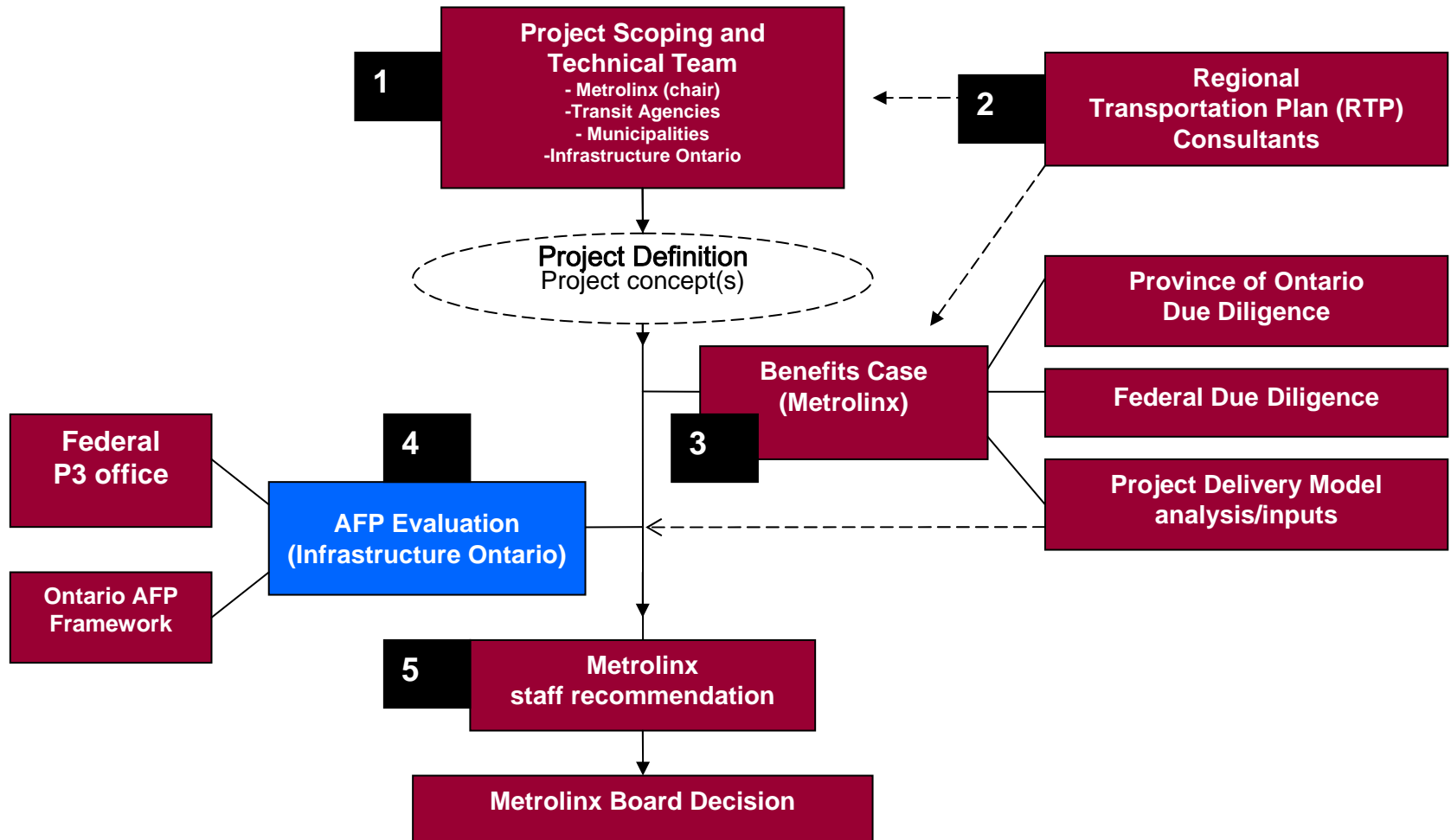


# Alternative Financing and Procurement and the Role of Infrastructure