



STAFF REPORT ACTION REQUIRED

Capital Delivery Review Implementation Plan

Date:	December 20, 2016
To:	Toronto Transit Commission Board
From:	Chief Executive Officer

Summary

The TTC provides stewardship over a \$9.44 billion 10-year base capital program (incl. \$1.95 billion unfunded), primarily for state-of-good-repair, legislated upgrades and growth of existing assets, and an additional \$6.8 billion in funded transit expansion projects.

In September of 2016, the Board endorsed the final report from KPMG on the TTC Capital Delivery Review. The report included 41 recommendations on how to advance the stewardship of capital projects to meet or exceed international best practices. As outlined in this report, staff has developed a work plan, referred to as the TTC's Project Management Maturity Plan (PMM Plan), to take immediate action on all of KPMG's recommendations.

The PMM Plan includes a detailed schedule, resource assignments, and budget estimates for how the TTC will improve key processes to a world-class level. The first six to twelve months will see significant advances as minimum corporate expectations are set to improve governance, management processes and oversight throughout the project lifecycle. Major projects, such as Scarborough Subway Extension, Relief Line, McNicoll Garage, etc. will be brought in line with these new standards within this same timeframe.

Initial implementation across the entire portfolio of 300 projects will be complete within two years and, consistent with Transport for London and other leading public sector organizations, full adoption and achievement of the target state will take four years (Ref. Page 7). The recommendations the greatest immediate improvement potential are captured along with their benefits, next steps, cost and required resources in the Top 10 Priorities section of this report.

It is currently estimated that 40 capital resources will be required to implement and build permanent capacity to maintain the steady state in areas such as project estimating, scheduling, commercial management, delivery options analysis, risk management and oversight. The 2017-2026 Capital Budget currently includes a request for three capital

positions. To close the gap, internal offsets will be found and, if required, additional headcount will be requested through the 2018-2027 Capital Budget process.

To accelerate early deliverables (i.e. doing discrete packages of scope, reviewing work performed by staff, facilitating and providing third-party advice, etc.) and to ensure the adoption of international best practices, external consultant support is currently estimated to cost between \$1 - \$3 million. Examples of work the consultants would be requested to assist with include, assistance on the development of the TTC's corporate project management framework, development of governance toolkits (and associated guidelines and training), standards for commercial management, etc. The 2017-2026 Capital Budget submission includes a request for \$2 million over the first two years. If required, additional funding will be requested through the 2018-2027 Capital Budget process.

The TTC's CEO Office engaged KPMG to participate throughout the development of the PMM Plan. KPMG has verified that the plan meets the intent of their recommendations and that the estimated duration is consistent with leading organizations. KPMG have also confirmed that the estimated cost and resource needs are within the expected range.

It is proposed that starting in December of 2017, an annual third-party report be transmitted to the Board to track the TTC's progress against the Project Management Maturity Plan

Recommendations

It is recommended that the TTC Board:

1. Approve the preliminary Project Management Maturity Plan as outlined in the body of this report;
2. Request staff report back on a semi-annual basis beginning in June 2017 to provide an updated Project Management Maturity Plan along with the status of progress made against the plan;
3. Request staff transmit an annual third-party report to track progress against the Project Management Maturity Plan beginning in December 2017; and
4. Direct staff to forward this item to the City Clerk for consideration at the January 19, 2017 meeting of the Executive Committee on Item EX18.26: Toronto Transit Commission Capital Program Delivery Review.

Implementation Points

The next steps, to be taken in parallel, are to:

- Issue an RFP to engage consultant support for implementation of the Project Management Maturity Plan;

- Identify internal offsets to secure resources required for 2017 over and above the three requested through the 2017-2026 Capital Budget submission;
- Begin work immediately on the Top 10 Priorities as detailed on Page 8 of this report;

There are a number of arrangements in place to provide ongoing stewardship and oversight to the development and implementation of the PMM Plan. Starting in January 2017, the TTC's Chief of Staff, who is responsible for the Portfolio Management Office, will Chair an internal steering committee dedicated to the successful completion of the plan. The existing Project Review Board, chaired by the CEO and consisting of key Chiefs and staff responsible for project delivery and oversight, will provide oversight and serve to keep the entire TTC's Executive team engaged in the plan's successful delivery. The CEO in turn will provide and update to the TTC Board on a semi-annual basis to ensure ultimate accountability.

