

# Canadian Water Network Blue Cities 2017

## Progressive Planning for Financially Robust Water Systems

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# Overview

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## Topic

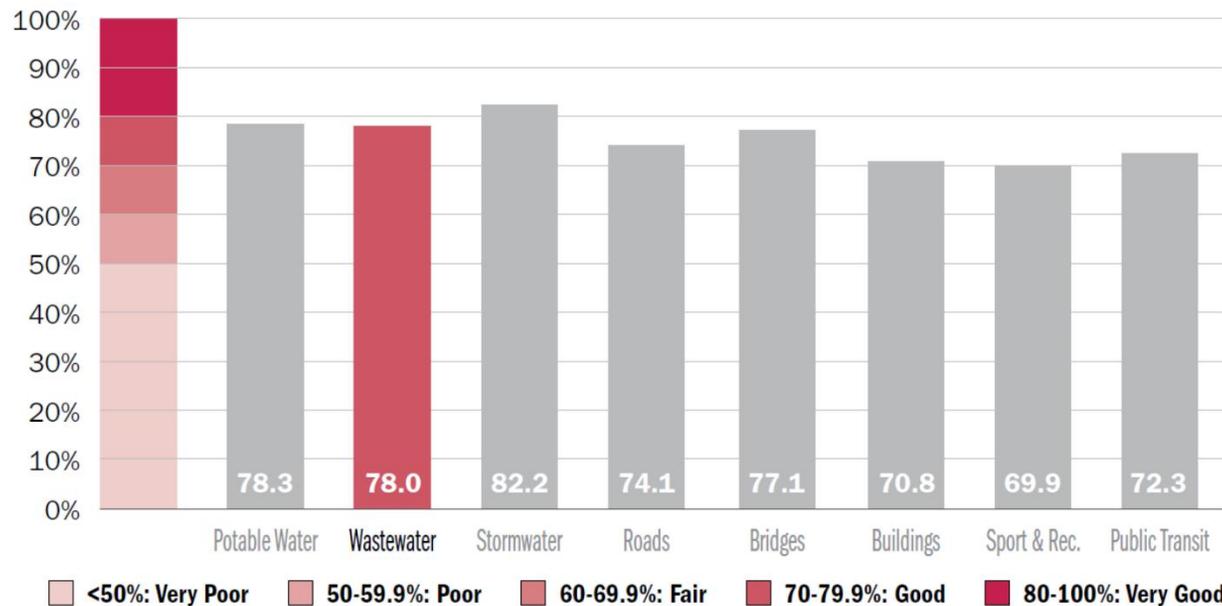
The water infrastructure gap is growing and the main source of revenue for water utilities in Canada is sales. What are the strategic and emerging financing options and rate structures that ensure affordability and long-term revenue stability?

## Focus of Presentation

- ▶ Infrastructure deficits and how are we doing?
- ▶ Planning for Expenses and Revenues of Water & Wastewater utilities
- ▶ Are P3s a good fit for Water & Wastewater assets?
  - ▶ Value for Money, Risk Assessment and Market Sounding
- ▶ Key elements for proper project planning, regardless of procurement model → Preventing over-time, over-budget projects

# Infrastructure Deficit – Wastewater Example

- ▶ A deficit is the difference between where you are and where you want to be based on: goals, commitments, leading practices, legislative requirements, etc.
- ▶ Ways to address an infrastructure gap or deficit → 3 ways
- ▶ Prevent trading one deficit for another → Balance of investments



FCM and Canada West Foundation have pegged Canada's existing public infrastructure deficit at over \$120 billion. FCM states that water and wastewater systems account for about 25% of that amount.

