

Incorporating and Managing Risk in Asset Management principles for P3 Projects in British Columbia



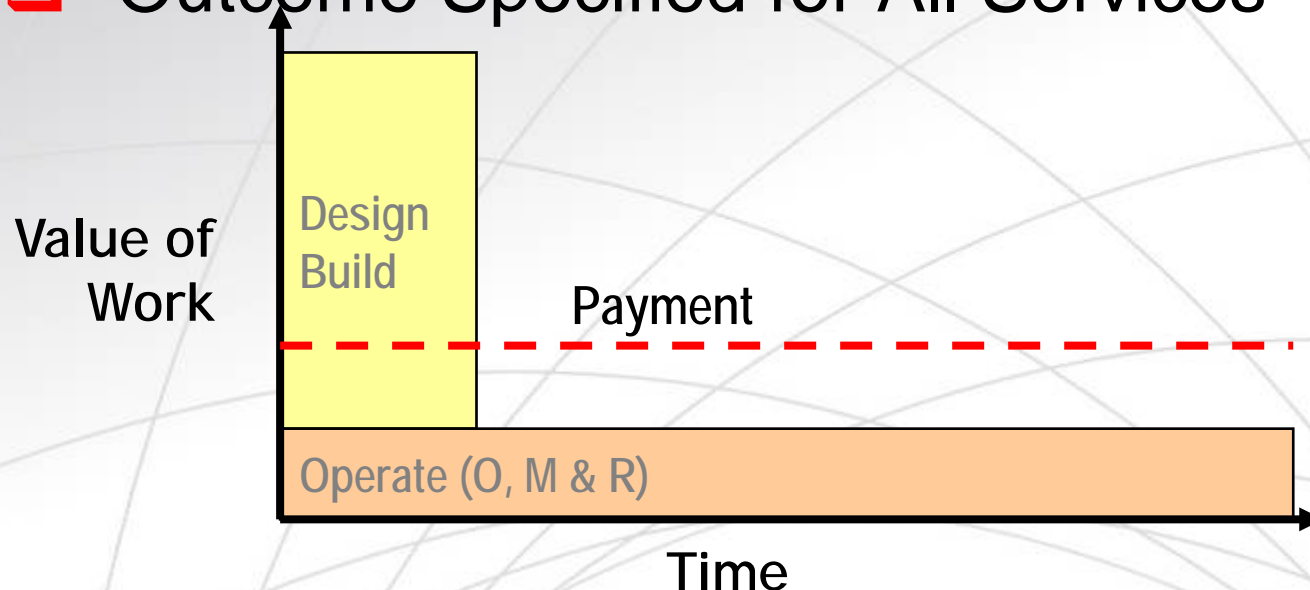
*Opus International Consultants (Canada) Limited
March 2012*



What is a P3 Project?

In this case: DBFO – Design Build Finance Operate
Concessionaire responsible for operations,
maintenance and rehabilitation

- ❑ Provision of Infrastructure and Services
- ❑ 25-30 Year Contract Period
- ❑ Outcome Specified for All Services

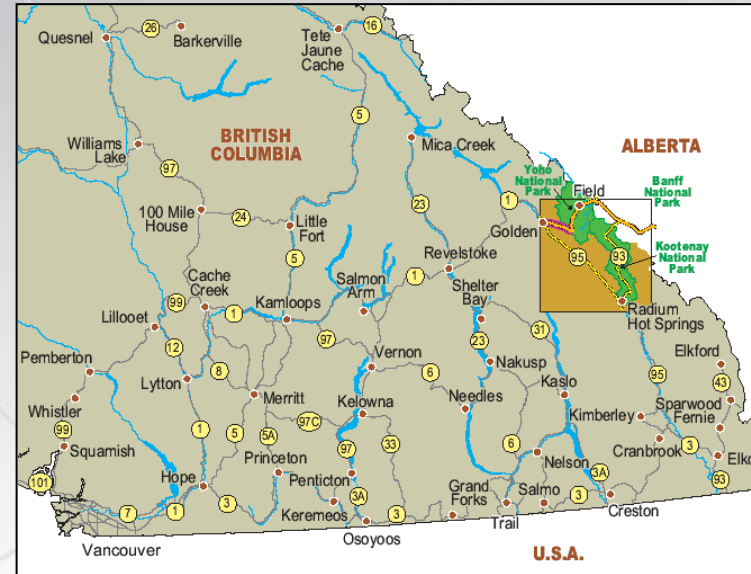


P3 Project – Sea to Sky Highway



- 25 year performance based contract
- \$600 million capital + OMR
- 2010 Winter Olympics
- 320 lane-km of highway / 155 major structures
- Status: In Implementation

P3 Project – Kicking Horse Canyon



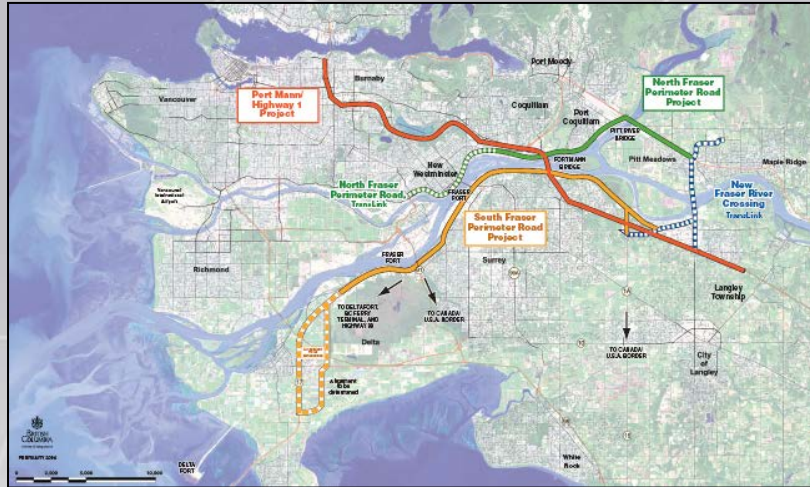
- 25 year performance based contract
- Key highway corridor that traverses thru the Rocky Mountains
- Severe mountainous terrain and conditions
- Replacement of Park Bridge, highway improvements and OMR
- Status: Construction Phase completed/In implementation