Financial Impact

The Project Management Maturity Plan is preliminary. Requirements for capital headcount and funding are currently early estimates, which will be adjusted as the plan matures. As recommended through this report, an update to the plan along with more mature estimates of cost and resources will be reported to the TTC Board in June 2017.

It is currently estimated that 40 capital resources will be required to implement and build permanent capacity to maintain the steady state in areas such as project estimating, scheduling, commercial management, delivery options analysis, risk management and oversight. The 2017-2026 Capital Budget currently includes a request for three capital positions. To close the gap, internal offsets will be found and, if required, additional headcount will be requested through the 2018-2027 Capital Budget process.

To accelerate early deliverables (i.e. doing discrete packages of scope, reviewing work performed by staff, facilitating and providing third-party advice, etc.) and to ensure the adoption of international best practices, external consultant support is currently estimated to cost between \$1 million and \$3 million. The 2017-2026 Capital Budget submission includes a request for \$2 million over the first two years. If required, additional funding will be requested through the 2018-2027 Capital Budget process.

At the upper limit of current estimates, the cost of implementation is 0.4% of the capital program and the annual overhead cost for the steady state is 0.2% going forward.

The Chief Financial & Administration Officer has reviewed this report and agrees with the financial impact information.

Decision History

At its meeting of September 28, 2016, the Board received the presentations for information and approved the recommendations in the staff report, as follows:

1. The TTC Board request the Chief Executive Officer, TTC to report to the December 2016 meeting of the TTC Board on an implementation plan, identifying timing and any new capital resources or investment required.
2. The TTC Board request the Chief Executive Officer, TTC to work in partnership with the City Manager to review and develop the implementation plan for recommendations that form part of Group 3 [of the] report.
3. The TTC Board request the Chief Executive Officer, TTC to provide a semi-annual report to the TTC Board on the status of implementing the recommendations contained in [the] report.

The Board also approved the following motions:

4. Request that the City Manager initiate a review of the City of Toronto capital program delivery, including a review of project management of major capital projects for all City departments and other Agencies, Boards, and Corporations; staff reporting mechanisms to City Council and/or boards; and future options for project management and delivery of major capital projects;
5. Request that the City Manager report back to Executive Committee and the TTC Board on the feasibility of a Major Capital Project Task Force. The Task Force would provide project management and coordination for all major capital projects for City departments, and Agencies, Boards, and Corporations. Resources for this group should be found within existing budgets and would be comprised of senior staff from Engineering and Construction Services, Transportation, the TTC and other departments with project delivery expertise.
6. Request that the City Manager report on which of the 41 recommendations found in the TTC Capital Program Delivery Review have been or will be adopted by the City.
7. Request staff to transmit this report and the Board's decision to the Executive Committee of City Council and to advise the Executive Committee that an implementation report will be coming forward to the Board in December and will be forwarded to the Executive Committee at that time.

Note: The Executive Committee, at their meeting in October, deferred the final report on the TTC Capital Program Delivery Review and requested it be brought back in January along with the implementation plan (this report).

Motion:[http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2016/September 28/Reports/Decisions/TTC Capital Program Review.pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2016/September%2028/Reports/Decisions/TTC%20Capital%20Program%20Review.pdf)

Issue Background

In March 2015, City Council directed the City Manager to retain the services of an independent consultant to review TTC capital program delivery and provide a report to the TTC Board.

As directed, the City Manager's Office retained the services of KPMG's Capital Advisory Group to conduct the review, in order to support continuous improvement in the delivery of capital projects at the TTC.

