



4.8.

Management of the Bureau de Projets

(Direction Bureau de projets)

(Service des technologies de l'information)

March 9, 2020

2019 Annual Report

Auditor General of the Ville de Montréal



OBJECTIVE

Evaluate the processes implemented by the Bureau de projets (BdP) to limit the risks of delays, budget overruns and non-compliance with the expected functionalities of the projects.

RESULTS

Based on our audit work, we found that the activities of the BdP lacked a sufficient documentary framework that was complete, up-to-date, approved and disseminated to stakeholders. Without adequate documentation, we observed that the quality of project deliverables varied greatly from one project to another. This increases the risk that projects will not meet needs, will incur major cost overruns and will be delivered late in relation to the initial timelines.

Accordingly, improvements are required at the level of roles and responsibilities, project management methodology, training, accountability and processes related to project planning and capacity management.

Below are the main elements that need improving:

- The documentation outlining the roles and responsibilities of stakeholders in a project must be reviewed to ensure that it is more complete;
- It is important to document a project management methodology and ensure its application;
- All the documentation produced during completion of a project should be consolidated to facilitate consultation and knowledge transfer;
- Documentation regarding technological risks management as well as project risks management should be updated and disseminated to stakeholders;
- The deliverable that consists of conducting a quality review of Information technology (IT) projects after the closure of each project is documented but not systematically applied;
- There is no training plan for each key resource of the BdP;
- Documenting a monitoring and reporting process for projects is needed;
- A formal process for managing the planning and capacity of IT projects must be documented;
- Regarding priority IT projects, we failed to find any document that explained the approach chosen for managing this type of project.

In addition to these results, we have formulated various recommendations for business units.

The details of these recommendations and our conclusion are outlined in our audit report, presented in the following pages.

It should be stressed that business units were given the opportunity to agree to this, and we will submit their comments later.



TABLE OF CONTENTS

1. Background	429
2. Purpose and Scope of the Audit	430
3. Audit Results	432
3.1. Roles and Responsibilities	432
3.2. Project Management Methodology	435
3.2.1. Documentation of the Project Management Methodology	435
3.2.2. Preservation of Supporting Documents	436
3.2.3. Management of Technology and Project Associated Risks	437
3.2.4. Project Quality Review	439
3.3. Monitoring and Accountability	440
3.4. Stakeholder Training	441
3.5. Planning and Capacity Management	442
3.5.1. Project Planning	442
3.5.2. Project Capacity Management	444
3.5.3. Mechanism for Prioritizing Projects	445
4. Conclusion	447
5. Appendices	449
5.1. Objective and Evaluation Criteria	449
5.2. Project Management Statistics at the City	450

LIST OF ACRONYMS

BdP	Bureau de projets
CSTI	Comité sectoriel des technologies de l'information
EPM	Enterprise Project Management
IT	Information technology
STI	Service des technologies de l'information
TCEP	Three-year capital expenditures program



1. BACKGROUND

Reporting to the Service des technologies de l'information (STI), the mission of the Bureau de projets (BdP) is to provide sound management of projects under the responsibility of the STI. It must also ensure that frameworks and quality review activities are implemented, effectively manage capacity and compliance, develop appropriate ongoing training and, finally, carry out governance and accountability activities in line with best practices for Information technology (IT) projects.

Its business objectives focus on the deployment of:

- methodological frameworks for managing IT projects;
- standard governance tools and practices; and
- project management.

The BdP also wants to implement a capacity management framework to ensure a balance between the resources available to complete projects and the expectations of IT project applicants. Another objective is raising the competency level of IT project stakeholders through adapted training plans. Finally, the BdP wants to increase the completion rate of the Three-year capital expenditures program (TCEP).

Ninety-nine projects are planned in the 2020–2022 TCEP, with budgets ranging from \$83 million to \$89 million for each of these three years.

