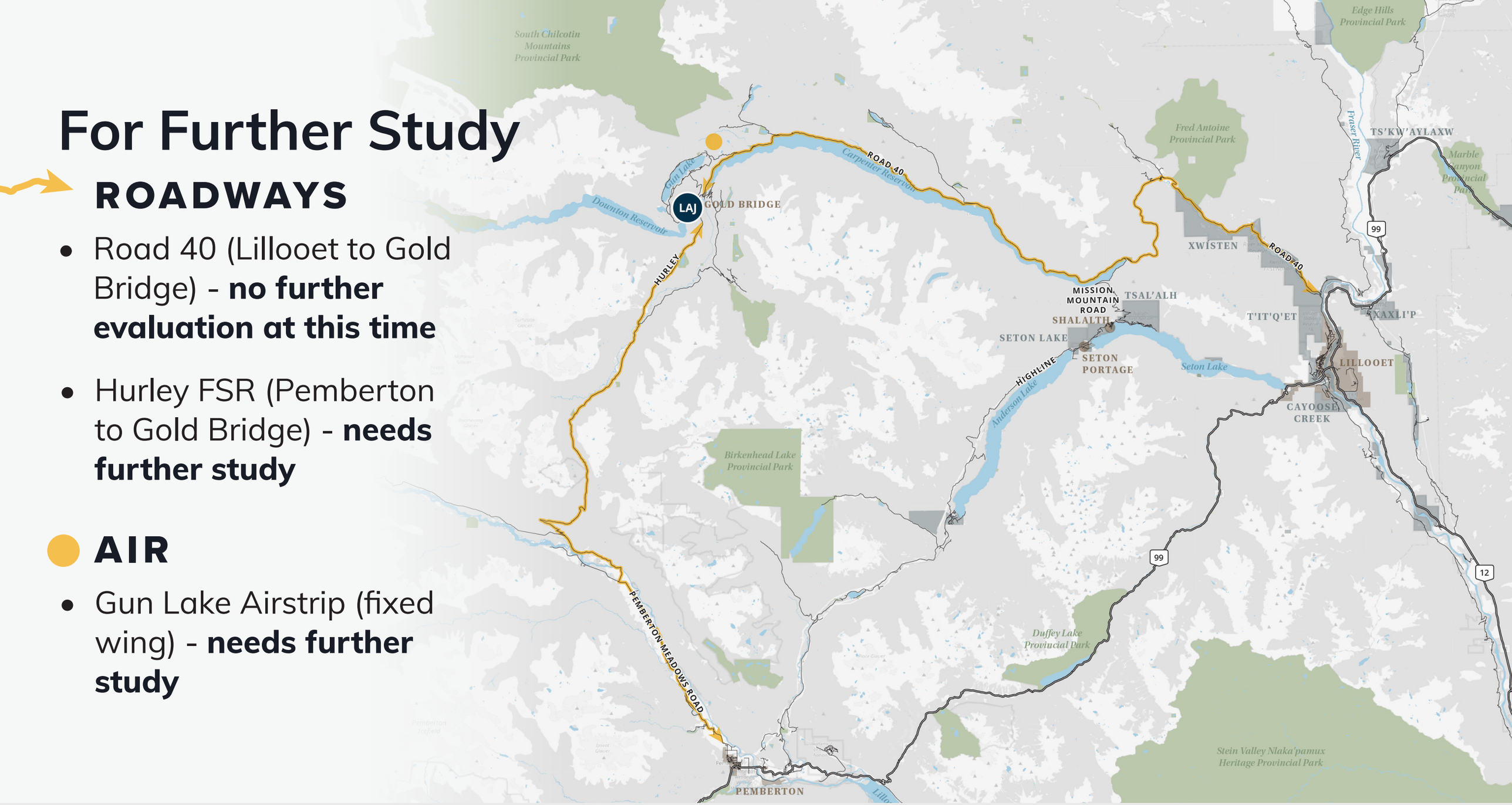
For Further Study

ROADWAYS

- Road 40 (Lillooet to Gold Bridge) - **no further evaluation at this time**
- Hurley FSR (Pemberton to Gold Bridge) - **needs further study**

