Ontario
Infrastructure Ontario

Innovation in Large Infrastructure Procurement: *The Case for Infrastructure Ontario*

Infrastructure Ontario Business Lines & Context

Project Delivery

PPP (AFP) Infrastructure Project Delivery

- Manage planning, procurement, delivery, and contract management of major public infrastructure projects

Commercial Projects and Land Development

- Advise government to help generate revenue, reduce costs, maximize real estate value and create efficiencies in how public services are delivered

Real Estate and Lending

Real Estate Management

- Manage the Ontario government's real estate portfolio, the second largest and one of the oldest real estate portfolios in Canada

Infrastructure Loan Program

- Provide financing solutions to qualifying public sector borrowers to renew infrastructure across Ontario

IO as a Central Procurement Agency

Balancing Between the Public and Private Sector (Government Business Enterprise)

Focus on Execution and not Policy

- Public sector competencies: policy, legislation, regulation, and identification of program requirements
- Private sector competencies: delivery, risk management, operational efficiency, commercial negotiation
- IO role is to be the intermediary between public sector: the instrument of delivery, risk management, and effective execution and commercial advice within the government context

Procurement as Integrated and Standalone Function

Centralized Multidisciplinary Professional Staff

- Public sector competencies: policy, legislation, regulation, and identification of program requirements

Everything is Procurement

- All commercial decisions are procurement decisions
- Fairness, openness, transparency, efficiency and value-for-money are not just values or goals, they are **brand and reputational identifiers**

IO PPP Project Context

Statistical Highlights

Aggressive Investment Plan

- **CDN$160 Billion** planned for Infrastructure over next 12 years – just Ontario

Track Record of Delivery (2007-2016)

- **55** projects **achieved construction completion**
- **CDN$19.2 Billion** of awarded contracts
- **98%** projects **on/under budget**
- **73% completed within 1 month** of originally targeted date

Pipeline

- **21** PPP projects **in construction**, total value of awarded contracts: **CDN$14 Billion**
- **29** PPP projects **in planning or procurement**, aggregate estimated value: **CDN$11.8 Billion**

Ontario Context

National & Provincial Activity

- Several provinces with centralized PPP agency/intermediaries (***Ontario, British Columbia, Quebec, Alberta, Saskatchewan, New Brunswick***)
- National PPP policy involves equity funding for municipalities separate from federal department capital programs (***Canadian Infrastructure Bank*** *(under development)*, ***PPP Canada***)
- National non-profit promoter/lobbying group for PPP projects, promoting on going knowledge exchange (***Canadian Council for Public Private Partnerships***)

Infrastructure Ontario Tendering Efficiency

- **18-20 months** from issuance of prequalification to transaction closing
- **12-24 months** pre-planning

PPP Project Success Factors: 3 Themes

Coincidental: Policy and Governance Structure

Stable Policy Environment

- Provincially legislated "monopoly" mandate with policy framework describing process

Apolitical Execution Mandate

- Agency governance structure (politically appointed professional Board) allows maximum autonomy of management and process from political interference and government risk
- Actual authority is vested in the agency to plan, procure, execute and contract manage

Intentional: Process and Approach to Delivery

Disciplined Planning and Procurement Process

- Planning and due diligence emphasis, together with standardized process and documents lead to predictable transaction timelines and high reliability of transaction delivery

Centralized Multidisciplinary Talent and Service

- Integrated construction/engineering/architecture, project finance, legal, procurement, communications and cost & budget management teams, all integrated to deliver cradle-to-grave project support: from planning to contract management

Accidental: Availability Based PPP Projects

Strong Track Record Breeds Success

- Availability Based PPP in social infrastructure has been the hallmark of IO
- The move to civil/linear infrastructure marks a new chapter in Ontario's infrastructure focus

PPP Project Innovation: 3 Themes

1 Innovation in Project Delivery and Planning

Budget and Scope Discipline

- Balancing quality, time, cost
- Drawing boundaries around “social” policy

Asset Class Specific Standardized Approach to Project Risk Analysis

- Risk Matrices and Value-for-Money as disciplines

Performance Based Specifications

- Innovation through competition
- Focus on asset: good execution is good policy

Whole Asset Life Cycle Capital Planning

- Understanding the true costs of underinvestment in capital rehabilitation

2 Innovation in Project Procurement

Commercially Confidential Meetings

- Opportunity to optimize project requirements during procurement

Post-Evaluation Negotiations

- Ensuring design conformance

Vendor Performance Program

- Fair, open and transparent evaluation of past poor performance

3 Innovation in Project Finance

Credit Spread Benchmarking Process

- Accepting credit spread risk with rules and predictability

Solving for Optimal Capital-at-Risk

- Variable sizing of availability payments and construction period payments

Disciplined Planning and Procurement Process

Planning	Budget Approval & Assignment to IO	Project Procurement & Transaction Phase
• Government screening for PPP suitability • Initial technical due diligence • Cost estimation and budget development	• Finalize co-Sponsor governance (MOU) • IO value for money workshop and screening (quantitative) • Full technical due diligence • Output specification (scope) development • Cost estimation and scope-to-budget verification	• Request for Qualifications • Request for Proposals • Contract closing & execution
• Budgetary approvals are all-inclusive (design, construction, financing operations, lifecycle, transaction costs, ancillary, contingencies) • Stable policy framework	• Front-end loaded extensive due diligence (permitting, third party arrangements & approvals, technical site conditions) • Scope discipline applied before procurement is released	• Standardized documentation (RFQ, RFP, Project Agreement) • Commercially confidential interaction with bidders • Mature bidding market • High process rigor & global best practices