**Source:** *Informing the Future: The Canadian Infrastructure Report Card* © 2016

## Infrastructure Deficit – Wastewater Example (cont.)

- ▶ The situation is not dire in Canada, but a plan is needed!
- ▶ Efficiency of the operation is important → Public assets are only required for service delivery
- ▶ Resiliency and quality of infrastructure is essential → Investing more money does not equal better quality assets
- ▶ Solid utility management practices are crucial to maintain what is already owned
- ▶ Similar numbers to the ones shown below for wastewater on water assets

AVERAGE ANNUAL REINVESTMENT RATE		
	TARGET	CURRENT
<b>linear assets</b>	<b>1.0% to 1.3%</b>	<b>0.7%</b>
<b>non-linear assets</b>	<b>1.7% to 2.5%</b>	<b>1.4%</b>

**Source:** *Informing the Future: The Canadian Infrastructure Report Card* © 2016

# Planning for Expenses and Revenues

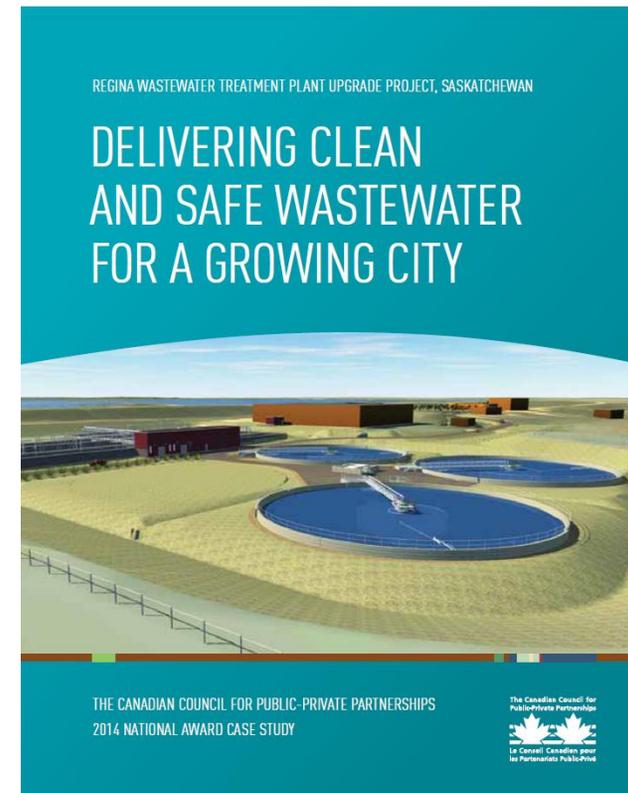
## Water & Wastewater utilities

- ▶ Expenses and Revenue strategy is more than just maintaining status quo in the future
- ▶ What do you and your shareholder(s) (e.g. municipal Council) want to achieve? What do your customers want and how will you meet their needs?
- ▶ Are there specific legislative or regulatory changes that need to be addressed?
- ▶ What level of reserves are required to deal with unforeseen circumstances? What is acceptable to customers and the regulatory agency (e.g. municipal board/public utility board)?
- ▶ Will you use debt to manage future needs?
- ▶ Infrastructure deficit considerations – acceptability on service delivery and risk management
- ▶ Financial plan should follow a forward looking strategy

Qualitative	Quantitative
Objective	Objective
Attract and retain industry	Affordability of the water and wastewater utilities
Maintain or improve quality service to customers	Financial reserves are appropriate for infrastructure renewal and emergencies
Compliance with federal and provincial regulations on water and wastewater	Balance between residential, small business and large industry customers concerning service provided and fairness on costs
Acceptability by the regulatory agency	Competitive rates compared with other communities in direct competition for industry, particularly in neighbouring jurisdictions
Environmental considerations (e.g. better environmental stewards)	
Able to be understood through open communication with customers	
Acceptability by customers	Full cost accounting of utilities