We observed that approximately 50% of the 41 IT projects that required a budget in the 2019–2021 and 2020–2022 TCEPs had their timelines deferred by two years or more. This same statistic also applies to the 28 IT projects prioritized in 2020 by the STI, 13 of which were deferred by two years or more in the last TCEP.

This high rate of IT project deferrals could be a sign of issues at the project planning and/or capacity management level.

2. PURPOSE AND SCOPE OF THE AUDIT

Pursuant to the provisions of the *Cities and Towns Act*, we conducted an audit of management at the BdP. We carried out this mission in accordance with the *Canadian Standard on Assurance Engagements* (CSAE 3001) of the CPA Canada Handbook – Assurance, as well as with the other Canadian assurance standards that apply to the public sector, as issued by the *Auditing and Assurance Standards Board*, with the support of CPA Canada.

The purpose of this audit was to evaluate the processes implemented by the BdP to limit the risks of delays, budget overruns and non-compliance with the expected functionalities of the projects.

The responsibility of the Auditor General of the Ville de Montréal (the City) consists of providing a conclusion on the audit's objective. For that purpose, we gathered sufficient and appropriate evidence to support our conclusion and gain reasonable assurance. Our evaluation is based on the criteria that we deemed valid under the circumstances. These criteria are presented in Appendix.

The Auditor General of the Ville de Montréal applies the *Canadian Standard on Quality Control* (CSQC) 1 of the CPA Canada Handbook – Assurance. Consequently, he maintains an extensive quality control system that includes documented policies and procedures with respect to compliance with the rules of ethics, professional standards and applicable legal and regulatory requirements. He also complies with the rules on independence as well as with the other rules of ethics of the *Code of ethics of chartered professional accountants*, which are based on the fundamental principles of integrity, professional competence and diligence, confidentiality and professional conduct.

To assess the effectiveness of the BdP management, we selected eight projects from the most recent list of IT projects. Below are the project categories that were selected:

- 2 projects over \$1 million: (#71550.01 – Maximo in the boroughs¹ and #70150 – Replacement of the City’s web portal);
- 2 projects under \$200 thousand: (#68305.05 – Update of the SÉCI application² and #78010 – Implementing a corporate Wi-Fi³);
- 2 projects that use the “Agile⁴” development method: (#60006.04 – Smart and Digital City Investment and #70450 – Optimization of payment options);
- 2 recently completed projects: (#70900 – Server capacity management and #74561.06 – Airwatch⁵).

As part of the financial certification conducted annually by the Bureau du vérificateur général, works are done of the accounting allocations of capital costs actually incurred by the City. Therefore, no additional work was done in this regard within this mandate.

Our audit focused on the period between June 25, 2019, and January 31, 2020, and consisted of holding interviews with staff, examining various documents, and conducting surveys that we deemed appropriate to obtain the necessary supporting information. We also took into account information that was sent to us up to March 2020.

Upon completion of our work, we submitted a draft audit report to managers of each audited business unit for discussion purposes, as well as to each of the business units involved to obtain action plans and timelines for their implementation.

¹ Deployment of the Maximo application, a system for managing municipal assets, in the boroughs.

² Electronic ticketing system (SÉCI).

³ Redesign of the open data portal.

⁴ Iterative and collaborative approach used in project management.

⁵ Implementation of Airwatch, an office automation management tool.

3. AUDIT RESULTS

3.1. Roles and Responsibilities

3.1.A. Background and Findings

To ensure sound stakeholder accountability in the project management process, it is important that the roles and responsibilities of these stakeholders be well defined, approved by an authorized manager, disseminated and observed. Such formal definition of roles and responsibilities usually takes the form of a RACI (Responsible, Accountable, Consulted, Informed) matrix, which helps better clarify the expected type of accountability.

While documents exist that specify certain responsibilities related to some project management roles and committees (e.g., Appendix 1 of the project charter, matrix management at the service of IT and matrix of capacity management responsibilities), this documentation is generally incomplete, undated, not approved by an authorized manager and not properly disseminated to stakeholders.