Ontario

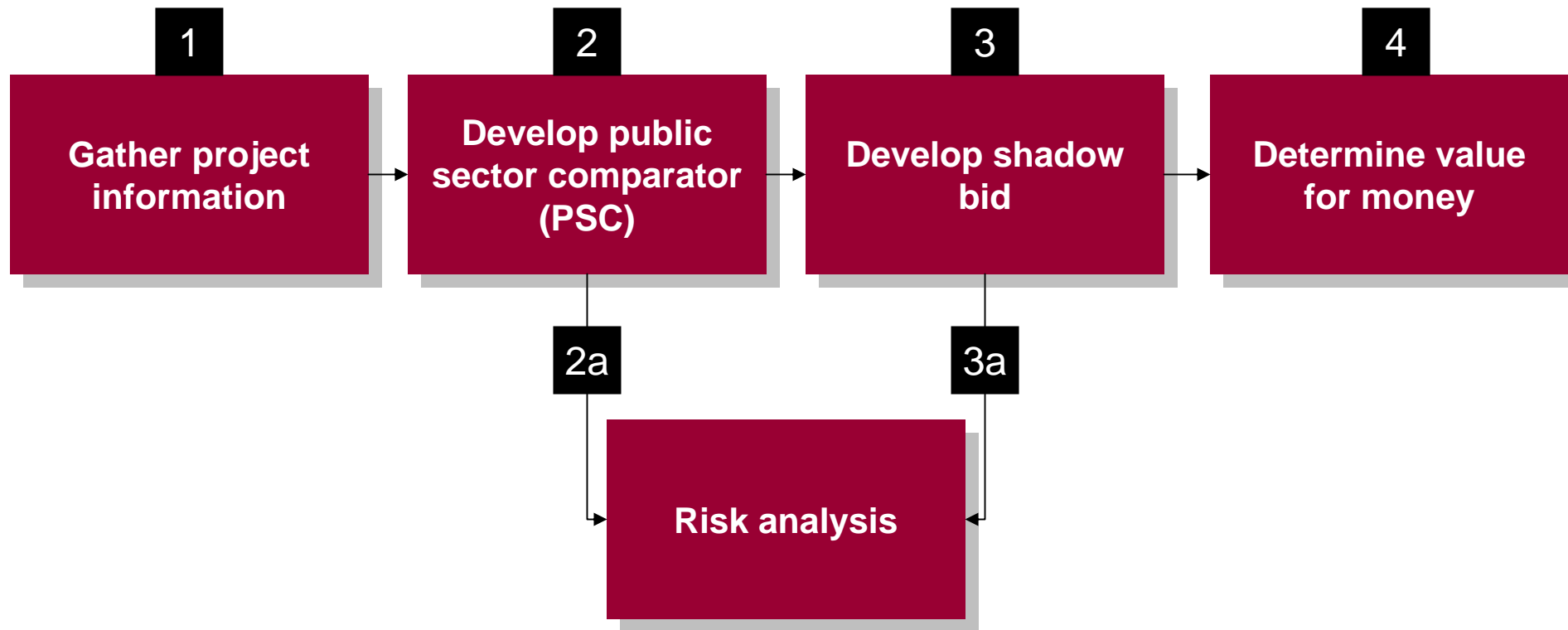
**David Livingston**  
President and CEO  
Infrastructure Ontario



