



2019

*“An objective and independent view of the quality of public funds management.”*

## **Report of the Auditor General of the Ville de Montréal**

For the Year Ended December 31, 2019  
to the City Council and to the Urban Agglomeration Council



**Vérificateur général**  
de la Ville de Montréal



# REPORT OF THE AUDITOR GENERAL OF THE VILLE DE MONTRÉAL

For the Year Ended December 31, 2019  
to the City Council and to the Urban Agglomeration Council

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Please note that this English report has been translated from the original French version. In case of doubt or difference of interpretation, the French version shall prevail over the English.

According to the *Charter of the French Language* and the *Office québécois de la langue française*, municipalities shall designate all official names, such as boroughs, departments, paramunicipal corporations as well as municipal and associated bodies by their French names alone, even in the English version.

This report is available on our website at: [bvgmtl.ca](http://bvgmtl.ca).



June 12, 2020

Mrs Valérie Plante  
Mayor of the Ville de Montréal  
275, Notre-Dame East  
Montreal, Quebec H2Y 1C6

**Subject: Auditor General of the Ville de Montréal's Annual Report  
for the year ended December 31, 2019**

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Dear Mrs Mayor,

Please find enclosed my Annual Report, for the year ended December 31, 2019, as per Section 107.13 of the *Cities and Towns Act* (CQLR, chapter C-19), for deposit at the next ordinary meeting of the Municipal Council, that of June 15, 2020, and of the Agglomeration Council, that of June 18, 2020.

Yours truly,

Michèle Galipeau, CPA Auditor, CA  
Auditor General



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# 1.

## Observations of the Auditor General

**2019 Annual Report**

Auditor General of the Ville de Montréal



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## 1. OBSERVATIONS OF THE AUDITOR GENERAL

At the time of drafting my observations for the 2019 Annual Report, Montréal was in the throes of the COVID-19 crisis and the situation required major readjustments to complete our audit work remotely and thus reassure you regarding the management of public funds. We adapted our processes while complying with the safety guidelines and used a great deal of flexibility in the requests we made to the municipal administration.

In the past, I always ended this chapter on my observations by thanking my team for their excellent work. I will break with tradition for this 2019 report by starting off with thanks to my team for their flexibility, dedication and adaptability in these exceptional circumstances as well as for their commitment to delivering value-added audits in compliance with our standards and within our timelines.

It is obvious that this crisis will have an impact on our ways of working as well as on our choices of future mandates we undertake.

### 1.1. Follow-Up – 2019–2023 Strategic Planning

2019 represents the first year of implementation of our *2019–2023 Strategic Plan*, which defines the objectives that will guide our actions for the next five years. The *2019–2023 Strategic Plan* is structured around three main themes:

1. Increasing the added value of the interventions;
2. Implementing innovative quality assurance practices;
3. Ensuring the sustainability of the team's competencies.

We aligned our audit and administrative work to enable us to meet the targets we set for 2019 in our *2019–2023 Strategic Plan*. In addition, in order to achieve some of the objectives while mobilizing the various audit teams, we set up four working committees in 2019 that set out findings and possible solutions to enable the management committee to take informed decisions on the best ways to achieve the objectives we had set for ourselves.

Overall, all the 2019 targets were met, with the exception of those regarding the objective of facilitating understanding of our role by elected officials and other stakeholders. That objective has been postponed to 2020.

Detailed reporting on the *2019–2023 Strategic Plan* can be found in Chapter 8 of this report.

## 1.2. Legislative Environment

Since January 1, 2019, following the adoption of Bill 155 (*An Act to amend various legislative provisions concerning municipal affairs and the Société d'habitation du Québec*), the potential scope of intervention of the Auditor General as defined in Section 107.7 of the *Cities and Towns Act* (CTA) extends, in particular, to any body for which more than half of its funding is provided by financial assistance from a municipality and if its annual revenues are equal to or greater than \$1,000,000. During 2019, we were able to clarify concepts that will allow us to better determine the bodies concerned by these legislative amendments and operationalize these legal provisions.

Thus, we completed our work to define the concept of funding in 2019, allowing us to better determine the bodies that meet the criteria set out in the amendments to the CTA.

The adoption on December 11, 2019, of Bill 16 (*An Act mainly to regulate building inspections and divided co-ownership, to replace the name and improve the rules of operation of the Régie du logement and to amend the Act respecting the Société d'habitation du Québec and various legislative provisions concerning municipal affairs*) brought clarifications and offers the opportunity to look back over two years.

Excerpt from Bill 16:

*"It is a non-profit body that meets the following conditions on 1 January of a year:*

*(a) its revenues for at least one of the last two years were equal to or greater than \$1,000,000; and*

*(b) it received, during the year in which its revenues were equal to or greater than \$1,000,000, financial assistance from a municipality in an amount equal to or greater than half of its revenues for that year."*

These new provisions affect about 20 bodies, for which we will be able to complete financial, compliance and performance audits. One of the working committees created as part of the implementation of our *2019–2023 Strategic Plan* examined the potential avenues for the Bureau du vérificateur général de la Ville de Montréal (BVG) to intervene with respect to these bodies.

It should also be noted that these bodies are not only now part of the scope of the Auditor General's intervention in account and business audits, but that they are also subject to a set of new rules—including with respect to the awarding and monitoring of their contracts.

### **1.3. Pre-Election Report**

On August 20, 2019, city council adopted resolution CM19 0930, which mandates, first, the Service des finances to produce a pre-election report no later than June 30, 2021, and second, the Auditor General to audit the pre-election report and submit her own report no later than September 23, 2021.

As indicated in the context of the 2020 budget, the *“pre-election report will be a new tool for budget transparency that will be added to the 2021–2022 budget process,”* and *“this audited report, tabled before the elections, shall allow the municipal political parties to present programs that are in line with the financial situation of the Ville de Montréal (the City).”*

However, the audit of this new budget transparency tool, which will hopefully be conducted for the next municipal democratic exercise, requires that we take all necessary precautions to ensure that, as prescribed by the CTA, this mandate does not contravene the fulfillment of my main obligations, while maintaining my independence. It is also important to remember that all assurance work performed by the BVG is carried out in accordance with the Canadian Standards for Assurance Engagements (CSAE) set out by CPA Canada's Auditing and Assurance Standards Board.

These standards establish the *“preconditions for completing an audit”*. These conditions require consideration of such matters as the appropriateness of the engagement's subject matter, the availability of valid criteria and the ability to procure the necessary evidence. Thus, this report, which will inform elected officials from all political parties about the City's financial situation, must be useful and must meet city council's request. To this end, we consider that the template for this report should be presented by the Service des finances to city council for approval.

It was at the beginning of January 2018 that the municipal administration first publicly declared its wish to have a pre-election report. At that time, we indicated the important impacts associated with producing a certification report on this pre-election report. In February 2020, I filed a follow-up report to city council on this issue, expressing my concern about the progress of this file. Subsequently, we received a schedule for this file as well as a detailed table of contents. According to the schedule received, a first complete model of the report should be produced in June 2020. A follow-up report was submitted to city council in March 2020 outlining these elements.

At the same time, in the summer of 2019, we began the audit of important budgetary processes. We are continuing our analytical work on this file in order to properly evaluate the extent of the resources we will need to assign to this mandate, which is a first in the municipal sector, by ensuring that we can carry it out in accordance with CPA Canada’s CSAE, while being aware that we now have less than 18 months to do so.

Chapter 6 of the report deals with this file’s history.

## 1.4. Accountability

Good and timely accountability provides a better vision of operations, allows for more informed decision making and, as a result, allows the City to take the necessary corrective measures to meet its commitments to citizens and reassure them about how public funds are being managed.

Yet, over the past four years, we have made recommendations in several of our performance audit reports aimed at improving accountability. We have made 34 recommendations in 22 out of a total of 37 reports, or nearly 60% of the reports tabled between 2016 and 2019.

Table 1 - **Accountability – Statistic Over 4 Years**

YEAR	ACCOUNTABILITY		TOTAL NUMBER OF PERFORMANCE AUDIT REPORTS TABLED
	NUMBER		
	REPORTS	RECOMMENDATIONS	
2016	5	7	7
2017	5	9	9
2018	5	7	11
2019	7	11	10
<b>TOTAL</b>	<b>22</b>	<b>34</b>	<b>37</b>

Accountability provides information on the municipality’s objectives and measures the results achieved. It makes it possible to take stock of the City’s strategic commitments, disclose relevant information and thus adequately inform all elected officials and citizens. It is an essential transparency tool for efficient decision-making.

## 1.5. Summary of the Audits Conducted in 2019



### 1.5.1. Financial Audit

I issued unqualified audit reports on the City's consolidated financial statements as of December 31, 2019, as well as on the mixed expense breakdown table. We did not consider it appropriate to audit the overall tax rate, which was audited by Deloitte.

Following the adoption of Bill 155 in 2018, we had identified the other legal entities covered by the CTA for which, following our risk assessment, we deemed it appropriate to remain as auditor and to jointly produce an audit report on their financial statements with the external auditor appointed by the City. We maintained this approach in 2019.

Thus, at the time this report was produced, I had tabled six independent audit reports on the financial statements as of December 31, 2019, of the following bodies: the Société de transport de Montréal (2 reports), the Société d'habitation et de développement de Montréal, the Société du parc Jean-Drapeau, the Société en commandite Stationnement de Montréal and Transgesco.

A detailed summary of the financial audit work performed can be found in Chapter 2.

### 1.5.2. Compliance with the Laws and Regulations

#### **Legislative Compliance of the Bodies Having Received a Subsidy of \$100,000 or More in 2018**

In 2018, the City paid out a total of \$139.8 million in subsidies to bodies. Of this amount, \$112.8 million (80.7%) were paid to 235 bodies that received subsidies totalling at least \$100,000.

As of November 12, 2019, the BVG had received audited financial statements for 2018 from 225 (95.7%) of the 235 bodies concerned by this requirement of the CTA, for a total of \$111.1 million. Ten bodies had not met the obligations of the contribution agreement and the requirements of Section 107.9 of the CTA, as they did not submit audited financial statements, including one body that did not comply with this requirement for the third consecutive year.

I encourage the City to continue its work to make bodies aware of the requirements of Section 107.9 of the CTA and resolution CM13 1157.

Chapter 3 deals with the work carried out by the BVG to ensure bodies' legislative compliance.

### **1.5.3. Performance and Information Technology Audit**

The full reports of the performance and information technology audits presented below can be found in Chapter 4 of this report.

#### **Compliance and Safety Management of Petroleum Storage Tanks**

As the owner of petroleum storage tanks, whether for the refuelling of its fleet of vehicles or to supply emergency generators in administrative buildings or strategic buildings, such as a drinking water production plant, a pumping station or a fire station, the City is required to comply with the *Building Act* and, more specifically, with the *Construction Code* and the related *Safety Code*. Depending on the capacity of the reservoir, its location and the type of petroleum products it contains, a reservoir may be classified as high-risk, in which case it is subject to more stringent inspection requirements by the Régie du bâtiment du Québec (RBQ).

Although several actions are being taken by the City to comply with this legislation and the codes' various requirements, we identified various gaps in obtaining permits and renewing certificates, including the absence of documents demonstrating that routine tests and verifications were conducted at the frequency required by the regulations. We also noted that the reports obtained from experts recognized by the RBQ to certify the conformity of high-risk tanks vary widely from one expert to another, making it difficult for the City to demonstrate, on the basis of these reports, that all compliance requirements were reviewed prior to issuing the certificate.

In addition, although some tanks have reached their design life, the City has been slow to replace them, despite repeated advice from RBQ's recognized experts. We also noted the absence of a management plan for the obsolescence of tanks under the responsibility of several business units. Since there is no such thing as zero risk, it seems essential to us that the City must be able to demonstrate, in the event of an issue or incident related to its petroleum storage tanks that it has acted as a responsible owner of its petroleum storage tanks.

### **Protection of Natural Environments**

Montréal's land use and development plan, which applies to the entire territory of the urban agglomeration, aims to protect 10% of the terrestrial territory in the form of natural environments. As of October 2019, 6.1% of the territory was protected as such. At the time of our audit, the City was making a few major land acquisitions, mainly in the West Island, to increase this percentage and thus achieve the protection target it has set for itself.

Although we were shown that the investments authorized by the City will make it possible to carry out the acquisitions planned by the Service des grands parcs, du Mont-Royal et des sports, the boroughs audited are not aware of the City's strategy and know neither what the City expects of them nor how they can contribute to achieving this 10% target for the protection of natural environments.

As early as 2009, the City established a directory of protected natural environments with specific criteria to be met, including the development of an ecological management plan and the assignment of a conservation status to the site. Although 6.1% of the terrestrial territory is considered protected by the City, as of the date of our audit, only one site under the responsibility of a borough met all of these criteria and was included in the directory.

Finally, in terms of regular physical maintenance of protected natural environments, we were unable to find evidence that, in past years, the City has used a sufficient budget to maintain their ecological value.

### **Management of the *Climate Change Adaptation Plan***

In order to deal with the impacts of climate change, in December 2015, the Montréal urban agglomeration council adopted the *Climate Change Adaptation Plan (2015–2020)* (hereinafter the *Adaptation Plan*). This plan includes adaptation measures to be implemented by the City's departments and boroughs as well as related cities.

Our audit work, however, raised a number of issues and shortcomings with respect to the implementation of adaptation measures. In light of the only official report that was produced in October 2019, it is difficult to have an overview of the global picture and to establish precisely the degree to which adaptation measures and commitments have been implemented. Our audit work leads us to conclude that the management of the *Adaptation Plan* should be improved in a number of areas, including clarification of the jurisdictions of the authorities involved, planning for the implementation of adaptation measures and commitments (e.g., methodology, evaluation of effectiveness, prioritization, targets and indicators), follow-up, knowledge development monitoring and accountability.

The *Adaptation Plan* is coming to an end soon, and the issue of the impacts of climate change is increasingly present. The City is currently working to develop the next *Climate Plan* to replace the *Adaptation Plan*. It is important that this next plan allow for the planning and implementation of concrete and structuring adaptation measures to produce results that will need to be measurable. It is also essential that the next plan be developed in such a way as to take into consideration the importance of the role of each authority in the adaptation process, but also the involvement of all the authorities concerned for collective action on this critical issue.

Given that this is a complex issue and in order to foster an effective adaptation process, the municipal administration should consider establishing governance at the territorial scale of the Montréal urban agglomeration to enable the exercise of local and global management.

### **Management of Rolling Stock**

Since January 1, 2017, the various activities related to the lifecycles of vehicles and equipment have been grouped under a single entity, pursuant to Section 85.5 of the *Charter of Ville de Montréal*. An Investment Strategy was approved by the director general in early 2018. It establishes the investment needs for the next ten years to make up for the accumulated obsolescence gap over four years (from 2018 to 2021) while replacing vehicles that have reached the end of their useful life and maintaining the vehicle inventory in terms of numbers and value.

Our audit leads us to conclude that the management practices in place are not sufficient to ensure that the objectives are met by the Investment Strategy and to meet users' needs. Considering the size of the fleet of vehicles and equipment (close to 8,700 vehicles at the time of our audit), the City should first ensure that the vehicle inventories in the various databases are consistent with those actually in the field. The City should also, as soon as possible, improve the availability and quality of the data collected for the entire fleet of vehicles and equipment. We further believe that the City should put in place, according to best practices, mechanisms to identify vehicles that are due to be replaced, taking into account their use, all associated costs and their purpose, in order to make the best possible management decisions..

Finally, in order for the City to achieve the objectives set out in the strategy, it must globally evaluate the implementation of the strategy, in line with the planned schedule, and report on it periodically.

### **Human Resources Succession Management**

The City is facing major workforce issues, since 25% of its employees will be eligible for retirement over the next five years and voluntary departures and turnover rates are on the rise. These issues are of major importance, especially since filling positions is laborious, particularly given the competitiveness and scarcity of labour in certain sectors.

Between 2008 and 2014, various steps were initiated by the City to have business units prepare workforce plans in order to fill positions and implement identified measures. While these steps should have been maintained, efforts have rather lost momentum. In January 2019, a “Gestion prévisionnelle des ressources humaines” approach was introduced and is currently being deployed. We note, however, that improvements must be made in terms of formal communication of roles and responsibilities with respect to succession management, availability and access to relevant data and indicators, identification of vulnerabilities and training adapted to the needs of the stakeholders involved. In addition, the City must establish action plans in which measures will have been prioritized. Objectives must also be defined in measurable terms to evaluate the achievement of the expected benefits, and accountability mechanisms must be put in place.

Finally, to ensure the sustainability of this approach and the continued delivery of services to citizens, succession management must be carried out in a forward-looking and strategic rather than reactive manner by all stakeholders. To this end, the City must ensure that its *Politique de dotation et de gestion de la main-d’œuvre* reflects all aspects of succession management.

### **Management of the Municipal Housing Programs Stemming from the “Montréal Reflex” Framework Agreement**

The special status of metropolis, granted by the Québec government, gives the City greater autonomy and powers in the area of housing, as set out in the sectoral agreement between the City and the Société d’habitation du Québec (SHQ). The SHQ has modified its intervention framework by transferring responsibility of budgets to the City to enable it to manage according to criteria adapted to its reality and government orientations for the AccèsLogis program, the Renovation Québec program and the Residential Adaptation Assistance program. In this context, the City has adopted or is in the process of adopting by-laws for the three housing programs. In addition, the City has taken on a major responsibility, as it is now able to independently grant a loan guarantee to bodies under its AccèsLogis Montréal program.

Improvements must be made to how projects are analyzed under the AccèsLogis Montréal program; a systematic evaluation of bodies' financial soundness must be conducted upon receipt through analysis of their financial statements and obtaining information on their past ability to carry out other projects under the AccèsLogis Québec program, where applicable. In order to mitigate financial risks and ensure the sustainability of projects that will eventually be operational, the City must ensure that its resources have the required financial and property management expertise. In addition, project management could be improved by making projects subject to the City's governance framework for projects and municipal asset programs.

Because of the social housing crisis, the City needs to clarify aspects of its sectoral agreement with the SHQ, particularly its degree of participation in government orientations and objectives, as well as the use of the allocated budgets. Also, since the 2019–2020 budget did not allocate funds to the AccèsLogis Montréal program, the City must reiterate its request to the government to obtain funding.

Finally, since the City has identified expected benefits with respect to the transfer of budgets and responsibilities, it must assess the extent to which these are achieved and promote the creation of 12,000 affordable housing units.

### **Logical Access Management (SIMON, PAIE, OASIS)**

In order to adequately manage logical access to information systems, sound industry practices recommend, among other things, that:

- access be granted on the basis of user needs;
- strong passwords be used;
- user accesses be reviewed periodically;
- a limited number of high-privilege accounts be used and user accesses do not permit the performance of incompatible tasks.

We found that logical access is adequately managed in the three main applications that host the City's financial information, namely SIMON (accounting and procurement – 28,000 users), PAIE (payroll management for approximately 23,000 employees, or approximately \$1.9 billion for the 2019 budget) and OASIS (\$4.8 billion in revenues in 2019).

However, with respect to users with conflicting rights duly authorized in the SIMON application (e.g., creation of purchase orders and receipt of goods and services), business unit managers do not systematically follow up ex post facto to confirm the absence of unauthorized transactions. The City should review and update the frameworks to include certain logical access management principles.

## **Management of the Bureau de Projets**

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

A total of 99 projects are planned in the 2020–2022 Three-year capital expenditures program (TCEP), with a budget ranging from \$83 million to \$89 million for each of these three years. Of the 41 IT projects budgeted for in the 2019–2021 and 2020–2022 TCEPs, we note that approximately 50% have had their schedules extended by two years or more. Similarly, 13 of the 28 prioritized IT projects were postponed two years or more in the last TCEP.

We found that the BdP's activities are not adequately supported by comprehensive, up-to-date and approved documentation that is distributed to the stakeholders. Without this adequate documentation, we also observed that the quality of project deliverables varies greatly from one project to another. This increases the risk that projects will not meet needs, will have significant cost overruns and will be delivered late in relation to initial timelines.

Thus, improvements are required with respect to roles and responsibilities, project management methodology, training, accountability, and processes related to project planning and capacity management.

## **Shadow IT Management**

The concept of Shadow IT extends to, but is not limited to, the use of tools or applications unknown to the City's Service des technologies de l'information (STI). A 2016 Microsoft study reported that more than 80% of employees in the organizations surveyed admitted to using Shadow IT without notifying their Information Technology (IT) department. The use of Shadow IT is generally symptomatic of users' tendency to believe that their IT department does not adequately meet their needs.

We found that the City does not have control mechanisms in place to ensure sound Shadow IT management. In the absence of governance for the management of Shadow IT or a detection process, the City has only partial knowledge of its use by the business units. These findings, combined with the fact that the City is behind in the delivery of its IT projects, increase the likelihood that business units will opt for Shadow IT solutions. In this regard, five of the six business units sampled are using this type of application without, however, implementing sound practices expected for this use.

Misuse of Shadow IT by the business units could, among other things, run the risk of a security breach impacting the confidentiality of sensitive data.

Several improvements are required in terms of governance for Shadow IT management, the Shadow IT awareness and training strategy and the detection process.

## **1.6. Follow-Up of the Implementation of the Recommendations of the Bureau du vérificateur général**

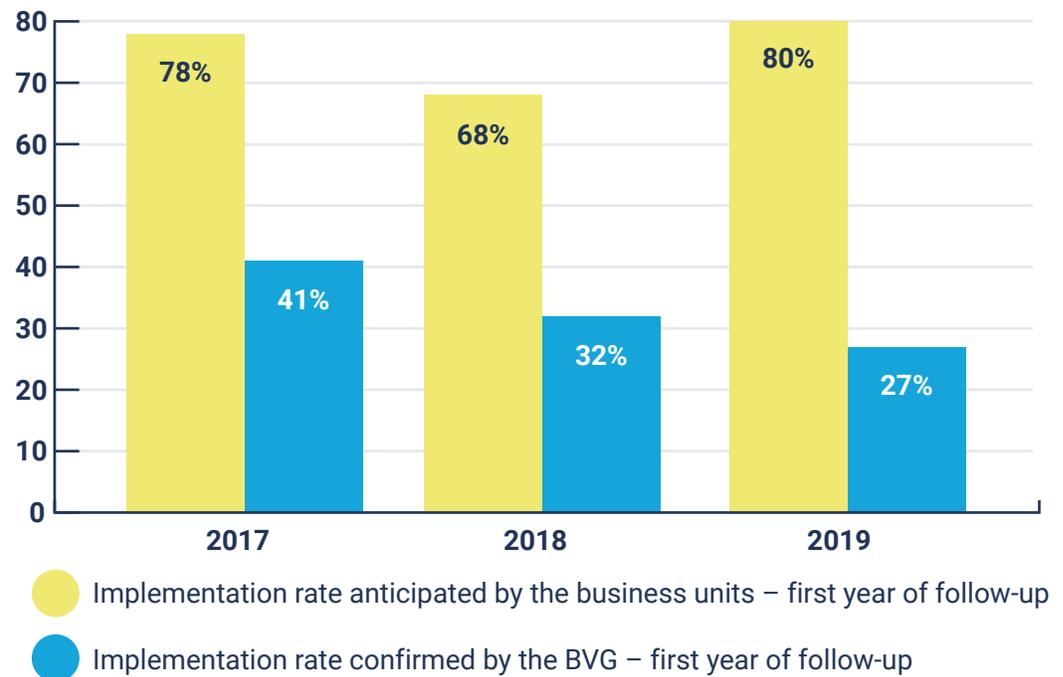
The annual monitoring of the implementation of recommendations made to the City's various business units is an integral part of the BVG's work plan. Whether the audits concern performance, information technology or financial statements, the objective of these recommendations made by the BVG is to help the municipal administration fully carry out its responsibilities and contribute to improving business processes while promoting a better use of resources.