The absence of such a matrix of roles and responsibilities could result in project governance failures, including:

- Significant responsibilities not assumed by anyone;
- wide variation in the responsibilities assumed by the same role from one project to another;
- lack of understanding by stakeholders of the responsibilities assumed by a key stakeholder;
- major deliverable not produced or approved.

Roles of the Delivery Manager and Project Manager

In addition, we found that the roles of delivery manager and project manager should not only be well defined but also reviewed.

Indeed, the role of delivery manager is currently held by managers of IT operational teams. In addition to the responsibilities normally assigned to these managers, they are responsible, in particular, for:

- compliance with the projects' scope, budgets and timelines;
- relations with the Business client (or promoter);
- attendance at meetings of the Comité sectoriel des technologies de l'information (CSTI) related to the project(s) with which they are associated;
- identification, empowerment and mobilization of stakeholders;
- compliance with the project management and governance framework of the BdP.

Currently, the responsibilities of the BdP's IT project managers are mainly limited to:

- facilitating various committees and producing minutes of meetings;
- producing the project deliverables expected by their client: the delivery manager;
- monitoring the project's progress;
- reporting to their client: the delivery manager.

Assigning these responsibilities to delivery managers rather than to IT project managers carries the following risks:

- project managers may become demotivated since they see themselves confined to completing only a subset of the tasks generally assigned to their role;
- delivery managers may prioritize their daily management activities over project management activities.

Role of the Comité sectoriel des technologies de l'information

Finally, while the role of the CSTI is defined in various documents (e.g., the Charter of the CSTI and passages of phases of IT projects), we observed that this committee has, over the past few years, gradually reduced the quality of its governance of IT projects. Indeed, the committee no longer formally validates all deliverables as set out in the current process, and there is no evidence that the CSTI is systematically informed of significant discrepancies in the timeline or scope of projects.

As such, we believe that the committee is not fully playing its governance role over IT projects. This situation increases the risk that project-related issues are not addressed in a timely manner, which could result in delays in project delivery or the delivery of projects that fail to meet the client's needs.

RECOMMENDATION

3.1.B. We recommend that management at the Bureau de projets of the Service des technologies de l'information:

- review the roles and responsibilities of Information technology delivery managers and project managers;
- document, have approved by the director of the Service des technologies de l'information and disseminate the responsibilities of the key roles and committees involved in the management of Information technology projects, for example in the form of a RACI (Responsible, Accountable, Consulted, Informed) matrix.

RESPONSE

3.1.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.2. Project Management Methodology

3.2.1. Documentation of the Project Management Methodology

3.2.1.A. Background and Findings

In order to provide, an adequate project management framework it is necessary to rely on a project management methodology. This methodology must comply with industry best practices.

An organization can have various methodologies adapted to the nature or level of complexity of a project.

In fact, it is not unusual in the industry to find a “Traditional” methodology for complex projects whose parameters (i.e., functionalities, costs, timelines) are generally clearly defined from the start of the project. Another methodology, called “Agile,” may be used for projects in which certain parameters must be defined and refined as the project progresses. Finally, there is often a “Lean” methodology for small-scale low-risk projects.

It is important that each project management methodology applied by the City be completely documented, formally approved by an authorized manager and disseminated to the stakeholders, who must then comply with it.

We observed that no project management methodology exists that is complete, updated, approved, disseminated to stakeholders and applied.

There are templates to be filled out, including for the business case, project charter and project plan. Some documents, such as the “Process – Project crossing point” and the “Improved quality of plans in Enterprise Project Management (EPM)” offer some frameworks to follow. However, these documents were incomplete, several were not updated or formally approved, and it was sometimes impossible to know whether they represented an official document or an earlier version.

In the absence of an adequate project management methodology, there is a risk that expected project deliverables will not be produced, required approvals will not be documented and project issues will not be presented to stakeholders.

