

Response to Green Sheet: Project Management on City Projects

Alternatives and Business Cases for the Further
Enhancement of Capital Project Management at
The City of Calgary

The Corporate Project Management Centre
9/18/2015

This attachment provides alternatives and business cases in response to the six items outlined in the February 9 2015 Green Sheet "Project Management on City Projects:

1) Further Centralization of City of Calgary Capital Construction Projects:

Background & Status:

In 2006 the ALT and Council approved the creation of a number of centralized Project Management Offices (PMOs) within The Corporation. In late 2011, Administration further reviewed the centralization of project management within The Corporation. It was concluded and agreed to by the Administrative Leadership Team (ALT) in early 2012 that the organizational model that best suited the project management requirements of The City of Calgary was the "Devolved" model.

The Devolved model includes the use of decentralized, technically specialized PMOs as well and the Corporate Project Management Centre (CPMC) forming a central hub focused on quality management. In this model, the CPMC is responsible for establishing corporate project management standards and implementing a quality management approach. The specialized PMOs are responsible for the delivery of capital projects, including alignment to corporate standards (quality assurance) and accountability for project time, scope and budget (quality control).

As part of the Devolved model, a technically specialized PMO currently exists for all major asset portfolios (ex. Transportation, Information Technology, etc.). While a single, centralized facility asset PMO was approved by the ALT, it was not fully implemented by Administration.

Analysis:

Prior to this Notice of Motion, a centralized facility asset PMO did not exist within Administration and is a necessary part of the Devolved model's structure. Recommendation was made by Administration to the ALT to reconfirm a 2006 decision to establish a facility asset PMO within Corporate Properties & Buildings (CPB). This was approved at the 2015 July 28 ALT meeting. Administration is now currently reviewing facility projects for transfer to the new PMO within CPB.

The organization is also still improving its Project Management Quality Assurance processes. This is a step towards a more comprehensive, centralized quality management approach for capital project management as required by the Devolved model. Thus, the implementation of the Devolved model and a centralized approach to capital construction is still underway.

Risks:

- The establishment of a centralized facility asset PMO will be a concern for Administrative staff within and outside of CPB. The management of this change is critical to success.
- While the establishment mandatory standards is critical to quality management, projects may continue to deviate from their original scope, budget or time. Administration will need to continuously review and improve existing quality control practices and procedures.

Recommendation:

Administration recommends that The City continue on its current evolution towards the implementation of the Devolved model for the centralization of City of Calgary capital projects.

2) Further Enhancement of Project Management Capabilities:**a) Opportunities to Better Leverage 3rd Party Project Management Consultants:****Background & Status:**

Administration has clarified with key stakeholders of this report that a third party consultant does not necessarily imply that it must be contractor or consultant external to The City, rather the intent is to leverage individuals that are external to the project or program to ensure that the project is progressing on time, on scope and/or on budget.

Analysis:

The City of Calgary does currently leverage external project management contractors and consultants in a variety of capacities, including design, construction management, technical subject matter experts, mentorship, training and facilitation. There are currently several options for external consultants to provide professional services to The City, including numerous open Requests for Standing Offers (RFSOs) that are managed via Supply Management on behalf of The City's departments. For example, Corporate Properties and Buildings has an RFSO for building project management that is used to augment internal City project managers when capital construction projects volume exceeds base project management staffing.

Supply Management currently provides Council with a quarterly report of a list of professional service providers awarded contracts (including RFSO's) with a value exceeding \$100,000.

In addition to the above, The City of Calgary's Corporate Project Management Framework already leverages the use of an internal (or external) third party to review and assure that the project manager and sponsor has aligned to The City's project management policy and standards. While this third party only assesses whether the project aligns to policy, there may be an opportunity to leverage third parties to assess project quality control (i.e. if the project is on time, budget and scope).

Risks:

While there are benefits of leveraging third party consultants to deliver capital projects, some of the risks of leveraging external consultants for project management include:

- Once the project is delivered, the knowledge of that project and asset leaves the organization;
- The current project management policy only applies to internal project managers. It may be difficult to enforce City of Calgary processes on external consultants.
- While The City currently procures external project managers, there is still a need to leverage an internal project manager as an "owner's representative".
- External project managers may focus on delivering a project "on time and budget", but often in a municipal setting extra time is required to develop and deliver a quality project
- Handing over project control may not always be appropriate for projects of high reputational risk.

Recommendation:

Administration recommends that The City continue to leverage existing prequalifications and RFSOs to ensure that external consultants are appropriately leveraged.

2) Further Enhancement of Project Management Capabilities:**b) The Application of Innovative Quality Management Approaches:****Background & Status:**

The ultimate intent for Administration is to minimize project risk and maximize the value and quality of The City's capital projects. Administration recognizes the importance of a comprehensive quality management approach for project management. Quality management includes quality assurance (compliance to standards and policy), business maturity and quality control (ensure product quality is as expected).

