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

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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 cannot 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