Our work confirmed that some of these risks had occurred for several projects (see Appendix 5.2: Project Management Statistics at the City).

RECOMMENDATION

3.2.1.B. We recommend that management at the Bureau de projets of the Service des technologies de l'information document, have the director of the Service des technologies de l'information approve, and then disseminate a project management methodology that governs each of the methodological approaches used by the Service des technologies de l'information (e.g., Traditional, Agile, Lean approach, etc.). This methodology will include, among other things:

- expected activities and required deliverables;
- originators and recipients of these activities and deliverables;
- frequencies of completion of these activities and production of these deliverables;
- approvers of project deliverables, requests for changes, timeline deferrals and budget overruns.

RESPONSE

3.2.1.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.2.2. Preservation of Supporting Documents

3.2.2.A. Background and Findings

Each project requires several deliverables to be produced and a variety of evidence preserved (e.g., minutes of meetings, presentations, approvals, decisions, tests results).

These deliverables and evidence must be consolidated in a place where it will be relatively easy for authorized persons to consult them.

We observed that some of these documents (e.g., the business case, evidence of approval of the business case by the authorized manager) either had not been produced, could not be found or were not preserved.

In addition, where these documents did exist, they might, for a single given project, be found in various places and require the use of several separate tools to access them (e.g., Windows, Google Drive, Confluence, Sharepoint directories, emails, etc.).

Such a situation makes it nearly impossible to efficiently conduct quality reviews of projects and to quickly consult important documents. This could also complicate knowledge transfer when a new project manager takes over a project that is already under way.

RECOMMENDATION

3.2.2.B. We recommend that management at the Bureau de projets of the Service des technologies de l'information:

- gather together all the documentation related to each project, in particular project deliverables, evidence of approvals, tests carried out, and minutes of the various committees involved;
- ensure that this documentation is in a location that is easily accessible to stakeholders.

RESPONSE

3.2.2.B. The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.

3.2.3. Management of Technology and Project Associated Risks

3.2.3.A. Background and Findings

Several IT projects contain risks related to the use of technology. In fact, frequently, a project has security, compliance or system performance issues. Added to these technological risks are more specific risks associated with the completion of a project, be they non-compliance with the scope of the project, cost overruns or deferred timelines.

It is important to properly manage all these risks throughout the entire lifecycle of a project (i.e., preliminary draft, identification of the solution, planning, completion and closure). Such management implies that these risks are documented, assessed, mitigated (if deemed significant), followed up and regularly presented to project stakeholders.

We did not find any evidence of systematic management of technological risks in the projects sampled, nor any documentation that would explain how such management should be carried out. There is a standard (Information Security Standard – Safety Assurance Process) and a directive (Information Security Directive – Safety Assurance Process) that govern a security assurance process.

These documents date from 2009, however, and our work showed that, in general, they were neither known nor followed by a project's stakeholders (see Appendix 5.2: Project Management Statistics at the City). The Direction Technologie, architecture, innovation et sécurité is responsible for developing this standard and this directive.

The IT Security Team should be a preferred partner of stakeholders for managing a project's technological risk throughout the project's entire lifecycle. Based on the information obtained, however, the contribution of the IT Security Team was sought in only 30% of IT projects in 2019.

Regarding specific risks linked to the completion of projects, there is a template for this purpose that must be filled out by the project manager. Our work showed, however, that several fields in the form were often left empty, and we were unable to obtain any evidence that details of these risks had been formally presented to stakeholders and approved by a manager or committee in charge.

These shortcomings in managing technological and specific project risks increase the probability that major issues related to strategic projects are not properly dealt with, which could lead, for instance, to project delays, security vulnerabilities or to a project that fails to meet the needs of the project promoter.

