



# TTC's Capital Program Delivery Review

TTC Board Briefing

September 28, 2016

# Agenda

- **Background**
- **General Findings**
- **Recommendations**
  - Governance & Policy
  - Relationships & Competency
  - Process & Procedures
  - Data & Analysis
  - Tools & Technology
  - Implementation & Monitoring
- **Next Steps**
- **Appendices**
  - List of Recommendations
  - Stage Gate Process
  - Estimate Classifications
  - Procurement Options Analysis Framework



# Background

# Background - Scope & Deliverables

KPMG's scope was as follows:

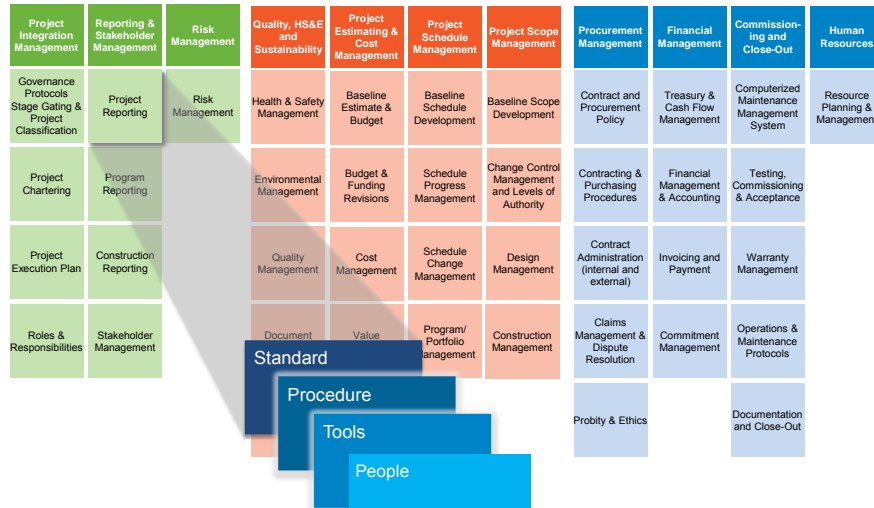
- *“review project management practices at the TTC with respect to the delivery of the Capital Program, and provide recommendations to staff that will assist the organization to improve capabilities for managing capital projects and programs. The TTC Capital Program Review seeks to achieve the following goals:*
- *Improve the organization's project and program management performance by learning from past experience;*
- *Support continuous improvement efforts underway at the TTC, including the continued implementation of the TTC Portfolio Management Office (“PfMO”) established in 2014;*
- *Assess project governance structure and protocols for reporting of project status, to ensure the appropriate level of transparency and accountability to project sponsors and stakeholders; and*
- *Provide guidance on project delivery options and project management requirements for projects of varying size, scope, and complexity. ”*

- KPMG reviewed 13 projects, 50+ policies & procedures, and interviewed 65+ people.
- Our final deliverable takes the following form:
  - **Executive Report**
    - Executive Summary
    - Background
    - Current State
    - Gap Analysis & Recommendations
    - Next Steps
  - **Appendix A – Project Management Maturity Assessment**
  - **Appendix B – Project Complexity & Risk Assessment**
  - **Appendix C – Procurement Options Analysis Framework**



# General Findings

# Project Management Maturity



- KPMG methodology and tool used globally
- Based on industry standards (Project Management Institute)
- Measure 196 discrete areas across 5 categories
- Compare with data of 150+ clients
- Rate on a 4 point scale:

## 1 - Informal

process/control is not fully developed, where little or no documentation or formalized procedure exists, where the project manager may be creating process/documentation in the absence of corporate direction.

## 2 - Standardized

process/control has been designed and appears adequately documented but appears to function at or below peer level, without a monitor/control loop.

## 3 - Monitored

process/control appears adequately documented for standardized use across the organization and appears to function appropriately when compared to peers, complete with an monitoring/performance management process (i.e. reporting on KPIs).

## 4 - Optimized

process/control appears well documented for standardized use across the organization, appears to outperform peers, activity is continuously monitored in a way that may be automated (IT system) with live data, process has a continuous improvement feedback loop.