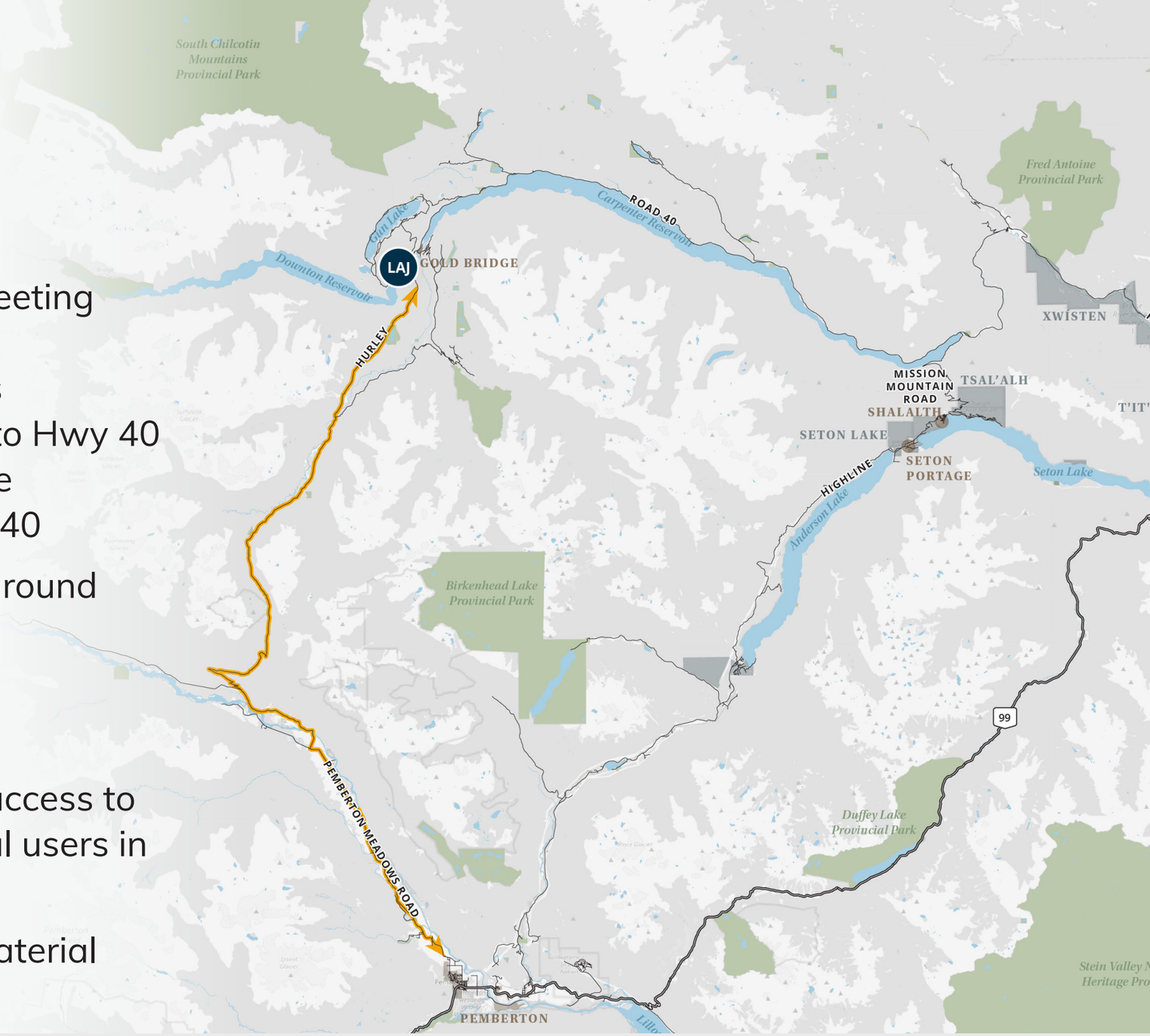
AIR

- Gun Lake Airstrip (fixed wing) - **needs further study**



Key Considerations
HURLEY FSR - ACCESS

- Provides access redundancy - critical to meeting tight construction windows
- Significantly less exposure to geohazards
- Less exposure to collision risk compared to Hwy 40
- Lower travel costs (travel time and vehicle operating costs) compared to using Hwy 40
- Major upgrades required to support year-round project access
- Cost associated with maintaining access throughout winter months
- Investigate options for managing public access to mitigate impacts from potential additional users in the area
- Further analysis regarding worker and material point of origin