During the fiscal year 2019, mechanisms for following up on recommendations were put in place by the Comptroller general and the City's audit committee, aimed at monitoring the actions taken by the business units to promote the implementation of action plans as quickly as possible. Other mechanisms have yet to be implemented in 2020.

## Results:

In performance and information technology audits, the proportion of recommendations implemented according to the BVG versus the proportion of those that should have been implemented based on action plans initially provided by business units decreased from 41% for 2016 to 32% for 2017 and 27% for 2018. This year, I note once again that business units are for the most part not meeting the deadlines set out in their action plans. This finding is reflected in the graph below.

### Comparison between Recommendations Expected to be Completed In the First Year of Follow-Up and Those Actually Completed



With respect to the recommendations made in 2018, 21 out of 209 recommendations (10%) for which the originally planned implementation date has passed, compared with 31 out of 210 recommendations (15%) in 2017, are still “to be undertaken,” a status that indicates that they have not been followed up by the business units concerned. That is nevertheless an improvement. In addition, 34 recommendations made in 2018, which is the first year of follow-up, were considered as implemented by the business units, even though, in the BVG’s opinion, they were not, either because evidence of the measures implemented could not be produced or because the measures implemented did not address the recommendations. We made the same finding for 31 recommendations made in 2017 in our follow-up from the previous fiscal year.

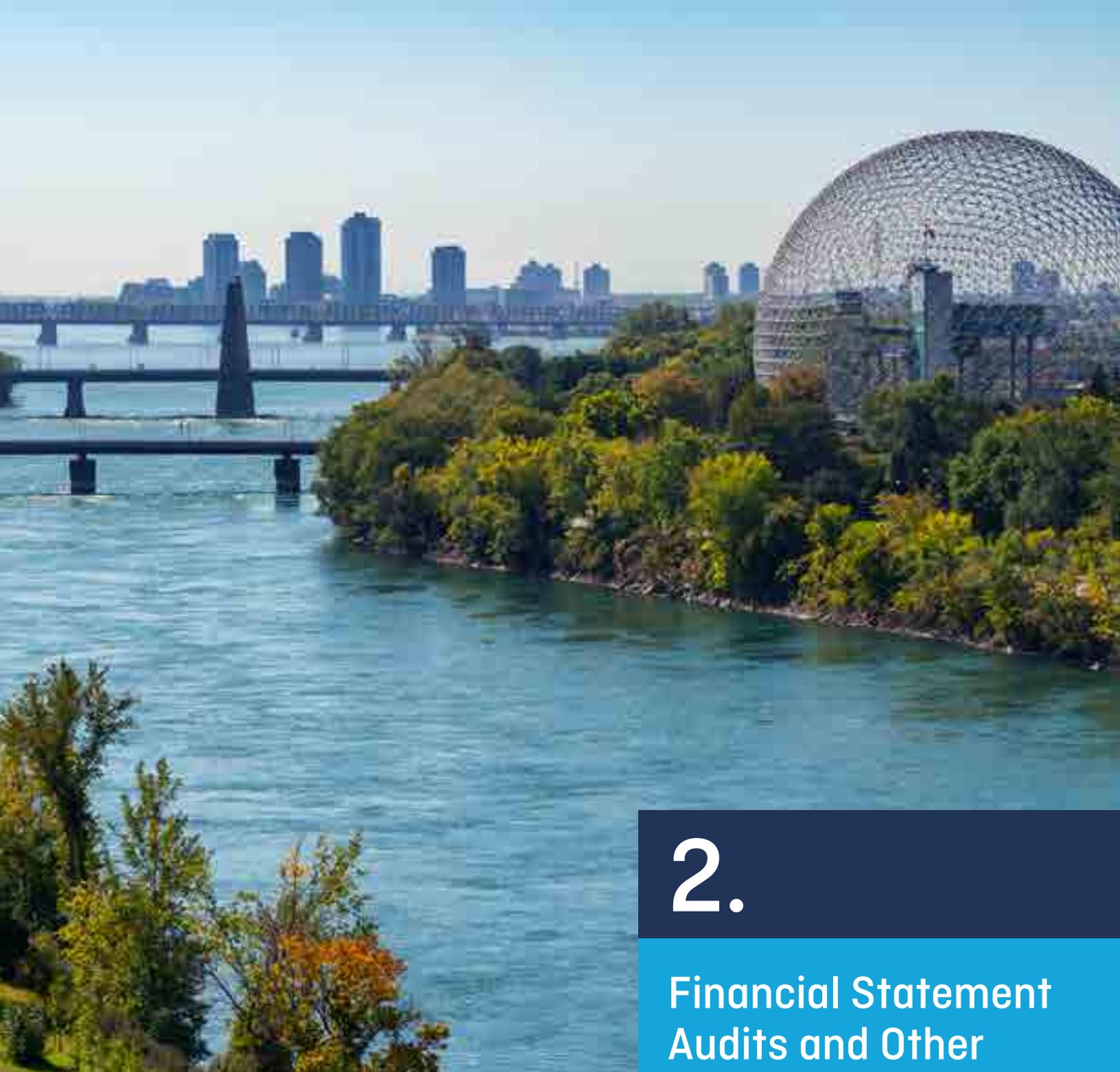
With regard to the recommendations arising from the audit of the financial statements, I note the same situation, namely that the rate of implementation of recommendations that were settled at the end of their first year of follow-up has dropped considerably.

Although the new process is not fully operational and the results observed are not satisfactory, the actions taken to date by the municipal administration and those to be taken in the coming year to promote the implementation of the recommendations lead me to believe that the situation is bound to improve.

The detailed results regarding the follow-up on the recommendations can be found in Chapter 5.

## **1.7. Situation of the Bureau du vérificateur général**

Chapter 7 provides the BVG's accountability for administrative management for 2019. The BVG's 2019 statement of expenditures and the independent auditor's report are appended to this chapter..



# 2.

## Financial Statement Audits and Other Reports

**2019 Annual Report**

Auditor General of the Ville de Montréal



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## 2. FINANCIAL STATEMENT AUDITS AND OTHER REPORTS

### 2.1. Introduction

The Auditor General conducts his audits in accordance with Canadian generally accepted auditing standards. The audit is planned and performed to provide reasonable assurance that the financial statements are free of material misstatement. It involves implementing procedures to obtain evidence about the amounts and information provided in the financial statements. An audit also includes assessing the appropriateness of the accounting methods used and the reasonableness of accounting estimates made by management, as well as assessing the overall financial statements presentation.

The Auditor General's audit of the financial statements does not in any way relieve management of its responsibilities, because it is responsible for the preparation and fair presentation of the financial statements in accordance with the applicable accounting framework and the internal control it considers necessary to enable the preparation of financial statements that are free of material misstatement.

The work done on the risk of fraud by the Bureau du vérificateur général as part of the audit of the financial statements does not relieve the Ville de Montréal (the City) management and the organizations subject to section 107.7 of the *Cities and Towns Act* (CTA) of their responsibility for the prevention and detection of fraud. Therefore, due to the limitations inherent in the financial audit, the risk that some material misstatements resulting from fraud are not detected remains despite the fact that the audit work has been planned and performed in accordance with Canadian Auditing Standards.

## **2.2. Adoption of Bill 155 - An Act to amend various legislative provisions concerning municipal affairs and the Société d'habitation du Québec**

As mentioned in Chapter 1 of the 2019 annual report, Bill 155, which was passed in April 2018, amended the sections regarding the Auditor General. The Auditor General no longer has the obligation to conduct the financial audit of the City, paramunicipal bodies, the breakdown of mixed expenditures and the overall tax rate, but he may continue to do so if he deems it appropriate. Fiscal 2019 was the first year after the bill was enacted. We still consider it appropriate to pursue our financial audits of the City. For paramunicipal bodies, we maintained the same strategy by using a risk assessment matrix to assess entities for which the auditor general deemed it appropriate to continue auditing and, consequently, to conduct a co-audit with the external auditor appointed by the City. Finally, we continued to conduct audits on the breakdown of mixed expenditures, but not on the city's overall tax rate. The list of bodies covered is presented in Table 1 of section 2.4. of this chapter.

## **2.3. Consolidated Financial Statements of the Ville de Montréal**

In accordance with the provisions of the CTA in force on December 31, 2019, to the extent deemed appropriate by the Auditor General, we audited the City's financial statements.

The *Charter of Ville de Montréal, Québec's Metropolis* (Charter of Ville de Montréal) and the CTA both require the City to submit its financial statements to the Service du greffe by March 31 following the close of the preceding year and to the Ministère des Affaires municipales et de l'Habitation (MAMH) in the prescribed form, before May 15. In the context of the major sanitary crisis of the COVID-19, the MAMH will apply an administrative tolerance with regards to the transmission deadline of the 2019 Financial Report.

The audit of the financial statements was planned and performed jointly with Deloitte, the independent auditor appointed by the City. Doing this work together avoids duplication of work and costs for the municipality.

The consolidated financial statements include the activities of the organizations included in the City reporting entity. The inclusion of an organization in the reporting entity is based on the concept of control, that is, the power to direct the financial and administrative policies of another organization so that its activities will provide expected benefits to the municipal organization or expose it to a risk of loss. These organizations are: Société de transport de Montréal, Société d'habitation et de développement de Montréal, Technoparc Montréal, Société du parc Jean-Drapeau, Conseil des arts de Montréal, Office de consultation publique de Montréal, Anjou 80, Société en commandite Stationnement de Montréal, Bureau du taxi de Montréal and BIXI Montréal.

On April 14, 2020, jointly with Deloitte, issued an unqualified auditor's report on the consolidated financial statements of the City as at December 31, 2019.

The auditor's report on the City's consolidated financial statements and the report on mixed expenditures are included in the annual financial report filed with the City's Service du greffe on April 15, 2020.

Also, on April 21, 2020, joint reports on the City's consolidated financial statements, on the breakdown of mixed expenditures were produced and recorded on the form required by MAMH. In accordance with the provisions of the CTA, the form required by MAMH, joint with the two above-mentioned joint reports on the consolidated financial statements were filed with city council and the urban agglomeration council before being sent to MAMH on May 29, 2020.

## **Organization and Governance of Public Transit in the Montreal Metropolitan Area**

For the year ended December 31, 2019, the status quo was maintained in terms of the governance of the Société de transport de la Ville de Montréal (STM), since the 2017–2019 agreement between the Autorité régionale de transport métropolitain (ARTM) and the STM expired on December 31, 2019. We will review the new agreement and analyze its impacts in the light of the existing legislative and contractual framework and any new ways of working that may exist. Management must assess the impacts that could result from this new agreement.

## **Mixed Expenditures**

Under the *Act respecting the exercise of certain municipal powers in certain urban agglomerations* (CQLR, chapter E-20.001), completed by the *Montréal Agglomeration Order* (order-in-council 1229-2005) as subsequently amended, expenditures incurred by the City in the performance by the municipal administration of an act that comes under both urban agglomeration power and another power are considered mixed expenditures. They are broken down between local and agglomeration powers in accordance with the criteria established by management pursuant to by-law RCG06-054 adopted by the urban agglomeration council on December 13, 2006, and its subsequent amendments.

Jointly with Deloitte, we conducted the audit of the table of mixed expenditures incurred by the City broken down by local and agglomeration powers. On April 14, 2020, we produced an unqualified joint report indicating that the breakdown of mixed expenditures meets compliance requirements in all material respects.

## Other reports

On June 19, 2019, the Auditor General and Deloitte sent to the management and the City's audit committee a report, which consolidated deficiencies in internal control, as well as observations related to Information Technology General Controls (ITGCs) which are identified during the audit of financial statements as at December 31, 2018, and related to follow-up on deficiencies reported in previous years. Deficiencies in internal control and ITGCs identified during the audit of financial statements as at December 31, 2019, and the follow-up to previous deficiencies had not been presented to the audit committee, at the time of publishing this report.

### **2.4. Financial Statements of Other Legal Entities Subject to the *Cities and Towns Act***

Pursuant to sections 107.7 and 107.8 of the CTA, the Auditor General must, to the extent deemed appropriate, audit the financial statements of the other legal persons covered by the CTA who meet any of the following conditions:

- It is part of the reporting entity defined in the municipality's financial statements;
- The municipality or a mandatory of the municipality appoints more than 50% of the members of the board of directors;
- The municipality or a mandatory of the municipality holds more than 50% of the outstanding voting shares or units.

Table 1 on the following page identifies the other legal entities subject to the CTA for which, following our risk assessment, we have deemed it appropriate to remain an auditor and jointly produce an audit report on their financial statements with the auditor appointed by the City.

As of January 1, 2019, with the adoption of Bill 155, the potential scope of intervention of the Auditor General will also extend to any organization:

- whose budget is adopted or approved by the municipality;
- for which more than half of its funding is secured by funds from a municipality and its annual revenues are equal to or greater than \$1,000,000;
- that is a mandatory or agent of the municipality or is designated by the Minister of the MAMH as subject to municipal contractual regulations and has its main place of business on the territory of the municipality

On December 11, 2019, the adoption of Bill 16 amended section 573.3.5, paragraph 4 of the CTA by specifying the following and by offering the opportunity to go back two years:

*“...it is a non-profit body that meets the following conditions on January 1 of a year:*

*a) its revenues for at least one of the last two years were equal to or greater than \$1,000,000;*

*b) it received, during the year in which its revenues were equal to or greater than \$1,000,000, financial assistance from a municipality in an amount equal to or greater than half of its revenues for that year.”*

At the beginning of 2019, we worked on defining the concept of financing in order to identify bodies that meet the criteria set out in the amendments to the CTA. In addition, a working group was created to develop and introduce an action plan. Consequently, over the next few years, other bodies could be audited by the auditor general, as provided for in section 107.7 of the CTA.

**Table 1 – Legal Entities Subject to Section 107.7. of the *Cities and Towns Act* for which the Auditor General has Deemed it Appropriate to Continue the Financial Audit Work as of December 31, 2019**

OTHER LEGAL ENTITIES SUBJECT TO THE <i>CITIES AND TOWNS ACT</i>	REPORTING ENTITY	DATE OF THE AUDITOR'S REPORT FOR THE FISCAL YEAR ENDING DECEMBER 31, 2019
Société de transport de Montréal (Financial report and form required by MAMH)	●	April 1, 2020
Société d'habitation et de développement de Montréal	●	March 31, 2020
Société du parc Jean-Drapeau	●	March 26, 2020
Société en commandite Stationnement de Montréal	●	March 26, 2020
Société en commandite Transgesco	(1)	March 26, 2020

(1) Subsidiary of the Société de transport de Montréal.

## Société de transport de Montréal

The Société de transport de Montréal was incorporated under the *Act respecting public transit authorities* (CQLR, chapter S-30.01).

Its mission is to provide the ARTM with the public transportation services covered by an agreement concluded under section 8 of the *Act respecting the Autorité régionale de transport métropolitain* (chapter A-33.3) and collaborate, at its request, in the planning, coordination, development, support and promotion of public transportation.

### Report

On April 1, 2020, we issued an unqualified joint auditor's report for this organization.

This is an extract from the report:

### Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the STM as at December 31, 2019, and the results of its operations, changes in its net debt and cash flows for the year then ended in accordance with Canadian public sector accounting standards.

## Société d'habitation et de développement de Montréal

The Société d'habitation et de développement de Montréal (SHDM) is a non-profit organization that reports to the City, incorporated by letters patent on June 15, 2010, by the Government of Québec pursuant to chapter V of schedule C of the *Charter of Ville de Montréal* (CQLR, chapter C-11.4).

Its objectives are:

- to contribute to economic and social development through the enhancement of residential, institutional, industrial, commercial and cultural property assets in the City's territory;
- to acquire, renovate, restore, build, demolish, sell, lease or administer buildings in the City's territory;
- grant subsidies and administer programs for the construction, renovation, restoration, demolition and relocation of buildings in the City's territory.

### Report

On March 31, 2020, we issued an unqualified joint auditor's report for this organization.

This is an extract from the report:

### Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the SHDM as at December 31, 2019, and the results of its operations, revaluation gains and losses, changes in its net debt and cash flows for the year then ended in accordance with Canadian public sector accounting standards.

## Société du parc Jean-Drapeau

The Société du parc Jean-Drapeau (SPJD) is a non-profit organization that was incorporated on August 9, 1983, under section 223 of the *Charter of Ville de Montréal*.

Its purpose is to operate, administer and develop SPJD, which includes Sainte-Hélène and Notre-Dame islands in Montréal. It manages recreational, cultural and tourist activities and carries out any other mandate entrusted to it by the City.

### Report

On March 26, 2020, we issued an unqualified joint auditor's report for this organization.

This is an extract from the report:

### Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the SPJD as at December 31, 2019, and the results of its operations, changes in its net financial assets and cash flows for the year then ended in accordance with Canadian public sector accounting standards.

## **Société en commandite Stationnement de Montréal**

The Société en commandite Stationnement de Montréal (SCSM) was incorporated under a limited partnership agreement entered into on May 10, 1994.

The Société managed paid parking-related activities under the conditions of an agreement entered into with the City on January 1, 2015.

On June 15, 2016, the City's agglomeration council adopted the new parking policy, which includes the transfer of the activities of the SCSM to a new body. Accordingly, the activities were transferred to the Agence de mobilité durable on January 1, 2020. As provided for in the agreement, the parking areas were transferred to the City.

On March 26, 2020, we issued an unqualified joint auditor's report for this organization.

This is an extract from the report:

### **Opinion**

In our opinion, the financial statements present fairly, in all material aspects, the financial situation of the SCSM as at December 31, 2019, and the results of its operations, as well as changes in its net financial assets and its cash flows for the year then ended, in accordance with Canadian public sector accounting standards.

### **Significant uncertainty related to going concern**

We draw attention to Note 14 to the financial statements which indicates that the Society has concluded a transfer deed with Ville de Montréal, effective January 1, 2020, concerning the transfer of its property, plant and equipment. On the same date, the Society transferred its activities to the Agence de mobilité durable and assigned all of its service agreements as well as its operating and contractual agreements. We draw attention to Note 1, which indicates that no other activity is planned in the Society and its dissolution is expected during the financial year 2021. Consequently, these elements indicate to us the existence of a significant uncertainty that may cast significant doubt on the Society's ability to continue as a going concern. Our opinion is not modified in respect of this matter.

## **Société en commandite Transgesco**

The société en commandite Transgesco was formed under a partnership agreement on July 2, 2003, within the meaning of the Civil Code of Québec.

Its purpose is to manage various partnerships with private sector stakeholders in connection with business activities related to the STM.

### **Report**

On March 26, 2020, we issued an unqualified joint auditor's report for this organization.

This is an extract from the report:

### **Opinion**

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Société en commandite Transgesco as at December 31, 2019, and the results of its operations, changes in its net debt and cash flows for the year then ended in accordance with Canadian public sector accounting standards.





# 3.

## Legal and Regulatory Compliance

**2019 Annual Report**

Auditor General of the Ville de Montréal



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## 3. LEGAL AND REGULATORY COMPLIANCE

### 3.1. Legal Compliance of Organizations Having Received a Subsidy of at Least \$100,000

#### 3.1.1. Background

In accordance with Section 107.9 of the *Cities and Towns Act* (CTA), “Any legal person receiving an annual subsidy of at least \$100,000 is required to have its financial statements audited.” This legal person’s auditor must provide the Auditor General with a copy of its annual financial statements, its report on these statements as well as any other report summarizing the auditor’s observations and recommendations to the board of directors or corporate officers of this legal person.

This auditor must also, when requested by the Auditor General, provide the latter with any document that relates to the audit work and its results, while also providing all information that the Auditor General considers necessary with regard to this audit work and its results. If the Auditor General considers that the information, explanations or documents obtained from the auditor are insufficient, he can arrange for any additional audit that he views as necessary.

In December 2013, the city council of the Ville de Montréal (the City) also adopted resolution CM13 1157, which requires, amongst other things, that organizations that received a subsidy of at least \$100,000 file an annual report each year.

Moreover, on August 16, 2019, a set of letters identifying the organizations that received subsidies adding up to at least \$100,000 in 2018 was provided by the Direction générale to the concerned business units, asking them to provide it, as well as the Auditor General, with a copy of the audited financial statements of these organizations.

### 3.1.2. Purpose and Scope of the Audit

The purpose of this audit was to ensure that organizations that received subsidies of at least \$100,000 complied with Section 107.9 of the CTA and to determine whether additional audit work was necessary.

Therefore, we initially extracted all the transactions in the “Contributions aux organismes” account for the purpose of reconciling the amounts appearing in the financial statements with those appearing in the City’s books, and, for all organizations, our procedures consisted in reconciling the amounts identified for organizations in letters sent by the Direction générale with the total contributions appearing in the City’s financial statements. We reconciled any differences we found with the list produced by the Direction générale.

Since we had not received all the audited financial statements of organizations that received at least \$100,000 in subsidies from the City, letters were sent on July 29 and October 4, 2019, as reminders to the business units responsible for monitoring these legal persons.

Next, on the basis of certain criteria, we selected organizations for which we conducted a review of the work of their auditors.

### 3.1.3. Audit Results

In 2018, the City paid a total of \$139.8 million in subsidies to organizations. Of this amount, \$112.8 million (or 80.7%) affected 235 organizations, which received subsidies of at least \$100,000. These subsidies were subject to the requirements of Section 107.9 of the CTA.

By November 12, 2019, the Bureau du vérificateur général (BVG) had received the 2018 audited financial statements of 225 (i.e., 95.7%) of the 235 organizations affected by this requirement under the CTA, for a total of \$111.1 million.