RECOMMENDATION

3.2.3.B. We recommend that the Direction Technologies, architecture, innovation et sécurité of the Service des technologies de l'information update the documentation related to technological risk management and ensure that this documentation:

- is approved and disseminated to the stakeholders;
- applies to the various types of project methodologies (i.e., Traditional, Agile, Lean, etc.).

RESPONSE

3.2.3.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

RECOMMENDATION

3.2.3.C. We recommend that management at the Bureau de projets of the Service des technologies de l'information ensure that:

- the project management methodology includes a project risk management process that governs the documentation, assessment, mitigation, follow-up and regular formal reporting of these risks to the stakeholders;
- each project complies systematically with the technological risk management process produced by the Direction Technologies, architecture, innovation et sécurité.

RESPONSE

3.2.3.C. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.2.4. Project Quality Review

3.2.4.A. Background and Findings

Managing a project:

- Requires producing a potentially large volume of various information;
- Requires interactions between several stakeholders and committees;
- Entails compliance with several requirements, directives and standards;
- Can last several years.

A project quality review process should be put in place and applied to the management of the BdP in order to systematically assess to what extent a project complies with the project management methodology. The results of this assessment must be presented to stakeholders and corrective measures taken in the event of a significant discrepancy between expected and observed results.

We noted that such a project quality review process exists, but that it is not systematically applied. In fact, based on the information obtained, it seems it is only applied to very specific projects that have encountered important issues (e.g., projects #68008 – SERAM (Système évolué de radiocommunication de l'agglomération de Montréal) and #70750 – Business Intelligence – Finance). We believe that this process should not be applied retroactively but, instead, should be followed for all projects in order to be able to assess the level of compliance with the project methodology.

In addition, this process would need to be updated to adapt to the new situation in which this quality review would be conducted systematically at the end of each project and not solely in the case of an exception.

Non-compliance with this methodology increases the risk that major deliverables will not be produced, systems will fail to meet the needs of users or security vulnerabilities will not be detected.

RECOMMENDATION

3.2.4.B. We recommend that management at the Bureau de projets of the Service des technologies de l'information:

- update, approve and disseminate a project quality review process;
- ensure that this quality review is conducted by an independent person;
- present the results of this quality review to stakeholders;
- plan corrective measures in the event of significant discrepancies between expected and observed results.

RESPONSE

3.2.4.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.3. Monitoring and Accountability

3.3.A. Background and Findings

Monitoring and accountability of projects are continuous activities that are mainly the responsibility of the project manager. They consist essentially of ensuring that the project is progressing well and reporting on it regularly to the project's stakeholders.

No process exists at the City that formally regulates this activity. Instead, we found templates to be filled out, such as the Excel document "Weekly Progress Status " and the presentation template to the CSTI. There is no document that shows what reporting must be done to which stakeholders by whom or, for example, to whom a safety issue accompanied by its mitigation measures must be presented and approved.

We observe that the quality of this monitoring and accountability vary greatly from one project to another (see Appendix 5.2: Project Management Statistics at the City). Evidence of both completed reports and required approvals was not always preserved.

Such a situation carries the risk that important information is not being communicated to project's stakeholders and that significant issues are not being adequately dealt with by the authorized persons or committees.

RECOMMENDATION

3.3.B. We recommend that management at the Bureau de projets of the Service des technologies de l'information document, approve and disseminate a process to monitor and report on Information technology projects.

RESPONSE

3.3.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.4. Stakeholder Training

3.4.A. Background and Findings

Depending on the methodological approach used to manage an IT project (e.g., Traditional, Agile or Lean) and its level of complexity, various roles will be called into play to complete it, each of which will require a specific level of expertise and knowledge.

Assigning the resources best adapted to the needs of each project requires a clear picture of the state of expertise and knowledge of these resources. It is also necessary to establish target levels of expertise and knowledge for each project management role.

This updated picture can then be compared with the expected target, and a training plan can be produced that is adapted to each resource to meet the needs of the BdP.