Bridging the Public and Private Sector

Private Sector Mindedness in Action

Knowledge of the Market

- Periodic interaction outside of procurement and transactions (roundtable forums) allow for discussion with industry on various concerns and is followed by action
- Frequent interaction within the rules of procurement and transaction (commercially confidential meetings) allow for project-specific, but also real-time, feedback on commercial issues
- Respective disciplines within IO foster relationships with bidding counterparts and advisor/service providers
- Market sounding potential transaction structures in advance of procurement leads to better procurement documents and scope

Commercial Transaction Structuring is Paramount

- Policy objectives are delivered through optimal transaction structuring
- Allocating risks to the party best capable of managing the risks does not presume a transaction delivery model
- Continuous Improvement is a cultural and operational requirement (standardized documentation cannot be static)

Contact Information

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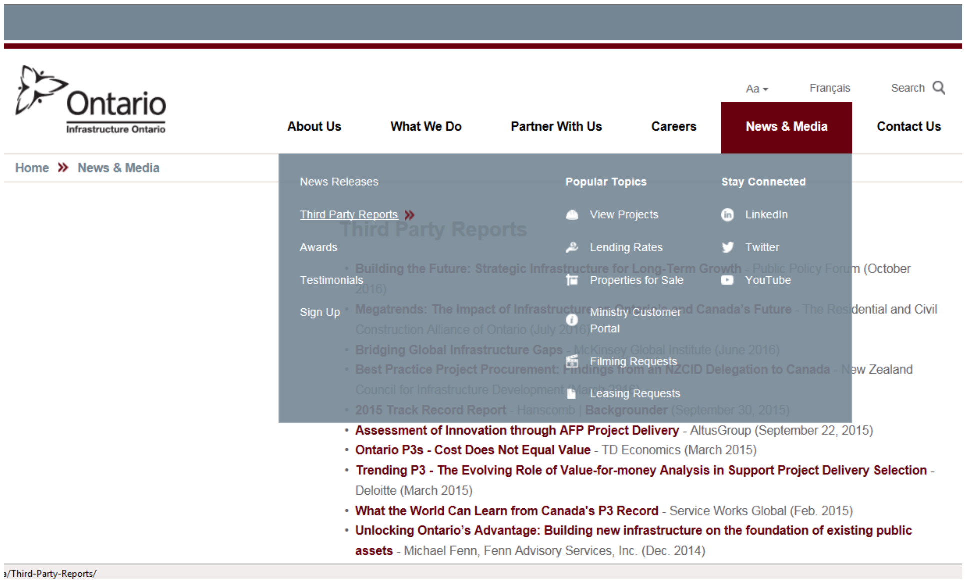
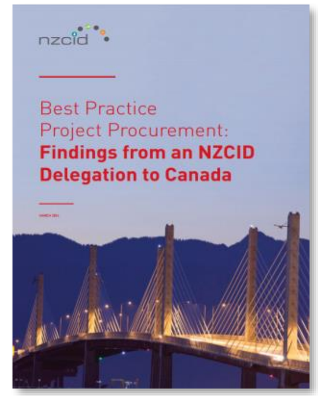
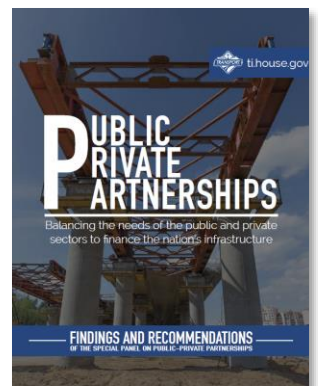
- Ontario Infrastructure and Lands Corporation Act, 2011
  https://www.ontario.ca/laws/statute/11o09a
- Ministry of Economic Development Employment and Infrastructure (Ontario)
  https://www.ontario.ca/page/ministry-economic-development-employment-and-infrastructure

Additional Reading







www.infrastructureontario.ca

Available on IO's website is a collection of industry and academic reports on infrastructure, AFP, and public policy.

Appendix 1: IO AFP Procurement Process

IO AFP Procurement Process Features

Two Stage Procurement (Prequalification → Proposal)

- RFQ – Prequalification Features:
  - Vendor Performance
  - Technical and Financial Capacity
- RFP – Proposal Features:
  - Negotiated RFP (Canadian Law: Contract A, Contract B)
  - Honoraria
  - Commercially Confidential Meetings
  - Sequential Evaluation, Net Present Value Gearing

Other Procurement Highlights

- Unethical Bidding Practices
  - Officer’s certificates, exclusion policy; Canadian legislation and recent history
- Conflicts of Interest
  - National Accounting firm Letter re Conflict of Interest policies
  - Centralized decision making on the basis of common conflict principles

Continuous Improvement and Template Updates

- Continuous improvement of a non-static set of template documentation

IO AFP Procurement Timeline & Mechanics

RFQ Open	RFQ Evaluation	Shortlist – Pre-RFP	RFP Open	RFP Evaluation	Negotiation	Closing
3 Months	2 months	2-3 months	6 months	3 months	3 weeks	2-3 months

Request for Qualifications (RFQ)

- Total RFQ typical timeline: 6-8 months)
- 3-5 shortlisted bidders

Request for Proposals (RFP)

- Total RFP typical timeline: 12 months
- Design-Bid Honorarium Paid: $400K (Design-Build-Finance), $800K-$2M (Design-Build-Finance-Maintain)

IO AFP Procurement Timeline & Mechanics

RFQ Open → RFQ Evaluation → Shortlist – Pre-RFP → RFP Open → RFP Evaluation → Negotiation → Closing

Request for Qualifications (RFQ)