In September 2016, the final report from KPMG on the TTC Capital Delivery Review was presented with full endorsement from the TTC's CEO. The report included 41 recommendations on how to advance the stewardship of capital projects to meet or exceed international best practices. As outlined in this report, staff has developed a work plan to take immediate action on all of KPMG's recommendations.

Accessibility/Equity Matters

The implementation of this work provides an opportunity to significantly advance the application of the TTC's new accessibility and equity lens. The TTC's business case process requires the use of the lens for newly proposed projects; however, staff will continue to look for opportunities to apply the lens throughout the relevant project management processes in an effort to progress towards the TTC's ultimate goal of being barrier free when it comes to all accessibility and equity matters.

Capital projects will comply with the Accessibility for Ontarians with Disabilities Act and all other applicable legislation to ensure barrier free access for TTC customers.

Comments

The TTC has developed an implementation plan to address KPMG's recommendations from the TTC Capital Program Delivery Review.

The work plan, referred to as the TTC's Project Management Maturity Plan (PMM Plan), includes a detailed schedule, resource assignments, and budget estimates for how key TTC processes will be improved to world-class, standardized across the organization, and put into a cycle of continuous improvement.

The Project Management Maturity Plan was developed by a cross functional working group with representation from across the TTC. For recommendations identified in the

City Manager/CEO report of September 28, 2016 that require the TTC to work in partnership with the City, the City Manager’s Office were consulted .

The TTC’s CEO Office engaged KPMG to participate throughout the development of the PMM Plan. KPMG has verified that the plan meets the intent of their recommendations and that the estimated duration is consistent with leading organizations. KPMG have also confirmed that the estimated cost and resource needs are within the expected range.

A preliminary matrix of required deliverables was developed, identifying ownership, durations, resources requirement and costing for both implementation and steady state. The 41 recommendations and the 84 deliverables required to implement them were then grouped into seven work streams based on relevance and interdependencies. Together these work streams roll up to form the high level Project Maturity Plan as shown in Chart 1 (below) and as broken down in greater detail in Appendix 1.

TTC Project Management Maturity Plan

The work plan, which is referred to hereafter as the TTC’s Project Management Maturity Plan (PMM Plan), includes a detailed schedule, resource assignments, and budget estimates for how key TTC processes will be improved to world-class. The first six to twelve months of the plan will see significant advances as minimum corporate expectations are set to improve governance, management processes and oversight throughout the project lifecycle. Major projects, such as Scarborough Subway Extension, Relief Line, McNicoll Garage, etc. will be brought in line with these new standards within this same timeframe.

Initial implementation across the entire portfolio of 300 projects will be complete within two years and, consistent with Transport for London and other leading public sector organizations, full adoption and achievement of the target state will take a total of four years (Ref. Page 7).