The ten organizations that did not meet this requirement under the CTA are presented in Table 1 below. It is important to note that every contribution agreement signed with these organizations included this requirement under the CTA.

Table 1 – **List of Non-Compliant Organizations**

ORGANIZATION	NON-COMPLIANT	AMOUNT RECEIVED
<b>Plateau-Mont-Royal borough</b>		
Îlot 84	Review engagement	\$109,000
<b>Rivière-des-Prairies–Pointes-aux-Trembles borough</b>		
Centre de Leadership pour la Jeunesse Don Bosco	Notice to readers	\$102,244
<b>Rosemont–La Petite-Patrie borough</b>		
Société de Développement Environnemental de Rosemont (SODER) Inc.	Not received (1)	\$514,980
<b>Sud-Ouest borough</b>		
Village de Noël de Montréal	The organization's financial statements were not audited	\$121,000
<b>Ville-Marie borough</b>		
Centre Récréatif Poupart Inc.	Review engagement	\$112,000
<b>Villeray–St-Michel–Parc-Extension borough</b>		
Centre communautaire Jeunesse Unie de Parc-Extension	Review engagement	\$114,538
<b>Service de la culture</b>		
Fierté Montréal	Review engagement	\$179,980
<b>Service de la Direction générale</b>		
Forum jeunesse de Saint-Michel	Review engagement	\$100,880
<b>Diversité sociale et sport</b>		
Mission Saint-Michaël	Review engagement	\$104,869
<b>Service de la mise en valeur du territoire</b>		
Atelier Entremise	Review engagement	\$135,500
<b>TOTAL</b>		<b>\$1,594,991</b>

(1) Organization that went bankrupt

As mentioned above, Section 107.9 of the CTA requires that the auditor of an organization that received a subsidy of at least \$100,000 submit a copy of the audited financial statements to the Auditor General. The Centre communautaire Jeunesse Unie de Parc-Extension failed to meet this requirement for a third consecutive year.

The BVG established an audit program concerning organizations covered by Section 107.9 of the CTA. As a result, the BVG broadened the scope of its work with a view to selecting organizations based on certain criteria, such as the amounts granted, the types of projects for which contributions are granted, and organizations that made the headlines during the year. The purpose of this review was to provide us with assurance that the work carried out to support the audited financial statements was considered satisfactory. Following the review of the records, as well as the information, explanations and documents obtained, no additional audit was considered necessary. The organizations in our sample are presented in Table 2.

**Table 2 – List of Organizations in Our Sample**

<b>ORGANIZATION</b>	<b>FISCAL YEAR-END</b>	<b>AMOUNT RECEIVED</b>
PME MTL Centre-Ville	December 31, 2018	\$2,468,014
PME MTL Centre-Est	December 31, 2018	\$1,890,447
PME MTL Grand Sud-Ouest	December 31, 2018	\$1,462,161
PME MTL Centre-Ouest	December 31, 2018	\$1,349,909
PME MTL West Island	December 31, 2018	\$1,141,791
PME MTL Est-de-L'Île	December 31, 2018	\$1,028,069

### **3.1.4. Conclusion**

We encourage the City to continue its work of educating organizations on the requirements of Section 107.9 of the CTA and of resolution CM13 1157.

### 3.1.5. Detailed Table – Legal Compliance of Organizations Having Received a Subsidy of at Least \$100,000 in 2018

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Société de Développement Commercial District Central	\$799,292	X		
S.I.D.A.C. La Promenade Fleury	\$453,378	X		
Prévention du Crime Ahuntsic - Cartierville	\$213,260	X		
Service des Loisirs Sts-Martyrs-Canadiens de Montréal	\$185,612	X		
Loisirs de l'Acadie Montréal	\$149,550	X		
Société de Développement Commercial Quartier Fleury Ouest	\$142,190	X		
Solidarité Ahuntsic	\$103,802	X		
<b>TOTAL AHUNTSIC-CARTIERVILLE BOROUGH</b>	<b>\$2,047,084</b>	<b>7</b>	<b>0</b>	<b>0</b>
Loisirs Sportifs Côte-des-Neiges - Notre-Dame-de-Grâce	\$1,293,328	X		
La Société de Verdissement du Montréal Métropolitain	\$1,264,375	X		
Comité Jeunesse de Notre-Dame-de-Grâce	\$693,980	X		
Société Environnementale Côte-des-Neiges	\$491,628	X		
Prévention Côte-des-Neiges Notre-Dame-De-Grace	\$442,451	X		
Centre Communautaire de Loisir de la Côte-des-Neiges	\$327,939	X		
Société de Développement Commercial Expérience Côte-des-Neiges	\$290,571	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Corporation de Développement Communautaire de Côte-des-Neiges	\$192,060	X		
Centre Communautaire Mountain Sights	\$168,163	X		
Centre de Ressources Communautaire Côte-des-Neiges	\$141,050	X		
Association de la Communauté Noire de Côte-des-Neiges	\$129,346	X		
Maison des Jeunes Côte-des-Neiges Inc.	\$112,699	X		
<b>TOTAL CÔTE-DES-NEIGES–NOTRE-DAME-DE-GRÂCE BOROUGH</b>	<b>\$5,547,590</b>	<b>12</b>	<b>0</b>	<b>0</b>
Groupe de Recherche Appliquée en Macroécologie (GRAME)	\$150,731	X		
Festival de Théâtre de Rue de Lachine	\$115,000	X		
<b>TOTAL LACHINE BOROUGH</b>	<b>\$265,731</b>	<b>2</b>	<b>0</b>	<b>0</b>
Héritage Laurentien	\$333,491	X		
Centre Culturel et Communautaire Henri-Lemieux	\$291,800	X		
Société de La Salle Jean-Grimaldi	\$151,494	X		
<b>TOTAL LASALLE BOROUGH</b>	<b>\$776,785</b>	<b>3</b>	<b>0</b>	<b>0</b>
Centre des Arts de la Scène Pauline-Julien	\$165,000	X		
<b>TOTAL L'ÎLE-BIZARD–SAINTE-GENEVIÈVE BOROUGH</b>	<b>\$165,000</b>	<b>1</b>	<b>0</b>	<b>0</b>

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Société de Développement Commercial Hochelaga-Maisonneuve	\$888,630	X		
CCSE Maisonneuve	\$526,306	X		
Y'a Quelqu'un l'Aut'Bord du Mur Inc.	\$402,318	X		
L'Unité d'Intervention Mobîle l'Anonyme	\$331,276	X		
Hockey Québec - Région de Montréal	\$251,422	X		
L'Antre-Jeunes de Mercier-Est	\$185,084	X		
Comité Musique Maisonneuve Inc	\$178,663	X		
Service des Loisirs Ste-Claire	\$148,208	X		
Centre Communautaire Hochelaga (C.C.H.)	\$140,387	X		
La Maison des Jeunes Magi de Mercier-Ouest Inc.	\$136,076	X		
GCC La Violence!	\$120,804	X		
Club Aquatique de l'Est de Montréal	\$120,514	X		
Association Régionale de Soccer Concordia Inc.	\$114,140	X		
Service des Loisirs St-Fabien	\$113,303	X		
Service des Loisirs St-Clément	\$110,876	X		
<b>TOTAL MERCIER-HOCHELAGA-MAISONNEUVE BOROUGH</b>	<b>\$3,768,007</b>	<b>15</b>	<b>0</b>	<b>0</b>

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Les Fourchettes de l'Espoir	\$291,047	X		
Éconord	\$248,743	X		
Un Itinéraire pour Tous	\$219,820	X		
Programme Horizon Jeunesse	\$218,600	X		
Corporation de Développement Économique (Cdec) Montréal-Nord	\$154,993	X		
Centre des Jeunes l'Escale de Montréal-Nord Inc.	\$129,550	X		
<b>TOTAL MONTRÉAL-NORD BOROUGH</b>	<b>\$1,262,753</b>	<b>6</b>	<b>0</b>	<b>0</b>
Lester B. Pearson School Board	\$180,285	X		
<b>TOTAL PIERREFONDS-ROXBORO BOROUGH</b>	<b>\$180,285</b>	<b>1</b>	<b>0</b>	<b>0</b>
Groupe Information Travail	\$265,898	X		
Centre du Plateau	\$ 261,187	X		
Relance des Loisirs Tout 9 Inc.	\$200,796	X		
Îlot 84	\$109,000		X	
Société de Développement Commercial Laurier Ouest Plateau-Mont-Royal	\$100,729	X		
<b>TOTAL PLATEAU-MONT-ROYAL BOROUGH</b>	<b>\$937,611</b>	<b>4</b>	<b>1</b>	<b>0</b>

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Société Ressources-Loisirs de Pointe-Aux-Trembles	\$875,171	X		
Équipe R.D.P.	\$302,222	X		
Maison des Jeunes de Pointe-Aux-Trembles	\$219,203	X		
Éco de la Pointe-Aux-Prairies	\$210,204	X		
Loisir Communautaire le Relais du Bout	\$188,349	X		
Centre de Leadership pour la Jeunesse Don Bosco	\$102,244		X	
<b>TOTAL RIVIÈRE-DES-PRAIRIES- POINTES-AUX-TREMBLES BOROUGH</b>	<b>\$1,897,392</b>	<b>5</b>	<b>1</b>	<b>0</b>
Société de Développement Environnemental de Rosemont (Soder) Inc.	\$514,980			X
SIDAC Promenade Masson	\$475,092	X		
Société Développement Commercial Petite Italie-Marché Jean-Talon-Montréal	\$302,806	X		
Loisirs Récréatifs et Communautaires de Rosemont	\$221,300	X		
Service des Loisirs Angus-Bourbonnière	\$175,125	X		
Carrefour Communautaire de Rosemont, L'Entre-Gens Inc. (Centre Communautaire Petite-Côte)	\$126,218	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
L'illusion Théâtre de Marionnettes	\$122,881	X		
Les Loisirs du Centre Père-Marquette Inc.	\$112,840	X		
<b>TOTAL ROSEMONT-LA PETITE-PATRIE BOROUGH</b>	<b>\$2,051,241</b>	<b>7</b>	<b>0</b>	<b>1</b>
Développement Économique Saint-Laurent	\$1,294,828	X		
VertCité	\$298,567	X		
Société de Développement Commercial de la Rue Jean-Talon à Saint-Léonard	\$360,090	X		
<b>TOTAL SAINT-LÉONARD BOROUGH</b>	<b>\$1,953,484</b>	<b>3</b>	<b>0</b>	<b>0</b>
Les YMCA du Québec	\$877,725	X		
Centre Sportif de la Petite-Bourgogne	\$487,510	X		
Centre de Loisirs Monseigneur Pigeon	\$365,696	X		
SIDAC Plaza Monk	\$327,274	X		
Centre Récréatif Culturel et Sportif St-Zotique Inc.	\$198,886	X		
Club Aquatique du Sud-Ouest (C.A.S.O.)	\$121,857	X		
Village de Noël de Montréal	\$121,000		X	
<b>TOTAL SUD-OUEST BOROUGH</b>	<b>\$2,499,948</b>	<b>6</b>	<b>1</b>	<b>0</b>

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Société de Développement Commercial Wellington	\$648,697	X		
Nature-Action Québec Inc	\$424,911	X		
Action Prévention Verdun	\$191,547	X		
<b>TOTAL VERDUN BOROUGH</b>	<b>\$1,265,155</b>	<b>3</b>	<b>0</b>	<b>0</b>
Société de Développement Commercial Destination Centre-Ville	\$4,307,298	X		
Société de Développement Commercial du Vieux-Montréal-Quartier Historique	\$2,263,692	X		
Association Sportive et Communautaire du Centre-Sud Inc.	\$1,284,805	X		
Société de Développement Commercial du Village	\$1,119,174	X		
Société de Développement du Quartier Latin	\$771,902	X		
Corporation du Centre Jean-Claude Malépart	\$662,268	X		
MU	\$379,664	X		
Sentier Urbain	\$282,770	X		
Musée des Beaux-Arts de Montréal	\$278,750	X		
Société Écociyenne de Montréal	\$207,047	X		
Spectre de Rue Inc.	\$180,286	X		
Société pour l'Action l'Éducation et la Sensibilisation Environnementale de Montréal	\$169,946	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Service des Loisirs St-Jacques de Montréal	\$147,588	X		
Centre Communautaire de Loisirs Sainte-Catherine d'Alexandrie	\$138,726	X		
Association les Chemins du Soleil	\$136,067	X		
Le Sac à Dos	\$132,285	X		
Centre Récréatif Poupart Inc.	\$112,000		X	
Art Souterrain	\$100,000	X		
<b>TOTAL VILLE-MARIE BOROUGH</b>	<b>\$12,674,270</b>	<b>17</b>	<b>1</b>	<b>0</b>
Le Patro le Prévost	\$692,265	X		
Centre de Loisirs Communautaires Lajeunesse Inc.	\$447,621	X		
Corporation de Gestion des Loisirs du Parc	\$167,674	X		
Projet d'Aménagement Résidentiel et Industriel (P.A.R.I.) de Saint-Michel	\$161,300	X		
Espace Multisoleil	\$137,861	X		
Loisirs Communautaires Saint-Michel	\$128,710	X		
La Grande Porte	\$120,439	X		
Centre Communautaire Jeunesse Unie de Parc Extension	\$114,538		X	
Vrac Environnement	\$106,036	X		
<b>TOTAL VILLERAY-SAINTE-MICHEL-PARC-EXTENSION BOROUGH</b>	<b>\$2,076,443</b>	<b>8</b>	<b>1</b>	<b>0</b>

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Société du Musée D'Archéologie et d'Histoire de Montréal Pointe-À-Callière	\$13,698,897	X		
Partenariat du Quartier des Spectacles	\$4,621,400	X		
Événements GPCQM	\$1,250,000	X		
Le Festival International de Jazz de Montréal Inc.	\$931,763	X		
TOHU	\$726,000	X		
Festival Juste pour Rire	\$600,000	X		
Festival Montréal en Lumière Inc.	\$600,000	X		
Centre Canadien d'Architecture	\$500,000	X		
Montréal en Histoire	\$456,000	X		
Vitrine Culturelle de Montréal	\$400,000	X		
Festival Transamériques	\$329,097	X		
Les Francofolies de Montréal Inc.	\$325,000	X		
MAI (Montréal, Arts Interculturels)	\$284,800	X		
Nuit Blanche à Montréal Inc	\$200,000	X		
Montréal en fêtes	\$198,750	X		
Festival du Nouveau Cinéma de Montréal	\$183,304	X		
Fierté Montréal	\$179,980		X	
Corporation du Théâtre Outremont	\$150,000	X		
Fondation Québec Cinéma	\$150,000	X		
Orchestre Symphonique de Montréal	\$140,000	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Festival Mode & Design Montréal	\$135,000	X		
Vélo Québec Evenements	\$135,000	X		
L'Auguste Théâtre	\$132,000	X		
Les Productions Nuits d'Afrique Inc.	\$121,680	X		
Bureau du Cinéma et de la Télévision du Québec	\$114,131	X		
Casteliers	\$110,110	X		
Comité de la Fête Nationale de la Saint-Jean Inc.	\$105,000	X		
Terres en Vues, Société pour la Diffusion de la Culture Autochtone	\$100,739	X		
Concours Musical International de Montréal	\$100,000	X		
Culture Montréal	\$100,000	X		
Festival Fantasia	\$100,000	X		
<b>TOTAL SERVICE DE LA CULTURE</b>	<b>\$27,178,651</b>	<b>30</b>	<b>1</b>	<b>0</b>
Oratoire Saint-Joseph du Mont-Royal	\$3,000,000	X		
PME MTL Centre-Ville	\$2,468,014	X		
Concertation Régionale de Montréal	\$2,100,000	X		
Institut de l'Électrification des Transports Intelligents	\$2,100,000	X		
PME MTL Centre-Est	\$1,890,447	X		
PME MTL Grand Sud-Ouest	\$1,462,161	X		
Carrefour du Plateau Mont-Royal	\$1,423,804	X		
PME MTL Centre-Ouest	\$1,349,909	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Société de Développement Commercial du Boulevard St-Laurent	\$1,203,807	X		
SIDAC Plaza Saint-Hubert	\$1,167,909	X		
PME MTL West-Island	\$1,141,791	X		
Office des Congrès et du Tourisme du Grand Montréal	\$1,060,000	X		
PME MTL Est-de-L'Île	\$1,028,069	X		
Société de Développement Commercial les Quartiers Du Canal	\$586,426	X		
C2.MTL	\$580,000	X		
SDC Pignons Rue Saint-Denis	\$422,941	X		
Expo Entrepreneurs	\$400,000	X		
L'Île du Savoir Inc.	\$340,000	X		
Fondation du Startup de Montréal	\$ 315,000	X		
S.A.T. Société des Arts Technologiques	\$309,735	X		
Institut Néomed	\$300,000	X		
Université de Montréal	\$298,981	X		
École des Entrepreneurs	\$296,542	X		
Société du Quartier de l'Innovation de Montréal	\$290,000	X		
École de Créativité la Factory	\$250,000	X		
Printemps Numérique	\$225,000	X		
Société de Développement Commercial la Zone Décarie Nord	\$217,722	X		
Société de Développement Commercial Laurier Ouest - Outremont	\$211,482	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Comité des Commerçants et Riverains de la Rue Jarry Est	\$200,000	X		
Mouvement Québécois de la Qualité	\$126,400	X		
Fusion Jeunesse	\$125,000	X		
Regroupement des Producteurs Multimédia	\$125,000	X		
La Ruche Solution de Financement	\$118,460	X		
Building owners and managers' association of Montreal (Boma Québec)	\$100,000	X		
Voyagez Futé	\$100,000	X		
<b>TOTAL SERVICE DU DÉVELOPPEMENT ÉCONOMIQUE</b>	<b>\$27,334,600</b>	<b>35</b>	<b>0</b>	<b>0</b>
Montréal International	\$510,000	X		
Centraide du Grand Montréal	\$251,625	X		
Maison du Développement Durable	\$150,000	X		
Missions Exeko	\$111,505	X		
Forum Jeunesse de Saint-Michel	\$100,880		X	
<b>TOTAL DIRECTION GÉNÉRALE</b>	<b>\$1,124,010</b>	<b>4</b>	<b>1</b>	<b>0</b>
Tennis Canada-Stade Jarry	\$1,745,417	X		
Centre de Prévention de la Radicalisation Menant à la Violence	\$1,300,000	X		
Club des Petits Déjeuners du Canada	\$750,000	X		
Altergo	\$734,300	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Fondation du Dr. Julien	\$500,000	X		
Intégration Jeunesse du Québec Inc.	\$500,000	X		
Triathlon International de Montréal	\$430,000	X		
Comité des Organismes Sociaux de Saint-Laurent	\$386,172	X		
Excellence Sportive de l'Île de Montréal	\$325,690	X		
Société de Développement Social	\$306,316	X		
Table de Quartier Hochelaga-Maisonneuve	\$281,665	X		
Mission Old Brewery	\$279,525	X		
Prévention Sud-Ouest	\$274,266	X		
Institut Pacifique	\$269,583	X		
Action Jeunesse de l'Ouest-de-l'Île	\$264,515	X		
Jeunesse au Soleil Incorporée	\$260,275	X		
Rue Action Prévention Jeunesse	\$245,000	X		
Vivre Saint-Michel en Santé	\$232,545	X		
Corporation de Développement Communautaire (CDC) Centre-Sud	\$211,522	X		
Réseau Réussite Montréal	\$207,275	X		
Foyer pour Femmes Autochtones de Montréal	\$204,635	X		
Comité de Revitalisation Urbaine Intégrée du Quartier Saint-Pierre	\$195,318	X		
CDC Solidarités Villeray	\$194,609	X		
Concertation Ville Émard Côte St-Paul	\$192,940	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
Concertation Saint-Léonard	\$191,981	X		
Entre-Maisons Ahuntsic	\$188,415	X		
Maison de Jeunes de Lasalle	\$185,111	X		
Accueil Bonneau Inc.	\$182,063	X		
La Mission Bon Accueil	\$179,000	X		
Solidarité Mercier-Est	\$173,000	X		
Conseil Local Intervenants Communautaires Bordeaux- Cartierville (C.L.I.C.)	\$167,154	X		
Conseil Communautaire Notre- Dame-de-Grâce Inc.	\$162,977	X		
Sports Montréal Inc.	\$160,413	X		
Moisson Montréal Inc.	\$156,650	X		
Jeunes Musiciens du Monde	\$152,000	X		
Maison Du Père	\$150,000	X		
Rue des Femmes de Montréal (La)	\$147,960	X		
Projet Ado Communautaire en Travail de Rue	\$145,601	X		
Café-Jeunesse Multiculturel	\$140,400	X		
Mouvement pour Mettre Fin à l'itinérance à Montréal	\$140,000	X		
Centre d'Initiatives pour le Développement Communautaire - L'Unité	\$129,208	X		
Centre Interligne Inc.	\$125,000	X		
Regroupement des Magasins- Partage de l'Île de Montréal	\$120,250	X		

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
L'Organisation des Jeunes de Parc-Extension Inc. (Peyo)	\$114,763	X		
Plein Milieu	\$111,811	X		
Table de Développement Social de Lasalle	\$109,801	X		
Table de Quartier de Montréal-Nord	\$106,145	X		
La Mission Saint-Michaël	\$104,869		X	
Dépôt Alimentaire Ndg	\$104,073	X		
<b>TOTAL SERVICE DE LA DIVERSITÉ SOCIALE ET DES SPORTS</b>	<b>\$13,940,215</b>	<b>48</b>	<b>1</b>	<b>0</b>
Fondation Espace pour La Vie	\$250,000	X		
Société des Musées de Montréal	\$135,520	X		
<b>TOTAL ESPACE POUR LA VIE</b>	<b>\$385,520</b>	<b>2</b>	<b>0</b>	<b>0</b>
Vélo Québec Association	\$160,067	X		
<b>TOTAL SERVICE DES INFRASTRUCTURES, VOIRIE ET TRANSPORTS</b>	<b>\$160,067</b>	<b>1</b>	<b>0</b>	<b>0</b>
Les Habitations du Trentenaire de la Shapem	\$1,579,500	X		
Les Habitations Olympia	\$567,300	X		
Atelier Entremise	\$135,500		X	
<b>TOTAL SERVICE DE LA MISE EN VALEUR DU TERRITOIRE</b>	<b>\$2,282,300</b>	<b>2</b>	<b>1</b>	<b>0</b>

ORGANIZATION	AMOUNT RECEIVED IN 2018	AUDITED FINANCIAL STATEMENTS		
		COMPLIANT	NON-COMPLIANT	FINANCIAL STATEMENTS NOT RECEIVED
École Polytechnique Montréal	\$490,826	X		
Regroupement des Éco-Quartiers	\$114,661	X		
<b>TOTAL SERVICE DE L'EAU</b>	<b>\$605,487</b>	<b>2</b>	<b>0</b>	<b>0</b>
Centre de La Montagne	\$397,250	X		
<b>TOTAL SERVICE DES GRANDS PARCS</b>	<b>\$397,250</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>\$112,776,881</b>			
	<b>235</b>	<b>225</b>	<b>9</b>	<b>1</b>
	<b>100%</b>	<b>95.74%</b>	<b>3.83%</b>	<b>0.43%</b>



# 4.

## Performance Audit and Information Technology

**2019 Annual Report**

Auditor General of the Ville de Montréal





# 4.1.

## Compliance and Safety Management of Petroleum Storage Tanks

January 29, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Ensure that petroleum storage tanks are operated in compliance with the provisions of the Act and in a manner that is safe for users, citizens and the environment.