- Non-contractual process of qualifying potential bidders on technical and financing experience and capability
- Openly issued to market, resulting in a short list of 3 – 5 bidders, depending on the type of delivery model
- Bidders ("**Applicants**") are evaluated as consortia of entities, not on an individual team member basis
- RFQ concludes when an Request for Proposals is issued

Request for Proposals (RFP)

- Contractual process of selecting a winning bidder based on technical responses to the project at hand and a bidder's guaranteed price to design, build, finance and/or maintain the project
- Bidding document are only issued on an invitational basis to the top 3-5 prequalified bidders ("**Proponents**")
- RFP is a "negotiated RFP" that follows a modified "Contract A" – "Contract B" formulation in Canadian law and includes a phase of negotiation with a winning bidder before execution of the Project Agreement. The form of Project Agreement is attached as part of the RFP.
- RFP concludes when a Project Agreement is executed

IO AFP Procurement Timeline & Mechanics

RFQ Open → RFQ Evaluation → Shortlist – Pre-RFP → RFP Open → RFP Evaluation → Negotiation → Closing

Contact Persons

- Formal communications with bidders occurs through a designated contact person

Addenda

- Formal changes to documents (RFQ & RFP) are legally effected **only** through addenda to the RFQ or RFP
- Any other proposed changes to RFQ & RFP documents in any other format are non-binding

Interaction with Bidders: RFQ Specific

- Initial all-Applicants' meeting
- Posted Questions and Answers (Q&A)

Interaction with Bidders: RFP Specific

- Initial all-Proponents' meeting
- Design Presentation Meetings & Commercially Confidential Meetings
- Requests for Information (RFI's) and RFI Responses
- Addenda

IO AFP Procurement Timeline & Mechanics

RFQ Open → RFQ Evaluation → Shortlist – Pre-RFP → RFP Open → RFP Evaluation → Negotiation → Closing

Evaluation Framework

- Governing document that sets rules for evaluation of Prequalification Submissions (RFQ) and Proposals (RFP)
- Lists all individuals slated to evaluate bids
- Includes forms of confidentiality agreement and conflict of interest certifications
- Includes detailed worksheets to ensure evaluators apply evaluation criteria consistently

Segregation of Technical and Financial Evaluations

- Ensures that technical determinations are made without knowledge of financial results
- Sequential Evaluation process for RFPs: financial evaluations are not conducted until technical evaluations are concluded (not applicable at RFQ)

Confidentiality Agreement, Conflict of Interest Declarations and Training

- All participants to the evaluation (scoring evaluators & subject matter experts) must sign confidentiality agreements, make conflict of interest declarations, and be given project specific evaluation training before being given access to bids

IO AFP Procurement Timeline & Mechanics

RFQ Open → RFQ Evaluation → Shortlist – Pre-RFP → RFP Open → RFP Evaluation → Negotiation → Closing

Requests for Clarification (RFCs)

- Clarifying questions can be asked by evaluators of an Applicant or Proponent to assist in interpreting information contained in the Prequalification Submission or Proposal, as applicable

Subject Matter Experts (SMEs)

- Third party advisors and other staff can be given roles as "subject matter experts" to assist scoring evaluators
- SMEs typically include technical advisors, and are typically most relevant in the RFP evaluation.
- SMEs provide reports and analysis on components of a Proposal which are then interpreted by scoring evaluators and evaluation committee in performing the evaluation

Individual Review and Consensus Decision-Making

- Evaluation of all bids is done first by scoring evaluators independently and on an individual basis
- Individuals as part of the evaluation teams (technical and financial) meet to arrive at a consensus score
- Consensus scores are presented to the evaluation committee for acceptance

IO AFP Procurement Timeline & Mechanics

RFQ Open | RFQ Evaluation | Shortlist – Pre-RFP | RFP Open | RFP Evaluation | Negotiation | Closing

3rd Party Fairness Monitor

- Reviews all correspondence to Applicants and Proponents to ensure fairness (Q&A, Addenda, Notices, RFI Responses, RFCs)
- Reviews the content of all SME reports to ensure no bias is being introduced into the evaluation process
- Attends at every meeting between Sponsors and Applicants/Proponents (CCMs, All-Applicant & All-Proponent meetings)
- Attends at every consensus meeting of evaluators and every evaluation committee meeting
- Is able to provide advice on exercise of rights under the RFQ and RFP that affect bidders
- Provides letter/opinion attesting to the fairness of the procurement
- Does not participate in negotiation with winning bidder (Preferred Proponent) following the conclusion of the RFP evaluation process

Procedural Fairness a Matter of Common Law (in Canada)

- Fairness Monitors matter for program integrity, but ultimate determinations of procedural fairness are determinations made in law and advised upon by legal counsel

IO AFP Procurement Timeline & Mechanics

RFQ Open → RFQ Evaluation → Shortlist – Pre-RFP → RFP Open → RFP Evaluation → Negotiation → Closing

Negotiations

- Highest scoring RFP Proponent is identified as the "First Negotiations Proponent"
- Discussions commence between the First Negotiations Proponent and Sponsors to address any issues of potential design or technical non-conformance with project requirements
- All concerns must be addressed without any change in price or any change in duration of construction schedule
- Conclusion of successful negotiations results giving the First Negotiations Proponent formal status as the "Preferred Proponent"
- Simultaneous negotiations with more than one Negotiations Proponent is permissible in extremely rare circumstances (e.g. tie)

Closing

- Finalization of all Project Agreement documents and a Proponent's third party financing to complete the project

IO AFP Procurement Timeline & Mechanics

RFQ Open → RFQ Evaluation → Shortlist – Pre-RFP → RFP Open → RFP Evaluation → Negotiation → Closing