P3 Project – William R Bennett Bridge



- 30 year performance based contract
- Replacement of unique Floating Bridge Structure
- Integral part of transportation system in Kelowna
- Status: In Implementation

P3 Project – South Fraser Perimeter Road



- Vancouver, British Columbia
- 40-kilometre, four-lane route along the south side of the Fraser River
- 32 new bridge structures
- Status: Under Construction

P3 Project – Highway 407 East



P3 Project – New Brunswick TCH Projects



Retained Risk vs Transferred Risk

- ❑ Not all risks are transferred.
- ❑ Only the items that can best be controlled by the Concessionaire are transferred
- ❑ Some risks that can not be adequately evaluated or quantified, or are best mitigated by the owner, are retained by the owner
- ❑ To transfer this risk to the Concessionaire would result in premium pricing to cover unknowns
- ❑ Some risks are shared – capped limits for protection

Retained Risk vs Transferred Risk

Business Case: Public Sector Comparator

Retained Risks

- ☐ Latent Defects on Existing Assets
- ☐ Environmental Approvals and corridor impacts
- ☐ Specification suitability and future changes
- ☐ Unstable slope mitigation
- ☐ Rehabilitation / replacement earlier than anticipated post concession

Concessionaire Risk

Transferred (Concessionaire) Risk

- ❑ Patent defect in existing asset
- ❑ Latent and patent defects in new assets
- ❑ Overall price consideration for 25 years
 - Extraordinary cost escalation ie oil/bitumen
- ❑ Pavement and structure condition and performance
 - Premature failure/quality of construction
 - Increased or decreased traffic loads
 - Higher than Expected Maintenance and Emergency Response

Concessionaire Risk

- ☐ Damage to Third Party Assets
- ☐ Insolvency of Subcontractor
- ☐ Unique project risks
 - Contaminated site - leachate collection
 - Unacceptable Settlement (Ride-ability/Drainage)

Shared Risk

- ☐ Avalanche
- ☐ Landslides
- ☐ Major Natural Events (Above / Below Threshold)
- ☐ Traffic volumes for tolling/revenue considerations

Concessionaire Mitigation

- ❑ Autonomy and a long concession term encourages innovation in asset management practices
- ❑ Accurate data (existing pavement condition, traffic volumes and growth etc) at time of tender ensures risk appropriate pricing
 - Data rooms
 - Proponent workshops
- ❑ Rehabilitation costs, timing and frequency can be influenced by construction decisions and astute operations and maintenance

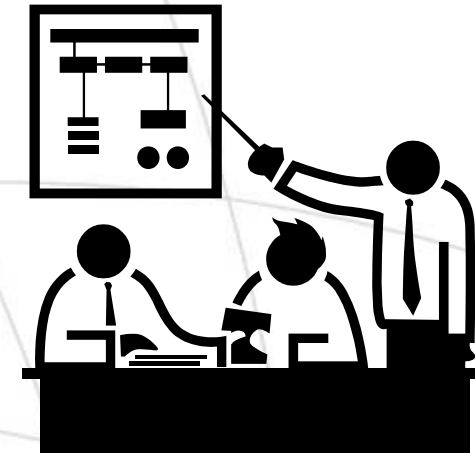
Issues/Lessons learned



- ❑ Constraints on available funding for project
- ❑ Alternative is to opt for phased capital program
- ❑ Capital projects occurring within the concession corridor through alternative procurements
- ❑ Transfer process to concession can be challenging
- ❑ Contract language for additions. Risk profile should be no worse/better
- ❑ Lesson: Lock in addition rates at time of tender

Issues/Lessons learned

- ❑ Concession team structure
- ❑ Drop down agreements
- ❑ Risk transfer among team members may not be creating the desired behaviors
- ❑ Concessionaire ownership
- ❑ Team members may have other obligations
- ❑ Unintended implications in behavior
- ❑ Lesson: Can be partially mitigated through procurement team structure transparency



Issues/Lessons learned

- ❑ Local ownership and resourcing
- ❑ Concessionaire remoteness
- ❑ Owner contract management obligations
- ❑ Complexity of contract model
- ❑ Comfort levels with risk transfer
- ❑ Operational and asset preservation technical skills still required on both sides
- ❑ Lesson: Don't underestimate the required resources to administer the project



Questions?

Issues/Lessons learned

- ❑ Landslide risk sharing
- ❑ \$25-75k sliding scale
- ❑ Capital works resolving future high risk areas
- ❑ Higher frequency than expected
- ❑ Extra cost to province and concessionaire
- ❑ Lesson: History is not always a predictor of the future



Issues/Lessons learned

- ❑ Anchored soil retention mesh
- ❑ Contract requirements associated with asset preservation
- ❑ Definition of what is an asset
- ❑ Function of multiple definitions in contract language
- ❑ Implications for failures: Cost sharing if not considered an asset
- ❑ Lesson: Alternative proposal risk