Administration developed and implemented its first project management quality assurance process and report in 2014. The result of this report is delivered to the City Manager at the end of each calendar year.

Analysis:

The analysis of value management and stage gating has been included in the subsequent business case for "Additional Ways to Capture Construction Project Savings and Increase Project Efficiency".

Project management quality control and assurance processes are evident throughout the organization and include project reporting, capital dashboards, and periodic accountability sessions with project sponsors, senior management and Council.

The CPMC developed a pilot project management maturity tool in 2010. Simply, the tool measures a business unit's capital construction strategies, processes, staff competencies, use of technology and information flow. It can be used as a means to gauge a business unit's ability to deliver quality projects. It is also an important enabler for strategic business planning and continuous improvement for project management.

In 2011, the CPMC piloted the tool with Corporate Properties & Buildings, Transportation Infrastructure (TI) and Information Technology. A subsequent assessment was conducted on behalf of TI in 2014. Between 2011 and 2014, TI saw an overall improvement in the maturity of their practices attributed to the establishment of the Corporate Project Management Framework and emphasis on project management within the TI management team. In fact, when compared to over 650 private and government organizations, TI has been rated as being within the top 2% of most aspects of project management. As part of the 2015-18 Action Plan, the CPMC is working with all capital construction business units to report project management maturity improvement.

Risks:

While the establishment and demonstrated alignment to mandatory standards is an important foundational step, it is important to note that there is still a corporate risk that projects may continue to deviate from their original scope, budget or time.

Recommendation:

Administration recommends that The City continue implement and continually improve quality management approaches in project management, including the establishment of project management maturity model for all capital construction business units.

2) Further Enhancement of Project Management Capabilities:**c) Additional Ways to Capture Construction Project Savings and Increase Project Efficiency:****Background & Status:**

One opportunity to improve project efficiency is for The City to implement a formal value management approach. Value management is method that can minimize project risk, complexity and cost and maximize project value. Formally, SAVE International (Society for the Advancement of Value Engineering) defines the value methodology (including value analysis and value engineering) as a systematic process used by a multidisciplinary team to improve the value of a project.

To date, the City of Calgary has used external third party consultants to undertake value management analyses on sixteen capital projects valued at approximately \$1.82 Billion. Of the \$1.1 Million spent on the analyses, Administration has identified \$137 Million in capital construction efficiencies (return on investment of 125:1) and \$120 Million in reduced operating and lifecycle costs (return on investment of 110:1).

A second opportunity for the City is to implement a formal stage gate approach. Stage gating is a structured decision-making process that is more common in private organizations. In simple terms, a project is segmented into a number of phases by “gates”. At each gate, the project manager is required to demonstrate due diligence prior to meeting with a committee of decision makers who, in turn, allow the project to progress through that gate to the next phase. The stage gating approach works to mitigate project risk and can enable value management activities as previously identified in this report.

Stage gating typically is not intended for release of project funds, but some organizations do leverage it in this sense. As such, it may be beneficial to ensure that project managers only get project funding for the phase of the project that they are undertaking, thus improving the City’s capital spending efficiency.

Analysis:

On 2015 March 23, the CPMC released the new value management guideline to all City staff. This guideline helps to define value management and to provide value engineering and value analysis tools and procedures for capital projects. As well, Administration has a prequalification of third party external service providers that can provide value management expertise for capital projects.

An opportunity still exists for Administration to develop a mandatory standard regarding the use of value management tools and processes.

The City of Calgary has investigated stage gating with organizations including Altalink, Transcanada and The City of Seattle. Benefits have been identified, including the improvement of project governance and oversight, improved communication between project managers, sponsors and stakeholders, improvement to project budget accountability and alignment of projects across business units or departments. It has developed a recommended approach to stage gating but still has to develop a rigorous standard, process and implementation plan.

In addition to these ongoing improvements, Administration is also currently exploring new and innovative ideas that will increase the percent capital spend by The City and create a corresponding decrease in “time to market” from previous years for all major capital projects in 2016 and beyond. Initiatives like Build Calgary and the economic resiliency work that is currently underway will help to “turn the curve” on capital and help keep the Calgary economy viable by filling the gap in the market that has been left by a contraction of capital spending by Oil & Gas companies.