Unethical Bidding Practices Officer's Certificates

- Collected as part of both the RFQ Prequalification Submission and RFP Proposals
- RFQ and RFP contains right to disqualify bidder due to convictions related to unethical bidding practices
- Officer' s Certificates certify:
    - there are no charges or investigations by a public body except as disclosed
    - do not have any or convictions related to inappropriate bidding practices or unethical behaviour in relation to a public or broader public sector tender or procurement in any Canadian jurisdiction that (a) are related to the Project; (b) may compromise the reputation or integrity of the Ontario Government so as to affect public confidence in the Project related to the Project; or (c) would contravene any Applicable Law or could have a material adverse effect on the Prime Team Member in a way which could impair its ability to perform its obligations under the Project Agreement.
    - requires the company to make certifications regarding the control of its employees and the establishment of internal policies that IO can diligence
- IO has the general right to impose additional requirements on any given party (including a specific Team Member within a bidding consortium) in relation to unethical bidding practices. Refusal to implement prescribed measures can lead to rejecting an RFQ Prequalification Submission or RFP Proposal

IO AFP Procurement Timeline & Mechanics

RFQ Open → RFQ Evaluation → Shortlist – Pre-RFP → RFP Open → RFP Evaluation → Negotiation → Closing

Transaction Approvals

IO Management Committee
Approval to Release RFQ

IO Management Committee
Approval of RFQ Evaluations
Approval to Release RFP

IO Board of Directors
Approval of RFQ Evaluations
Approval to Release RFP

Co-Sponsor / Board Approvals (Typical)
Approval of RFQ Evaluations
Approval to Release RFP

IO Management Committee
Approval of RFP Results & Recommendation to Proceed to Commercial Close with a Preferred Proponent, subject to successful negotiation

IO Board of Directors
Approval of RFP Results & Approval to Proceed to Commercial Close with recommended Preferred Proponent

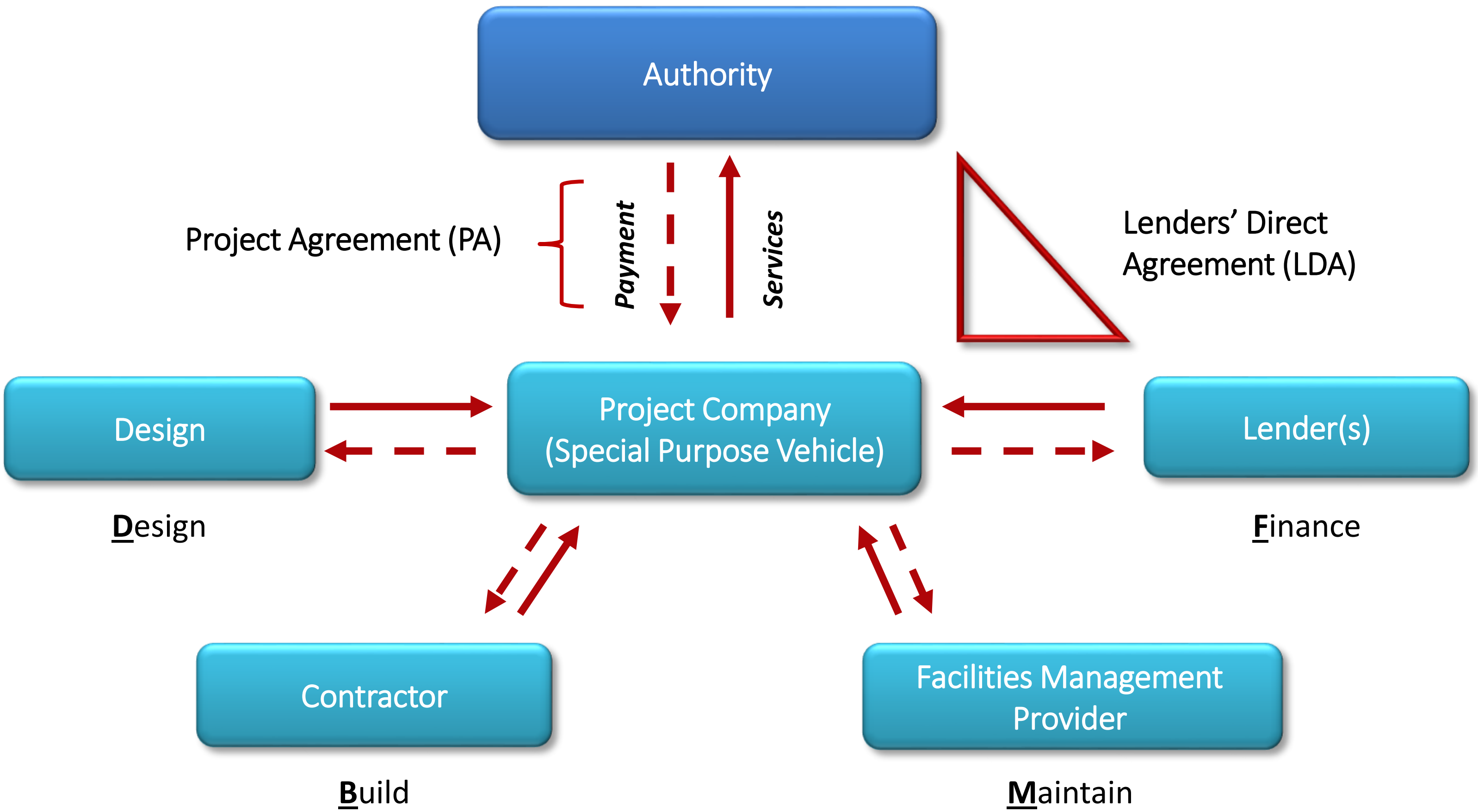
Co-Sponsor /Board Approvals
(Typical)
Approval of RFP Evaluations
Approval to Proceed to Close