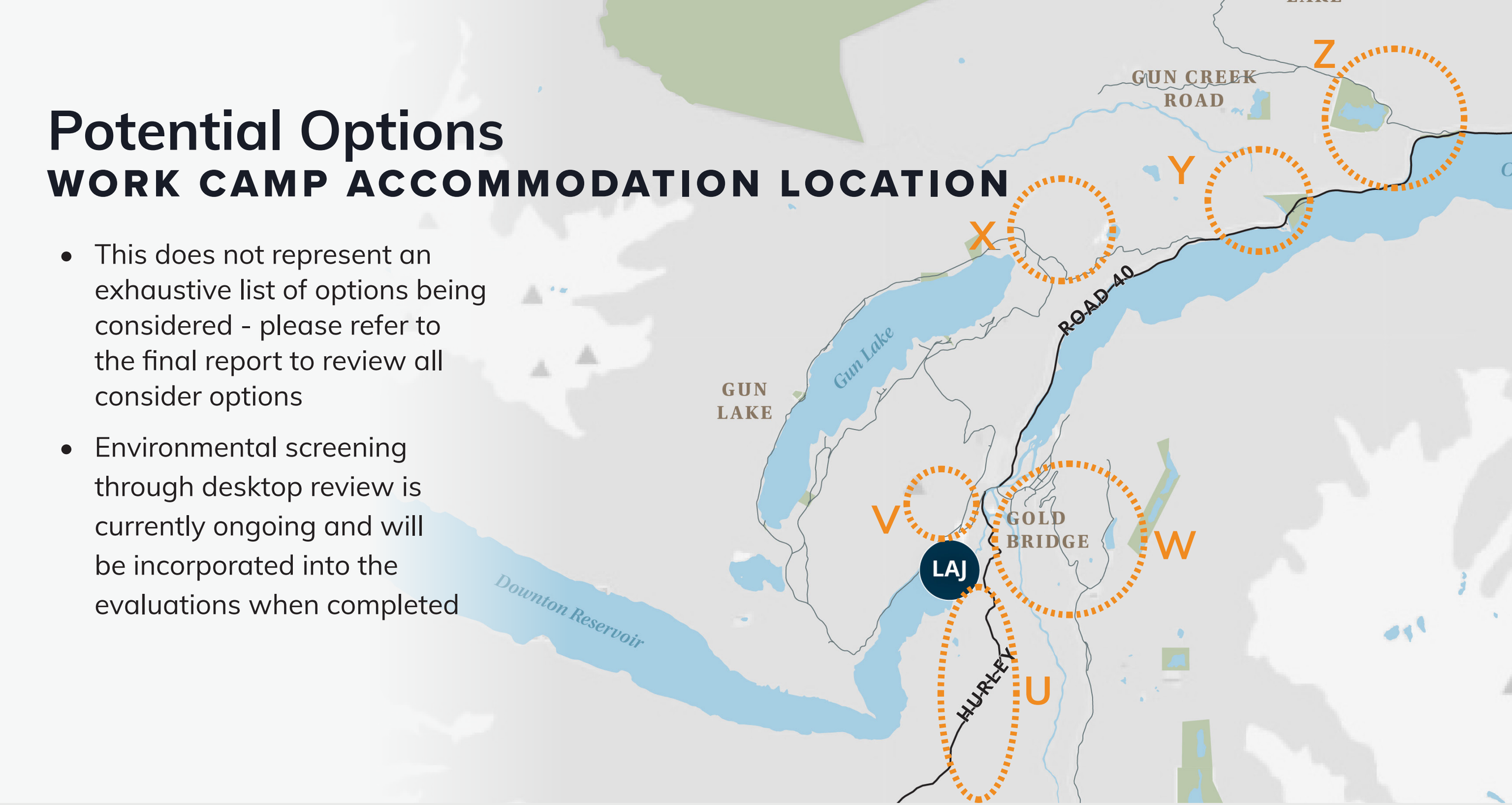
Key Considerations

AIRPLANE - ACCESS

- Provides access redundancy
- Reduces traffic on roadways
- Less exposure to geohazard and collision risks compared to roadways
- Reduced travel time
- Positive worker retention impact due to reduced travel time
- Fewer flights compared to helicopter
- Major upgrades required
- Potential noise and disturbance to community
- Constraints on use of airplane due to visual flight rules only
- **Needs further study to determine number of flyable days**

Potential Options
WORK CAMP ACCOMMODATION LOCATION

- This does not represent an exhaustive list of options being considered - please refer to the final report to review all consider options
- Environmental screening through desktop review is currently ongoing and will be incorporated into the evaluations when completed



Potential Option U
WORK CAMP ACCOMMODATION LOCATION

Benefits

- Lower travel time for workers
- Fewer residences nearby
- Less project-related traffic on Hwy 40 and near residences
- Less visible / more private location

Trade-Offs

- More disturbance to workers
- More site preparation

Potential Option V
WORK CAMP ACCOMMODATION LOCATION

Benefits

- Lower travel time for workers
- Existing roads are in fair condition
- Fewer residences nearby
- Less project-related traffic near residences
- Lower road maintenance costs

Trade-Offs

- More site preparation
- Tree clearing required
- More visible / less private location

Potential Option W
WORK CAMP ACCOMMODATION LOCATION

Benefits

- Lower travel time for workers
- Existing roads are in fair condition
- Less tree clearing required

Trade-Offs

- More residences near work camp
- More visible / less private location
- More site preparation

Potential Option X
WORK CAMP ACCOMMODATION LOCATION

Benefits
- Less visible / more private location
- Less site preparation

Trade-Offs: Saddle Rd Access
- More project-related traffic close to residences (approx. 20)
- Road upgrades required
- Tree clearing required

Trade-Offs: Gun Lake Rd Access
- More project-related traffic close to residences (approx. 120)
- Tree clearing required

Potential Option Y
WORK CAMP ACCOMMODATION LOCATION

Benefits

- Fewer residents near work camp
- Less project-related traffic close to residences
- Existing roads are in fair condition

Trade-Offs

- More visible / less private location
- Longer daily commuting time
- More project-related traffic on Road 40

Potential Option Z
WORK CAMP ACCOMMODATION LOCATION

Benefits

- Fewer residences near work camp
- Less project-related traffic near residences
- Existing roads are in good condition
- Less visible / more private location