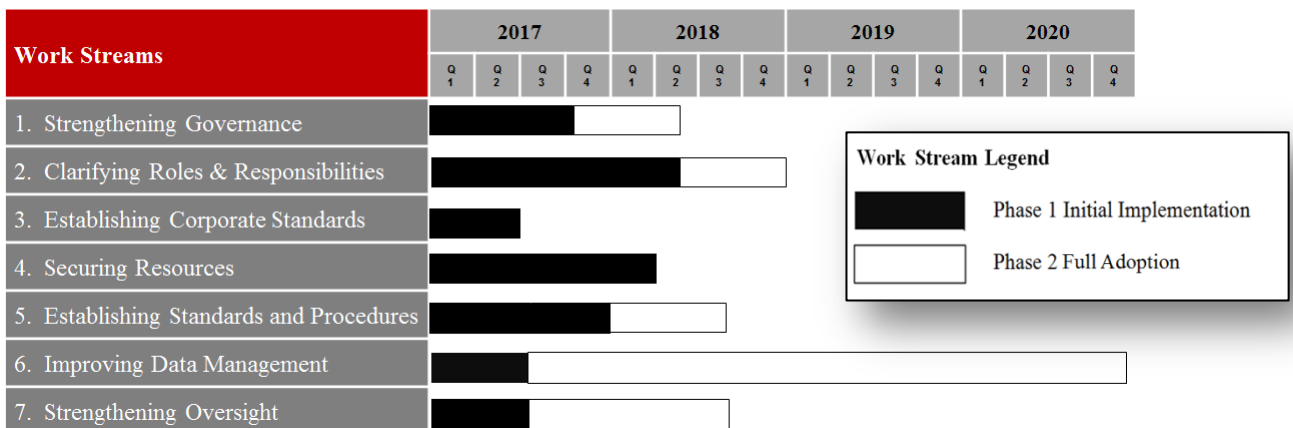


Chart 1 – TTC Project Management Maturity Plan

To ensure that the advancements take hold, the plan includes estimates on the time for full adoption (e.g. establish and deploy standards, processes, guidelines, tools, training, etc.). Finally, the PMM Plan concludes after four years when each process is set into a cycle of periodic review for continuous improvement.

The TTC will reach KPMG's recommended target state of maturity at the corporate level (Portfolio Management Office) within one year, with the rest of the organization achieving the target in subsequent phases. The target state is likely to be achieved first by Engineering, Construction and Expansion (EC&E) Group followed by Information Technology Services Department, Operations Group and Service Delivery Group as they each work to implement new and revised standards and have processes, templates, guidelines, etc. in a state of continuous improvement.

Referring to the current state assessment in Chart 2, and based on KPMG’s knowledge of the time it has taken for other large public sector agencies to reach the target state, the plan described above is aggressive, but practical.

TTC’s Current State of Project Management Maturity

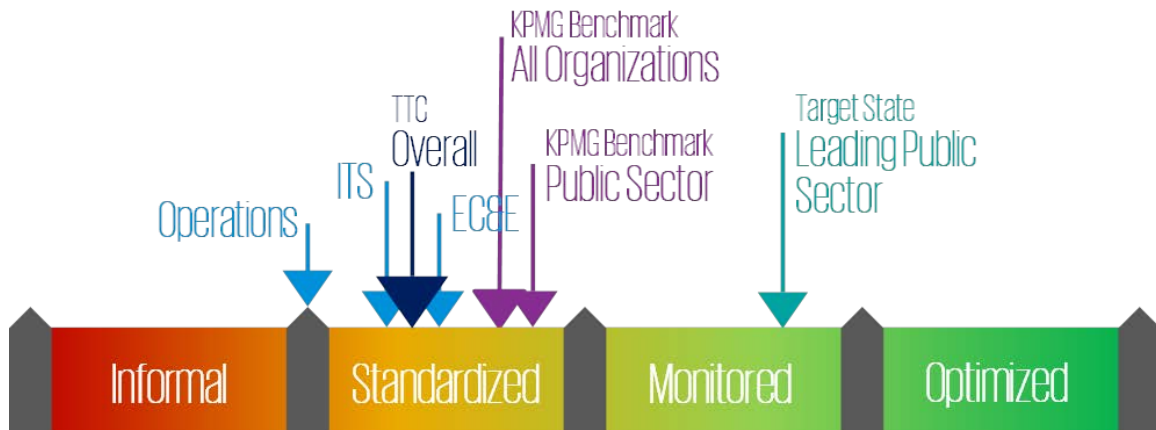


Chart 2 – Current State of Project Management Maturity

The Project Management Maturity Plan is preliminary. Requirements for capital headcount and funding are currently early estimates and will be adjusted as the plan matures.

It is currently estimated that 40 capital resources will be required to implement and build permanent capacity to maintain the steady state in areas such as project estimating, scheduling, commercial management, delivery options analysis, risk management and oversight. The 2017-2026 Capital Budget currently includes a request for three capital positions. To close the gap, internal offsets will be found and, if required, additional headcount will be requested through the 2018-2027 Capital Budget process.