Other Governmental Transaction Approvals
Legal Approvals (e.g. Ministry of Finance)

Appendix 2: Commercial, Risk and Financing Approaches in AFP Projects

Typical Structure of an AFP Design-Build-Finance-Maintain (DBFM) Transaction

While other models exist, the Design-Build-Finance-Maintain (DBFM) model best exemplifies the availability-based public private partnership (Ontario AFP) model



Project Risk Transfer: General Approach

- IO has structured its contracts in an effort to maximize value for money – all decisions on which risks to transfer and how to do so are made with the objective of never "over-paying" for risk transfer

Therefore, risk should reside with the party best able to manage/mitigate it

- For this reason – some risks are retained by the Public Sector, some are shared between the Public and Private Sector and others are completely transferred (next slide gives some examples)
- Any change to an IO contract is screened through various internal committees, where collective experience within IO is used to determine the optimal risk transfer
- We have had some challenges transferring some risks in specific sectors given the complexity of the issues
- It is imperative that contract documents are very clear on how risks are transferred without any ambiguity, otherwise countless disputes on the ground will surface

Project Risk Transfer: Value-for-Money Allocation

- The key to achieving VFM is a function of risk allocation and in particular achieving the optimal risk allocation between the public and private sectors
- VFM is achieved when individual risks are allocated to the party that is best placed to manage them by undertaking effective and cost-efficient risk mitigation strategies
- All risk allocation is specified in the Project Agreement and Schedules between the Private Sector and Public Sector
- Risks are usually allocated as follows:

Retained	Shared	Transferred
• Regulatory/Political • Tendering Process • Scope Changes	• Force Majeure • Employee Relations • Inflation • Interest Rates • Taxation • Environmental	• Development • Financing • Integration • Design • Construction • Operation • Maintenance • Performance

Project Risk Transfer: Challenges

Risk	Problem	Solution
Site Conditions	Environmental and Geotechnical conditions can only fully be known once the contractor is in the ground – it is impossible at times to accurately quantify the risk and price accordingly	Provide as much background testing and reliance on documents as possible. In some cases, cap the risk exposure to a specific dollar amount Protect Project Co for risks that were completely unknown and unforeseeable
Utilities	Utility companies usually will not commit to a set price and schedule for their work – leaving Project Co at schedule risk beyond their control	Share in cost and schedule overruns up to a cap. Province takes residual risk in some extreme cases in transit deals.
3rd Party Actions	The public, protestors, trespassers and operators can impact performance of the asset beyond Project Co's control	Provide performance relief for limited number of scenarios, only when project co can not mitigate or insure against the risk.

Project Risk Transfer: Challenges

Risk	Problem	Solution
Permits	Some permits are subject to internal bureaucratic approvals processes and may be held up by political interference	In very rare cases, the Province has provided schedule relief if permits are not processed in time, despite Project Co doing everything they can
Supervening Events	There are several events that fall outside of the control of Project Co	IO has developed a comprehensive regime laying out the events, process and financial relief offered for every event. In most cases, the financial risk is shared in some way between the Public and Private Sector

Key Lesson: Allow risk allocation to be subjected to continuous improvement. While there is benefit in templated risk allocation, it is not necessarily a "one-size fits all" approach. IO has a dedicated continuous improvement committee that continually challenges the precedent.

Project Risk Transfer: AFP Contracts Secure Risk

Payment structure

- Contractor is not paid until completion or until a significant amount of work has been completed. In DBFM, capital is held back for 30 years to ensure asset performance

Events of default

- In extreme cases, the sponsor can terminate Project Co. for poor performance through the accrual of "failure points" during the operating period

No extension of term

- If Project Co is late in achieving Substantial Completion, there is no extension of the 30 year concession term typical in our projects – Project Co. will not receive payments until the asset is complete leaving them to absorb any debt servicing costs

Remedial rights

- The public sponsor has rights to increase monitoring, issue stop work orders, replace poor performing contractors, and complete work itself if needed under certain scenarios at Project Co's cost

Reliance on lenders and equity investors

- The AFP model aligns the interests of lenders and the Public Sector. Lenders have rights to step in and cure defaults, replace subcontractors, lock up equity distributions, impose additional project security and terminate project co for various performance issues

AFP Payment Structure: Overview

Value-for-Money Key Principle: To ensure there is sufficient private sector capital at risk, at all times, for effective risk transfer.

- While private sector finance allows effective risk transfer and negotiating leverage, it comes with a significantly higher cost.
- Therefore all projects must be structured so that there is no more private finance than is required to achieve these objectives with no substantial change to the risk profile. Key Lesson: Do not over-secure projects!

During Construction

- Competing issues: balance use of payments during construction vs. third-party leverage
- Financing structure decision: What combination of payments can be made by the public sector during construction under AFPs without impacting risk transfer?
- Interim completion payments, milestone payments and construction progress payment

