

# Public Infrastructure

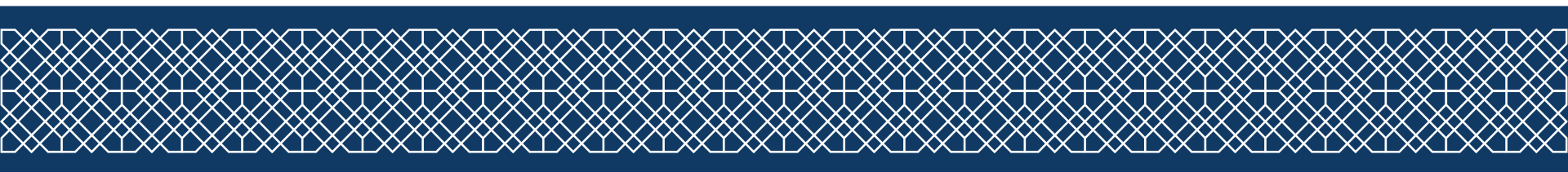
## Best Practices in Measurement and Performance Frameworks

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# The Context

- Over \$180B invested in Canada Infrastructure Plan.
- Approx. \$8B per annum federal historic infrastructure spend from 2011-12 to 2015-16\*
  - Not including provincial and municipal investments
- Infrastructure investments touted to improve economic competitiveness, promote environmental and social outcomes
- So, how are we doing?

# We Just Don't Know

- Almost no information on how our current infrastructure stock is performing
  - Service levels or benefits realization
  - Complete lack of information on performance and measurement
- Money out the door and number of projects approved is wholly insufficient

# The Canadian Infrastructure Challenge

- Federated system with varying roles and responsibilities across the three orders of government
  - Mismatch between taxation powers and operations responsibilities
- No common data language or architecture