To accelerate early deliverables (i.e. doing discrete packages of scope, reviewing work performed by staff, facilitating and providing third-party advice, etc.) and to ensure the

adoption of international best practices, external consultant support is currently estimated to cost between \$1 million and \$3 million. The 2017-2026 Capital Budget submission includes a request for \$2 million over the first two years. If required, additional funding will be requested through the 2018-2027 Capital Budget process.

At the upper limit of current estimates, the cost of implementation is 0.4% of the capital program and the annual overhead cost for the steady state is 0.2% going forward.

PMM Plan Top 10 Priorities

For all of KPMG’s 41 recommendations, the PMM Plan has corporate requirements in place within the next six to twelve months. These standards set the expectations for project sponsors, managers, internal and external stakeholders to initiate, plan, execute, monitor and control, and close projects using processes that meet or exceed international best practices. A preliminary timeline of all planned work streams and associated recommendations can be found in Appendix 1.

Recommendations that have the greatest immediate potential for improvement are captured below along with their benefits, next steps, cost and required resources.

1	Setting a Maturity Target of ‘Monitored’ (Rec# 16)	6	Improving Stakeholder Management protocols (Rec #12)
2	Establishing a Stage Gate Process (Rec# 10)	7	Establishing a Delivery Options process (Rec #27)
3	Developing Governance Toolkits (Rec #5)	8	Establishing a Commercial Management process (Rec #30)
4	Establishing a Corporate Project Management Framework (Rec# 6)	9	Ensuring Holistic Scope Definition (Rec #22)
5	Clarifying Roles & Responsibilities (Rec# 11)	10	Establishing Centralized Project Monitoring (Rec #41)

Table 1 – Top 10 Priorities

It must be noted that for progress to be made in these areas over the next six to twelve months as planned, approval of the 2017-2026 Capital Budget request for headcount and funding is required (Ref. Page 3 for details on the Financial Impact).

1. Setting a Maturity Target of ‘Monitored’ (Rec #16)

To enable the TTC to have more predictable project outcomes, it has set a project management maturity target of ‘monitored’, with all processes fully implemented and a state of continuous improvement has been reached. As reported by KPMG, the benefits of improved project management efficiency and reduced cost overruns far exceed the investments required in people and technology to improve project management maturity.

Next Steps:

- 6 Months The TTC’s commitment to achieving the target state of ‘monitored’ will be documented and communicated through the Corporate Project Management Framework (Rec #6); and

Cost/Funding: Accommodated within existing resources and funding.

2. Establishing a Stage Gate Process (Rec #10)

A ‘Stage Gate’ process is a technique in which a project’s lifecycle is divided into major segments that are delineated by decision points, or ‘gates’. At each gate, information relevant to the project’s current stage, such as the business case, risk analysis, cost estimates, milestone scheduled, etc., is provided to the governing body responsible. The governance body, typically a project steering committee, can then make informed decisions time to proceed, correct course, or discontinue the project based on information available at the. Further, when followed with discipline, the stage gate process helps to ensure that all stakeholders, whether governance bodies such as the TTC Board, TTC or City staff, vendors, City Councillors or the public, have transparency to information as a project proceeds through its gates.

Next Steps:

- 6 Months Corporate stage gate requirements will be established in the Corporate Project Management Framework (Ref Rec# 6); and
- 1 Year Existing and future templates are to incorporate this process (i.e., Board reports, business cases, project change requests, project status reports, etc.) and every project will have its stage gates formalized through a project charter.

Cost/Funding: Accommodated within the funding and resources requested through the 2017- 2026 Capital Budget submission.

3. Developing Governance Toolkits (Rec# 5)

The development of toolkits and associated guidelines will provide support to each governance body, including at the staff level and at the TTC Board, in the execution of their mandate. The toolkit will contain information on:

- capital project management definitions and stewardship concepts;
- the relevant capital project governance bodies, their missions, mandates, and strategic objectives;

- information requirements and considerations for making decisions at each stage gate through the project life cycle; and
- techniques for performing due diligence.