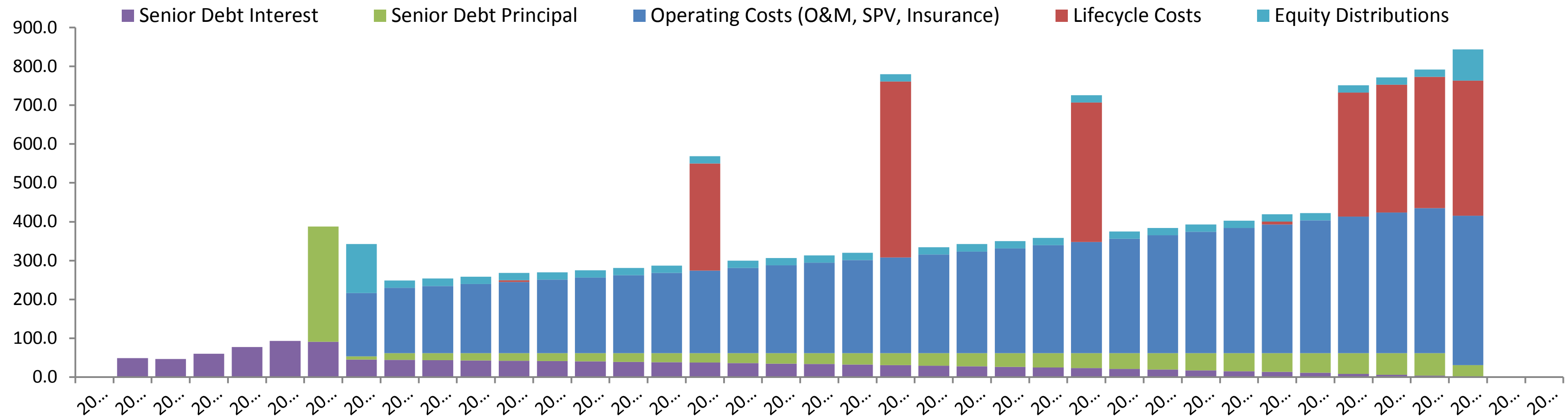
At Substantial Completion

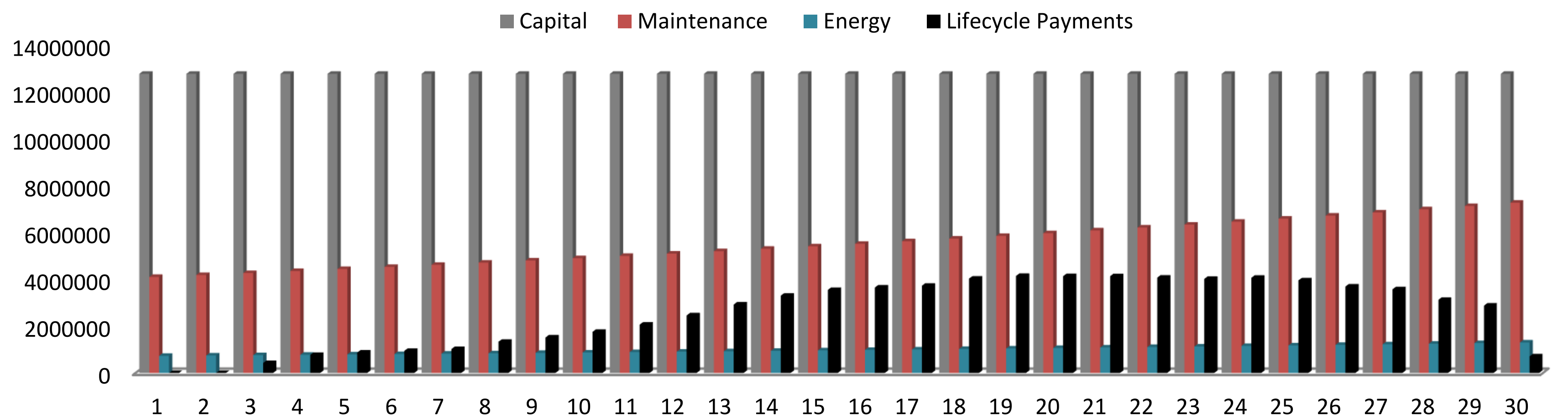
- Competing issues: Balance amortization of remaining capital cost against walk away risk at expiry
- Financing structure decision: What percent of capital costs should be paid out by Substantial Completion?

During Operations

- Competing issues: smooth annual payments vs. lumpy annual payments
- Financing structure decision: What is the term for the project? What is the profile of payments?

AFP Payment Structure: Operation Period





Procurement and Construction Security

- For BF, DBF and DBFM Projects, IO stipulates, within the RFP, security that Project Co must provide to protect the Province against a variety of defaults during the procurement / construction/ post-construction

	Procurement Stage	Post Procurement	
	Preferred Proponent (PP) to Financial Close (FC)	**During Construction**	**Post Construction**
Security	Letters of Credit (LC) posted by Project Co	Performance Bond and Labour & Materials Bond	Warranty LC
Protection against	Failure of Project Co to reach Commercial / Financial Close (*e.g. Project Co may go bankrupt or Lenders may walk due to credit crisis or inability in raising financing for the Project at Financial Close*)	Failure of Project Co default during construction leading to the inability to complete the project in a satisfactory manner (*e.g. Project Co is bankrupt*)	Performance Failure of the asset post construction (*e.g. roof is leaky 1 year in to construction completion*)
Amount	% may vary depending on size of project	50% of the Cost of Work	% may vary
Model	**BFs / DBFs / DBFMs**	**BFs / DBFs**	**DBFs only**

- During the construction and operations phase, lenders prescribe enhanced security packages to project them against performance defaults of Project Co
- The previous requirements for bid bonds was recently deleted, in favour of having the LC as the sole remedy in case of walk-away during the procurement phase

Operations Phase Remedies

Key Lesson: Enforce remedies in the agreement and work as a true partner with the private sector to remedy project issues together

Remedial Measure	Reporting Period
Warning Notice: Notice to Project Co indicating the matters which gave rise to this notice.	1 month
Monitoring Notice: Requires Project Co to increase its level of self monitoring of its performance obligation until such time as Sponsor is satisfied that Project Co can reasonably perform its obligations under the Project Agreement.	3 months
Exercise of Remedial Rights: The sponsor reserves the right to perform obligations on behalf of Project Co, where Project Co is not meeting its obligations. All costs incurred will be the responsibility of Project Co.	1 month
Replacement on non-performing service provider: Requires Project Co to replace sub-contractor of services where delivery of such service is considered inadequate.	6 months
Event of Default: Project Co contract is terminated.	3, 6 and 12 months