Informal

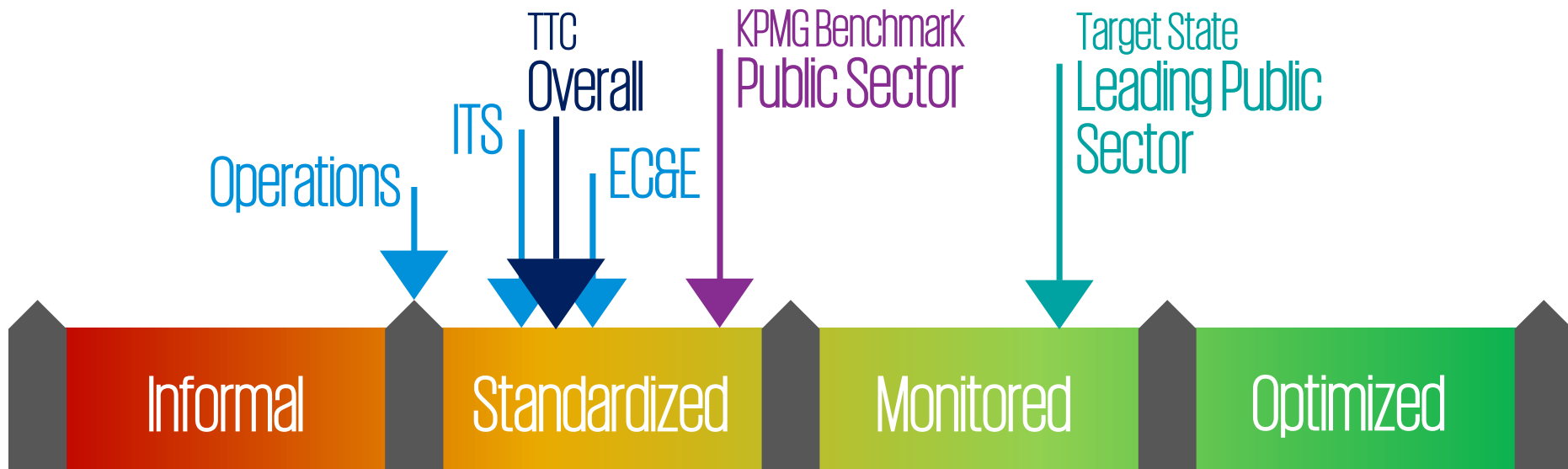
Standardized

Monitored

Optimized

# Project Management Maturity

- Project management practices were reviewed for 3 Departments : Engineering, Construction & Expansion (“EC&E”), Operations, and Information Technology Services (“ITS”).



- Two important considerations
  - Maturity is independent of project complexity.
  - Return on Investment (“ROI”) decreases as project management maturity is improved to ‘Optimized’.

# Recommendations – three key takeaways

Three key takeaways:

- 1) Opportunities to improve processes around the integration of planning and capital programming. This includes areas such as; stage gate processing, risk based estimating & budgeting, and contingency management.
- 2) There are improvements to be made on the governance of the capital program at all levels including organizational structure, accountability, appropriate capabilities, and independent oversight.
- 3) Implementation of the report's 41 recommendations will help the TTC get to a "Monitored" state over time.



# Recommendations – six key themes

- Opportunities for improvement:
  - Exist both early in project planning and later throughout the delivery phase
  - Many good processes exist within departments of the TTC but need to become corporate standards
  - Need for broader commercial management experience in the delivery of capital projects
- 41 Recommendations grouped into six key themes:

**Governance & Policy**

**Process & Procedure**

**Data & Analysis**

**Relationships &  
Competency**

**Tools & Technology**

**Implementation &  
Monitoring**

# Recommendations – Governance & Policy

- The **Organizational Governance** between the TTC and City requires more definition
- The **Project Governance** structure of the TTC is appropriate for the majority of projects
  - Where the TTC is owner/operator, they should continue to be responsible for capital project management – ***Project responsibility & delivery can be independent***
- Improvements include:
  - Empower the existing governance structure
  - Provide tools to support governance entities
  - Develop a project management framework
- Ensure alignment of City and TTC governance frameworks
  - Stage Gated Project Approvals – ***increased rigour & reporting***
  - Project Complexity & Risk Assessments – ***guides decision-making***
  - Procurement Options Analysis – ***procurement model is an output, not input***
- Give project leadership ultimate accountability for the project and its team, throughout the project lifecycle