The stage gate process will be used to frame the toolkit so that each governance body is aware of the decisions that they have to make at each gate.

Next Steps:

- 6 Months A third-party consultant will be engaged to develop toolkits and training for the TTC Board; and
- 1 Year Toolkits will be developed for all governance bodies and project specific steering committees involved in the delivery of capital projects.

Cost/Funding: Accommodated within the funding and resources requested through the 2017- 2026 Capital Budget submission.

4. Establishing a Corporate Project Management Framework (Rec# 6)

Sets out expectations for the management of projects based on their level of complexity and risk. This framework, built on the agreed-upon internal project governance structure, will be a top level document and serve as an entry point for the broader project management team. It will ensure that the interfaces among functional groups are clear. Key touch points among these groups at all stages of the project lifecycle will be documented to provide assurance of sound management of the project, appropriate oversight, seamless handoffs between functional groups, and risk management.

Next Steps:

- 6 Months The project management framework will be developed within six months. This document will be continuously expanded upon to reflect progress against the Project Management Maturity Plan.

Cost/Funding: Accommodated within the funding and resources requested through the 2017- 2026 Capital Budget submission.

5. Clarifying Roles & Responsibilities (Rec #11)

Clarification of individual roles and responsibilities can be accomplished as an extension of the project management framework, by creating clear roles and responsibilities for each project role, and relating them to a project’s governance. At the project level, this is typically documented using tools such as a responsibility assignment matrix (RAM), which identifies stakeholder involvement in key decisions and interfaces throughout the project’s lifecycle.

Next Steps:

- 6 Months Minimum requirements for the establishment of project administrative governance, stage gates, and roles & responsibilities on all TTC projects will be established in the Corporate Project Management Framework (see Rec# 6).

Cost/Funding: Accommodated within the funding and resources requested through the 2017- 2026 Capital Budget submission.

6. Improving Stakeholder Management Protocols (Rec# 12)

The Information Technology group has placed a high importance on stakeholder communication as this aligns closely with their role as an internal service provider. This approach to stakeholder management can be emulated across the capital program for both internal and external stakeholders. The stage gate process will specify points in time where stakeholder reviews will be a key factor in gate approval, particularly in the more transformational or disruptive capital projects.

Next Steps:

- 6 Months Standard expectations for how projects are to manage stakeholder relations will be documented and communicated through the Corporate Project Management Framework (Rec #6);
- 2 Years Guidelines, templates, and a training program will be developed and deployed to all staff and stakeholders involved in the initiating, planning and delivery of projects; and
Each of the TTC's 300 existing projects and all new projects will have their own specific stakeholder management plans to ensure they will meet or exceed corporate expectations.

Cost/Funding: Accommodated within the funding and resources requested through the 2017- 2026 Capital Budget submission.

7. Establishing a Delivery Options process (Rec# 27)

Procurement planning ensures there is an agreement on a clear and specific project scope, an assessment of qualified and available resources, considers influences that may affect a buying decision, and ultimately develops the strategy for the procurement activities to be performed. The development of a delivery options framework will involve numerous inputs from multiple stakeholders and provide project teams with a mechanism to determine the right procurement strategy (e.g. Private Public Partnerships (P3), Design Bid Build (DBB), Design Bid Build Finance (DBBF), etc.) to employ based on a project's unique risk profile and requirements.

This process has already been employed for the Scarborough Subway Extension and McNicoll Garage projects and will be used for all major projects going forward.

Next Steps:

- 6 Months The Corporate Project Management Framework (see Rec# 6) will include requirements for when a delivery options analysis is required; and
The TTC's procurement policy will be revised to require delivery options analysis for major projects.
- 1 Year An RFP will be issued to obtain independent consultant expertise to draft a project delivery options assessment process; and
Consultants will also be engaged to provide delivery options analysis services for specific projects. These services will be charged back to the individual projects.