How Risk is Secured: Lenders

Project Security

- Lenders and rating agencies prescribe minimum levels of security against default to protect their investments

Reserve Requirements

- Cash reserves are funded during construction to address potential performance issues and ensure cash flow available for debt service is maintained

Rating Requirements

- Most lenders now require two investment grade credit ratings to take a project through their approvals processes

Independent Technical Review

- Lenders technical advisor independently opines on progress of works and certifies draw requests. If project is at material risk, the LTA could recommend a draw stop to protect the lenders from funding into a failing project

How Risk is Secured: Lenders

Equity lock up

- Certain events in the credit agreement can trigger a suspension of any payments to equity investors

Lifecycle look forward and corresponding reserve mechanisms

- The LTA opines on the adequacy of the lifecycle budget to meet performance obligations and can force a top up if a shortfall of funds is projected. Reserves are held to ensure lifecycle cost overruns can be managed

Cash waterfall

- Access to project funds is heavily regulated through the use of locked accounts. This prevents contractors from drawing funds without the proper authorization from lenders

Key Lessons:

- Obtain extensive due diligence from independent parties
- Lifecycle/major maintenance budgets tend to fluctuate between bidders – place extra emphasis on the quality of lifecycle plans and ensure budgets are adequate

Lender Prescribed Security Packages

	Construction Period	Operating Period
Typical Security Package (combination of the following depending on (1) complexity and size of project (2) financial strength (3) experience)	• Letter of Credit worth 5% to 10% of the Construction Cost • Parental Company Guarantee for 40% - 50% of the construction cost • 50% Performance Bond or P3 Performance Bond & 50% Labour / Material Bond • Subguard (subcontractor contractor default Insurance) • Retention Account (~5% of the Construction Cost)	• Letter of Credit worth 50% of the next year's Maintenance Payment + [next year's lifecycle payment] • Parental Company Guarantee worth 150% - 300% of the next year's Maintenance Payment + [next year's lifecycle payment]
Look Forward Tests	• Liquidated Damages Look-Forward Test	9^{th} ,15^{th} ,20^{th} and 25^{th} anniversaries of SC + [last 5 years] , an Independent Lifecycle Monitor will conduct lifecycle look forward-tests
Lender Longstop	3 months – 6 months	N/A
Leverage	5% to 8% Equity (A rated) 10-25% Equity (BBB rated)	5% to 8% Equity (A rated) 10-25% Equity (BBB rated)
DSRA	6 months	-
Min. DSCR	N/A	1.15x – 1.42x

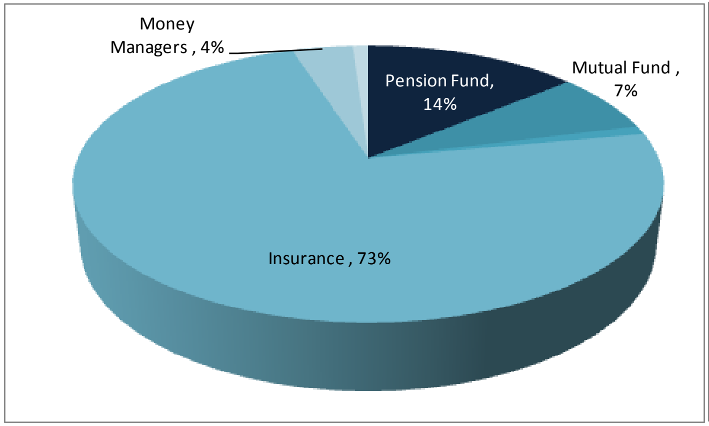
Appendix 3: AFP Capital Markets Overview

IO AFP/PPP Lending Market: Solutions

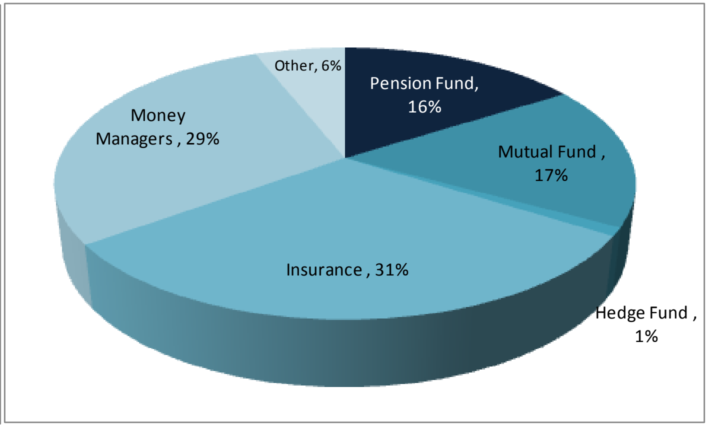
Types of Financing Solutions	Term	Institutions
Short Bank	2– 6	Canadian banks in addition to DesJardin & Alberta Treasury Branches, Sumitomo Mitsui, Mizuho, Bank of Tokyo – Mitsubishi, HSBC and Bank of China
Long Bank	6 - 30	European Banks
Broadly Marketed Bonds (Short / Long / Bullets)	0-30	Life Insurance Companies, Money Market Funds, Other Institutions (Mutual Funds , Pension Funds)
Privately Placed (Short / Long / Bullets)	2-30	Life Insurance Companies (SunLife, Manulife, CanadaLife etc)