# Recommendations – Processes & Procedures

- Mature processes & procedures exist in pockets
  - Further leveraging required
    - corporate minimum standards
    - across departments
  - Revision required
    - scalable for varying project complexity
    - adaptable to multiple procurement models
  - Expand reach
    - Risk Management
    - Budgeting & Estimating
  - Create new or significantly expand
    - Contingency Management
    - Procurement Management
    - Commercial Management

# Recommendations

## Relationships & Competency

- Interfaces between the City and TTC impact capital project performance
  - Improve interface relationships, both internal & external
- Formalize the internal City and TTC stakeholder engagement
- Make ‘strong’ matrixed project teams
- Provide stronger centralized support
- Improve commercial competencies
- Strengthen staff engagement

## Data & Analysis

- The right decisions require access to the right information at the right time
- Clearly communicate assumptions (e.g. estimates)
- Use accurate & timely originating data
- Align Key Performance Indicators (“KPIs”) to strategic objectives
- Use forward-looking KPIs to measure project performance

# Recommendations

## Tools & Technology

- Develop from within with active engagement of end users
- Simple tools can supplement existing processes prior to extensive transformation
- Create an ecosystem of solutions – leverage existing and coming systems

## Implementation & Monitoring

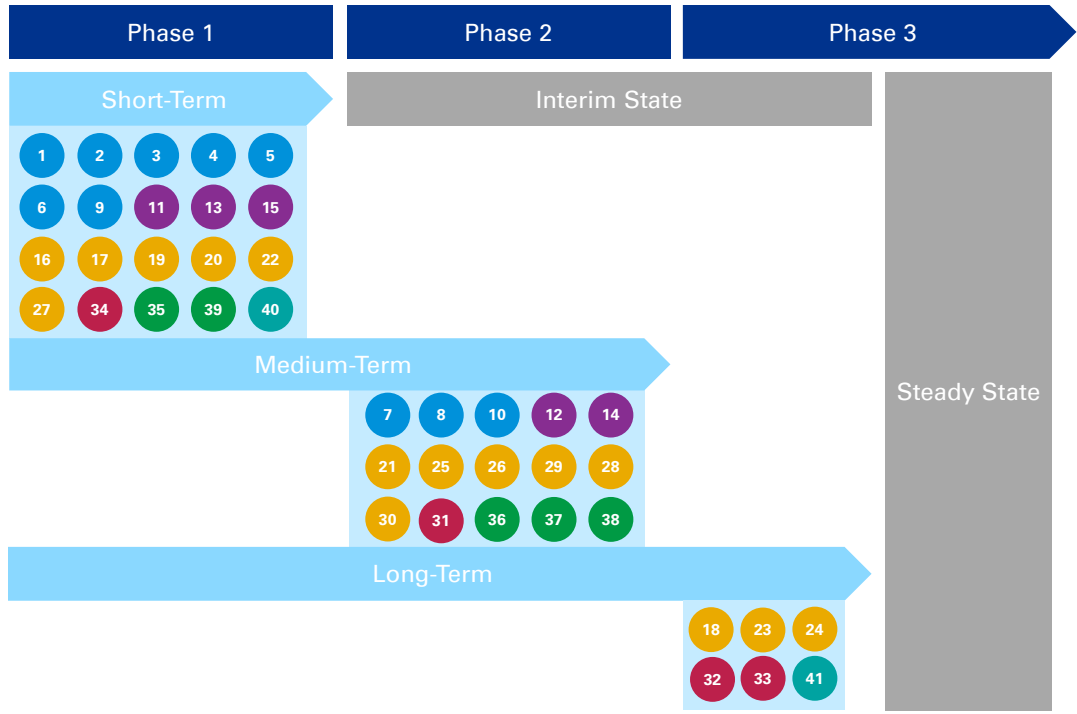
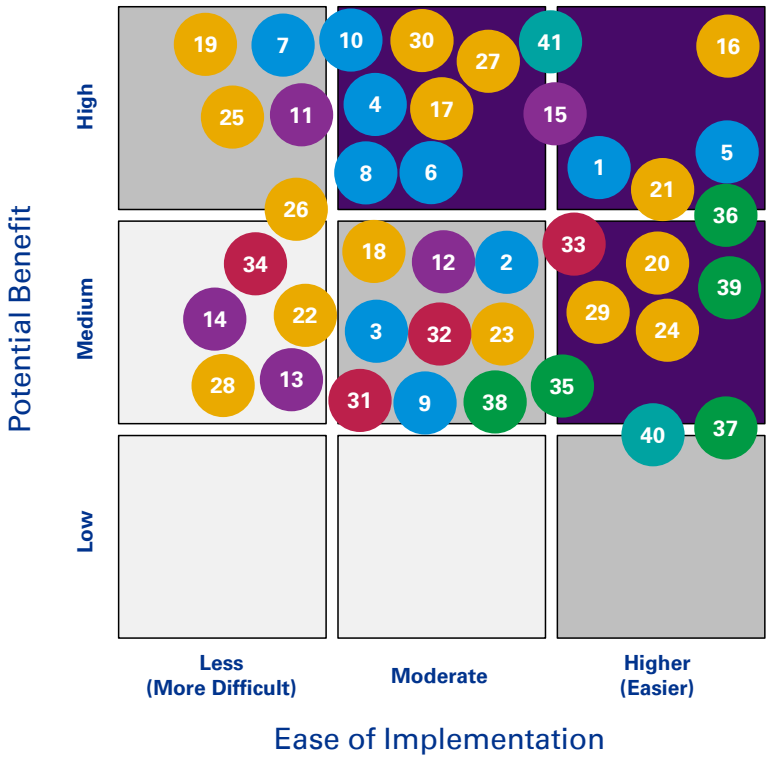
- Strong centralized support required (i.e. PfMO)
- Independently monitor projects (i.e. PfMO or Internal Audit)
- Ensure continuous improvement of policies, processes and control