Cost/Funding: Additional capital resources within Materials & Procurement Department are required to administer the contract(s) and to build competency for project delivery options analysis in-house. These resources will be required in 2017 and will be found through offsets.

8. Establishing a Commercial Management process (Rec# 30)

Establishing a commercial management function will provide project teams with a dedicated resource to manage commercial issues of a project from inception to completion. It requires an understanding of the economics on both sides of the owner-contractor/vendor relationship. In class-leading organizations, a project and the owner/contractor relationship is recognized as a partnership between two organizations with different but generally aligned goals for the completion of the project. A commercial management function can help structure and effectively manage that relationship.

Ultimately, an effective commercial management function will result in fewer contractor claims and improved management of claims when they do arise.

Next Steps:

- 6 Months Commercial management requirements will be communicated in the Corporate Project Management Framework (see Rec# 6);
An RFP will be issued to obtain a consultant to draft a commercial management process and to delivery training to in-house project management staff; and
Consultants will also be engaged to provide commercial management services for high risk/mega projects until the capability is built in-house. These services will be charged back to the individual projects.

Cost/Funding: Work planned in 2017 will be done using existing resources. If additional capital resources are required, they will be requested through the 2018-2027 Capital Budget submission.

9. Ensuring Holistic Scope Definition (Rec #22)

In the past, the budgets for transit projects have been set before the scope of the other infrastructure components (relating to the broader objectives) are substantively defined and quantified, and without risk adjustments to deal with the project unknowns. This can result in project costs exceeding the original (incompletely scoped) budget that set the stakeholder expectations. Holistic estimating guidelines will ensure that all estimates include both internally owned scope and scope affected or improved by other parties, regardless of funding responsibility, and including lifecycle costs when required.

Next Steps:

- 6 Months Holistic scoping requirements will be established in the Corporate Project Management Framework (see Rec# 6); and
- 1-2 Years Holistic scoping will also be integrated in stakeholder management plans (see Rec#12).

Cost/Funding: Included within existing resources and funding.

10. Establishing Centralized Project Monitoring (Rec# 41)

Prior to the creation of the Portfolio Management Office (PfMO), the monitoring of project management practices had been largely governed by departments at the group level, with some corporate internal audit support. In the past, the Internal Audit department had some involvement in process compliance; however, it has limited ability to support the TTC's entire capital program. With the expansion of the PfMO's mandate to include compliance monitoring of project management policies, processes and procedures for groups for delivering the capital program this monitoring program will serve as a continuous improvement tool.

Next Steps:

- 6 Months High level project monitoring requirements will be communicated in the Corporate Project Management Framework (see Rec# 6);
- 1 Year An RFP will be issued to procure consultant services to assess the organization's progress against the project management maturity target; and
A consultant will also be engaged to conduct management reviews of projects based on defined risk-based selection criteria.

Cost/Funding: Work planned in 2017 will be done using existing resources. If additional capital resources are required, they will be requested through the 2018-2027 Capital Budget submission.

The TTC's CEO Office engaged KPMG to participate throughout the development of the PMM Plan. KPMG has verified that the plan meets the intent of their recommendations and that the estimated duration is consistent with leading organizations. KPMG have also confirmed that the estimated cost and resource needs are within the range expected.

TTC staff proposes an update on estimated duration, cost and resources be provided at its first semi-annual update to the June 2017 meeting of the TTC Board. The 2018-2027

Capital Budget submission will reflect any required budget smoothing or requests for funding or capital headcount.

In addition to the semi-annual progress update, staff has recommended that an annual third-party report be transmitted to the TTC Board to track progress against the Project Management Maturity Plan beginning in December 2017.

Contact

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Attachment: Appendix 1 – Work Stream Breakdown by Recommendation

APPENDIX 1 Work Stream Breakdown by Recommendation