# Are P3s good for Water & Wastewater Projects?

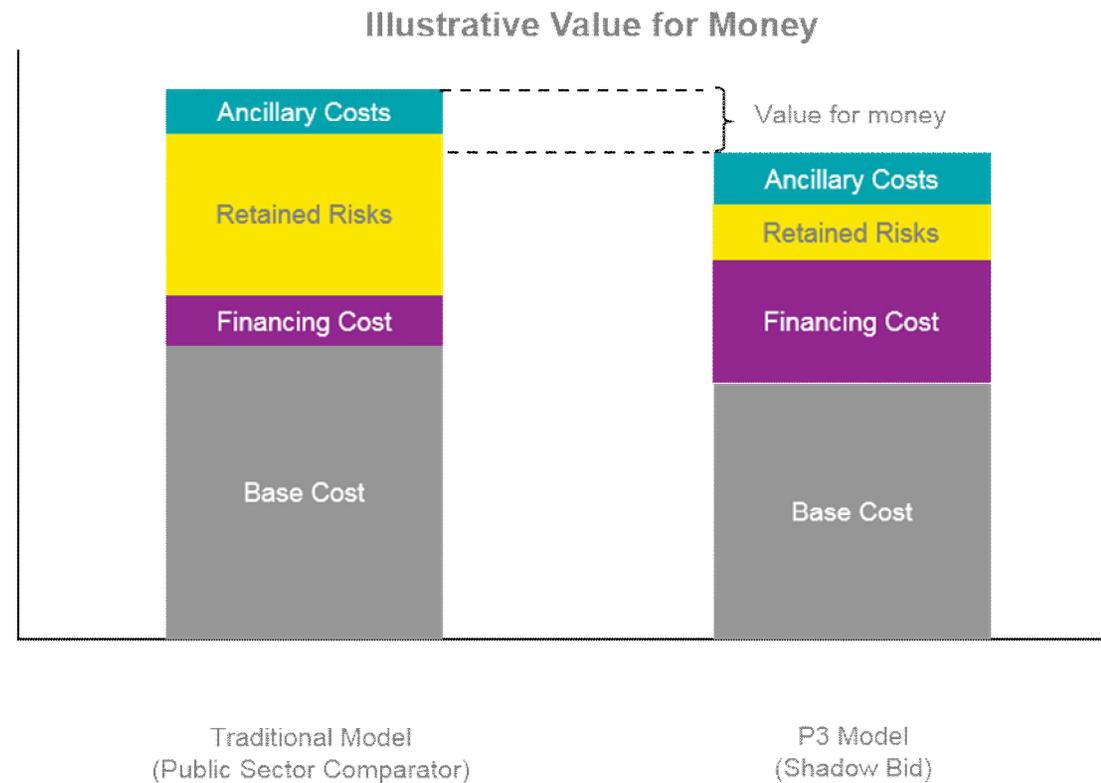
- ▶ P3s in Canada have been proven to deliver Projects on-time and on-budget, with significant value for taxpayer's money.
- ▶ According to the Canadian Council of P3's project database, there are 10 W & WW projects in Canada that have been delivered with at least short term private financing at risk (DBF, DBFO, DBFOM).
  - ▶ There are others in the pipeline (BC, AB, MB).
- ▶ There is considerable market interest – regular market sounding
- ▶ There is considerable opportunity for innovation on the design-build and operations phases due to integration
- ▶ W/WW projects much smaller than \$100 million could have P3 potential due to higher operations, maintenance and lifecycle costs compared to a road or building (e.g. hospital)
- ▶ There are case studies available to help determine if this path is right for you. It is not a 'one size fits all' approach!



# I want to consider P3 as an option

## What is Value for Money (VfM) in a P3 Environment?

- ▶ Assessment of which delivery option is estimated to produce the lowest overall cost – all costs considered on a like-to-like basis
- ▶ Best-practice process for P3 Business Case development that is utilized in many jurisdictions
- ▶ Many common factors between jurisdictions \$ but some differences
- ▶ Goal is to place risk to the party best able to manage that risk
- ▶ Cost of financing is higher in a P3 project, but this is more than made up by effective risk transfer
- ▶ **Risk is real and it's not free on major projects!**