# RESULTS

As the owner of several petroleum storage tanks, the City is obliged to comply with the *Building Act* and ensure that its storage tanks are safe for users and citizens and do not pose a danger to the environment. While several actions have been taken by the City to comply with this Act, we think, based on our sample, that improvements should be made in the following key areas:

- Permits required by the Act to operate high-risk petroleum storage tanks are missing (two permits are required in addition to the current 44);
- Documentation that must be preserved under the Act for each site with at least one high-risk petroleum storage tank is incomplete, either because tests and verifications have not been carried out or documents are missing;
- The timeframes for carrying out the process of renewing attestations of conformity are too short in some business units, leaving them with no leeway if corrective action is required and incurring a late notice from the Régie du bâtiment du Québec (RBQ);
- A huge disparity exists in the content of certificate of conformity reports for storage tanks produced by persons (specialists) recognized by the RBQ, making it difficult for business units to have complete confidence in their conformity;
- Certificates of conformity for high-risk petroleum storage tanks are often prepared by the same persons (specialists) recognized by the RBQ, and cases of apparent conflict of interest have been raised;
- There is no management plan for obsolete storage tanks in any of the business units;
- Preventive maintenance of petroleum storage tanks often consists of looking for an absence of leaks and is not framed within a preventive maintenance management plan;
- There is no accountability reporting to the management of each business unit regarding the compliance of storage tanks with current regulations.

*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.*

*Note that the business units have had the opportunity to formulate their comments, which appear after the audit report recommendations.*



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# LIST OF ACRONYMS

<b>CC</b>	Construction Code of the <i>Building Act</i>
<b>DEEU</b>	Direction de l'épuration des eaux usées
<b>DEP</b>	Direction de l'eau potable
<b>RBQ</b>	Régie du bâtiment du Québec
<b>SEEU</b>	Station d'épuration des eaux usées
<b>SGPI</b>	Service de la gestion et de la planification immobilière
<b>SMRA</b>	Service du matériel roulant et des ateliers



## 1. BACKGROUND

While the Ville de Montréal (the City) is committed to decreasing fossil fuel consumption to reduce greenhouse gases emissions,<sup>1,2</sup> it nevertheless needs and will still need to use gas, diesel and heating oil in the coming years. Gas and diesel are required in the transportation sector to operate the City's vehicles (light vehicles and heavy machinery), with refueling done in fueling stations (aboveground or underground storage tanks) installed on confined roads. Diesel is also used by the City as an emergency power source to supply generators in certain buildings, drinking water production plants, the Station d'épuration des eaux usées (SEEU) and pumping stations. Finally, oil, which is becoming less popular, is still used as back-up energy source to heat certain buildings.

The installation and operation of all petroleum equipment<sup>3</sup> in Québec are subject to the *Building Act* (CQLR, Chapter B- 1.1) and two codes arising from it: the Construction Code (B 1.1, r.2) and the Safety Code (B 1.1, r.3). This Act is administered by the Régie du bâtiment du Québec (RBQ). Within the meaning of this Act, a petroleum storage tank is a container that holds more than 225 litres of petroleum products.

In general terms, Section 8.18 of the Construction Code of the *Building Act* (CC) requires that all petroleum equipment:

- be installed in such a way as to safely contain the petroleum products for which it is intended and to resist wear, normal handling, fire and shock;
- be installed in such a way as to prevent anyone not authorized by the person responsible for the equipment from gaining access to the equipment and be protected from coming into contact with any object that could cause an accident;

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<sup>1</sup> The objective of the 2018–2021 Plan de réduction de la consommation énergétique et des émissions de gaz à effet de serre des bâtiments municipaux of the Service de la gestion et de la planification immobilière (SGPI) is for the City to become carbon neutral between now and 2021 by reducing the greenhouse gas emissions of its building stock by 80% compared with the 2002 benchmark.

<sup>2</sup> The plan to reduce greenhouse gas emissions associated with the municipal administration's own activities for the period 2013–2020 aims to reduce greenhouse gas emissions by 20% between now and 2020 compared with the 2002 levels.

<sup>3</sup> Under the Construction Code of the *Building Act*, "petroleum equipment" means any container, piping, apparatus or other equipment or device that may be used for the distribution, handling, transfer or storage of petroleum products, or forming part of a petroleum equipment installation (B-1.1, Section 8.01).

- be installed and have the necessary protection devices to ensure the safety of the persons who have access to the equipment or who are supplied from it;
- be designed for the use for which it is intended and to resist to the conditions of use to which it is submitted.

During the operation phase, Section 132 of the Safety Code of the *Building Act* requires that all petroleum equipment be used and maintained so that it does not present a risk of spillage, leakage, fire, explosion or intoxication. To do so, the owner must ensure (Safety Code of the *Building Act* – Section 133) that the petroleum processes and equipment used are safe, the safety devices provided for that purpose are used correctly and the necessary precautions are taken so as to prevent the risk of explosion, fire, spillage, leakage or other accidents. In addition, all petroleum equipment must be leak-proof to prevent such risks (Safety Code of the *Building Act* – Section 134). Finally, if operating conditions are hazardous, owing, in particular, to wear and tear or obsolescence, or when a leak is detected, the required rectification must be made (Safety Code of the *Building Act* – Section 135).

According to the RBQ,<sup>4</sup> the purpose of ensuring the conformity of petroleum storage tanks is to reduce the risk of an accident occurring and to limit the consequences for the public in the event of an accident despite the precautions taken. When an accident does occur, the risks can affect the health and safety of equipment users and citizens, as well as contaminate the environment and City infrastructure. For example, in January 2015, a major leak of 28,000 litres of diesel fuel into a raw water pumping station of the Ville de Longueuil resulted in \$6 million in decontamination costs and a three-day unsafe drinking water advisory.<sup>5</sup> Mechanisms to monitor and verify the integrity of storage tanks are vital to detect any sign that a leak is about to happen or is under way.

The CC defines a category of high-risk storage tanks for which additional requirements must be met. Table 1 gives the minimum volumes for a petroleum storage tank to be considered high-risk according to the CC. If several storage tanks are connected together, the total capacity must be taken into consideration in determining whether they are high-risk (CC.8.01).

<sup>4</sup> <https://www.rbq.gouv.qc.ca/en/areas-of-intervention/petroleum-equipment/rbq-responsibilities.html>

<sup>5</sup> <https://ici.radio-canada.ca/nouvelle/751399/ville-longueuil-poursuite-station-pompage-deversement-diesel-huit-millions>  
<https://ici.radio-canada.ca/nouvelle/1017104/recours-collectif-crise-eau-potable-longueuil-diesel-entente-amiable>

**Table 1 – Minimum Capacity of Petroleum Storage Tanks to be Considered High-Risk**

TYPE OF STORAGE TANK	GAS	DIESEL	HEATING OIL
Aboveground	2,500 litres	10,000 litres	10,000 litres
Underground	500 litres	500 litres	4,000 litres

Table 2 summarizes the responsibilities of the various business units involved in managing the permits issued by the RBQ for high-risk storage tanks and in operating all types of storage tanks.

- The Service de la gestion et de la planification immobilière (hereinafter the “SGPI”) is responsible for obtaining permits and certificates of conformity for the emergency generators used in the buildings of the central departments (with the exception of the Service de l’eau) and boroughs of the former Ville de Montréal (nine former Montréal<sup>6</sup>), as well as for fueling stations (with the exception of the fueling station at the SEEU). It is also responsible for maintaining the emergency generators and petroleum storage tanks associated with them.
- The Service de l’eau is responsible, through its two divisions, the Direction de l’eau potable (DEP) and the Direction de l’épuration des eaux usées (DEEU), for managing permits and certificates of conformity and for maintaining the emergency generators and petroleum storage tanks associated with them, as well as all other storage tanks containing petroleum products at the SEEU, including two storage tanks of 1 million litres each that supply incinerators, as needed.
- The Service du matériel roulant et des ateliers (SMRA) is responsible for maintaining the storage tanks in the fueling stations.
- The boroughs that were previously suburbs (former suburbs<sup>7</sup>) are responsible for managing permits and certificates of conformity, as well as maintaining the storage tanks associated with their buildings’ emergency generators.

<sup>6</sup> Ahuntsic-Cartierville, Côte-des-Neiges–Notre-Dame-de-Grâce, Mercier–Hochelaga-Maisonneuve, Le Plateau-Mont-Royal, Rivière-des-Prairies–Pointe-aux-Trembles, Rosemont–La Petite-Patrie, Le Sud-Ouest, Villeray–Saint-Michel–Parc-Extension and Ville-Marie boroughs.

<sup>7</sup> Anjou, Lachine, LaSalle, Île-Bizard–Sainte-Geneviève, Montréal-Nord, Outremont, Pierrefonds-Roxboro, Saint-Laurent, Saint-Léonard and Verdun boroughs.

Table 2 – **Business Units’ Responsibility in Managing Permits and Operating Petroleum Storage Tanks Based on Their Location**

STORAGE TANK USE	ACTIVITY	LOCATION OF THE STORAGE TANKS				
		CENTRAL DEPARTMENTS <sup>[a]</sup>	BOROUGHS		SERVICE DE L’EAU	
			FORMER MONTRÉAL	FORMER SUBURBS	DIRECTION DE L’EAU POTABLE	DIRECTION DE L’ÉPURATION DES EAUX USÉES
Emergency generator	Permit	SGPI		Borough	DEP	DEEU
	Maintenance					
Fueling station	Permit	SGPI				DEEU
	Maintenance	SMRA				

<sup>[a]</sup> Excluding the Service de l’eau.

## 2. PURPOSE AND SCOPE OF THE AUDIT

Pursuant to the provisions of the *Cities and Towns Act*, we conducted a resource optimization audit into the conformity and safety management of petroleum storage tanks. We carried out this assignment in accordance with the *Canadian Standard on Assurance Engagements (CSAE) 3001* of the CPA Canada Handbook – Assurance, as well as other Canadian certification standards that apply to the public sector issued by the *Auditing and Assurance Standards Board*, supported by CPA Canada.

The purpose of this audit was to ensure that petroleum storage tanks were being operated in compliance with the provisions of the Act and in a safe manner for users, citizens and the environment.

In early May 2019, the City announced its intention to prohibit the use of heating oil throughout its territory, between now and 2030, by industries, the residential sector and its own facilities. As well, given that less than 1.0% of the energy consumed by the City’s buildings comes from heating oil, we chose not to include this type of petroleum products within the scope of our audit and concentrated solely on storage of fuel (gas and diesel) and coloured diesel used to supply generators.

The responsibility of the Auditor General of the Ville de Montréal consists of providing conclusions on the objectives of the audit. To do so, we collected sufficient and appropriate evidence to support our conclusions and obtain a reasonable level of assurance. Our assessment is based on the criteria that we deemed valid under the circumstances. These criteria are outlined in Appendix 5.1.

The Auditor General of the Ville de Montréal applies the *Canadian Standard on Quality Control (CSQC 1)* of the CPA Canada Handbook – Assurance, and, accordingly, maintains an exhaustive quality control system that includes documented policies and procedures regarding compliance with the rules of ethics, professional standards and other applicable legal and regulatory requirements. He also complies with rules of independence and other ethical rules contained in the *Code of ethics of chartered professional accountants*, which is built upon basic principles of integrity, professional competence and diligence, confidentiality, and professional conduct.

Our audit work focused on the period of January 1, 2017, to April 15, 2019. For certain aspects, facts dating back prior to this time were taken into consideration to better understand a situation observed during the period covered by the audit. Our work was carried out primarily from March 2019 to September 2019. We also considered information that was sent to us up to 2020.

This work focused primarily on the following business units:

- SMRA;
- SGPI;
- Service de l'eau and its two divisions, the DEP and the DEEU;
- Lachine borough; and
- LaSalle borough.

Upon completion of our work, a draft audit report was presented to the managers involved in each of the audited business units for discussion purposes. Following this, the final report was sent to the Direction générale, as well as to each of the units involved, to obtain their action plans and completion dates for implementation. A copy of the final report was sent to the acting deputy director-general of the Services institutionnels, the deputy director-general of the Mobilité et attractivité, the deputy director-general of the Service aux citoyens, the director of the Service de la concertation des arrondissements, and the borough directors not directly targeted by our audit to enable them to implement the recommendations where warranted.

## 3. AUDIT RESULTS

### 3.1. Inventory of Petroleum Storage Tanks

#### 3.1.A. Background and Findings

We sought to obtain an inventory of all the petroleum storage tanks under the jurisdiction of the City. Given that various business units can be responsible for the storage tanks, no single inventory exists for all of them at the City. Each audited business unit was able to provide us with the list of (high-risk and non-high-risk)<sup>8</sup> storage tanks for which it was responsible. To verify that these lists were complete, we compared them with the list of oil and diesel fuel delivery addresses appearing on the contractual product agreement valid from January 4, 2016, to January 3, 2020, as well as the list of coloured diesel fuel deliveries<sup>9</sup> for generators under a second contractual product agreement valid for the same period. Finally, the list of permits issued by the RBQ was also used to ensure that the addresses associated with these permits appeared on the business units' lists.

Since each audited business unit provided us with a list of sites with petroleum storage tanks and we were able to crosscheck this information with other external data sources to validate its completeness, we consider these lists to be complete. Table 3 shows a compilation that the Bureau du vérificateur général of the Ville de Montréal was able to make with the information obtained. However, given that former suburban boroughs manage storage tanks independently of central departments, our compilation cannot be considered comprehensive and representative of all the storage tanks under the jurisdiction of the City.

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<sup>8</sup> For ease of reading, the term “storage tank” in this audit report refers to both high-risk and non-high-risk tanks.

<sup>9</sup> Diesel used for purposes other than supplying a vehicle is coloured to distinguish it from diesel used for vehicles. This distinction is made in this report to specifically refer to a petroleum product used to supply a generator.

Table 3 – Number of Sites<sup>10</sup> with at Least One Petroleum Storage Tank in the Audited Business Units

SITES WITH AT LEAST ONE STORAGE TANK	SERVICE DU MATÉRIEL ROULANT ET DES ATELIERS	SERVICE DE LA GESTION ET DE LA PLANIFICATION IMMOBILIÈRE	SERVICE DE L'EAU		LACHINE BOROUGH	LASALLE BOROUGH	TOTAL
			DIRECTION DE L'EAU POTABLE	DIRECTION DE L'ÉPURATION DES EAUX USÉES			
High-risk	26	8	5	2	1 <sup>[a]</sup>	2	44
Non-high-risk	5	65	14	43	5	0	132
<b>TOTAL</b>	<b>31</b>	<b>73</b>	<b>19</b>	<b>45</b>	<b>6</b>	<b>2</b>	<b>176</b>

<sup>[a]</sup> According to RBQ documents, the permit for the high-risk storage tanks at the Lachine borough's marina is in the name of this borough. However, on January 1, 2015, under Section 85 of the Charter of Ville de Montréal, the City assumed jurisdiction over the marina with the exception of contractual management and daily maintenance, which remain the responsibility of the borough. The City's Service des grands parcs, du Mont-Royal et des sports (unaudited business unit) is the City department in charge of the marina.

### 3.2. Operation of High-Risk Petroleum Storage Tanks in Compliance with Regulations

In this section, we sought to verify whether the business units responsible for high-risk petroleum storage tanks were compliant with the requirements of the *Building Act* and its Construction Code and Safety Code. Among the requirements that must be met for high-risk petroleum storage tanks is the obligation, in particular, to:

- To hold a permit for the use of all the high-risk petroleum storage tanks situated at the same address and renew it every two years (Safety Code of the *Building Act* – sections 120 and 128);
- Have a certificate of conformity produced and signed by a person (specialist) recognized by the RBQ and renew it every two, four or six years (Safety Code of the *Building Act* – Section 115);
- Every two years, inspect the cathodic protection performance of the underground storage tanks and ensure the proper operation of the automatic leak detection system (Safety Code of the *Building Act* – Section 139);

<sup>10</sup> Given that there can be more than one petroleum storage tank at the same address and that this count was not always available in the documents obtained, we opted to present the number of sites with at least one petroleum storage tank.

- Every year, ensure the proper operation of every grounding circuit in a petroleum equipment installation and the safety valves of an aboveground piping system (Safety Code of the *Building Act* – Section 140);
- To gauge weekly the water level in each underground tank at a fuel station Safety Code of the *Building Act* – Section 143);
- Keep a register for each storage tank containing certain specific documents for two or ten years, as the case may (Safety Code of the *Building Act* – Section 114);
- Keep portable fire extinguishers in proper working order nearby the tanks (Safety Code of the *Building Act* – Section 170) and, in the case of fueling stations, at least two fire extinguishers one of which must be within 10 metres of the distribution areas for fuel (Safety Code of the *Building Act* – Section 220);
- Keep oil absorbents at all times on the premises where high-risk petroleum equipment is situated (Safety Code of the *Building Act* – Section 171).

### 3.2.1. Permit to Operate a Petroleum Storage Tank

#### 3.2.1.A. Background and Findings

The primary obligation of an owner is to possess a valid permit from the RBQ for all the high-risk petroleum storage tanks situated at the same address and to renew it every two years.<sup>11</sup> We wanted to ensure that the audited business units had a permit for each of the sites where at least one petroleum storage tank qualified as high-risk within the meaning of the CC. Based on the lists of storage tanks that the audited business units supplied to us, we identified, among the 132 sites considered not to have high-risk petroleum storage tanks, two sites whose storage tank capacity exceeded the limits set by the RBQ (see Table 1) and for which the business units involved did not have a valid permit issued by the RBQ.<sup>12</sup>

The first case involved a diesel storage tank in Firehall 64 in the Lachine borough. According to the information obtained from the SGPI, this storage tank is used to supply coloured diesel to an emergency generator. It is underground and has a capacity of 1,135 litres, which is double that allowed for a high-risk petroleum storage tank. Yet it is not on the list of high-risk storage tanks for which the City is responsible in the RBQ register. The SGPI could not explain to us why this storage tank had no permit at the time of the audit work.

<sup>11</sup> Safety Code of the *Building Act* – sections 120 and 128.

<sup>12</sup> Based on the number of high-risk petroleum storage tanks that we itemized (44), these two without permits represent a 4.5% deviation.

The second case directly referenced a specification in the CC<sup>13</sup> that, where several storage tanks are connected to one another, the total volume of these tanks must be taken into consideration in determining whether they are high-risk. Two generators in the Des Bailleurs drinking water production plant are supplied with coloured diesel from a 1,135-litre auxiliary tank that is itself supplied by two main storage tanks, each with a capacity of 4,556 litres. These tanks are all inside the plant (therefore considered to be aboveground). Taken individually because they are aboveground, these storage tanks each have a capacity that is less than the 10,000-litre limit that would require them to be considered high-risk. However, since the two largest storage tanks supply the same auxiliary tank, these three storage tanks form a whole unit with a total capacity of 10,247 litres, or slightly above the limit. In 2018, the DEP commissioned a study on bringing petroleum storage tanks in certain plants up to standard, including the Des Bailleurs plant. The report dated July 2018 stated that *“given that the joint capacity of the storage tanks is greater than 10,000 litres, the use of these tanks requires a permit from the RBQ”*. Despite this information being brought to the attention of the DEP, the list of storage tanks under its jurisdiction, which we obtained as part of our audit, showed these three storage tanks as being not high-risk, and, consequently, they did not appear on the register of the RBQ. This non-compliance originates from another non-compliance in the design of the storage tanks at the DEP, since the auxiliary tank supplies two generators. As reported in the standardization study produced in 2018, the CSA-C282 standard requires that each emergency generator be supplied by its own storage tank.

Operating high-risk petroleum storage tanks without a permit from the RBQ contravenes Section 35.2 of the *Building Act*, which stipulates that *“the owner of a petroleum equipment installation shall, in the cases and on the terms and conditions determined by regulation of the Board, obtain from the Board a permit for the use or operation of his installation.”* Section 197 of the Act specifies that contravention of Section 35.2 may result in a fine ranging from \$17,190 to \$85,945 in the case of a legal person.

As stated in the previous section, on January 1, 2015, the Service des grands parcs, du Mont-Royal et des sports took over responsibility for the marina on behalf of the City and, in particular, the funding of its three-year capital expenditure program for investment spending needed at the marina. Section 120 of the Safety Code of the *Building Act* states that the owner of a petroleum equipment installation having at least one component that is high-risk must obtain a permit from the RBQ for the site. At the time of our audit work, the permit issued by the RBQ was still in the name of “Ville de Montréal (Lachine borough)”. It is important that RBQ documents align with the City’s decisions regarding responsibility for the petroleum storage tanks at the Lachine borough’s marina.

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<sup>13</sup> CC.8.01.

## RECOMMENDATION

3.2.1.B. We recommend that the Service de la gestion et de la planification immobilière and the Service de l'eau obtain a permit for all sites containing high-risk petroleum storage tanks that exceed the capacity set out in the Construction Code of the *Building Act* to comply with the Safety Code of the *Building Act*.

## BUSINESS UNITS' RESPONSE

3.2.1.B. *Service de la gestion et de la planification immobilière*

[TRANSLATION] Take steps with the firm involved to obtain a permit to use high-risk petroleum equipment facilities for Firehall 64.

(Planned completion: May 2020)

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*Service de l'eau*

[TRANSLATION] The Direction de l'eau potable will need to obtain the permit for the storage tank at the Charles-J.-Des Bailleurs plant from the Régie du bâtiment du Québec. (Planned completion: June 2020)

The Direction de l'épuration des eaux usées has a permit for all high-risk petroleum storage tanks. (Planned completion: completed)

## RECOMMENDATION

3.2.1.C. We recommend that the Lachine borough take steps with the Régie du bâtiment du Québec to transfer ownership of the marina's petroleum storage tanks to the Service des grands parcs, du Mont-Royal et des sports, so that the information held by the Régie du bâtiment reflects the shared responsibilities at the City.