# Work plan process: Infrastructure Ontario an advisor to Metrolinx



# The AFP evaluation process

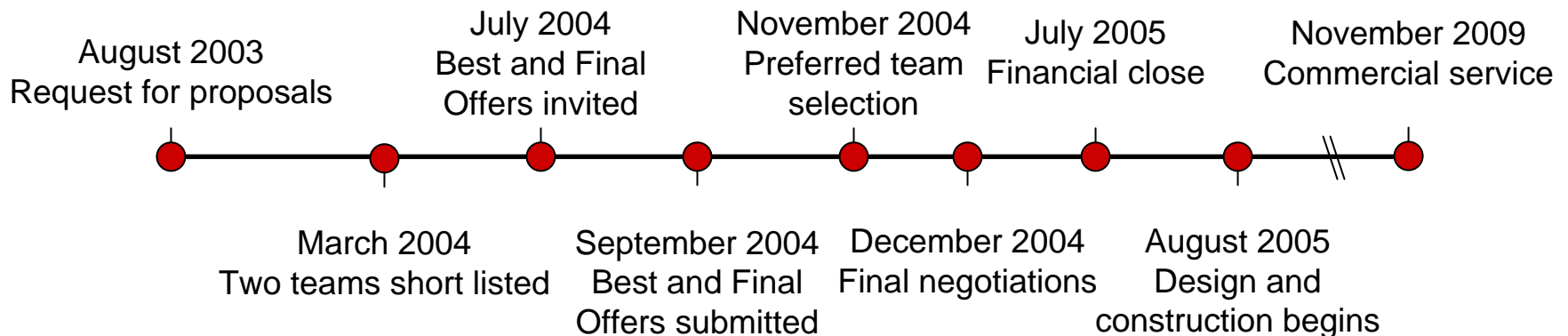


# Infrastructure Ontario work to date

- **IO retained internationally respected transportation engineering and financial advisory firms to support our preliminary VFM assessment of Metrolinx projects**
- **KPMG and MMM Group are sharing international transit development experience that represent potential AFP models for Ontario**
- **Risk matrix will outline the manner in which project risks can be transferred to the private sector under various AFP models**
- **The Metrolinx AFP evaluation framework should be completed by April 30, with subsequent application to the Metrolinx Category 1 and 2 projects**

# Canada Line introduction

- **19 km light rail line, 16 stations, 9 km of tunnel, 2 major bridges, fully grade separated and automated**
- **Airport to downtown service with 25 minute travel time, 5-7.5 minute headways, 15,000 passengers per hour**



Source: Canada Line

# Canada Line: Route



Source: Canada Line

# Canada Line: Objectives

- **High capacity system to serve well-developed, growing corridor/airport**
- **Completion pre 2010**
- **Well integrated with existing system/adjacent development**
- **Public/private finance**
- **Optimal risk transfer over project life**

*Source: Canada Line*

# Canada Line example: Work done prior to 2003

In September 2000, GVTA, the Province, VIAA, (Local Funding Agencies) and the Cities of Vancouver and Richmond agreed to participate in a three-phase project to evaluate the potential to build rapid transit in the corridor by 2010.

**1.**

**Defining the organization of the project and its objectives**

**2.**

**Evaluation of the need to build the line, the potential to fund it and the potential for private investment**

**3.**

- **Project Definition Phase: beginning of the procurement process**
- **Delivery of Project Definition Report, which defined project and its financial implications.**

*Source: Canada Line Final Project Report*



## Step 2: Develop public sector comparator (PSC)

- **Public sector comparator (PSC):** the estimated total project costs that would be realized with the traditional procurement model
- **Cost categories include base costs (includes design, construction, maintenance, lifecycle costs, etc.), risks retained and ancillary costs**
- **Estimates for each cost category are developed with experts:**
  - Base costs: third-party cost consultants
  - Financing costs: value for money advisors
  - Retained risks: risk workshop with IO staff and external advisors
  - Ancillary costs: pre-tender estimates

# Canada Line example: Development of public sector comparator

- **The PSC was effectively competing with the proposals put forward by the private sector proponents during each of the stages of the procurement**
- **PricewaterhouseCoopers retained to model and compare the net cost of the PSC with the project**
  - Reference project used for the PSC was peer-reviewed and value engineered by experts from Canada, the US and the UK to ensure it was capable of being constructed and operated efficiently
- **PSC methodology was reviewed by KPMG, a major international firm with significant P3 experience, and by a former B.C. Auditor General**

*Source: Canada Line Final Project Report*

## Step 3: Develop shadow bid

- ***The Shadow Bid***: the estimated total costs expected using Alternative Financing and Procurement
- **Methodology very similar to development of PSC**
  - Need to account for different cost categories