Trade-Offs

- Longer daily commute time
- More project-related traffic on Road 40

5 Next Steps

Next Steps


FINALIZE STUDY
SUBMIT RECOMMENDATIONS
RELEASE REPORT
IMPLEMENT RECOMMENDATIONS

Report Recommendations Format

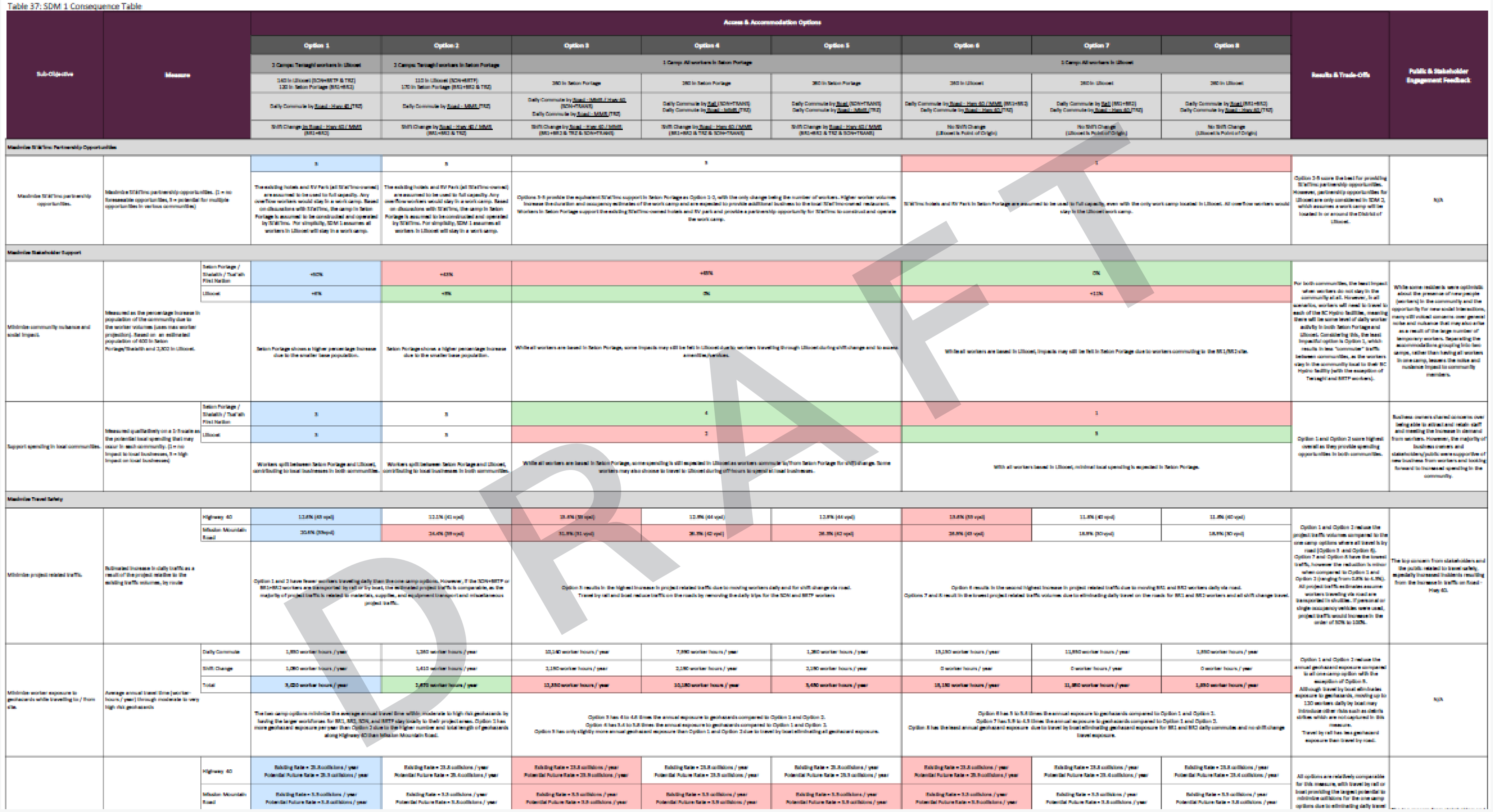
Overarching Recommendations

Structured Decision Making Objectives & Measures

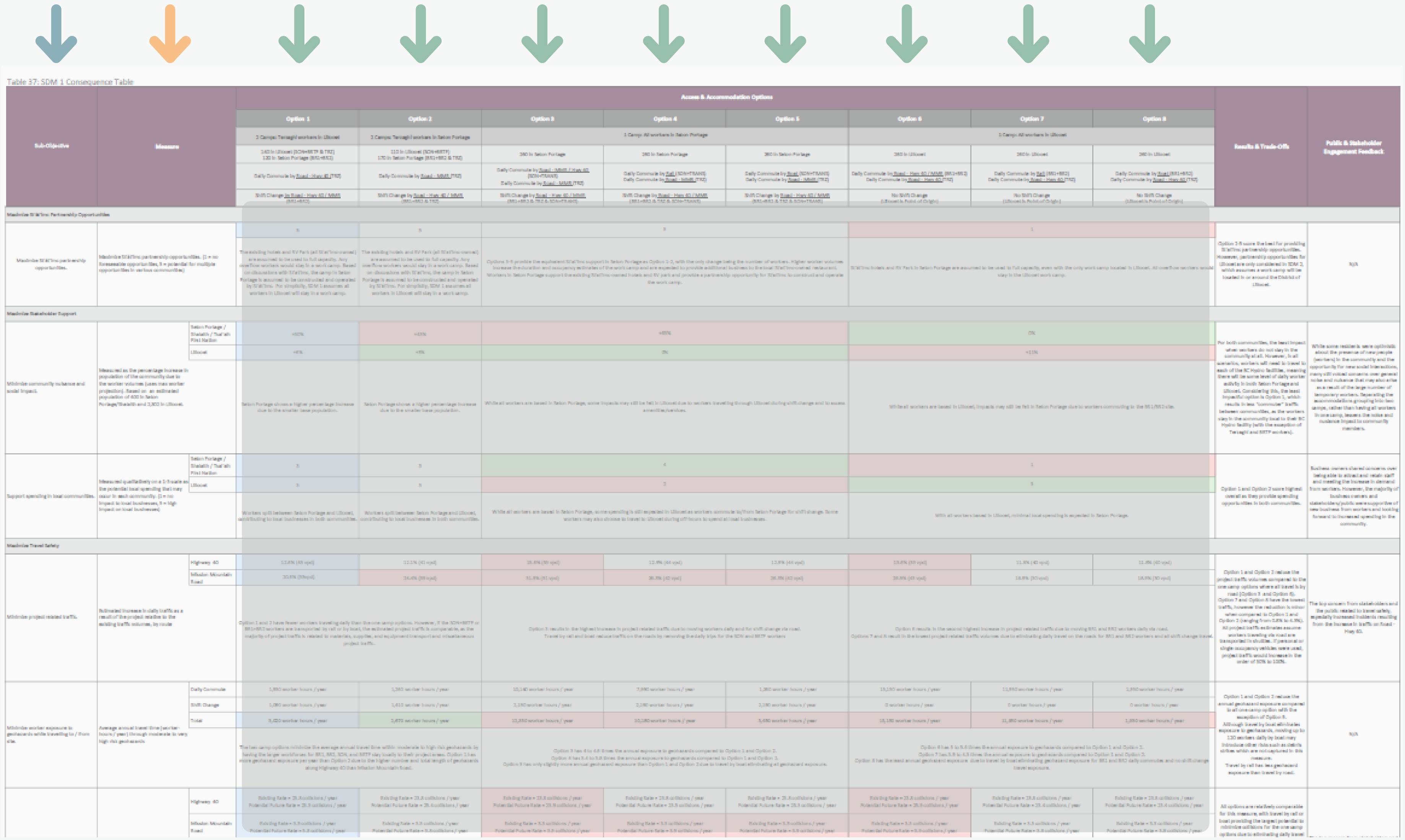
Using the Structured Decision Making (SDM) Tables

The table is for descriptive purposes only. The final tables will be posted on the BC Hydro website.