# Next Steps – Prioritization

- Measured in two ways:
  - Potential benefit
  - Ease of implementation
- Delivered over multiple phases – short, medium, long term
- Introduce changes as pilot programs during upcoming projects
  - Scarborough Subway Extension
  - McNicoll Bus Garage
- Resources required for full implementation yet to be quantified

# Next Steps - Prioritization Matrix & Timeline

- Governance & Policy
- Data & Information
- Procedures & Standardization
- Tools & Technology
- Relationships & Competency
- Implementation & Monitoring





# Appendices



# 41 Recommendations within 6 Key Themes

## Governance & Policy

- 1 PfMO Mandate
- 2 Capital Program Strategic Objectives
- 3 Governance Mandates
- 4 Empower Oversight Bodies
- 5 Develop Governance Toolkits
- 6 Corporate Project Management Framework
- 7 Authority of Project Team
- 8 Performance Metrics of Strategic Objectives
- 9 Portfolio Management Resources
- 10 Stage Gate Process

## Relationships & Competency

- 11 Roles & Responsibilities
- 12 Stakeholder Management
- 13 Change Management Resources
- 14 Organizational Structure
- 15 Minimum Competencies

## Process & Procedure

- 16 Setting a Maturity Target of 'Monitored'
- 17 Corporate Minimum Standards
- 18 Group Specific Standards
- 19 Portfolio-level Risk Management
- 20 Corporate Estimating Process & Procedure
- 21 Risk Adjusted Estimates
- 22 Holistic Scope Definition
- 23 Planning/Estimating Sub-Gate Process
- 24 Planning/Estimating Communication Guidelines
- 25 Risk-based Contingency
- 26 Management Reserve
- 27 Delivery Options Process
- 28 Project Manager ownership of Procurement
- 29 Integrative Procurement Management
- 30 Commercial Management