## BUSINESS UNIT'S RESPONSE

3.2.1.C. *Lachine borough*

[TRANSLATION] The current permit is valid until December 31, 2020.

The Lachine borough has contacted the Régie du bâtiment du Québec and will take steps to make changes to reflect ownership of the storage tanks by the Service des grands parcs, du Mont-Royal et des sports between now and the end of the year. (Planned completion: January 2021)

## 3.2.2. Recordkeeping for each Petroleum Storage Tank

### 3.2.2.A. Background and Findings

The Safety Code of the *Building Act* requires that the owner of each high-risk petroleum storage tank keep in a register certain documents specific to each tank for a period of two or ten years, depending on the document.<sup>14</sup>

As part of our audit work, we wanted to ensure that the City was complying with its recordkeeping obligations. After examining the files of the 13 sites having at least one high-risk petroleum storage tank in our sample,<sup>15</sup> our work revealed that the audited business units did not officially have a complete register for each high-risk petroleum storage tank. Although there were filed documents on each of the storage tanks, we identified the following non-compliances in how this register was kept:

- Breach of an obligation set out in the Safety Code of the *Building Act* that must be entered into the register:
  - In the case of the petroleum storage tanks at the Lachine borough’s marina, the register did not contain any document indicating that the leak detection system was checked every two years. The reason given by the borough was that there is no such system on the marina’s tanks. The RBQ’s description of the petroleum equipment in the marina, however, clearly states the presence of a leak detection system for both storage tanks;
  - Again in the case of the Lachine borough’s marina, the person we met could not provide documents indicating that the weekly gauging of the water level in the tanks as required by the Safety Code of the *Building Act*.<sup>16</sup> Such documents are required to be kept for two years in the tank’s register. The borough justified this absence by the fact that the private company managing the marina<sup>17</sup> does this test randomly but not every week;

<sup>14</sup> Safety Code of the *Building Act* – Section 114.

<sup>15</sup> Appendix 5.2 shows the composition of our sample established on a discretionary basis in terms of the number of sites per audited business unit and whether the sites had high-risk or non-high-risk petroleum storage tanks. The sample size is adequate to obtain sufficient evidence to support our conclusions.

<sup>16</sup> Safety Code of the *Building Act* – Section 143.

<sup>17</sup> The borough delegated management of the marina’s operations, including the management of the fuel storage tanks, to a private company. The borough remains the owner of the tanks in the eyes of the RBQ. This situation means that several documents have been kept by this company and not by the borough.

- The register shall contain the biennial leak detection system verification reports for the last 10 years.<sup>18</sup> At the SGPI, every second report was missing since the business unit prepares them every four years, i.e., only when obtaining the certificate of conformity for the storage tanks;
- At the DEEU, reports for the last 10 years on the annual verification of the safety valves and grounding systems are not available in the register of the SEEU’s storage tanks. The safety valves are only verified every two years. In the case of the grounding test, none was done regularly prior to 2019, since the DEEU considered that everything was compliant with the electrical code;
- Non-compliances in recordkeeping due to the absence of a document:
  - At the DEP, many documents (e.g., the annual verification of the safety valves and grounding circuit) are missing for the high-risk petroleum storage tanks on two sites (the Dorval drinking water plant and the Pointe-Claire drinking water plant), since the Service de l’eau has only been responsible for managing these facilities since 2014. Documents prior to this transfer of responsibility, if they exist, would be in the archives of the related municipalities, and the Service de l’eau has not repatriated them;
  - The register for each high-risk petroleum storage tank must contain a copy of the plans relating to all construction work carried out on the storage tanks.<sup>19</sup> Only the DEEU was able to show us plans for the high-risk petroleum storage tanks for which it is responsible. The DEP stated that it was still looking for the plans of the storage tanks, both at the SGPI and the various plants. The SGPI stated that they did not have all the plans since those of the oldest installations were missing. The LaSalle borough stated that it did not have direct access to the plans and that it would have to search the borough’s archives to find them. The Lachine borough also did not have the marina’s storage tank construction plans;
  - Because of the shared responsibility between the SGPI and the SMRA for the fueling stations, some documents (plans, permits, certificates of conformity) are kept by the SGPI, while documents of tests and technical verifications are kept by the SMRA. In neither department is there a note in the file pertaining to a storage tank explaining that documents are also available in the other department.

Based on all these findings, we believe that the business units must take the necessary steps to perform all the tests and verifications required under the Safety Code of the *Building Act* and, thereafter, ensure that the evidence of their actions is kept in one official register per site.

<sup>18</sup> Safety Code of the *Building Act* – Section 139.

<sup>19</sup> Safety Code of the *Building Act* – Section 114.

## RECOMMENDATION

3.2.2.B. We recommend that the Service de l'eau, the Service du matériel roulant et des ateliers, the Service de la gestion et de la planification immobilière, the Lachine borough and the LaSalle borough create a register for each high-risk petroleum storage tank with a list of all the documents required by the Safety Code of the *Building Act*, specifying where they can be consulted and justifying, if necessary, the absence of certain documents to ensure compliance with the Safety Code of the *Building Act* that requires keeping such a register.

## BUSINESS UNITS' RESPONSE

### 3.2.2.B. Service de l'eau

[TRANSLATION] The Direction de l'eau potable will set up a register for each high-risk petroleum storage tank. **(Planned completion: August 2020)**

The Direction de l'épuration des eaux usées will amend its current register to include the list of required documents for each of its high-risk petroleum storage tanks. **(Planned completion: May 2020)**

### Service du matériel roulant et des ateliers

[TRANSLATION] The Service du matériel roulant et des ateliers could create and maintain a central file (with restricted access) at the Service du matériel roulant et des ateliers, identifying all the required documents (plan, permit, certificate of conformity) for each of the high-risk petroleum storage tanks. **(Planned completion: March 2020)**

### Service de la gestion et de la planification immobilière

[TRANSLATION] Update a central information file with the Service de la gestion et de la planification immobilière. **(Planned completion: May 2020)**

### Lachine borough

[TRANSLATION] The borough does not own any high-risk storage tanks. No action is planned.

Regarding the storage tanks at the marina, the borough, as the manager of the equipment, will ensure that a document register is maintained in collaboration with the Service des grands parcs, du Mont-Royal et des sports. **(Planned completion: January 2021)**

### LaSalle borough

[TRANSLATION] A digital file will be created on the network in the Division bâtiments/équipements where each of the generators will have its own file/register with all the required relevant documents pertaining to the certificate of conformity, and indicate the equipment number in the integrated building management system where all these files can be found. **(Planned completion: September 2020)**

## RECOMMENDATION

3.2.2.C. We recommend that the Service de l'eau, the Service de la gestion et de la planification immobilière and the Lachine borough draw up a schedule defining the tests and verifications that must be performed prior to renewal of the certificate of conformity to ensure that they have all the documents that are required to be in the register of each storage tank within the required timeframe.

## BUSINESS UNITS' RESPONSE

### 3.2.2.C. Service de l'eau

[TRANSLATION] The Service de l'eau will set up a verification program of all its petroleum equipment based on the required frequency in the MAXIMO software. (Planned completion: August 2020)

### Service de la gestion et de la planification immobilière

[TRANSLATION] The scheduling file for tests and verifications is already available. (Planned completion: completed)

### Lachine borough

[TRANSLATION] The borough does not own any high-risk storage tanks. No action is planned.

Regarding the storage tanks at the marina, the borough, as the manager of the equipment, will establish a schedule in collaboration with the Service des grands parcs, du Mont-Royal et des sports.

(Planned completion: January 2021)

## 3.2.3. Certificate of Conformity of a Petroleum Storage Tank

The process for obtaining a certificate of conformity for a high-risk petroleum storage tank is an important element of the Safety Code of the *Building Act*, which is aimed at ensuring that an external independent set of eyes periodically checks to see that petroleum equipment complies with certain sections of the CC and Safety Code of the *Building Act*. This process involves an independent inspection, correction of non-compliances identified during the inspection and, thereafter, that a certificate of conformity be issued by the recognized person (specialist).

### 3.2.3.A. Background and Findings

#### Renewal Process for Certificates of Conformity

The Safety Code of the *Building Act*<sup>20</sup> requires that the owner of a site that contains at least one high-risk petroleum storage tank provide the RBQ with a certificate

<sup>20</sup> Safety Code of the *Building Act* – Section 115.

of conformity of the equipment that meets certain requirements. The certificate must be renewed every two, four or six years depending on the type of storage tank. As part of our audit, we sought to learn whether the business units renewed the certificates of conformity for high-risk petroleum storage tanks within the required timeframe. First, we found that, over the period targeted by our audit, the SMRA, the DEEU and the Lachine borough had each received an overdue notice for renewal of the certificate of conformity. The certificates for the other sites in our sample were obtained within the timeframe. During the same period, the Lachine borough and the LaSalle borough<sup>21</sup> also each received an overdue notice for renewal of the permit (such renewal required every two years). The DEEU justified this as being due to a delay in granting the contract for the required inspection by the recognized person (specialist). The Lachine borough's explanation is the inability of the recognized person (specialist) to perform certain verifications at the marina during the winter, whereas the deadline for the certificate was in January. In the case of the SMRA, the new certificate was obtained from the recognized person (specialist) before expiry of the previous certificate, but the business unit sent it in late to the RBQ. This initial finding led us to conclude that there is an issue with compliance with timelines in renewing certificates of conformity.

Considering the reasons given to explain these delays, we wanted to know whether the business units allocated sufficient time to complete the renewal process for certificates of conformity. In comparing the dates at which the verification was performed with the expiry of the current certificate for the 13 sites of high-risk petroleum storage tanks in our sample (see Appendix 5.2), we noted the following:

- The SGPI and the SMRA begin the process of obtaining certificates of conformity more than six months in advance of the expiry date. In addition, only the SMRA and the SGPI jointly have a procedure to start the renewal process for a permit or certificate of conformity for a site with high-risk petroleum storage tanks;
- The Lachine borough began work on renewing the certificate of conformity 16 days before the expiry of the existing certificate. Without even considering the inability of the recognized person (specialist) to perform certain verifications due to winter and the closure of the marina, this delay gave the business unit practically no leeway to take corrective actions if the recognized person (specialist) identified non-compliances. In actual fact, the new certificate was obtained 132 days after expiry of the current one;
- The LaSalle borough did not provide us with a report certifying its conformity. We were unable to determine when the work had begun. However, the two certificates provided during the period covered by this audit were obtained 12 days before expiry in one case and 19 days after expiry in the other case. We concluded that the borough had little leeway in the first case and none in the second case;

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<sup>21</sup> Upon receipt of the overdue notice for renewal of the permit, the LaSalle borough immediately reacted by awarding a mutually agreed contract to a recognized person (specialist) for the certificate of conformity of the storage tank. The borough did not have to award such a contract since the certificate was not about to expire. It could simply have filled out the permit renewal form, returned it to the RBQ and paid the renewal costs.

- Finally, the DEP presented two totally different cases. In one case, the certificate process had begun 32 days before the expiry of the existing certificate. The recognized person (specialist) did not demand any immediate corrective action and issued the new certificate that same day. If corrective action had been required before the certificate could be issued, the DEP could have found itself overdue for renewal. In the other case, involving renewal of the certificate of conformity for the Pointe-Claire water storage tank, work began very early, and the new certificate was obtained about two years (731 days) before the expiry of the current certificate. However, the Safety Code of the *Building Act*<sup>22</sup> requires that the inspection be carried out within 12 months prior to the end of the period covered by the certificate. The DEP will need therefore to redo the certification work, since the certificate obtained two years ahead of time will be ineligible at the RBQ.

Based on these findings, it is our opinion that, with the exception of the SGPI and the SMRA, the business units do not properly plan the renewal of certificates of conformity, resulting in overdue notices from the RBQ.

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<sup>22</sup> Safety Code of the *Building Act* – Section 116.

## RECOMMENDATION

3.2.3.B. We recommend that the Service de l'eau, the Lachine borough and the LaSalle borough draw up a schedule for renewal of certificates of conformity for high-risk petroleum storage tanks to ensure that they are renewed at the appropriate time to maintain their conformity and avoid eventual sanctions by the Régie du bâtiment du Québec.

## BUSINESS UNITS' RESPONSE :

### 3.2.3.B. Service de l'eau

[TRANSLATION] The Service de l'eau will set up, in the MAXIMO software, a system to generate renewal notices for certificates of conformity and the renewal of petroleum product permits. (Planned completion: May 2020)

### Lachine borough

[TRANSLATION] The borough does not own any high-risk storage tanks. No action is planned.

Regarding the storage tanks at the marina, the borough, as the manager of the equipment, will establish a schedule for the renewal of certificates of conformity in collaboration with the Service des grands parcs, du Mont-Royal et des sports. (Planned completion: January 2021)

### LaSalle borough

[TRANSLATION] The storage tanks will be inventoried in our Système intégré de gestion des immeubles, and a preventive maintenance plan will be created to produce a work order at the appropriate time of year for the performance of the tasks identified to maintain their conformity with the Régie du bâtiment du Québec. (Planned completion: September 2020)

## Comprehensiveness of the Certificate of Conformity Process for Storage Tanks

Still regarding the certificate of conformity renewal process, we sought to determine whether the business units were able to demonstrate that the certificate of conformity of a high-risk petroleum storage tank complied with the requirements of the Safety Code of the *Building Act*. While the certificate is issued by a member of a professional order, we believe that the business units should ensure that the work done is complete and that they are paying for a proper professional service, i.e., that they are able to demonstrate that this service meets current regulatory requirements.

We wanted to know whether the reports of the various recognized persons (specialists) were sufficiently complete under the requirements of the Safety Code of the *Building Act*.<sup>23</sup> With the exception of the Lachine borough and the LaSalle borough, which were unable to provide us with certificate of conformity reports for all of the high-risk petroleum storage tanks under their jurisdiction (3 sites out of 13), we found a huge disparity in the reports of the recognized persons (specialists). Some reports only stated non-compliant elements, while others also pointed out compliant elements. Of the 10 reports that we examined, the recognized persons (specialists) commented (compliant, non-compliant, non applicable) on 2.9% to 82.1% of the sections of the Safety Code of the *Building Act* with which they had to certify conformity (the reports with the lowest percentages were those that dealt only with non-compliances). In the absence of a clear and explicit statement from the recognized person (specialist) that a storage tank complies with a requirement of the RBQ or that the requirement does not apply to this tank, the City is unable to show beyond any doubt that the section has been taken into consideration by the recognized person (specialist) and that the certificate of conformity process is complete. If an incident happened following such a poorly documented certificate, it would be difficult for the City to show that, in light of the information obtained by the recognized person (specialist), there was no indication that such an incident might occur.

We observed that some certificate of conformity reports stated that the work had been done in accordance with “*the requirements of the Safety Code and the Construction Code of the Régie du bâtiment du Québec*” and that “*the non-compliances of the storage tanks [are] related to the verification protocol of the Safety Code*” without specifying these requirements and detailing this protocol. Another report states that “*the storage tank was inspected and verified in accordance with a checklist that itemized the main requirements of the Construction Code and Safety Code and in accordance with the CSA B139-15 standard*” again without specifying what was actually taken into consideration in these codes. While some reports were more precise in stating that “*the verification of conformity [...] covered the requirements of sections of the Construction Code and safety stated in Section 117 of the Safety Code,*” they did not stipulate the sections that did not apply specifically to these storage tanks and those that were ultimately taken into consideration.

Considering that the Safety Code of the *Building Act*<sup>24</sup> requires that the recognized person (specialist) certify that they have verified the register of the storage tank and that its contents are in compliance with the code,<sup>25</sup> and considering, as previously stated, that we identified missing documents for each of the storage tanks for which we consulted the register, we have to wonder about the certificate that the business units receive from the recognized persons (specialists). For example, in spring 2018, the DEEU voluntarily commissioned a conformity report for the petroleum equipment of the SEEU to compare these observations with those made by the recognized person (specialist) in 2017. While the May 2017 report

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<sup>23</sup> Safety Code of the *Building Act* – Section 117.

<sup>24</sup> Safety Code of the *Building Act* – Section 117.

<sup>25</sup> Safety Code of the *Building Act* – Section 114.

of the recognized person (specialist) and even the December 2018 report that followed stated that the fueling station complied with the requirement of a yearly verification of all grounding circuits,<sup>26</sup> the spring 2018 voluntary report by another firm stated that “*the reference documents are unavailable for these verifications*”. It is hard for us to understand how, over a period of 19 months, one recognized person (specialist) observed the presence of documents produced annually that are to be kept for 10 years, whereas another person stated that they were unavailable. The recognized person (specialist) also stated in their certificate reports of May 2017 and December 2018 that the overfill protection device on the underground storage tanks of the fueling station complied with the standard.<sup>27</sup> The conformity report prepared in spring 2018, on the other hand, stated that the storage tank was non-compliant since there was no overfill protection device.

Faced with these findings, we can only conclude that there are major discrepancies in the reports prepared by the recognized persons (specialists) and possibly even in the work they do. In light of this, we are of the opinion that it is vital that the business units demand certificate of conformity reports from the recognized persons (specialists) covering all the points set out in the Safety Code of the *Building Act*, so that they are able to show that they have met their responsibilities as owners, if need be.

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<sup>26</sup> Safety Code of the *Building Act* – Section 140.

<sup>27</sup> ULC/ORD-C58.15 standard. This refers to a requirement of the CC (Section 127) that is subject to verification by the recognized person (specialist).

## RECOMMENDATION

3.2.3.C. We recommend that the Service du matériel roulant et des ateliers, the Service de la gestion et de la planification immobilière, the Service de l'eau, the Lachine borough and the LaSalle borough, in the case of future certificates, obtain from the person (specialist) recognized by the Régie du bâtiment du Québec a complete certificate of conformity report certifying all the points set out in Section 117 of the Safety Code of the *Building Act* to ensure that the certificate of conformity process for high-risk petroleum storage tanks is complete and complies with regulatory requirements.

## BUSINESS UNITS' RESPONSE

### 3.2.3.C. *Service du matériel roulant et des ateliers*

[TRANSLATION] Validate that the certificates of conformity cover all the points set out in Section 117 of the Safety Code of the Building Act. Obtain the inspection checklist provided by the Régie du bâtiment du Québec in our inspection reports. **(Planned completion: December 2020)**

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### *Service de la gestion et de la planification immobilière*

[TRANSLATION] When issuing the request for proposals, stipulate that we want to have the inspection checklist provided by the Régie du bâtiment du Québec in our inspection reports. **(Planned completion: when awarding our next contract in June 2020)**

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### *Service de l'eau*

[TRANSLATION] The Service de l'eau will prepare an estimate to have the person recognized by the Régie du bâtiment du Québec issue a certificate of conformity for petroleum product installations, based on the inspection checklist of the Régie du bâtiment du Québec. **(Planned completion: August 2020)**

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### *Lachine borough*

[TRANSLATION] Regarding the storage tanks at the marina, the borough had been receiving a summary document. The full report was sent directly to the government and the certificate of conformity was issued thereafter. As the manager of the equipment, the borough will make certain to obtain the full report at the time of each certification, and this report will be kept in the register. **(Planned completion: June 2021)**

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### *LaSalle borough*

[TRANSLATION] To ensure that all the items required for the certificate of conformity have been validated by the person (specialist) recognized by the Régie du bâtiment du Québec, a form will be created and attached directly to the work order in the *Système intégré de gestion des immeubles* and given to the recognized person (specialist) to fill in and sign. The document will then be saved and archived in the *Système intégré de gestion des immeubles* of the storage tank in question. **(Planned completion: September 2020)**

## Evidence of Corrections to Non-Compliances

In the certificate of conformity process for a high-risk petroleum storage tank, if non-compliances are identified by the recognized person (specialist), they must be corrected before the certificate is issued. Proof of these corrections must be presented to the recognized person (specialist). With this in mind, we set out to learn whether the business units had taken the corrective actions required to address identified non-compliances before receiving certificates of conformity. The Lachine and LaSalle boroughs were unable to provide us with copies of the verification of conformity reports produced by the recognized persons (specialists) for three of the audited sites. Regarding the other sites, ten were covered in the reports, but six of these had non-compliances. In four cases, at the SMRA or the SGPI, we found evidence that these non-compliances had been corrected before the recognized person (specialist) issued the certificate of conformity. In two other cases, at the DEP, even though non-compliances appeared in the section of the report titled “*Non-compliances based on the verification protocol of the Safety Code,*” the recognized persons (specialists, both of whom worked for the same firm) stated that “*the non-compliances listed in this section are those that must necessarily be corrected before the next certificate of conformity*”, i.e., in 2022 for the site of the Dorval drinking water plant and in 2024 for the site of the Pointe-Claire drinking water plant. This approach is unique to this firm among the ones we observed. Following these two verifications, the DEP therefore decided that no corrective action was immediately required. The Safety Code of the *Building Act*,<sup>28</sup> however, states that the recognized person (specialist) must certify that the petroleum equipment meets the requirements of the Safety Code of the *Building Act* and the CC or inform “*the owner of any irregularities found and the reasons for refusing to produce the required certificate of conformity.*” Deferring the obligation to implement corrective action immediately for a non-compliance not only goes against the Safety Code of the *Building Act*, but it also opens the door to persistent non-compliances. We examined the recommendations related to these non-compliances and those that were merely areas for improvement based on current best practices appearing in these 10 certificate of conformity reports and asked the business units involved to provide us with proof that the corrections had been made. Of the 12 mandatory recommendations (non-compliances), all had been applied (100%), while only 10 of the 25 non-compulsory recommendations (40%) had been implemented (see Table 4, which shows the proportions by business unit).

It should be remembered that the responsibility of the owner of a petroleum storage tank is not limited solely to verifying and correcting the non-compliances identified within the framework of the certificate of conformity process. The Safety Code of the *Building Act* requires that petroleum equipment be leak-proof to prevent any risk of explosion, fire, spillage or other accident,<sup>29</sup> and that the owner ensure that the petroleum processes and equipment used are safe.<sup>30</sup>

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<sup>28</sup> Safety Code of the *Building Act* – Section 117.

<sup>29</sup> Safety Code of the *Building Act* – Section 134.

<sup>30</sup> Safety Code of the *Building Act* – Section 133.