Table 37: SDM 1 Consequence Table



Using the Structured Decision Making (SDM) Tables



options

objectives

measures

scoring

Using the Structured Decision Making (SDM) Tables

SCORING

Base Option for Comparison

Table 37: SDM 1 Consequence Table

Sub-Objective	Measure		Access & Accommodation Options								Results & Trade-Offs	Public & Stakeholder Engagement Feedback
			Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8		
			2 Camps: Terrace/Prince Rupert workers in Ucluelet	2 Camps: Terrace/Prince Rupert workers in Seton Portage	1 Camp: All workers in Seton Portage			1 Camp: All workers in Ucluelet				
			140 in Ucluelet (SCN+RSTP & TTZ) 130 in Seton Portage (RR1+RR2)	113 in Ucluelet (SCN+RSTP) 170 in Seton Portage (RR1+RR2 & TTZ)	283 in Seton Portage	283 in Seton Portage	283 in Seton Portage	283 in Ucluelet	283 in Ucluelet	283 in Ucluelet		
			Daily Commute by Road - Hwy 40 (TTZ)	Daily Commute by Road - MMR (TTZ)	Daily Commute by Road - Hwy 40 / MMR (SCN+TRANS) Daily Commute by Road - MMR (TTZ)	Daily Commute by Rail (SCN+TRANS) Daily Commute by Road - MMR (TTZ)	Daily Commute by Road (SCN+TRANS) Daily Commute by Road - MMR (TTZ)	Daily Commute by Road - Hwy 40 / MMR (RR1+RR2 & TTZ) Daily Commute by Road - Hwy 40 (TTZ)	Daily Commute by Rail (RR1+RR2) Daily Commute by Road - Hwy 40 (TTZ)	Daily Commute by Road (RR1+RR2) Daily Commute by Road - Hwy 40 (TTZ)		
			Shift Change by Road - Hwy 40 / MMR (RR1+RR2)	Shift Change by Road - Hwy 40 / MMR (RR1+RR2 & TTZ)	Shift Change by Road - Hwy 40 / MMR (RR1+RR2 & TTZ & SCN+TRANS)	Shift Change by Road - Hwy 40 / MMR (RR1+RR2 & TTZ & SCN+TRANS)	Shift Change by Road - Hwy 40 / MMR (RR1+RR2 & TTZ & SCN+TRANS)	No Shift Change (Ucluelet is Point of Origin)	No Shift Change (Ucluelet is Point of Origin)	No Shift Change (Ucluelet is Point of Origin)		
Mainline BC Hydro Partnership Opportunities												
Mainline BC Hydro partnership opportunities.	Mainline BC Hydro partnership opportunities. (1 = no foreseeable opportunities, 5 = potential for multiple opportunities in various communities)		3 The existing hotels and RV Park (all BC Hydro owned) are assumed to be used to full capacity. Any overflow workers would stay in a work camp. Based on discussions with BC Hydro, the camp in Seton Portage is assumed to be constructed and operated by BC Hydro. For simplicity, SDM 1 assumes all workers in Ucluelet will stay in a work camp.	3 The existing hotels and RV Park (all BC Hydro owned) are assumed to be used to full capacity. Any overflow workers would stay in a work camp. Based on discussions with BC Hydro, the camp in Seton Portage is assumed to be constructed and operated by BC Hydro. For simplicity, SDM 1 assumes all workers in Ucluelet will stay in a work camp.	3 Options 3-5 provide the equivalent BC Hydro support in Seton Portage as Option 1-2, with the only change being the number of workers. Higher worker volumes increase the duration and occupancy attributes of the work camp and are expected to provide additional business to the local BC Hydro-owned restaurant. Workers in Seton Portage support the existing BC Hydro-owned hotels and RV park and provide a partnership opportunity for BC Hydro to construct and operate the work camp.			1 BC Hydro hotels and RV Park in Seton Portage are assumed to be used to full capacity, even with the only work camp located in Ucluelet. All overflow workers would stay in the Ucluelet work camp.			Option 3-5 score the best for providing BC Hydro partnership opportunities. However, partnership opportunities for Ucluelet are only considered in SDM 1, which assumes a work camp will be located in or around the District of Ucluelet.	N/A
Mainline Stakeholder Support												
Mainline community nuisance and social impact.	Measured as the percentage increase in population of the community due to the worker volumes (uses max worker projection). Based on an estimated population of 400 in Seton Portage/Shalalth and 1,900 in Ucluelet.	Seton Portage / Shalalth / Tsal'ah First Nation	+92% Seton Portage shows a higher percentage increase due to the smaller base population.	+45% Seton Portage shows a higher percentage increase due to the smaller base population.	+45% While all workers are based in Seton Portage, some impacts may still be felt in Ucluelet due to workers traveling through Ucluelet during shift change and to access amenities/services.			0% While all workers are based in Ucluelet, impacts may still be felt in Seton Portage due to workers commuting to the RR1/RR2 site.			For both communities, the least impact when workers do not stay in the community at all. However, in all scenarios, workers will need to travel to each of the BC Hydro facilities, meaning there will be some level of daily worker mobility in both Seton Portage and Ucluelet. Considering this, the least impactful option is Option 1, which results in less "commuter" traffic between communities, as the workers stay in the community local to their BC Hydro facility (with the exception of Terrace and RR1 workers).	While some residents were optimistic about the presence of new people (workers) in the community and the opportunity for new social interactions, many still voiced concerns over general noise and nuisance that may also arise as a result of the large number of temporary workers. Separating the accommodations grouping into two camps, rather than having all workers in one camp, lessens the noise and nuisance impact to community members.
		Ucluelet	+4% Seton Portage shows a higher percentage increase due to the smaller base population.	+4% Seton Portage shows a higher percentage increase due to the smaller base population.	0% While all workers are based in Seton Portage, some impacts may still be felt in Ucluelet due to workers traveling through Ucluelet during shift change and to access amenities/services.			+11% While all workers are based in Ucluelet, impacts may still be felt in Seton Portage due to workers commuting to the RR1/RR2 site.				