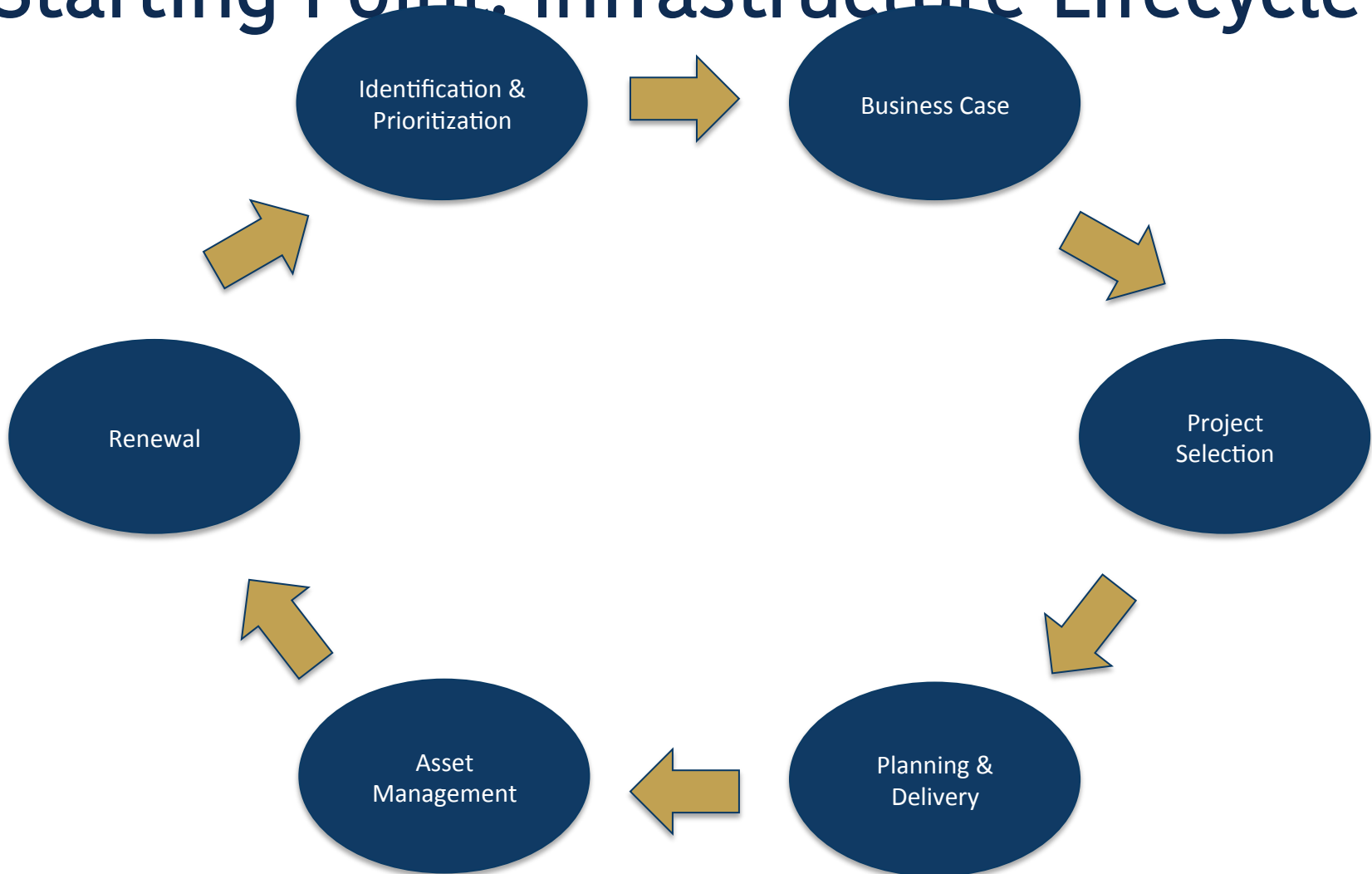
# Why This Matters

- Significant \$180B Plan for the next 12 years
- These infrastructure investments are being deficit-financed at a time when the economy is firing on all cylinders
  - Increases the need to ensure that the future Canadians who will be paying for our spending today will get a strong ROI from these investments in the form of a higher standard of living

# IFSD Research on Infrastructure

- Survey of international infrastructure decision support practices
  - Better understand the data, measurement and performance frameworks as well as the data analytics underlying decision-making
- A deep-dive survey was performed on four jurisdictions

# Starting Point: Infrastructure Lifecycle



# Key Decision Support Points

- **Project Assessment**: Strategic fit assessment to determine whether a new infrastructure project proposal merits the resources required to complete a detailed business case
- **Business Case**: A detailed business case that identifies the benefits, lifecycle costs, options analysis and recommended course of action for proposed infrastructure projects
- **Project Prioritization**: Ranking infrastructure projects that have a completed detailed business case



# Key Decision Support Points

- **Project Selection**: Selecting infrastructure projects that will yield the most benefits within the fiscal envelope available at that given time
- **Infrastructure Stock Assessment**: Evaluating the financial, demand and service performance to ensure the existing infrastructure asset base is being optimized
- **Asset Renewal**: Assessing when an infrastructure asset has reached the end of its life cycle and asset renewal is the most cost-effective course of action

# Findings of the Survey

- There was no single best-practice jurisdiction when considering the end-to-end infrastructure lifecycle
- Performance and measurement frameworks were weak and a continued work in progress
- There were pockets of excellence with respect to the foundation elements needed to enable evidence based infrastructure decision-making

# Findings of the Survey (cont'd)

- The best practice jurisdictions were focused on extracting the maximum value out of the existing infrastructure stock, **not building new infrastructure**
- Technology advancements are significant
  - Need to future proof infrastructure against obsolescence
  - **Past is not necessarily prologue**
- Smart infrastructure: In the future, the data will have a higher value than the physical infrastructure
  - High-quality data is the foundation for infrastructure analytics and decision-making

# Foundation Elements

- Knowing where you are
  - Current stock assessment
- Knowing where you need to go
  - Future needs analysis
- Knowing the difference between where you are and where you need to go
  - Infrastructure gap

# Performance & Measurement Frameworks

- We need to develop the architecture to show the logical linkage between individual infrastructure assets and how they contribute to long-term outcomes
  - Need a performance measurement framework around infrastructure outcomes and Canadians standard of living
  - Link the service levels of individual infrastructure assets and asset classes to long-term outcomes

# “It’s the metadata, stupid...”

- We need data standards around how we evaluate the performance of our current infrastructure stock
  - Ensure comparability and most importantly allow for ranking and prioritization across multiple infrastructure asset classes
- Without high-quality infrastructure data underlying them - measurement and performance frameworks will be meaningless

# Where Does Canada Stand?

1. We don't know where we are.
2. We don't know where we need to go.
3. We are falling further and further behind our peer jurisdictions

# What Does Canada Need to Do?

- Develop infrastructure metadata standards that are consistent across the three orders of government
- Develop a national infrastructure plan that is based on a bottom-up, evidence driven and systematic future needs analysis
- Start a national discussion on infrastructure planning & delivery



# What Will Success Look Like?

- Federal infrastructure dollars will be funding provincial and municipal **plans**, not projects
- Individual infrastructure projects and allocations will provide the evidence with respect to their contributions towards reducing the infrastructure gap and raising the standard of living

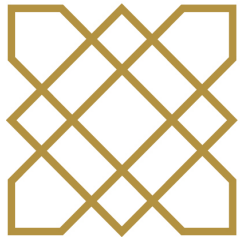
# How Can Evaluators Contribute?

- The end-to-end infrastructure lifecycle highlights the importance of the data and evidence flowing both up and down the lifecycle
- Evaluations of completed infrastructure projects should inform the business cases of new infrastructure projects in the same asset class or same asset type

# The IFSD Workplan

- Leverage infrastructure metadata standards and apply in the Canadian context
- Commence research work on Canada's future infrastructure needs
- Start developing a Canadian infrastructure performance architecture that will act as an interface between the current stock performance and the future needs analysis

# For More Information



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