Based on the information obtained, the BdP regularly gives various project management training sessions to resources that have project management roles. There is also "online" training for such tools as EPM on the City's Intranet in the "wikiville" section. The BdP has also compiled the various project management training needs of its resources.

However, we found that the BdP failed to produce a training plan adapted to each of its resources that has a key role in managing IT projects.

There is a risk, therefore, that some resources assigned to projects do not have all the expertise or knowledge needed to properly manage an IT project, and this could adversely affect the quality of the solution expected at the end of the project.

RECOMMENDATION

3.4.B. We recommend that management at the Bureau de projets of the Service des technologies de l'information:

- document a complete integrated training plan for resources that play a key role in the management of Information technology projects;
- ensure that this plan provides a link between the current expertise and knowledge of the resources and those required for each key project management role;
- put in place a mechanism to monitor the gradual implementation of this plan.

RESPONSE

3.4.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.5. Planning and Capacity Management

3.5.1. Project Planning

3.5.1.A. Background and Findings

Several activities and deliverables must be completed during the project planning phase. The main expected deliverables include the business case, project charter and project plan.

Each of these deliverables is important, since it plays a very specific role. The business case helps justify the reason for implementing the project. The project charter helps the various players understand the project by describing the objectives and scope. Finally, the project plan describes how the project will be managed and specifies which elements of the project charter will be delivered and when.

We observed that templates exist to facilitate documenting these deliverables (e.g., several of these templates can be found in the City’s Intranet portal in the section “wikiville”) and, based on the information obtained, training sessions are sometimes given to explain best practices to follow during the planning of IT projects.

However, there is no project planning process governing all expected activities, the tools to be used and the deliverables to be produced (the aspects: who does what, for whom, when and how).

In addition, our work found that several deliverables related to project planning, such as the business case and project charter, were not systematically produced. Where deliverables were produced, we were often unable to show that they had been approved by a manager or authorized committee.

RECOMMENDATION

3.5.1.B. We recommend that management at the Bureau de projets of the Service des technologies de l’information:

- **document, approve and disseminate a planning process for Information technology projects;**
- **ensure that the planning process for Information technology projects includes, in particular:**
 - **expected activities and required deliverables;**
 - **originators and recipients of these activities and deliverables;**
 - **approvers of these deliverables.**

RESPONSE

3.5.1.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.5.2. Project Capacity Management

3.5.2.A. Background and Findings

Managing the capacity of a project consists essentially of determining which resources will be required to properly complete each task within the planned timeframe.

Thus, it is necessary to determine, for each project task:

- the expertise required of the resource responsible for completing the task;
- the times at which this resource must begin and end their work;
- the estimated number of hours required to complete this task.

To guide the stakeholders responsible for managing project capacity, guiding principles were documented and a matrix of the roles and responsibilities was produced as indicated in Section 3.1.

However, the expected tools to perform this capacity management were not specified, nor was the content of the escalation process explained in the event of unfavourable discrepancies between the required resources and those available. Finally, our work showed that the project managers, who should be playing a leadership role in this capacity management, were generally unaware of the existence of the two documents.

This situation increases the risk that capacity management will not be carried out optimally, resulting in delays in the delivery of the projects.

RECOMMENDATION

3.5.2.B. We recommend that management at the Bureau de projets of the Service des technologies de l'information document, approve and disseminate a process to manage the capacity of Information technology projects that indicates, in particular:

- expected activities and required deliverables;
- tools of choice to perform this management;
- originators and recipients of these activities and deliverables;
- approvers of deliverables.

RESPONSE

3.5.2.B. *The audit report was issued to the business unit concerned between February 6 and 27, 2020. The business unit agrees with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 6, 2020.*

3.5.3. Mechanism for Prioritizing Projects

3.5.3.A. Background and Findings

In the document describing the 2020–2022 TCEP, we found a list of 28 prioritized IT projects among the 99 planned IT projects.