Support spending in local communities.	Measured qualitatively on a 1-5 scale on the potential local spending that may occur in each community. (1 = no impact in local businesses, 5 = high impact on local businesses)	Seton Portage / Shalalth / Tsal'ah First Nation	3 Workers split between Seton Portage and Ucluelet, contributing to local businesses in both communities.	3 Workers split between Seton Portage and Ucluelet, contributing to local businesses in both communities.	4 While all workers are based in Seton Portage, some spending is still expected in Ucluelet as workers commute to/from Seton Portage for shift change. Some workers may also choose to travel to Ucluelet during off-hours to spend at local businesses.			1 With all workers based in Ucluelet, minimal local spending is expected in Seton Portage.			Option 1 and Option 2 score highest overall as they provide spending opportunities in both communities.	Business owners shared concerns over being able to attract and retain staff and meeting the increase in demand from workers. However, the majority of business owners and stakeholder/public were supportive of new business from workers and looking forward to increased spending in the community.
		Ucluelet	3 Workers split between Seton Portage and Ucluelet, contributing to local businesses in both communities.	3 Workers split between Seton Portage and Ucluelet, contributing to local businesses in both communities.	2 While all workers are based in Seton Portage, some spending is still expected in Ucluelet as workers commute to/from Seton Portage for shift change. Some workers may also choose to travel to Ucluelet during off-hours to spend at local businesses.			3 With all workers based in Ucluelet, minimal local spending is expected in Seton Portage.				
Mainline Travel Safety												
Mainline project related traffic.	Estimated increase in daily traffic as a result of the project relative to the existing traffic volumes, by route	Highway 40	13.8% (49 vph) Option 1 and 2 have fewer workers traveling daily than the one camp options. However, if the SCN+RSTP or RR1+RR2 workers are transported by rail or by boat, the estimated project traffic is comparable, as the majority of project traffic is related to materials, supplies, and equipment transport and miscellaneous project traffic.	13.1% (41 vph) Option 1 and 2 have fewer workers traveling daily than the one camp options. However, if the SCN+RSTP or RR1+RR2 workers are transported by rail or by boat, the estimated project traffic is comparable, as the majority of project traffic is related to materials, supplies, and equipment transport and miscellaneous project traffic.	15.6% (55 vph) Option 3 results in the highest increase in project related traffic due to moving workers daily and for shift change via road. Travel by rail and boat reduce traffic on the roads by removing the daily trips for the SCN and RSTP workers	13.9% (44 vph) Option 3 results in the highest increase in project related traffic due to moving workers daily and for shift change via road. Travel by rail and boat reduce traffic on the roads by removing the daily trips for the SCN and RSTP workers	13.9% (44 vph) Option 3 results in the highest increase in project related traffic due to moving workers daily and for shift change via road. Travel by rail and boat reduce traffic on the roads by removing the daily trips for the SCN and RSTP workers	15.6% (55 vph) Option 4 results in the second highest increase in project related traffic due to moving RR1 and RR2 workers daily via road. Options 7 and 8 result in the lowest project related traffic volumes due to eliminating daily travel on the roads for RR1 and RR2 workers and all shift change travel.	11.8% (42 vph) Option 4 results in the second highest increase in project related traffic due to moving RR1 and RR2 workers daily via road. Options 7 and 8 result in the lowest project related traffic volumes due to eliminating daily travel on the roads for RR1 and RR2 workers and all shift change travel.	11.8% (42 vph) Option 4 results in the second highest increase in project related traffic due to moving RR1 and RR2 workers daily via road. Options 7 and 8 result in the lowest project related traffic volumes due to eliminating daily travel on the roads for RR1 and RR2 workers and all shift change travel.	Option 1 and Option 2 reduce the project traffic volumes compared to the one camp options where all travel is by road (Option 3 and Option 4). Option 7 and Option 8 have the lowest traffic, however the reduction is minor when compared to Option 1 and Option 2 (ranging from 0.8% to 4.3%). All project traffic estimates assume workers traveling via road are transported in shuttles. If personal or single occupancy vehicles were used, project traffic would increase in the order of 50% to 150%.	The top concern from stakeholders and the public related to travel safety, especially increased incidents resulting from the increase in traffic on Road - Hwy 40.
		Mission Mountain Road	20.6% (76vph) Option 1 and 2 have fewer workers traveling daily than the one camp options. However, if the SCN+RSTP or RR1+RR2 workers are transported by rail or by boat, the estimated project traffic is comparable, as the majority of project traffic is related to materials, supplies, and equipment transport and miscellaneous project traffic.	24.4% (89 vph) Option 1 and 2 have fewer workers traveling daily than the one camp options. However, if the SCN+RSTP or RR1+RR2 workers are transported by rail or by boat, the estimated project traffic is comparable, as the majority of project traffic is related to materials, supplies, and equipment transport and miscellaneous project traffic.	