As outlined in the Council strategic planning session on 2015 June 22, Administration is also currently working on a number of key strategic initiatives with the intent to improve efficiency of capital projects and to improve the overall economic resiliency of the community, including:

- Continued delivery of 2015-18 Action Plan and 2013 flood recovery
- Continue with Zero-based reviews of business Units to ensure effective and efficient service delivery
- Continue with corporate-wide capital planning strategies and strategic infrastructure investment, including opportunities to further streamline procurement
- Actively monitor and advocate for federal and provincial funding and funding mechanisms.
- Continue to monitor, understand and respond to changes in City finances and economic conditions
- Continue to work with local and government partners to respond to the needs of the community during economic recovery including support for Calgary’s Economic Strategy

In addition to the above, The City is actively exploring the use of alternative means for project delivery such as Private Public Partnerships (P3), Design Build Operate (DBO) and Construction Management at Risk (CM@R) as well as funding programs and mechanisms that can expand The City’s revenue.

Risks:

- There currently is no process to capture short term capital or longer term operating efficiencies identified through value management activities.
- Project delivery timelines will be extended as both value management and stage gating activities take time and money to undertake. Both methods increase time spent during project planning but greatly reduce time and risk during (and post) construction related to dispute resolution, number of change orders, poor quality, streamlined project execution, etc.
- Both value management and stage gating are methods that are relatively new to certain areas of The Corporation and will require a rigorous change management approach.

Recommendation:

Administration recommends that The City implement a standard and process for value management and stage gating as well as to continue implement economic resiliency strategies to identify and capture capital project efficiencies.

2) Further Enhancement of Project Management Capabilities:**d) Demonstration of Economic Benefit and the Multipliers of all Construction Projects:****Background & Status:**

There are tools already in limited use within the organization that help to further define value and economic benefit of The City's capital projects as part of the strategic planning of capital investment. For example, capital construction projects may leverage Social Impact Assessments (SIA) and/or Social Return on Investment (SROI) analysis as part of the options analysis for a particular capital project. These tools, while not widely used by the organization, have been used to maximize positive economic and social impact.

In addition to these tools, it is expected that the previously Value Management approach will further assist with the demonstration and communication of economic benefit of capital projects to the community.

It should also be noted that Administration has project management standards that require the identification of triple bottom line impacts (either positive or negative) and short/long term costs of any capital project. This information is used for strategic planning within each of the department's Infrastructure Investment Planning (IIPs) processes, which is used to prioritize potential capital projects within budget constraints. The output of each IIPs process is the input for the regular business plan and budget process.

Analysis:

Analysis has shown opportunities to better align Administration's capital strategic planning and project delivery approaches through a stage gate methodology. Administration is working on options to better improve this alignment.

Administration is developing a cross-portfolio management practice which spans all departments and sets common, corporate approaches for capital investment. In addition, Administration and Council already have numerous partners and government entities to align and strategically plan infrastructure investment to improve the development of complete communities, diversify the economy, improve accessibility to affordable housing and community services and improve resiliency to climate change.

Risks:

- Project delivery timelines will be extended as economic analysis, including value management takes time and money to undertake. Methods increase time spent during project planning.
- Portfolio management and strategic planning of capital projects is relatively disconnected from capital project delivery. A stage gate approach would create formal links between strategic planning and capital delivery.

Recommendation:

Administration recommends that The City implement a standard and process for value management and stage gating in order to better demonstrate the economic benefits and multipliers of all construction projects.

2) Further Enhancement of Project Management Capabilities:**e) Options to Reduce Capital Construction Project Delivery Timelines:****Background & Status:**

It is recognized in the project management community that it is not possible for a project to be delivered “cheap, fast and of high quality” all at once. For instance, there may be a desire for certain stakeholders to deliver a project as quickly and as low cost as possible, but on the other hand there are stakeholders that desire extensive stakeholder engagement and the creation of assets that are of long term quality: that are sustainable, incur minimal lifecycle costs and are resilient to disaster.

In relation to the above, there exist regulated, legislative, bylaw and policy requirements with the intent to ensure the quality of projects. The inherent result is an increase in the front-end (upstream) planning phase of a project lifecycle and a reduced time to market for City of Calgary capital projects.

In addition to the above, there are instances where the availability of experienced and competent project managers, engineering and enabling services staff does often hamper the speed to market existing City of Calgary capital projects.

Analysis:

Administration recognizes the need and challenges to speed up the time to market while balancing the quality of capital construction project and meeting legislated and policy requirements.

As has been previously noted in section c) of this response, Administration is currently working on a number of key strategic initiatives with the intent to improve efficiency of capital projects. One such project includes the “Accelerating Capital for Economic Resilience” (ACER). This project is looking for opportunities to accelerate capital and still meet requirements and will be reporting back to Council regarding opportunities for improvement.

Risks:

- Analysing the balance between the needs of regulatory, legislative, bylaw and policy while still accelerating capital expenditure will require time and effort to understand and identify efficiencies.
- While the market may have an availability of project managers and enabling service staff, these individuals may not necessarily have the experience or competencies required for public sector capital projects.

Recommendation:

Administration recommends that Council continue to support existing efforts to improve reduce capital construction project delivery timelines such as ACER.