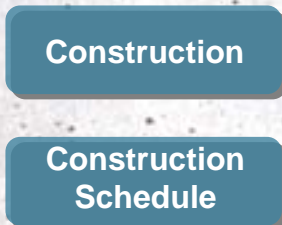
# Risk analysis and allocation

## Traditional

### Public Sector Risks



### Private Sector Risks

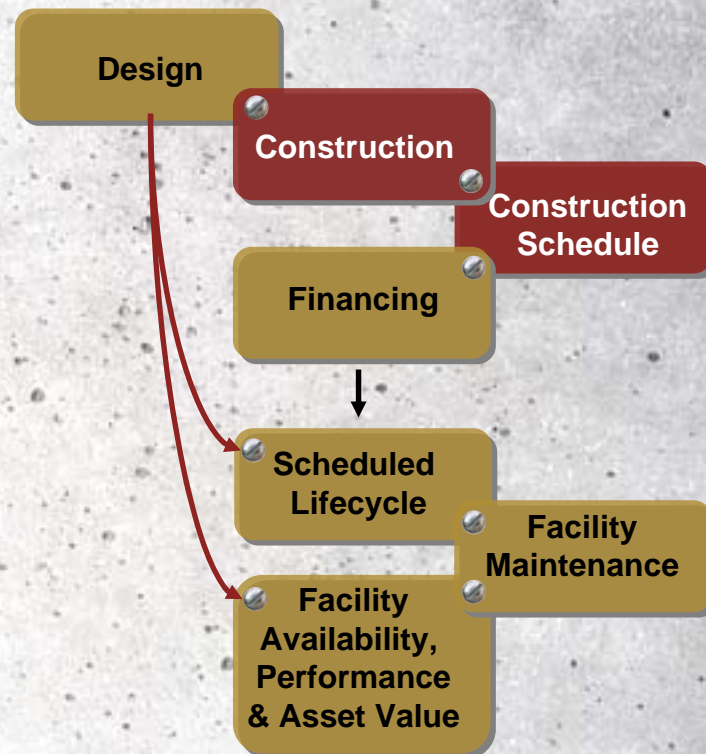


## AFP: Design-Build-Finance-Maintain (DBFM)

### Public Sector Risks



### Private Sector Risks



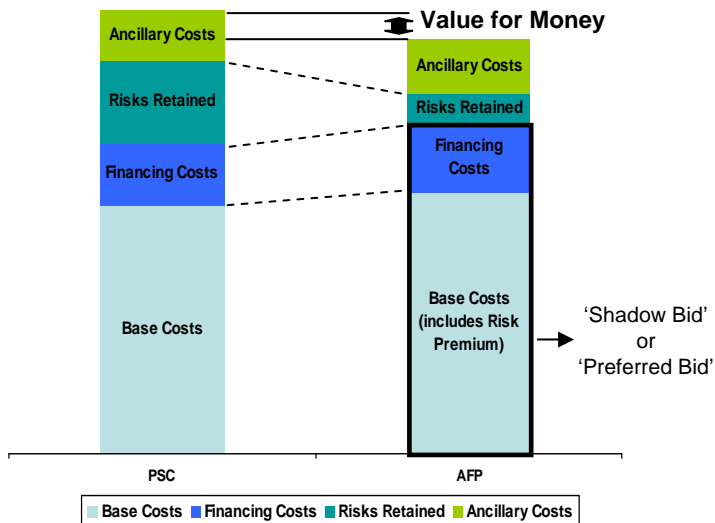
# Canada Line example: Risk assessment and allocation

	Risk	PSC	Project
	Land acquisition cost and schedule	Public sector risk	Public sector risk
SHARED	Cost of municipal and regulatory permitting	Public sector risk	Shared risk
TRANSFERRED	Delays in municipal and regulatory permitting	Public sector risk	Private sector risk
	Undisclosed environmental or archaeological liabilities	Public sector risk	Public sector risk
TRANSFERRED	Cost of design build packages	Public sector risk	Private sector risk
	Cost of construction	Private sector risk	Private sector risk
	Construction inflation (labour, steel, etc.)	Private sector risk	Private sector risk
TRANSFERRED	Construction delay	Public sector risk	Private sector risk
SHARED	Utility relocation cost/delay	Public sector risk	Shared risk
TRANSFERRED	Changed ground condition (tunnels and foundations)	Public sector risk	Private sector risk
TRANSFERRED	Design integration	Public sector risk	Private sector risk
TRANSFERRED	Integration between civil works and systems	Public sector risk	Private sector risk
	Public protest, legal action, embargo or blockade	Public sector risk	Public sector risk
	Reasonableness of behaviour of Agencies and Cities	Public sector risk	Public sector risk
SHARED	Force Majeure	Public sector risk	Shared risk
SHARED	Insurance costs	Public sector risk	Shared risk
TRANSFERRED	Condition of civil assets (over 35-year term)	Public sector risk	Private sector risk
TRANSFERRED	Operating performance (over 35-year term)	Public sector risk	Private sector risk
TRANSFERRED	Maintenance costs (over 35-year term)	Public sector risk	Private sector risk
TRANSFERRED	Useful life of trains and other systems	Public sector risk	Private sector risk
SHARED	Ridership revenues	Public sector risk	90% public, 10% private

Source: Canada Line Final Project Report

# Step 4: Determine value for money

- Value for money is a process of comparing estimated costs using two delivery models (PSC vs. AFP) to determine which is the better value proposition



- The cost difference between Model # 1 and Model # 2 is the estimated Value for Money
- AFP costs: Financing (incremental), Infrastructure Ontario overhead, Project advisors
- Key AFP benefit: Risk transfer
- The savings achieved through risk transfer more than offset additional AFP costs**