31.9% (91 vph) Option 3 results in the highest increase in project related traffic due to moving workers daily and for shift change via road. Travel by rail and boat reduce traffic on the roads by removing the daily trips for the SCN and RSTP workers	26.3% (42 vph) Option 3 results in the highest increase in project related traffic due to moving workers daily and for shift change via road. Travel by rail and boat reduce traffic on the roads by removing the daily trips for the SCN and RSTP workers	26.3% (42 vph) Option 3 results in the highest increase in project related traffic due to moving workers daily and for shift change via road. Travel by rail and boat reduce traffic on the roads by removing the daily trips for the SCN and RSTP workers	26.6% (97 vph) Option 4 results in the second highest increase in project related traffic due to moving RR1 and RR2 workers daily via road. Options 7 and 8 result in the lowest project related traffic volumes due to eliminating daily travel on the roads for RR1 and RR2 workers and all shift change travel.	16.9% (97 vph) Option 4 results in the second highest increase in project related traffic due to moving RR1 and RR2 workers daily via road. Options 7 and 8 result in the lowest project related traffic volumes due to eliminating daily travel on the roads for RR1 and RR2 workers and all shift change travel.	16.9% (97 vph) Option 4 results in the second highest increase in project related traffic due to moving RR1 and RR2 workers daily via road. Options 7 and 8 result in the lowest project related traffic volumes due to eliminating daily travel on the roads for RR1 and RR2 workers and all shift change travel.		
Mainline worker exposure to geohazards while travelling to / from site.	Average annual travel time (worker hours / year) through moderate to very high risk geohazards	Daily Commute	1,950 worker hours / year The two camp options minimize the average annual travel time within moderate to high risk geohazards by having the larger workforces for RR1, RR2, SCN, and RSTP stay locally to their project areas. Option 3 has more geohazard exposure per year than Option 2 due to the higher number and total length of geohazards along Highway 40 then Mission Mountain Road.	1,365 worker hours / year The two camp options minimize the average annual travel time within moderate to high risk geohazards by having the larger workforces for RR1, RR2, SCN, and RSTP stay locally to their project areas. Option 3 has more geohazard exposure per year than Option 2 due to the higher number and total length of geohazards along Highway 40 then Mission Mountain Road.	10,140 worker hours / year Option 3 has 4 to 4.8 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 4 has 5.4 to 5.8 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 5 has only slightly more annual geohazard exposure than Option 1 and Option 2 due to travel by boat eliminating all geohazard exposure.	7,995 worker hours / year Option 3 has 4 to 4.8 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 4 has 5.4 to 5.8 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 5 has only slightly more annual geohazard exposure than Option 1 and Option 2 due to travel by boat eliminating all geohazard exposure.	1,365 worker hours / year Option 3 has 4 to 4.8 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 4 has 5.4 to 5.8 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 5 has only slightly more annual geohazard exposure than Option 1 and Option 2 due to travel by boat eliminating all geohazard exposure.	13,260 worker hours / year Option 4 has 5 to 5.4 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 7 has 5.9 to 6.3 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 8 has the least annual geohazard exposure due to travel by boat eliminating geohazard exposure for RR1 and RR2 daily commutes and no shift change travel exposure.	11,955 worker hours / year Option 4 has 5 to 5.4 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 7 has 5.9 to 6.3 times the annual exposure to geohazards compared to Option 1 and Option 2. Option 8 has the least annual geohazard exposure due to travel by boat eliminating geohazard exposure for RR1 and RR2 daily commutes and no shift change travel exposure.	1,950 worker hours / year Travel by rail has less geohazard exposure than travel by road.	Option 1 and Option 2 reduce the annual geohazard exposure compared to all one camp option with the exception of Option 8. Although travel by boat eliminates exposure to geohazards, moving up to 130 workers daily by boat may introduce other risks such as debris strikes which are not captured in this measure. Travel by rail has less geohazard exposure than travel by road.	N/A
		Total	3,510 worker hours / year	2,470 worker hours / year	12,350 worker hours / year	10,190 worker hours / year	5,490 worker hours / year	15,190 worker hours / year	11,905 worker hours / year	3,900 worker hours / year		
		Highway 40	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.9 collisions / year	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.8 collisions / year	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.9 collisions / year	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.9 collisions / year	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.9 collisions / year	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.9 collisions / year	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.8 collisions / year	Existing Rate = 25.8 collisions / year Potential Future Rate = 25.8 collisions / year	All options are relatively comparable for this measure, with travel by rail or boat providing the largest potential to minimize collisions for the one camp options due to eliminating daily travel	
		Mission Mountain Road	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.8 collisions / year	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.8 collisions / year	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.9 collisions / year	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.9 collisions / year	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.9 collisions / year	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.9 collisions / year	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.8 collisions / year	Existing Rate = 5.9 collisions / year Potential Future Rate = 5.8 collisions / year		