Table 4 – **Distribution of Corrections Made by the Business Units, Based on Whether the Recommendations Were Deemed Mandatory or Not by the Recognized Person (Specialist)**

BUSINESS UNIT	NO. OF SITES CONSIDERED	MANDATORY RECOMMENDATIONS (NON-COMPLIANCES)			NON-COMPULSORY RECOMMENDATIONS		
		NO.	CORRECTIONS MADE		NO.	CORRECTIONS MADE	
			YES	NO		YES	NO
DEEU	2	0	0	0	8	4 (50%)	4 (50%)
DEP	2	0	0	0	8	1 (13%)	7 (87%)
SMRA	4	7	7 (100%)	0	4	1 (25%)	3 (75%)
SGPI	2	5	5 (100%)	0	5	4 (80%)	1 (20%)
<b>TOTAL</b>	<b>10</b>	<b>12</b>	<b>12 (100%)</b>	<b>0</b>	<b>25</b>	<b>10 (40%)</b>	<b>15 (60%)</b>

## RECOMMENDATION

3.2.3.D. We recommend that the Service du matériel roulant et des ateliers, the Service de la gestion et de la planification immobilière, the Service de l'eau, the Lachine borough and the LaSalle borough require the person (specialist) recognized by the Régie du bâtiment du Québec to certify that the certificate of conformity is accompanied by a document confirming that they are aware of the corrective actions taken by the business unit and stating that they have been deemed appropriate and sufficient to show that the identified non-compliances no longer exist before issuing this certificate.

## BUSINESS UNITS' RESPONSE

### 3.2.3.D. *Service du matériel roulant et des ateliers*

*[TRANSLATION] Validate that a specialist recognized by the Régie du bâtiment du Québec conducted the required corrective actions and that the facilities are compliant before the certificate is issued. Obtain a standard work approval form to be filled in by the recognized person when the work is completed and approved. (Planned completion: October 2020)*

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### *Service de la gestion et de la planification immobilière*

*[TRANSLATION] Draw up a standard form to be filled in by the recognized person when the work is completed and approved. (Planned completion: June 2020)*

.....

### *Service de l'eau*

*[TRANSLATION] To establish a framework to have the person recognized by the Régie du bâtiment du Québec certify that petroleum product installations are compliant, the Service de l'eau will include, in the estimate, a form indicating approval of the corrective actions taken, if applicable. (Planned completion: August 2020)*

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### *Lachine borough*

*[TRANSLATION] Regarding the storage tanks at the marina, the borough, as the manager of the equipment, will obtain, prior to each certification, a document confirming that the corrective actions taken by the business unit were deemed appropriate and sufficient, to demonstrate that the non-compliances identified no longer existed before the new certificate was issued. The document will be archived in the new official register. (Planned completion: January 2021)*

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### *LaSalle borough*

*[TRANSLATION] The document accompanying the certificate of conformity, confirming awareness of the corrective actions taken, will be identified on the work order given to the recognized person (specialist) and required (with annotations and signatures) at the time the certificate of conformity for the storage tank in question is issued. (Planned completion: September 2020)*

## Choice of Persons (Specialists) Recognized by the Régie du bâtiment du Québec for the Certificate of Conformity Process for Storage Tanks

The recognized person (specialist) cannot be in a position of conflict of interest<sup>31</sup> when certifying the conformity of a high-risk petroleum storage tank. We wanted to ensure that mechanisms had been put in place by the business units to choose recognized persons (specialists) with no perceived conflict of interest.

Out of the 13 certificate of conformity files for petroleum storage tanks (see Appendix 5.2), we identified three specific cases that could raise questions regarding a possible perceived conflict of interest for the recognized person (specialist). We are not saying here that there is a conflict of interest, but that there is at least the appearance of a conflict of interest:

- The recognized person (specialist) accepted a mandate to maintain the petroleum equipment at the same time as they held a contract with the DEEU. The work was done in 2017, when the renewal of the certificate was overdue. Both the DEEU and the recognized person (specialist) saw an advantage in proceeding this way, since the specialized firm could progressively verify that the required corrections were done. In the case of the 2019 verification, while the work was undertaken 122 days before the expiry date of the certificate, the same formula was used again by the recognized person (specialist), who once more contracted directly with the same maintenance firm:
  - Since the contract between the recognized person (specialist) and the DEEU is a lump sum contract and the maintenance firm is paid by the recognized person (specialist), there is a risk that the latter limits the non-compliances identified during the inspection to minimize the work of the maintenance firm and keep the greatest portion of the fees from the contract with the DEEU;
- The recognized person (specialist) who certified the certificates of conformity for the rue Saint-Urbain site and the boulevard Saint-Joseph Est site (both under the jurisdiction of the SGPI) relied on documents showing the operation of the leak verification systems that had been tested by the firm for which they worked:
  - In this case, it is fair to question the risk that the recognized person (specialist) may be less strict about documents proving that the tests were performed, knowing that they were done by their colleagues;

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<sup>31</sup> CC.8.13 looks at two forms of conflict of interest: 1) performing work on petroleum equipment, decontaminating sites polluted by petroleum products and monitoring the work as a contractor or employee, or 2) having a direct or indirect interest in a company that performs the work, carries out design or manufacturing activities related to petroleum equipment or performs activities related to the sale, storage or transportation of petroleum products.

- For these same two buildings under the jurisdiction of the SGPI, work was done on the petroleum equipment more than 10 years ago. At the time, the City had awarded two mandates for completion of plans and estimates to a firm that specialized in petroleum products. The firm’s mandate was *“to produce an engineering design to bring the petroleum installations up to standard by drawing up plans and estimates”*. The firm was also mandated *“to provide technical support at the critical stages of construction”* and to indicate to the contractor directives for required changes following observation of the drawings of the parts proposed by the company. The recognized person (specialist) who had to certify the conformity of the petroleum storage tanks worked for the very firm that drew up the plans and estimates:
  - While these examples of a firm involved in plans and estimates go back several years, they show that it is possible for a recognized person (specialist) to be associated with the work under way at the City on petroleum storage tanks. Against this backdrop, there is reason to question the risk that a recognized person (specialist) who rules on work done in the past by their colleagues and their employer may lack independence.

The *Act respecting contracting by public bodies* (section 14, C-65.1) recommends, in particular, that to ensure the sound management of a contract below the public tender threshold,<sup>32</sup> one *“use a rotation system among the tenderers or contractors they deal with, or seek new tenderers or contractors.”*<sup>33</sup> Yet no business unit was able to show us that an official process to rotate recognized persons (specialists) had been put in place. Similarly, the SGPI, which awarded verification of conformity contracts for the petroleum equipment under its jurisdiction and that of the SMRA, stated that they preferred to do business with the same recognized person (specialist) since there was too much variability in the practices. Indeed, the certificate of conformity reports for the six sites under the SGPI or SMRA that we examined had all been prepared by the same recognized person (specialist).

<sup>32</sup> A recognized person (specialist) billed \$1,740 to the SGPI for verification of three sites. Another recognized person (specialist) had a \$9,650 contract to verify the conformity of the petroleum equipment of the SEEU and the Rhéaume pumping station. This amount also included preventive maintenance by a third party.

<sup>33</sup> The *Act respecting contracting by public bodies* does not apply to the municipal sector but is presented here to show what is required of Québec public and para-public agencies and could be a good practice for the City to follow.

## RECOMMENDATION

3.2.3.E. We recommend that the Service de la gestion et de la planification immobilière, the Service de l'eau, the Lachine borough and the LaSalle borough put in place monitoring mechanisms for the awarding of certificate of conformity contracts to a person (specialist) recognized by the Régie du bâtiment du Québec exempt from a perceived conflict of interest and have them sign a declaration of independence to ensure the City of the independence of this person in certifying the conformity of high-risk petroleum storage tanks.

## BUSINESS UNITS' RESPONSE

### 3.2.3.E. *Service de la gestion et de la planification immobilière*

*[TRANSLATION] Draw up a standard declaration of independence to be signed by the recognized person for each facility. (Planned completion: June 2020)*

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#### ***Service de l'eau***

*[TRANSLATION] To establish a framework for certificate of conformity requests for petroleum product installations, the Service de l'eau will include, in the estimate, a declaration of independence letter to be signed by the person recognized by the Régie du bâtiment du Québec before conducting the inspection. (Planned completion: August 2020)*

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#### ***Lachine borough***

*[TRANSLATION] Regarding the storage tanks at the marina, the borough, as the manager of the equipment, will obtain a declaration of independence from the professionals (recognized specialists). The document will be archived in the new official register. (Planned completion: January 2021)*

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#### ***LaSalle borough***

*[TRANSLATION] This declaration of independence will be attached to the work order given to the recognized person (specialist) for signing to exclude any appearance of conflict of interest. This document will then be scanned, saved and archived directly in the Système intégré de gestion des immeubles of the storage tank in question. (Planned completion: September 2020)*

## RECOMMENDATION

3.2.3.F. We recommend that the Service de la gestion et de la planification immobilière, the Service de l'eau, the Lachine borough and the LaSalle borough adopt a rotation mechanism for choosing persons (specialists) recognized by the Régie du bâtiment du Québec to verify the conformity of petroleum equipment to provide a fresh perspective on this equipment and to ensure all non-compliances related to current regulations are observed.

## BUSINESS UNITS' RESPONSE

### 3.2.3.F. *Service de la gestion et de la planification immobilière*

*[TRANSLATION] We will rotate suppliers when awarding our inspection contracts. (Planned completion: June 2020)*

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#### **Service de l'eau**

*[TRANSLATION] The Service de l'eau will draw up a list of inspectors that it will prequalify, to ensure a rotation of persons recognized by the Régie du bâtiment du Québec who will conduct the inspection.*

*(Planned completion: June 2020)*

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#### **Lachine borough**

*[TRANSLATION] The Lachine borough will set up a register of professionals (recognized specialists) to enable the rotation of assignments.*

*The Lachine borough will propose that other stakeholders covered by this audit forward a request to the Service de l'approvisionnement to obtain a framework agreement. (Planned completion: January 2021)*

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#### **LaSalle borough**

*[TRANSLATION] Knowing that conformity checks of the petroleum equipment are required every four years and that a list of recognized persons (specialists) is available on the Régie du bâtiment du Québec's website, a note will be made on the work order to use the Régie du bâtiment du Québec's list, specifying that the mandate be given to a specialist other than the one used the previous time. (Planned completion: September 2020)*

## 3.2.4. Temporary Closure of a Petroleum Storage Tank

### 3.2.4.A. Background and Findings

The City has obligations as the owner of high-risk petroleum storage tanks when they are temporarily closed. When a high-risk underground petroleum storage tank is not used for more than 180 days but less than two years, the Safety Code of the *Building Act*<sup>34</sup> requires that it be emptied if it contains gas, along with all piping, motor fuel dispensers and pumps and, if calculations confirm that the groundwater may lift a tank, the owner must fill the tank with a petroleum product other than gas, and the fuel level must be gauged every month during the time the tank is closed.

Among the business units audited, the Lachine borough, as the entity responsible for the high-risk petroleum storage tanks at the borough's marina, is subject to this requirement. The Lachine borough's marina operates between May 15 and October 15, i.e., for 153 days a year; the underground storage tanks are therefore not used 212 days a year. We were unable to review documents showing the monthly gauging of the levels in these tanks during the winter months of 2017–2018 and 2018–2019. Based on the information obtained by the borough, these measurements were not done due to the difficulty of accessing the storage tanks in winter. In addition, the two storage tanks are maintained at three-quarters of their capacity to avoid a push effect by the water table in the spring. The gas storage tank is therefore not emptied as required by the Safety Code of the *Building Act* (representing a second non-compliance with this same section).

Were a leak to occur in one of these storage tanks during the winter, the borough would only become aware of it in the spring, allowing sufficient time for the petroleum products to contaminate the ground and possibly migrate to the river.

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<sup>34</sup> Safety Code of the *Building Act* – Section 176.

## RECOMMENDATION

**3.2.4.B.** We recommend that the Lachine borough put in place a procedure to ensure that the requirements of the Safety Code of the *Building Act* are met for storage tanks from which no fuel is extracted for a period of more than 180 days to comply with the current regulation and to ensure that necessary measures are taken to promptly detect any fuel leak that could have an environmental impact.

## BUSINESS UNIT'S RESPONSE

### **3.2.4.B. Lachine borough**

*[TRANSLATION] This recommendation is exclusive to the Lachine borough since the activities of the marina are closed between October 15 and May 15. The borough, as the manager, will work with the Service des grands parcs, du Mont-Royal et des sports to assess the costs of closing the petroleum storage tanks. (Planned completion: January 2021)*

## 3.2.5. Operation by a Private Company of a Petroleum Storage Tank Belonging to the City

### 3.2.5.A. Background and Findings

As previously stated, the Lachine borough awarded a contract to a private company to manage the marina, including the operation of the fueling station.<sup>35</sup> The specifications of the call for tenders for the management of the Lachine marina in August 2018 states that the winning bidder is fully responsible for the operation of the fueling station and that it must prepare maintenance reports of the gas pumps and send them every month to the borough.

Based on the information provided to us by the borough, the private company conducts tests and verifications on the equipment or has them conducted, plans the preventive maintenance of the pumps, and manages the renewal of the operating permit for the storage tanks, as well as the certificate of conformity. Several of the documents obtained from the borough came directly from the private company, which had to be consulted by the borough several times to answer our questions related to the management and operation of the marina's petroleum storage tanks. The borough claims that it never received any report from the recognized person (specialist) following the certificate of conformity process for the high-risk petroleum storage tanks.

<sup>35</sup> The contract currently in force goes from December 1, 2018, to November 30, 2021. However, the company won the earlier calls for tenders and has provided this service since December 2014.

Clearly, the private company controls the management of the marina's fueling station and, therefore, the petroleum storage tanks and makes decisions pertaining to them. For its part, the borough pays the various bills related to the maintenance of the tanks, signs the documents required for the renewal of the permit or certificate of conformity and sends them to the RBQ with the required payment. According to the RBQ, however, official responsibility for the marina's petroleum storage tanks rests with the borough, as evidenced by the operating permit made out in the borough's name. Should the RBQ therefore crack down on a non-compliance related to these petroleum storage tanks, it would not be the company that operates the marina that would be faulted but rather the borough. For example, the 2017 and 2019 permits were renewed late, and it was the Lachine borough that received the final notices from the RBQ and not the private company. These final notices stated that the borough was exposing itself to a fine of up to \$85,945 for operating the storage tanks without a permit. Based on these findings, we believe that the Lachine borough lacks sufficient information from the company about how the high-risk petroleum storage tanks are managed to ensure that the operation, on behalf of the City, complies with the current regulation.

## RECOMMENDATION

**3.2.5.B. We recommend that the Lachine borough add a provision to its contract with the company managing the marina, setting out an exhaustive list of requirements that it must meet related to the Safety Code of the *Building Act*, so that the borough can ensure, as the entity responsible for the contractual management of the marina, that these petroleum storage tanks are compliant.**

## BUSINESS UNIT'S RESPONSE

### **3.2.5.B. Lachine borough**

*[TRANSLATION] This recommendation is exclusive to the Lachine borough since the activities of the marina are managed by an outside company.*

*The technical specifications of the call for tenders to manage the Lachine marina (August 2018) state that the successful bidder is entirely responsible for operating the fueling station and, in particular, must prepare maintenance reports for the fuel pumps and forward them monthly to the borough.*

*For the year 2020, the Lachine borough will ensure that all the documents held by the successful bidder related to the petroleum storage tanks are repatriated to the borough's archives.*

*In addition, future certificates of conformity will need to be issued in the name of the Service des grands parcs, du Mont-Royal et des sports. The new certificate will be obtained at the start of the 2021 season.*

***(Planned completion: January 2021)***

### 3.3. Management of Obsolete Petroleum Storage Tanks

#### 3.3.A. Background and Findings

As with all equipment, a petroleum storage tank has a limited lifespan. The older the tank gets, the greater the risk is of a malfunction or leak. It is the City's responsibility, therefore, to know the status of the tanks in order to support replacement or preventive repair decisions. We set out to determine whether the business units were equipped to assess when a petroleum storage tank needed to be replaced.

Among the business units audited, we found that the SMRA and the SGPI were able to provide us with indicators of the lifespan of their storage tanks or criteria to judge their obsolescence. In the case of the SMRA, the theoretical lifespan of a storage tank is based on the material (steel/fibreglass), type of wall (single or double) and location (underground or aboveground). In the case of the SGPI, the criticality of a storage tank is assessed from 1 (a priority) to 5 (no problem), taking into consideration whether it is a single- or double-walled storage tank, its age (the critical age is considered to be 30 years), whether it is fitted with a containment basin and whether it is made of steel.

We also found that the other business units selected—the Service de l'eau, the Lachine borough and the LaSalle borough—were unable to provide us with indicators of the lifespan of their storage tanks or criteria to judge their obsolescence. In our opinion, these business units should know the age of the storage tanks and their degree of obsolescence based on established criteria.

In the absence of criteria for all the business units audited, we applied the criteria of the SMRA and SGPI to the 23 sites in our sample (see Appendix 5.2.) This exercise enabled us to identify the sites where storage tanks had reached their theoretical lifespan. In the case of these storage tanks, we set out to assess to what extent the business units had taken steps to replace them. Based on this analysis, we arrived at the following findings:

- A total of nine sites out of 23 had petroleum storage tanks that had reached their theoretical lifespan based on the criteria of the SMRA or the SGPI;
- The business units have planned to replace the storage tanks for four of the nine sites, i.e., four fueling stations:
  - However, in the case of two underground storage tanks at the SEEU's fueling station (39 years old and a theoretical lifespan of 30 years according to the SMRA) under the jurisdiction of the SMRA, a project to replace them was included in the three-year capital expenditure program, but we observed a time shift in the project's completion. In the 2018–2020 three-year capital expenditure program, plans were to replace these two storage tanks in 2018. In the 2019–2021 three-year expenditure program, this timeline was moved to 2020. The latest version of project planning for the replacement of the fuel storage tanks obtained from the SMRA provides for the replacement to be done in 2020, which would make

these storage tanks 40 years old. The recognized person (specialist) who certified their conformity in May 2017 stated major corrosion in the two storage tanks and *“strongly recommended replacing the two underground storage tanks in the near future”*. In December 2018, at the time of a new conformity verification, the same recognized person (specialist) wrote in their report that *“we expected them to have been replaced, which is not the case”*. This type of deferral regarding the replacement time of these storage tanks appears risky to us, given their age and the cautionary statements made by the recognized person (specialist) who certified them the last two times;

- There are therefore five sites with storage tanks that have reached their theoretical lifespan and for which replacement has not been planned by the business units up to now:
  - On the site of the Lachine borough’s marina, two fuel storage tanks (33 years old) have reached their theoretical lifespan (30 years), and the type of tanks would put them in category 1 criticality if they were under the SGPI. The 2016–2018, 2017–2019 and 2018–2020 three-year capital expenditure programs stated that the Service des grands parcs, du Mont-Royal et des sports was planning various waterfront development initiatives within the framework of the Plan de l’eau project, including the Lachine marina, to *“ensure the safety, viability and success of this space dedicated to water activities”*, in particular, work on the fuel storage tanks. It should be recalled that, under an agreement reached between the City and the Lachine borough in 2015, responsibility for the marina fell to this department and that the investments were to come from its three-year capital expenditure program. A note on the 2018–2020 three-year capital expenditure program stated that, beginning in 2019, the Plan de l’eau project would be entirely dedicated to acquisitions along the Rivière-des-Prairies and lands along the St. Lawrence River. The 2019–2021 three-year capital expenditure program no longer mentions work at the Lachine borough’s marina or on its high-risk petroleum storage tanks. It should be stressed that these storage tanks are near the water and supply a fueling station used by citizens (boaters). A malfunction of these storage tanks could have consequences on the environment and the safety of citizens;
  - In the case of two separate sites with pumping stations under the jurisdiction of the DEEU, the coloured diesel storage tanks (25 years old) have exceeded the theoretical lifespan of the SMRA (20 years according to the SMRA). Considering that our sample of sites contained two wastewater pumping stations and that they were shown to have exceeded their theoretical lifespan, it would be timely for the Service de l’eau to assess the obsolescence of all the petroleum storage tanks in its network;

- In the case of the SEEU, the six generators are supplied with coloured diesel fuel by auxiliary tanks (39 years old) built at the base of each generator. In May 2017, the recognized person (specialist) stated that *“the auxiliary storage tanks have been in service more than 30 years and have reached the end of their useful life. We recommend initiating a project to replace this equipment in the near future.”* Yet no project to replace these auxiliary storage tanks was brought to our attention by the DEEU. The design of the generators would make this a complex replacement project according to the Service de l’eau. Taking this into consideration, it seems all the more relevant to start now to plan for their replacement and to closely monitor the condition of these storage tanks until the replacement project is completed;
- An external aboveground storage tank at Firehall 62 in Dorval (28 years old) has a level 2 criticality based on the SGPI but has exceeded its theoretical lifespan by eight years already according to the criteria of the SMRA (20 years).

Basing ourselves on the criteria used by the SMRA and the SGPI, we could only conclude that some petroleum storage tanks seem to have reached or exceeded their theoretical lifespan. As this audit report does not pretend to be a technical assessment of the obsolescence of the storage tanks, we leave it to the business units to conduct the necessary studies to determine the obsolescence of their storage tanks. Nevertheless, in the case of the six auxiliary storage tanks of the generators at the SEEU and the two underground storage tanks of the fueling station of the SEEU, we found that the Service de l’eau and the SMRA failed to act on the recommendations made twice, in 2017 and 2018, by the recognized person (specialist) that the tanks need to be replaced. We believe that necessary measures must be taken to replace them.

Beyond knowing the age of the storage tanks and establishing criteria for determining when a storage tank needs to be replaced, we also wanted to find out whether the business units had an obsolescence management plan containing a methodology to identify and prioritize the storage units to be replaced, an action plan to replace them and a budget. No business unit had this type of management plan in its entirety. The one plan that came closest without being complete was that of the SMRA. In addition to having criteria to establish the theoretical lifespan of storage tanks, this department has a three-year capital expenditure program to replace storage tanks that are most at risk.<sup>36</sup> At the SGPI, as previously mentioned, an internal classification was made of the level of criticality of the storage tanks. According to the list of storage tanks obtained from this department, two sites still have storage tanks with a level 1 priority criticality. As in the case of the SMRA, this prioritization of the storage tanks should be accompanied by a capital investment plan to implement the identified priority replacement projects. Considering the

<sup>36</sup> The SMRA has a project in its 2020–2022 three-year capital investment program to bring fueling stations up to standard, including replacing petroleum storage tanks. An annual budget of \$775,000 is forecast. According to the SMRA’s plan that we observed to replace the storage tanks, this budget is insufficient to carry out the work planned for 2020, which involves replacing the storage tanks for two fueling stations for a total amount of \$1,050,000.

consequences that could result from an accident with a petroleum storage tank, we believe that it is necessary for business units to have a plan to manage the obsolescence of the storage tanks under their jurisdiction and to apply it.