We believe that a prioritized project should, with some exceptions, meet initial timelines, be selected based on formal criteria and follow a mechanism adapted to this type of project.

Our work shows, however, that:

- no standard exists for setting these priorities nor any process for communicating them;
- no mechanism exists to describe the specific actions to be taken to prioritize one project over another.

Such a mechanism could, for example:

- provide for an accelerated escalation process should an issue arise;
- allow priority access to the most qualified resources for this type of project;
- improve the reporting of technological risks (i.e., provide more detailed risk analysis and more frequent monitoring).

This situation increases the risk that priority projects will not be completed within the initially planned timelines.

RECOMMENDATION

3.5.3.B. We recommend that the Direction générale, together with the Service des technologies de l'information, put in place a process to prioritize Information technology projects.

RESPONSE

3.5.3.B. *The audit report was issued to the business units concerned between February 6 and 27, 2020. The business units agree with all the recommendations concerning them. The Bureau du vérificateur général has asked them to establish action plans for implementing these recommendations by July 6, 2020.*

4. CONCLUSION

Based on our audit work, we conclude that management at the Bureau de projets (BdP) of the Service des technologies de l'information (STI) has not put in place the necessary framework to ensure the sound management of Information technology (IT) projects at the Ville de Montréal (the City).

We found that significant improvements are needed, especially at the level of roles and responsibilities, IT project management methodology, training, accountability and capacity management.

This lack of a formal framework increases the risk that:

- there will be significant inconsistencies in project management quality from one project to another;
- IT projects will have major security deficiencies, fail to meet promoters' needs, include major cost overruns or be delivered much later than initially planned.

Below are more specific details based on the following criteria:

1. Evaluation Criterion – Roles and Responsibilities

Documentation defining the roles and responsibilities of stakeholders in managing projects is incomplete, not approved by an authorized manager and not properly disseminated to stakeholders.

2. Evaluation Criterion – Project Management Methodology

There is no project management methodology that is complete, updated, approved, disseminated to stakeholders and applied.

3. Evaluation Criterion – Monitoring and Accountability

There is no process that formally regulates this activity. We observed that the quality of monitoring and accountability varies greatly from one project to another. Evidence of both completed reports and required approvals was not always preserved.

4. Evaluation Criterion – Stakeholder Training

The BdP has not produced a training plan adapted to each of its resources that has a key role in the management of IT projects.

5. Evaluation Criterion – Planning and Capacity Management

There is no project planning process governing all expected activities, tools to be used and deliverables to be produced.

Capacity management should be improved by adding tools that facilitate such management and an escalation process in the event of unfavourable discrepancies between the resources needed and those available.

5. APPENDICES

5.1. Objective and Evaluation Criteria

Objective

To evaluate the processes implemented by the BdP to limit the risks of delays, budget overruns and non-compliance with the expected functionalities of the projects.

Evaluation Criteria

We based our audit on the following evaluation criteria spread over five areas:

1. Roles and Responsibilities

The roles and responsibilities of the main BdP IT stakeholders are formally defined, approved and communicated and contribute to the sound governance of IT projects.

2. Project Management Methodology

The BdP produces all documents, templates and deliverables associated with the various IT project methodologies applied at the City. It ensures compliance with these methodologies and reports results of its work in this regard to stakeholders.

3. Monitoring and Accountability

The BdP has implemented a process and tools to enable adequate monitoring of the progress of IT projects and regular reporting to stakeholders.