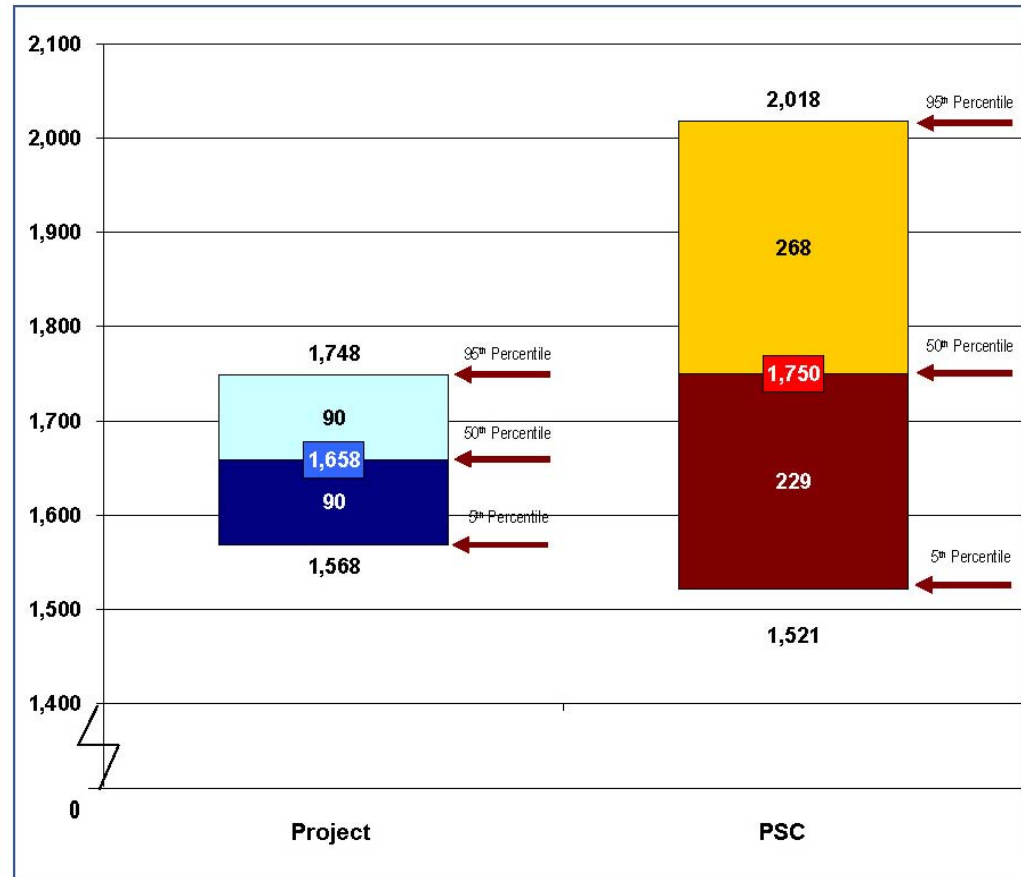
# Canada Line example: Determining value for money

<i>(Net cost, \$ millions, net present value)</i>	<b>Project</b>	<b>PSC</b>
<b>Procurement, management and net property costs</b>	<b>120</b>	<b>98</b>
<b>Construction costs</b>		
Risk-free estimate	1,382	1,263
Risk and contingency	30	242
	<b>1,412</b>	<b>1,505</b>
<b>Operating costs</b>		
Risk-free estimate	577	559
Risk and contingency	0	21
	<b>577</b>	<b>580</b>
<b>Cost of private capital</b>	<b>130</b>	<b>0</b>
<b>Gross cost</b>	<b>2,239</b>	<b>2,183</b>
<b>Incremental ridership revenue</b>	<b>(581)</b>	<b>(433)</b>
<b>Net costs</b>	<b>1,658</b>	<b>1,750</b>

Source: Canada Line Final Project Report

# Canada Line example: Financial impact of risks much higher in PSC

Range of expected cost of the project and PSC  
(\$ millions, net present value)



Source: Canada Line Final Project Report



# Other benefits of AFP and Infrastructure Ontario

- **Managing costs**
  - Optimal cost combination: combines capital, operating, maintenance and life cycle costs
  - Integration of design, construction and facilities management
  - Competitive whole life cycle cost proposals
  - Cost certainty
  - Delivery time certainty
- **Create right incentives**
  - Transfer financing
  - Payment mechanism

# Questions and answers