### RECOMMENDATION

**3.3.B.** We recommend that the Service du matériel roulant et des ateliers undertake to replace both underground tanks of the fueling station at the Station d'épuration des eaux usées, as recommended by a recognized person (specialist) in 2017 and 2018, to ensure that they do not pose any undue risk for the environment, the City's infrastructure and users.

### BUSINESS UNIT'S RESPONSE

**3.3.B.** *Service du matériel roulant et des ateliers*  
[TRANSLATION] Work is currently under way – Produce an updated schedule for work to replace the fueling station. (Planned completion: March 2020)

### RECOMMENDATION

**3.3.C.** We recommend that the Service de l'eau replace the six auxiliary storage tanks of the generators at the Station d'épuration des eaux usées, as recommended by a recognized person (specialist) in 2017 and 2018, to ensure that they do not pose any undue risk for the environment, the City's infrastructure and users.

### BUSINESS UNIT'S RESPONSE

**3.3.C.** *Service de l'eau*  
[TRANSLATION] The Direction de l'épuration des eaux usées mandated a specialized inspection firm to check the condition of the generators' six auxiliary storage tanks. The inspection reports showed that the storage tanks were in good working order and fit for service. The issued reports recommend that the next inspection be scheduled for 2024.  
(Planned completion: completed)

## RECOMMENDATION

3.3.D. We recommend that the Service du matériel roulant et des ateliers, the Service de la gestion et de la planification immobilière, the Service de l'eau, the Lachine borough and the LaSalle borough adopt a plan to manage the obsolescent petroleum storage tanks under their jurisdiction that includes a methodology to identify and prioritize storage tanks to be replaced, establish the necessary budgets, and implement it to ensure that these business units have petroleum storage tanks that are safe for the environment, the City's infrastructure, users and citizens.

## BUSINESS UNITS' RESPONSE

3.3.D. **Service du matériel roulant et des ateliers**

*[TRANSLATION] Effective planning of the investments required for the municipal fueling stations over three years (from 2020 to 2023).*

**(Planned completion: completed)**

.....

**Service de la gestion et de la planification immobilière**

*[TRANSLATION] The Service de la gestion et de la planification immobilière already has a mechanism to assess the non-regulated storage tanks that supply the generators. We will draw up a list of the replacement work planned for these storage tanks, based on information about our tanks' obsolescence. This list will set out a schedule to replace the storage tanks.*

**(Planned completion: March 2020)**

.....

**Service de l'eau**

*[TRANSLATION] The Service de l'eau will develop a management plan of specific assets for the petroleum storage tanks.*

**(Planned completion: August 2020)**

.....

**Lachine borough**

*[TRANSLATION] The petroleum storage tanks will be added to the list of assets in the annual report requested by the City. The obsolescence will be based mainly on the life cycle of the asset and the regular inspections carried out.*

*The Service des grands parcs, du Mont-Royal et des sports is responsible for managing the obsolescence of the marina storage tank. They are already aware of the obsolescence of the assets. The borough commits to providing all the necessary documentation requested by the owner.*

**(Planned completion: January 2021)**

.....

**LaSalle borough**

*[TRANSLATION] The technical data and safety data sheet of each storage tank, as well as its provenance (manufacturer), will be entered into the Système intégré de gestion des immeubles, and a preventive maintenance plan will be implemented to produce a work order at the appropriate time setting out the conditions for updating the storage tanks.*

**(Planned completion: September 2020)**

## 3.4. Preventive Maintenance of Petroleum Storage Tanks

### 3.4.A. Background and Findings

Considering that the verification of conformity deals with only one part of the City's petroleum storage tanks (those at high risk), that it only addresses some requirements of the CC and Safety Code of the *Building Act* and that it is performed every two years at best, we wanted to know whether the business units also carried out preventive maintenance on all the petroleum storage tanks to ensure that using them was safe. We also wanted to know, if an accident with a storage tank occurred, whether a business unit would be able to show that the event was not associated with a lack of maintenance.

The maintenance process can generally be divided into two phases, the first being preventive, starting with a series of observations of the equipment. If there are signs of a malfunction or defect, a second phase, corrective maintenance, is initiated. A preventive maintenance management plan must contain a description of the equipment and a list of maintenance tasks to be done, an implementation schedule and a follow-up of the maintenance performed, i.e., a description of the work done.

In the case of the City, the maintenance of petroleum storage tanks is performed either internally or externally depending on the business unit. As part of the first phase, observations are generally made within the framework of overall equipment maintenance, such as maintenance of the generators or of the fuel pumps.<sup>37</sup> Two major findings stood out from the visual observation of the petroleum products equipment carried out as part of maintenance in the various business units audited:

- Wide variability in the frequency with which storage tanks and other petroleum equipment are visually inspected:
  - At the SMRA, the visual inspection of fueling stations is performed daily. The DEP does a tour of its equipment weekly. The DEEU does a daily visual inspection of all the equipment at the SEEU and a monthly tour of the various pumping stations and buildings where petroleum storage tanks are located. Once a month, there is also a visual inspection done by an outside firm of the two petroleum storage tanks that supply the incinerators at the SEEU. Of all the visual inspections stated above, that is the only one done by an outside firm. All these inspections fall within the category of those performed on a short-term frequency;
  - The Lachine borough and the LaSalle borough have their petroleum equipment inspected once a year by an outside firm. The SGPI has its emergency generators inspected twice a year by an outside firm, as well as its storage tanks and piping. Considering that the SGPI is the business

<sup>37</sup> At the Lachine borough's marina, the inspection and maintenance are performed during the opening of the fueling station in the spring, when the supply system is reactivated. Finally, at the SEEU and Rhéaume pumping stations, maintenance is done simultaneously with the verification of conformity process of high-risk storage tanks (the situation in 2017 and 2018).

unit with the most non-high-risk storage tanks (see Table 3) and that, based on the documents obtained for our sample, half of the non-high-risk storage tanks have no automatic leak detection system, there is good reason to question whether a visual inspection once or twice a year is adequate to avoid an incident or to uncover any signs of fatigue (e.g., seepage) in a pipe or coupling before a major break occurs;

- Limited preventive maintenance documentation:
  - The preventive maintenance done on the petroleum storage tanks in the pumping stations and buildings of the DEEU is planned through the MAXIMO system.<sup>38</sup> The request for an intervention that is generated involves the building and generator together. In the case of the petroleum storage tank specifically, the request is limited to a reading of the diesel level in the storage tank. The information subsequently entered in MAXIMO only gives the duration of the work performed. In the absence of information about any observed leak, one must conclude that there is none. We believe that it would be difficult for the City to demonstrate thoroughly and without any doubt that it had inspected the integrity of its equipment, that it had acted in a responsible manner and that, in this light, it could not have known that a leak would occur;
  - At the DEP, the inspection forms for the generators include a visual search for a leak and the diesel level in the storage tank. These forms contain only a box to check off regarding the observation, without any clarification about what was observed;
  - The forms of the outside firm performing the maintenance of the emergency generators at the SPGI and the Lachine borough include the fuel level in the storage tanks and the presence of a leak in the piping, couplings and casings. Here, again, a simple box to check off serves as proof that the work has been done;
  - In the case of the SMRA, daily maintenance is a little broader in scope and involves checking the conformity of the casings, guns, couplings, and distributors and the detection of leaks, in particular. While there is a form that specifies what must be taken into consideration during a daily tour of the fueling stations, it is not used. In fact, observations are only documented if there is a problem, and a work order is opened to correct the situation;
  - In the case of the Lachine borough's marina, as with the high-risk storage tanks of the LaSalle borough, the observation is recorded by an outside firm and supported by a bill for the work done;
  - The absence of documentation regarding the preventive maintenance work performed is a weakness in implementing a standard maintenance management plan.

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<sup>38</sup> MAXIMO is a commercial business asset management software used by various business units at the City, especially to manage the maintenance of their assets.

Finally, in no case were we able to ascertain, outside of the mandatory conformity verification of high-risk petroleum storage tanks, that the business units verified or had a more detailed verification done of all the components of the petroleum equipment under their jurisdiction (e.g., corrosion, loose coupling, unsupported pipe, inappropriate valve) and not just a visual search for leaks. The absence of regular inspections limits the ability of the business units to ensure that all the petroleum storage tanks are compliant and safe within the meaning of the Safety Code of the *Building Act*.<sup>39</sup>

In this regard, and based on our observations, we find that the business units are not equipped with a maintenance management plan and that, in the event of an accident, it would be difficult for a business unit to demonstrate thoroughly and without any doubt that it had acted sufficiently and in compliance with the regulation in force to ensure that the petroleum equipment under its jurisdiction was safe.

## RECOMMENDATION

**3.4.B. We recommend that the Service de la gestion et de la planification immobilière, the Service du matériel roulant et des ateliers, the Service de l'eau, the Lachine borough and the LaSalle borough adopt a maintenance management plan that applies to all the petroleum storage tanks for which it is responsible to ensure the conformity and safety of this equipment and to be able to demonstrate this, if need be.**

## BUSINESS UNITS' RESPONSE

**3.4.B. Service de la gestion et de la planification immobilière**  
*[TRANSLATION] Reporting to the designated person, a working group will develop a planned maintenance program specific to the non-regulated petroleum storage tanks that supply our generators. This planned maintenance program will be carried out at the same time as the planned maintenance program of the generators. A new inspection form will also be drawn up to ensure that the equipment is compliant and safe and to be able to demonstrate this if need be. (Planned completion: December 2020)*  
 .....

**Service du matériel roulant et des ateliers**  
*[TRANSLATION] Development of a preventive maintenance plan (with a frequency to be determined) and including a checklist for all the petroleum storage tanks. (Planned completion: April 2020)*

<sup>39</sup> Safety Code of the *Building Act* – sections 132, 133, 134 and 135.

**Service de l'eau**

*[TRANSLATION] The Service de l'eau will amend the preventive maintenance program for the petroleum storage tanks in the MAXIMO software.  
(Planned completion: December 2020)*

**Lachine borough**

*[TRANSLATION] The borough plans to add a regular inspection round of its storage tanks (the frequency to be determined) by internal staff. We will draw up an inspection form to be filled in and saved.  
(Planned completion: January 2021)*

**LaSalle borough**

*[TRANSLATION] The storage tanks will be inventoried and saved along with the tanks' technical data and installation date in our Système intégré de gestion des immeubles. Once the tanks are inventoried in the Système intégré de gestion des immeubles, a preventive maintenance program will be created and applied. In this way, work orders will be produced and assigned to employees to perform the tasks identified therein. Once the work is completed, the work order will be signed, dated and then scanned and saved in the Système intégré de gestion des immeubles.  
(Planned completion: September 2020)*

**3.5. Safety Measures to Prevent or Confine Leaks**

**3.5.1. Automatic Leak Detection System**

**3.5.1.A. Background and Findings**

Some storage tanks are equipped with a leak detection system to quickly detect a leak of petroleum products at any time. Guaranteeing protection with such a system, however, requires regular assurance that it is in good working order and that the detection triggers an alarm that is dealt with quickly. We wanted to learn what portion of the City's petroleum storage tanks were equipped with a leak detection system. One of the sites of the DEEU, the SEEU, contains four types of petroleum storage tanks, each having separate functions (fueling station, auxiliary storage tanks supplying the generators, main storage tanks supplying the auxiliary tanks, and the storage tank for the incinerators) and variations in the leak detection systems. We looked at them separately. For this section only, rather than talking about the 23 sites in our sample (see Appendix 5.2), we will talk about 26 groups<sup>40</sup> of storage tanks.

<sup>40</sup> 22 sites in the sample, plus four separate types of storage tanks at the 23rd site under the jurisdiction of the SEEU of the DEEU.

Nineteen out of the 26 groups (73.1%) have storage tanks equipped with a detection system. This proportion is greater for high-risk storage tanks, with 14 out of 16 groups (87.5%) having such a system. The vast majority of these systems (15 out of the 19 equipped with such a system) are connected to an alarm (78.9%). In 11 of 15 groups (73.3%), when an alarm is triggered, it is received in a control centre, i.e., the monitoring station of a drinking water plant, the SEEU or the City's Centre opérationnel de sécurité. Where the leak detection system is connected to a local alarm, the persons in charge of the storage tank are only informed when someone walking by the premises where the generator is located becomes aware of it. The SGPI stated that, in this case, the employee who detects the alarm must notify the City's Centre opérationnel de sécurité, which, in turn, will alert the persons in charge of the storage tank. At the DEP, the employee who detects the alarm must contact their manager or the on-duty manager outside of normal business hours.

We also wanted to ensure that these systems were periodically monitored to check that they were operating properly. The Safety Code of the *Building Act*<sup>41</sup> requires that the leak detection systems of high-risk underground storage tanks be inspected every two years. Of the 14 groups with high-risk storage tanks that have leak detection systems, 12 were for underground tanks, and we had evidence that these leak detection systems were verified for 10 of them. In the case of the other two sites (the Lachine borough's marina and the Dorval drinking water plant), the business units could not provide us with proof of these verifications.

Of the five groups with non-high-risk storage tanks equipped with a leak detection system, four were under the jurisdiction of the SGPI. They are only maintained twice a year by an outside firm as part of the maintenance of the generators. The reports of the outside firms do not specify whether the leak detection systems were checked. The fifth group is under the jurisdiction of the DEP. The internal inspection procedure used does not specify whether the leak detection system is verified.

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<sup>41</sup> Safety Code of the *Building Act* – Section 139.

## RECOMMENDATION

**3.5.1.B.** We recommend that the Service de la gestion et de la planification immobilière and the Service de l'eau verify, on an appropriate frequency, the proper functioning of the leak detection systems installed on the petroleum storage tanks that are not high-risk to ensure that they are able to promptly detect a leak and minimize the consequences on the City's infrastructure and the environment.

## BUSINESS UNITS' RESPONSE

**3.5.1.B. Service de la gestion et de la planification immobilière**

[TRANSLATION] The working group cited in 3.4.B. – Service de la gestion et de la planification immobilière will also cover the frequency and inspections in the planned maintenance program to come.

(Planned completion: December 2020)

.....

**Service de l'eau**

[TRANSLATION] The Service de l'eau will amend the preventive maintenance program for the petroleum storage tanks in the MAXIMO software.

(Planned completion: December 2020)

## 3.5.2. Confinement of Leaks and Other Safety Measures

### 3.5.2.A. Background and Findings

The Safety Code of the *Building Act* requires that a site where a high-risk petroleum storage tank is situated be equipped with at least one portable fire extinguisher<sup>42</sup> and oil absorbents.<sup>43</sup> In the case of fueling stations, there must be at least two extinguishers, including an extinguisher located less than 10 metres from the pumps.<sup>44</sup> We wanted to ensure that the audited business units complied with these requirements.

In the case of the five fueling stations in our sample (SMRA sites, see Appendix 5.2), two of them (rue Saint-Antoine and rue Remembrance – non-high-risk site) do not have the minimally required extinguishers, making them non-compliant. We obtained evidence of the presence of two extinguishers for each of the other three sites, making the sites compliant with this requirement. In addition, the four high-risk fueling stations in our sample are each equipped with oil absorbents in compliance with the regulation.

All the sites in our sample that contain high-risk and non-high-risk storage tanks at the DEP and the DEEU (total of seven sites) meet the requirement for an extinguisher nearby and oil absorbents. By having these measures also on sites

<sup>42</sup> Safety Code of the *Building Act* – Section 170.

<sup>43</sup> Safety Code of the *Building Act* – Section 171.

<sup>44</sup> Safety Code of the *Building Act* – Section 220.

where the storage tanks are not at high risk, the Service de l'eau is developing a good practice that goes beyond regulatory requirements. The LaSalle borough's sites that have high-risk petroleum storage tanks also comply with the requirement for extinguishers and oil absorbents. The Lachine borough's marina is also compliant, with three extinguishers on the docks, as well as a 50-ft-long absorbent barrier that can be deployed on the surface of the water to contain a fuel spill. At the SGPI, the inside storage tanks that supply the emergency generators are all in buildings where there are extinguishers, but none of these premises has oil absorbents, not even the two high-risk sites in our sample (boulevard Saint-Joseph Est and rue Saint-Urbain). This is a non-compliance with the requirement to have oil absorbents close to high-risk petroleum storage tanks. In the case of the SGPI, considering that our sample contained two sites with high-risk petroleum storage tanks and that these two sites were non-compliant, a more thorough verification should be done by the SGPI on all its sites. As is done by the Service de l'eau, a good practice would be to also have oil absorbents close to non-high-risk petroleum equipment.

## RECOMMENDATION

**3.5.2.B.** We recommend that the Service du matériel roulant et des ateliers ensure that all the City's fueling stations are equipped with at least two portable extinguishers in good working order, including one located less than 10 metres from the pumps, to ensure the safety of the users of these stations and to comply with the Safety Code of the *Building Act*.

## BUSINESS UNIT'S RESPONSE

**3.5.2.B.** *Service du matériel roulant et des ateliers*

[TRANSLATION]

1. *The Service du matériel roulant et des ateliers will draw up an inventory of operational portable extinguishers on all the City's fueling station sites. (Planned completion: April 2020)*
2. *Purchase and install portable extinguishers, if required, to comply with the standard of two units per site. (Planned completion: September 2020)*

## RECOMMENDATION

3.5.2.C. We recommend that the Service de la gestion et de la planification immobilière ensure that it has, on all its premises housing a petroleum storage tank, oil absorbents to comply with the Safety Code of the *Building Act* regarding high-risk storage tanks and, as a precautionary measure and good practice, for all the other storage tanks to minimize the consequences on the environment and the City's infrastructure in the event of a leak of petroleum products.

## BUSINESS UNIT'S RESPONSE

3.5.2.C. *Service de la gestion et de la planification immobilière*  
[TRANSLATION] During the first maintenance visit conducted on the generators between March 1 and May 30, 2020, the technical officer will ensure that the successful bidder of our maintenance contract supplies oil absorbents in each of our mechanical rooms.  
(Planned completion: May 2020)

## 3.6. Accountability for the Operation of Petroleum Storage Tanks

### 3.6.A. Background and Findings

We tried to find out whether the business units responsible for petroleum storage tanks reported on the conformity of these storage tanks. All the managers we met in the business units indicated that they did not, nor were they asked to, report on the safety measures in place to prevent leaks or on the preventive maintenance performed or the overall conformity of the storage tanks when renewing the permit or certificate of conformity for these storage tanks. Basing ourselves on two of the City's administrative frameworks, we consider that the business units should nevertheless equip themselves and produce accountability reports.

The Directive sur la Conformité aux lois et règlements<sup>45</sup> tasks department managers and borough directors with “ensuring that risks of non-compliance with the acts and regulations applicable to their operations are identified, addressed and monitored to ensure compliance with and application of the current legislation and regulations”. It adds that the director general may at all times require a report on the implementation of this directive. Considering the legislative framework surrounding petroleum storage tanks and the verification process of the conformity of high-risk petroleum storage tanks, it seems important that the department managers and borough directors be aware of the conformity of the petroleum storage tanks under their jurisdiction and the actions taken or to be taken to correct non-compliances.

<sup>45</sup> C-OG-DG-D-15-005, came into effect on June 23, 2015.

The Directive sur la Connaissance de l'état des actifs<sup>46</sup> requires that each business unit assess the assets under its jurisdiction at most every five years to be able to rate their condition, remaining lifespan and replacement cost upon expiry. The Directive also requires that an annual report of the status of the assets be produced on January 30, using the data collected the previous year,<sup>47</sup> and that it be forwarded to the Direction générale.

Basing ourselves on the number of petroleum storage tanks that we identified as having reached or exceeded their theoretical lifespan, we believe that the status of obsolescence of all the petroleum storage tanks, and especially those at high-risk, under the jurisdiction of a business unit, must be communicated periodically to the management of these business units so that they can, in turn, comply with this Directive and produce the required annual report.

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<sup>46</sup> C-OG-BPPI-D-18-001, came into effect on November 30, 2018.

<sup>47</sup> This directive dates from November 30, 2018, and the first annual report must be produced no later than January 30, 2020.

## RECOMMENDATION

3.6.B. We recommend that the Service du matériel roulant et des ateliers, the Service de la gestion et de la planification immobilière, the Service de l'eau, the Lachine borough and the LaSalle borough adopt an accountability reporting mechanism related to the conformity of petroleum storage tanks to comply with the Directive sur la conformité aux lois et règlements and, if need be, to make the necessary decisions.

## BUSINESS UNITS' RESPONSE

### 3.6.B. *Service du matériel roulant et des ateliers*

[TRANSLATION] Prepare an annual summary of the five points\* mentioned in the auditor's report, attesting to the compliance of all the fueling station storage tanks and/or of the required action plan – This document will be available on the shared network.

\*(renewal of permits, certificate of conformity, overall compliance of the storage tanks, safety measures in place to prevent leaks, preventive maintenance performed). (Planned completion: May 2020)

### *Service de la gestion et de la planification immobilière*

[TRANSLATION] Update a central information table with the Service du matériel roulant et des ateliers. (Planned completion: May 2020)

### *Service de l'eau*

[TRANSLATION] Produce an overall annual report for the Service de l'eau outlining the management status of the petroleum storage tanks. (Planned completion: December 2020)

### *Lachine borough*

[TRANSLATION] The petroleum storage tanks will be added to the list of assets in the annual report requested by the City. The report will be forwarded to the Direction générale. (Planned completion: January 2021)

### *LaSalle borough*

[TRANSLATION] Regarding accountability for the conformity of the storage tanks, an item will be added at the end of each work order to inform the person in charge of document management to forward a scanned copy of all the documentation sent to the Régie du bâtiment du Québec to the borough management. (Planned completion: September 2020)

## RECOMMENDATION

3.6.C. We recommend that the Service du matériel roulant et des ateliers, the Service de la gestion et de la planification immobilière, the Service de l'eau, the Lachine borough and the LaSalle borough forward annual reports on the status of the petroleum storage tanks to the Direction générale to comply with the new Directive sur la connaissance de l'état des actifs.

## BUSINESS UNITS' RESPONSE

3.6.C. **Service du matériel roulant et des ateliers**

[TRANSLATION] In accordance with the administrative framework governing awareness of the state of the assets, the report of the condition of the petroleum storage tanks was sent on February 21, 2020.

**(Planned completion: completed)**

.....

**Service de la gestion et de la planification immobilière**

[TRANSLATION] Forward the table in collaboration with the Service du matériel roulant et des ateliers. **(Planned completion: November 2020)**

.....

**Service de l'eau**

[TRANSLATION] Integrate a specific component for petroleum storage tanks, including their condition, regulatory compliance and preventive maintenance, within the framework of annual recordkeeping in keeping with the directive of awareness of the state of the asset. **(Planned completion: December 2020)**

.....

**Lachine borough**

[TRANSLATION] The petroleum storage tanks will be added to the list of assets in the annual report requested by the City.