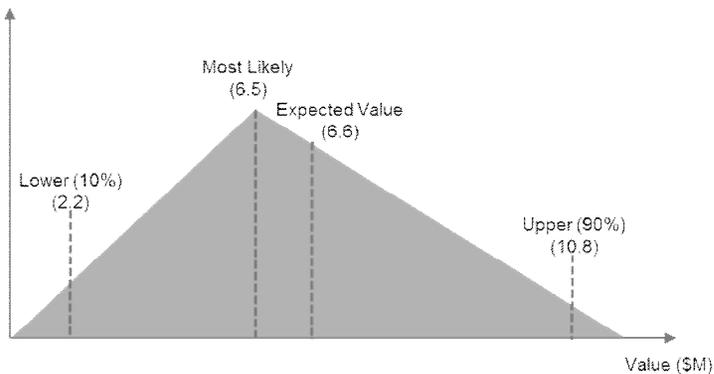


# I want to consider P3 as an option

## Risk Assessment in a P3 environment

- ▶ The risk methodology used is based on lessons learned, empirical evidence and best practice methodologies of the authority
- ▶ Not perfect science, but understanding risk is essential
- ▶ Risk valuation occurs in four steps: identification, allocation, assessment and mitigation (later in process)
- ▶ Risk is generally quantified using the following formula:

**Quantified Risk = Cost Basis x Probability x Impact**



**SAMPLE** →

Key Risk Allocation	
Risk	Typical Allocation
Construction Cost	Transferred
Construction Schedule	Transferred
Licence Compliance	Transferred
Effluent Quality	Transferred
Discharge Approval	Shared
Chemical Sludge Disposal	Transferred
Gas Emissions	Transferred
Facility Sizing	Retained
Method of Disposal	Transferred
Process Efficiency	Transferred
Regulatory Change	Shared
Latent Defects	Shared
Geotechnical	Transferred

# I want to consider P3 as an option

## Market Sounding

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- ▶ Is the size of the Project sufficient to warrant interest from the market considering other projects that are likely to be in procurement?
- ▶ Is the construction schedule reasonable? What are some potential constraints to achieving this timeline?
- ▶ Do you anticipate shortage of labour or engineering resource constraints during the timeframe?
- ▶ Are there any concerns with the proposed scope of the project?
- ▶ What do you view as the main risks that we should seek to mitigate prior to procurement?
- ▶ What might be some specific factors that may cause your company to not participate in the Project?
- ▶ What are the particular issues for the utility to consider to maximize value?
- ▶ What are some key assumptions we should be using from a financial perspective (e.g. debt to equity ratios)?

# What if P3 is not right for my Project?

## Key elements: proper procurement planning & execution

Action	Benefits
Third Party design and costing review	Reduce the amount of design error and refine costing with an external design and cost estimate review team. Investing this time and money somewhat replicates the process that each bidder undertakes in a P3 model and will mitigate cost and timeline risks.
Qualitative analysis	Understanding which qualitative and quantitative objectives are most important to the organization is crucial. If affordability or quality of service is most important, than the Project should be structured accordingly.
Risk valuation and mitigation	Development of a risk register with potential probabilities and impacts should be considered. Mitigation strategies can align with each risk or a collection of risks. The organization should be aware of the costs associated with major risks should they surface.
Market sounding	Sharing information about the project with the market allows for proper planning and alignment of resources. This is also an opportunity to obtain feedback from the market on the proposed plan. There are some key issues that your team should know before entering the procurement phase (i.e. timeline, technology, competition constraints, etc.).
Governance	Determining where decision-making authority resides and what processes look like should issues arise are extremely important. What do successful major projects have in common? Answer: solid governance processes.
Communications	Understanding your stakeholders and communicating plans early will prevent potential issues later. You should be aware that your neighbouring community is planning a major upgrade as well.
NPV of investment, including long-term OMR	Understanding lifecycle costs of a project is not only important, but it's essential to understanding the economics and long-term affordability of the Project. <b>Hope is not a plan!</b> Building the facility now and worrying about maintenance later is a path towards infrastructure deficits, poor service, unsustainability and high risk. Leaders (elected and non-elected) need to be aware of future liabilities. Many organizations are now using Net Present Value analysis to compare feasible options.

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