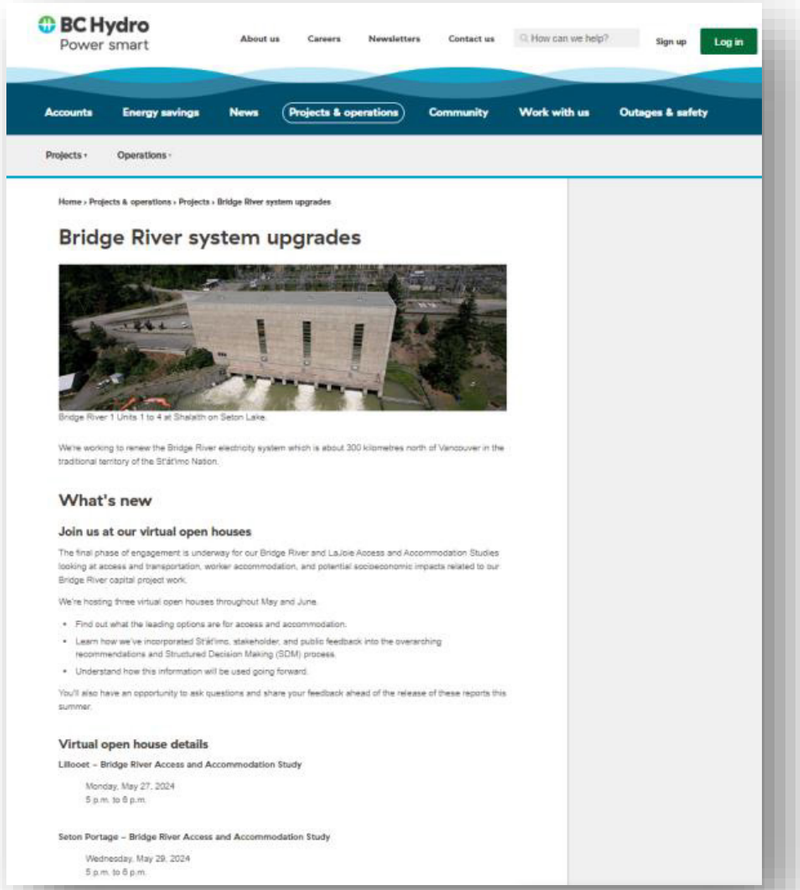
- scores worse than the base option
- scores the same as the base option
- scores better than the base option

Take our survey!

4 Ways to Find the Survey:

1. Scan the QR code with your phone and follow the link
2. Go to **www.bchydro.com/bridgeriver**
3. Click the link in the chat
4. Bridge River Capital Project update subscribers will receive an emailed link

Communications and Contact Info.



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