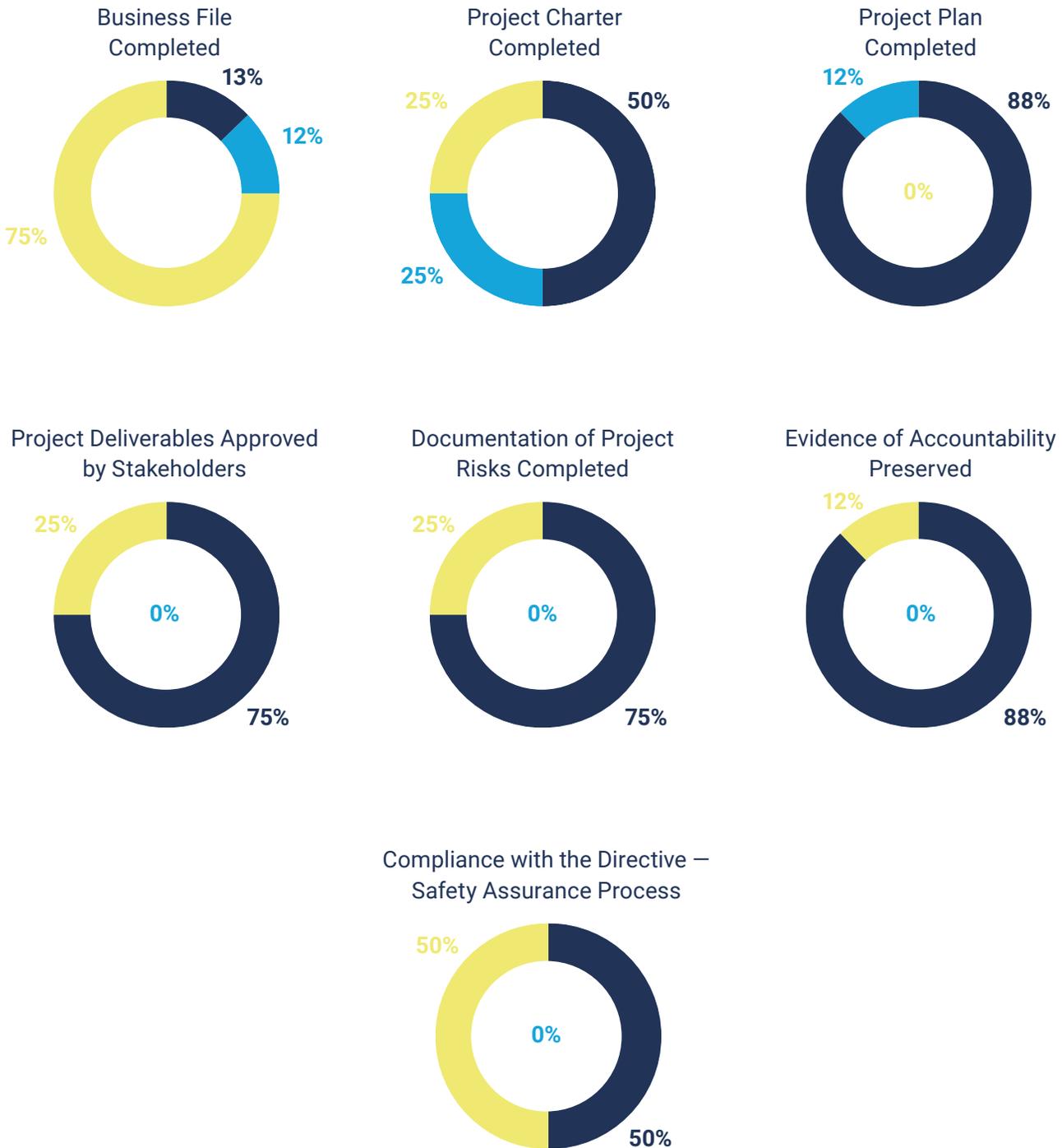
4. Stakeholder Training

The BdP has developed a formal strategy to ensure the skills development of persons playing key roles in the management of IT projects at the City.

5. Planning and Capacity Management

The BdP has documented an IT project planning process that complies with sound practices. A capacity management process has been documented, approved and disseminated.

5.2. Project Management Statistics at the City⁶



● Yes
 ● No
 ● Partial

⁶ Distribution based on the eight projects in our sample.