## Data & Analysis

- 31 Data Source Identification
- 32 Capital Program Data Strategy
- 33 Performance Metrics Reporting
- 34 Consolidated Reporting

## Tools & Technology

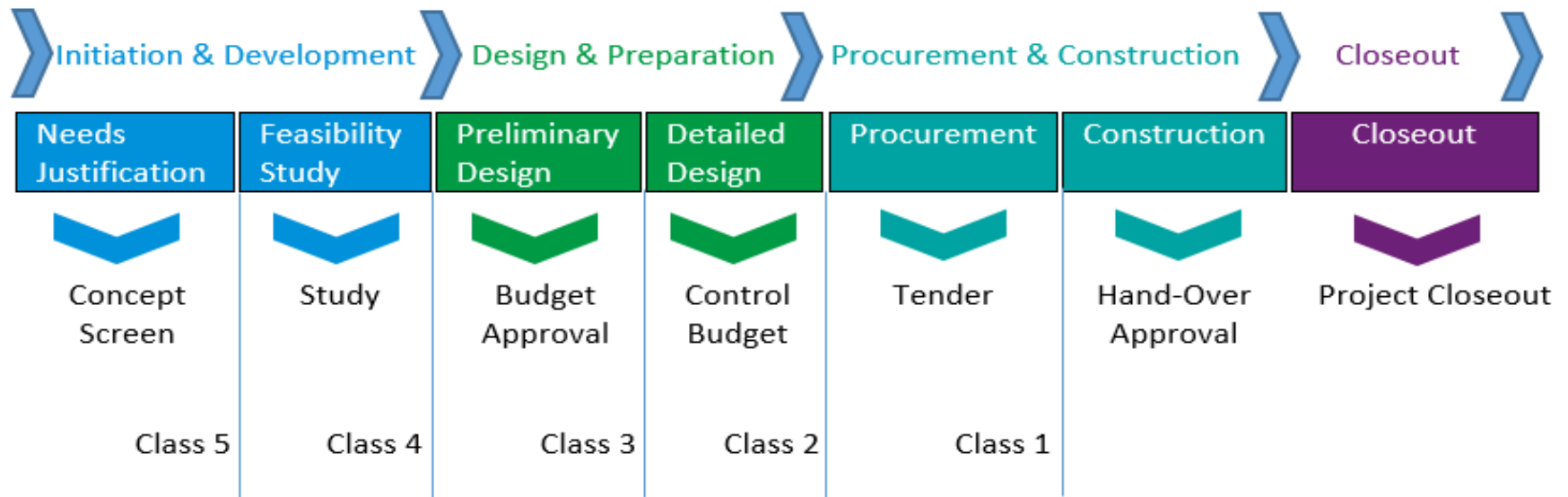
- 35 Needs Driven PMIS Planning
- 36 Integrated Project Management Tool
- 37 Procurement System Risk Assessment
- 38 Leveraging System Add-ons
- 39 Tool & Technology Change Management

## Implementation & Monitoring

- 40 Corporatized Standards Change Process
- 41 Centralized Project Monitoring

# Stage Gate Process

- Divides major capital project
- Requires formal submittals to be signed off prior to advancing
- Hold points at major stages of the project
  - Approval 'gates' ensure project components are aligned
- Used where the City hold responsibility for planning
  - Process should align between the City and the TTC



# Estimate Classifications

Estimate Class	Level of Project Definition	End Usage	Expected Accuracy Range
<b>Class 5</b>	0% to 2%	Concept Screening	L: -20% to -50% H: +30% to +100%
<b>Class 4</b>	1% to 15%	Study	L: -15% to -30% H: +20% to +50%
<b>Class 3</b>	10% to 40%	Budget Approval	L: -10% to -20% H: +10% to +30%
<b>Class 2</b>	30% to 70%	Control Budget or Tender	L: -5% to -15% H: +5% to +20%
<b>Class 1</b>	50% to 100%	Check Estimate or Tender	L: -3% to -10% H: +3% to +15%

# Procurement Options Analysis Framework