Over the years there has been less reliance on traditional buy-and-hold investors

December 2009 to July 2010

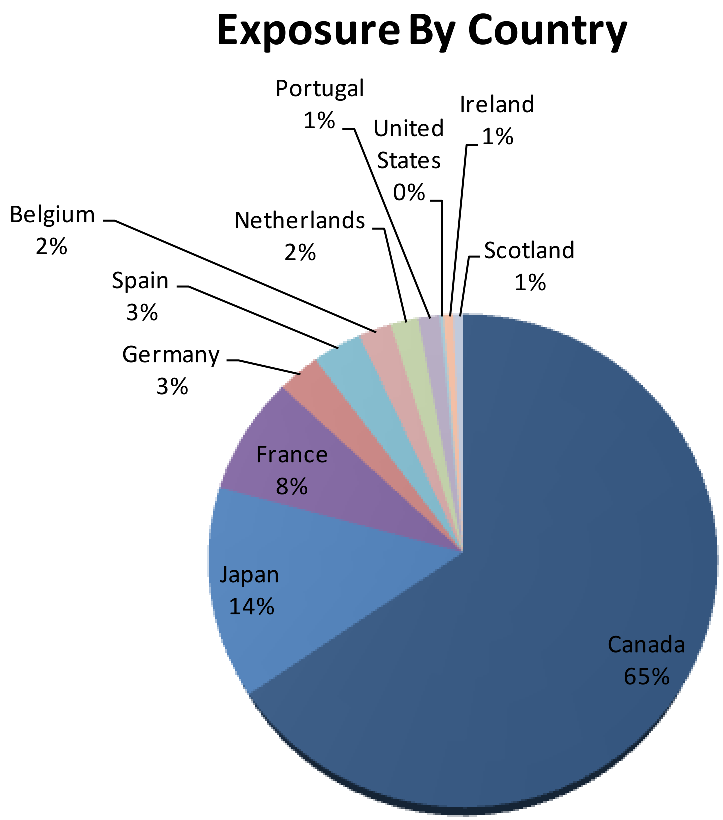


July 2010 to Today



IO AFP/PPP Lending Market: Exposure

Country	Lenders	Exposure
Canada	TD Bank	1,027,903,792
Canada	Bank of Montreal	876,424,774
Canada	Bank of Nova Scotia	809,560,223
Canada	National Bank of Canada	685,493,823
Canada	Desjardins	618,641,722
Japan	Bank of Tokyo Mitsubishi	552,864,694
Japan	SMBC	548,389,092
Canada	Pacific & Western Bank of Canada	357,108,656
France	Societe Generale	305,657,701
Canada	ATB	296,342,473



Recent Transaction have been dominated by:

- Canadian: TD / BMO / National Bank /Bank of Nova Scotia /ATB / Desjardins
- Japanese: SMBC

Recent SDNs have usually been priced by ATB, providing the most robust rate

- **RBC & CIBC , while feature prominently as underwriters and financial advisor are not typical Bank Lenders**
- National / TD / BMO / BNS are integrated (Bank Lenders + financial advisory + Underwriting mandates)

IO AFP/PPP Lending Market: Bond Lenders

Rank	Investor	Total Volume (million CAD)
1	Sun Life Financial	**$679.0**
2	Manulife	**$481.5**
3	Canada Life™	**$186.5**
4	Fiera Capital	**$175.0**
5	CIBC Asset Management	**$145.0**
6	Canso Investment Counsel Ltd.	**$145.0**
7	Phillips, Hager & North	**$123.0**
8	Addenda Capital	**$120.5**
9	Industrial Alliance Insurance and Financial Services Inc.	**$118.5**
10	The Great-West Life Assurance Company	**$98.5**

Life Insurance Companies continue to play a dominant role in our transactions with 60% of the funding

*Note: including all deals prior to Eglinton Crosstown LRT; Champlain Bridge is also included given the impact of its large issuance size to the league table.

Appendix 4: Bond Rating Agency Approaches

Bond Rating Agency: Sample Weights in Ratings

Broad Rating Factors, Sub-factors & Notching Adjustments	Weight
Factor 1: Construction risk allocation between the private sector and the public sector	5%
Factor 2: Project construction complexity	25%
» Site preparation requirements & substructure risk	
» Structure complexity and construction technique risk	15%
» Performance risk	
» Construction constraints risk	10%
Factor 3: Constructor/Consortium experience and project readiness	25%
» Constructor/consortium experience	15%
» Project readiness & risk management	10%
Factor 4: Resilience of constructor to cost overruns	20%
» Profit margin & contingency & robustness of budget build-up	10%
» Strength of the constructor and relative size of the project	10%
Factor 5: Resilience of project to construction schedule overrun	25%
» Construction schedule room	10%
» Liquidity to withstand a schedule overrun	15%
Total	100%
Notching Adjustments :	Notching
» Ease of replacement of the constructor	+1 to -2
» Amount and quality of security available to replace the constructor or mitigate losses	+2.5 to 0

Bond Rating Agency: Sample Weights in Ratings

Factor	Sub-factor	Weight
Volatility of Revenue	1. Complexity of Project Operations	15.0%
	2. Nature of Performance Regime	15.0%
	3. Inflation Exposure and Change of Law and Off-taker Modifications	10.0%
Cost Structure	4. Market Efficiency	15.0%
	5. Sub-Contractor Efficacy	8.3%
	6. Sub-Contractor Liability Caps	8.3%
	7. Base Case Costs versus Benchmark	8.3%
Force Majeure & Issuer Default Termination	8. Force Majeure	6.7%
	9. Issuer Default Termination	6.7%
	10. Concession/Sub-Contract Interface	6.7%