**(Planned completion: January 2021)**

.....

**LaSalle borough**

[TRANSLATION] Regarding accountability to the Direction générale, an item will be added at the end of the work order to inform the person in charge of document management to forward a scanned copy of the certificate of conformity, along with a report of the state of the storage tanks, to the borough management. **(Planned completion: September 2020)**

## 4. CONCLUSION

The Ville de Montréal (the City) is the owner of petroleum storage tanks spread across more than 176 sites. As such, it must comply with the requirements of the *Building Act* and the Construction Code and Safety Code stemming from it. In the case of storage tanks with a capacity exceeding the limits set out in the Construction Code of the *Building Act* (CC), there are more requirements, and the City must periodically renew a certificate of conformity for each of the sites where such high-risk storage tanks are located. The ultimate goal of complying with these requirements is to ensure that the operation of these storage tanks is safe for users, citizens and the environment.

Our audit work led us to conclude that the operation of the City's petroleum storage tanks does not fully comply with the provisions of the Act, in particular due to the absence of permits for high-risk petroleum storage tanks, overdue renewals of certificates of conformity, the absence of certain tests and verifications of components or protection measures that are to be performed at set frequencies, as well as non-compliance with certain safety requirements.

The preventive maintenance performed on petroleum storage tanks, both those at high risk and others, often consists of a poorly documented observation of the absence of a leak. The discovery of a leak of petroleum products is usually the result of a series of signs of distress that were ignored.

The audited business units rely entirely on the person (specialist) recognized by the Régie du bâtiment du Québec (RBQ) for the certificate of conformity, without attempting to ensure that the work has been done completely and adequately and is well documented. We also noted a wide variability in the content of the reports of these persons (specialists) recognized by the RBQ, as well as situations where the independence of these professionals could not be assured.

In light of these findings and with the goal of fostering a safer operation of the petroleum storage tanks, we have recommended, in particular, that the audited business units:

- Ensure that operating permits are obtained for all petroleum storage units that qualify as high-risk;
- Create a register for each site that has at least one high-risk petroleum storage tank, containing all the documents required by the current regulation;
- Adopt a schedule defining the tests and verifications to be performed on the high-risk petroleum storage tanks to comply with the current regulations;
- Ensure that the certificate of conformity reports produced by the persons (specialists) recognized by the RBQ are complete and comment on all the points that should be verified in accordance with the current regulations;
- Ensure the independence of the person (specialist) recognized by the RBQ before they start work on the certificate of conformity of petroleum storage tanks, and that it is not always the same person doing the certification;
- Adopt an obsolescence management plan to be able to plan the replacement of petroleum storage tanks that have reached their theoretical lifespan;
- Adopt a preventive maintenance management plan and ensure that the maintenance is properly documented to show that it has been done, if need be;
- Produce a yearly report on the status of obsolescence of petroleum storage tanks for the Direction générale and adopt accountability reporting mechanisms aimed at applying the Directive sur la conformité aux lois et règlements.

Compliance with the current regulation, immediate implementation of measures to correct the non-compliances identified during a verification, and planned preventive maintenance are all measures that enable the City to optimize the safety of its petroleum equipment. Since there is no such thing as “zero” risk, if an accident occurs involving such equipment, complete and adequate documentation of verifications and preventive maintenance would enable the City to rightly show the thoroughness with which it has acted as the responsible owner of petroleum products.

## 5. APPENDICES

### 5.1. Objective and Evaluation Criteria

#### Objective

To ensure that the operation of petroleum storage tanks is done in compliance with the provisions of the Act and in a safe manner for users, citizens and the environment.

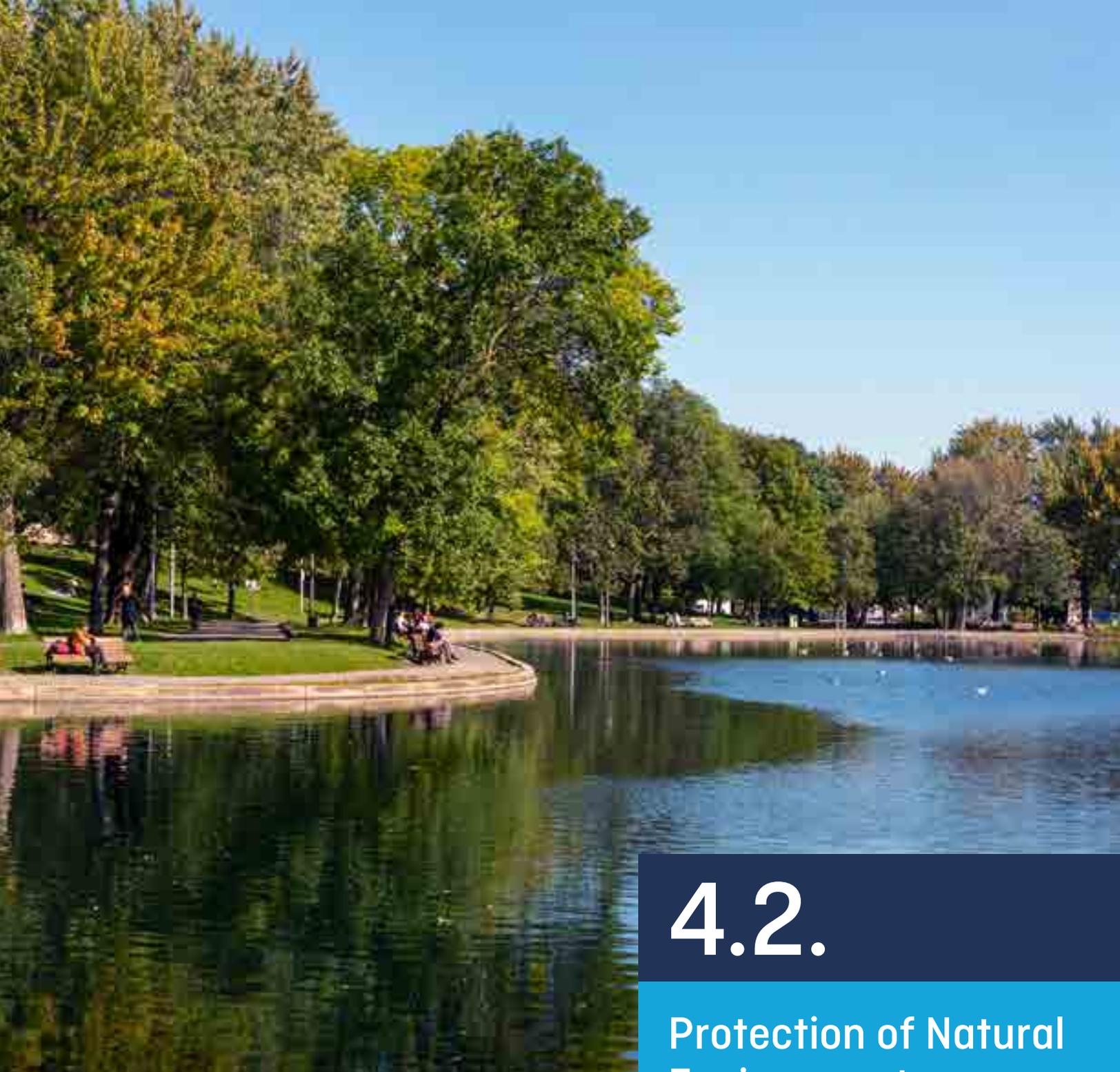
#### Evaluation Criteria

- The City has a complete inventory of petroleum storage tanks and all the permits required to operate them;
- A register of documents required by the Safety Code of the *Building Act* is complete and up-to-date for each high-risk petroleum storage tank;
- Preventive maintenance of the petroleum tanks is planned and documented;
- Safety measures are in force and up-to-date to ensure the safety of users, citizens and the environment;
- Reports are made to the decision makers involved in the conformity of the petroleum storage tanks.

## 5.2. Details of the Sample Used for the Audit

Table A – **Number of Sites per Business Unit Making Up the Sample Used for This Audit**

SITES WITH AT LEAST ONE STORAGE TANK	SERVICE DU MATÉRIEL ROULANT ET DES ATELIERS	SERVICE DE LA GESTION ET DE LA PLANIFICATION IMMOBILIÈRE	SERVICE DE L'EAU		LACHINE BOROUGH	LASALLE BOROUGH	TOTAL
			DIRECTION DE L'EAU POTABLE	DIRECTION DE L'ÉPURATION DES EAUX USÉES			
High-risk	4	2	2	2	1	2	13
Non-high-risk	1	6	1	2	0	0	10
<b>TOTAL</b>	<b>5</b>	<b>8</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>23</b>



# 4.2.

## Protection of Natural Environments

February 10, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Ensure that the Ville de Montréal (the City) has developed a planned and structured procedure for increasing the proportion of protected natural areas on its territory in order to comply with the Schéma d'aménagement et de développement de l'agglomération de Montréal and the Plan de développement durable de la Ville, and for maintaining this conservation status.

# RESULTS

The Schéma d'aménagement et de développement de l'agglomération de Montréal is intended to protect 10% of the Montréal agglomeration's land territory as natural environments. In October 2019, 6.1% of the territory was protected. To meet the target, the City developed a natural environment protection strategy. Even with the development of such a vision, we noted that improvements are required with respect to the following main findings:

- The full potential of local parks in boroughs and related municipalities for protecting natural environments is not known;
- Several natural environments that are considered protected, particularly local parks identified by the Service des grands parcs, du Mont-Royal et des sports in 2008, do not have a conservation status;
- The City's strategy is very general and lacks specific details about the actions to be taken for each site covered, and the Service des grands parcs, du Mont-Royal et des sports does not specify the role that boroughs and related municipalities are expected to play to meet this protection target;
- Ecological audits, which form the basis of an ecological management plan, are not conducted at the frequency recommended for maintaining up-to-date knowledge of the ecological value of a natural environment;
- With one exception, there are no ecological management plans for the City's protected natural areas to regulate the actions that need to be taken to maintain their ecological value;
- No exercise was carried out to evaluate the annual cost of the ecological maintenance of the natural environments for which Service des grands parcs, du Mont-Royal et des sports is responsible;
- No annual budget is allocated in any of the business units for carrying out ecological maintenance work in order to maintain the ecological value of protected areas for which they are responsible;
- No accountability reports are submitted, either to the urban agglomeration council concerning the requirements that were established when the directory of protected natural environments (Répertoire des milieux naturels protégés) was created, or to the Direction générale concerning knowledge of the state of assets.

*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.*

*Note that the business units have had the opportunity to formulate their comments, which appear after the audit report recommendations.*

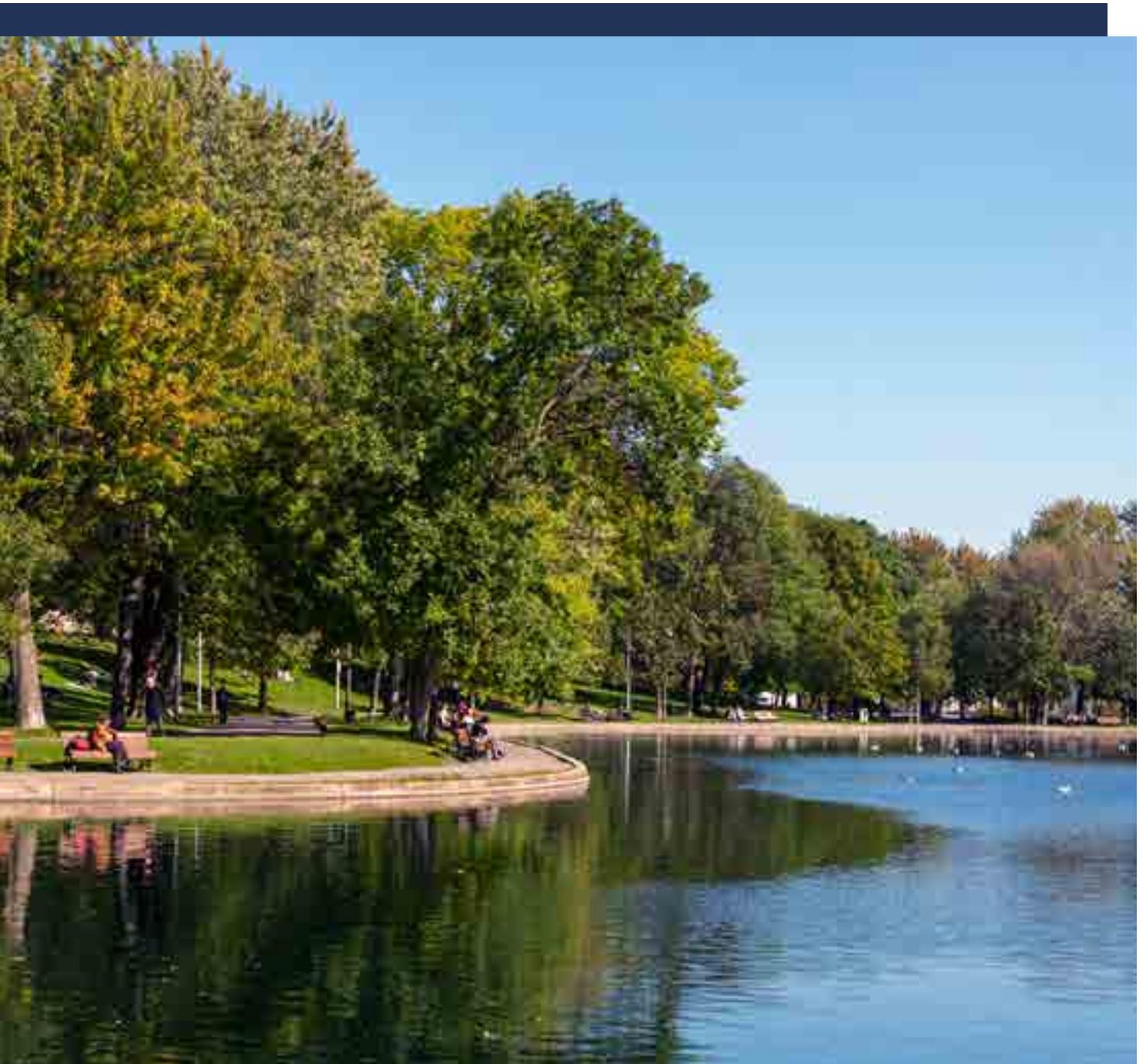


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# LIST OF ACRONYMS

<b>CCGPE</b>	Comité corporatif de gestion des projets d'envergure
<b>CCPE</b>	Comité de coordination des projets d'envergure
<b>ha</b>	hectare (10,000 m <sup>2</sup> )
<b>IUCN</b>	International Union for Conservation of Nature
<b>NPO</b>	Non-profit organization
<b>TCEP</b>	Three-year capital expenditures program
<b>\$M</b>	Million dollars



## 1. BACKGROUND

According to the ministère de l'Environnement et de la Lutte contre les changements climatiques, protected areas provide numerous environmental, ecological, social, economic and cultural benefits. Specifically, they help produce oxygen, provide soil protection, improve local and regional climatic conditions and ensure the control and purification of waterways. In economic terms, protected areas support an economic activity that relies largely on tourism.

In a municipal context in which the space available for development is limited and in which a very significant share of the administration's revenues come from property taxes,<sup>1</sup> it is a challenge for a city like Montréal to find a balance between the economic development of its territory and the protection of its natural environments. In 2004, the Ville de Montréal ("the City") adopted the *Policy respecting the protection and enhancement of the natural environment* ("the Policy"), which was based on the principle that "*the integration of natural environments<sup>2</sup> into the urban fabric can lead to both economic wealth and a high quality of life*". The Policy's three objectives, which were intended to be applicable across the Montréal agglomeration's territory, are as follows:

- Maximize biodiversity and expand the area of protected natural environments in Montréal;
- Ensure sustainability of the natural environment in existing parks and promote the consolidation and viability of park ecosystems;
- Foster better integration of ecosystems and natural landscapes into the built environment.

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<sup>1</sup> The City's 2020 budget provides that property taxes will generate 49.4% of the City's revenues.

<sup>2</sup> The City adheres to the International Union for Conservation of Nature (IUCN) definition of a protected area: "an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means". At the level of the Montréal agglomeration, and within the meaning of its Schéma d'aménagement et de développement (2015), a protected area is interpreted to have the same meaning as a natural environment and includes woodlands, wetlands, natural brushlands and inland waterways.

In 2003, just before *the Policy* was adopted, 1,569 hectares (10,000 m<sup>2</sup>) (ha),<sup>3</sup> or 3.1% of the land area of the Montréal agglomeration's territory, were considered protected natural environments, and through *the Policy*, the City aimed to increase this proportion to 6%.<sup>4</sup> In 2013, the City produced the 2009–2013 assessment of *the Policy's* implementation. Since *the Policy* came into effect, 1,303 ha of territory have been protected or are in the process of being protected, raising the agglomeration's total protected land to 2,885 ha, or 5.75% of its territory, which was 95.6% closer to *the Policy's* objective of a 6% increase. During this period, most of the protected natural environments that were added, in terms of surface area (80.8%), were found in the ten ecoterritories<sup>5</sup> that the City had defined for the agglomeration as a whole. These ecoterritories are:

- Forêt de Senneville;
- Corridor écoforestier de la rivière à l'Orme;
- Corridor écoforestier de l'Île Bizard;
- Rapide du Cheval Blanc;
- Coulée verte du ruisseau Bertrand;
- Sommet et flancs du Mont-Royal;
- Coulée verte du ruisseau De Montigny;
- Trame verte de l'Est;
- Rapides de Lachine;
- Falaise Saint-Jacques.

In 2008, the Direction des grands parcs et de la nature en ville (now the Service des grands parcs, du Mont-Royal et des sports (the "Service des grands parcs"<sup>6</sup>)) worked on creating a directory of protected natural environments in the Montréal agglomeration (the "Directory"). The idea behind the Directory was to compile and account for the total surface area of land in the Montréal agglomeration that was considered as belonging to protected natural environments. The Service des grands parcs had examined the natural character of 49 local parks<sup>7</sup> and retained

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<sup>3</sup> For simplification purposes, all surface areas presented in this report are rounded to the nearest unit (except where more precision is required to explain a particular situation).

<sup>4</sup> The total land area of the Montréal agglomeration is 50,089 ha. For information purposes, Rosemont–La Petite-Patrie borough has a surface area of 1,590 ha which is roughly equivalent to all the protected terrestrial territory in 2003.

<sup>5</sup> An ecoterritory is an area containing natural spaces of ecological interest whose protection has been deemed a priority, existing protected areas and urban spaces.

<sup>6</sup> For conciseness purposes, it's always about Service des grands parcs, even when it had a different name in the past.

<sup>7</sup> Within the context of this report, the phrase "local park" designates solely the portion of a local park identified as a natural environment in the *Schéma d'aménagement et de développement*. The phrase is also used to designate a woodland under the responsibility of a borough or a related municipality.

a total of 25 of these, for a total surface area of 230 ha in eight boroughs,<sup>8</sup> for which protection projects might be considered. Meetings were held with representatives from these eight boroughs from April to August 2008 to present them with the idea that each of them could contribute to the achievement of this objective as well as to raise their awareness of the concept of the ecological management of a park. At these meetings, the boroughs were given copies of a document entitled *“Programme-cadre de la stratégie de conservation et de mise en valeur des milieux naturels dans les parcs existants de l’agglomération de Montréal”*. According to this framework program, an ecological management plan includes acquisition of knowledge about ecosystems (ecological audits), synthesis and evaluation of this knowledge, actions to be taken and monitoring of ecosystems, so that human activities in parks are regulated and ecosystems can be maintained and renewed.

All the borough representatives we met showed that they were open to and interested in participating in achieving the natural environment protection target and entering local parks in the Directory. However, some boroughs, including Mercier–Hochelaga-Maisonneuve and Saint-Laurent stated at these meetings that they had very limited resources for park maintenance and management and that they would need both additional budget funding, in order to carry out ecological management of local parks entered in the Directory, and support from the Service des grands parcs, with its expertise, in developing their ecological management plans.

In November 2008, the Service des grands parcs presented to representatives of the boroughs concerned an assistance program for the ecological management of local parks aimed at supporting boroughs that wanted to protect certain local parks as natural environments, so that each borough could contribute to the maintenance and enhancement of biodiversity on Montréal’s territory, in keeping with *the Policy*. The assistance offered was to consist of consulting in ecological management provided by the Service des grands parcs, as well as financial assistance to conduct studies and award contracts for carrying out maintenance and development work. In return, boroughs were to make a request to enter designated parks in the Directory, commit to giving them a conservation mission, and practise ecological management of these parks. The Service des grands parcs was considering a \$20 million dollars (\$M) budget over a five-year period, from 2010 to 2014, after which the boroughs were to continue ecological management of the local parks covered out of their operating budgets. It should be stressed that since 2011, both the Service des grands parcs and boroughs have been putting great effort into the fight against the ash borer, establishing priorities and budgets accordingly.

In the summer of 2009, the City’s Executive Committee approved a proposal to continue to take steps to create the Directory of all municipal, government and private sites on the agglomeration’s territory dedicated to the protection, maintenance or enhancement of biodiversity. The decision-making summary

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<sup>8</sup> The boroughs covered were Ahuntsic-Cartierville, LaSalle, Mercier–Hochelaga-Maisonneuve, Pierrefonds-Roxboro, Rivière-des-Prairies–Pointe-aux-Trembles, Rosemont–La Petite-Patrie, Saint-Laurent and Verdun.

stated that such a Directory would make it possible to account for achieving the natural environment protection target set out in *the Policy*. In October 2009, the urban agglomeration council adopted Guidelines for entering and managing designated sites in the Directory (the “Guidelines”). These Guidelines set three conditions that must be met in order for a site<sup>9</sup> to be eligible to be entered in the Directory, as follows:

- Meet the International Union for Conservation of Nature (IUCN) definition of protected area (see the footnote number 2);
- Have a predominantly natural character on at least 75% of its surface area, on which ecological management intended to protect, maintain or enhance biodiversity will be applied;
- Be assigned a specific type of zoning, called “conservation zoning” on which uses that are incompatible with the objectives of natural environment protection are to be prohibited.

In October 2009, Rivière-des-Prairies–Pointe-aux-Trembles borough passed a resolution to contribute to achieving *the Policy*’s objectives by supporting and associating itself with the creation of the Directory. According to the resolution, designated parks should be under ecological management and should be covered by conservation zoning.

In the fall of 2010, Saint-Laurent borough adopted a draft by-law amending the zoning by-law and authorizing Bois  du parc Marcel-Laurin to be entered in the Directory. At that time, the borough also created an ecological management plan for this woodland. This was the first entry in the Directory. At the time of our audit, even though more than 60 protected natural sites were under the responsibility of the Service des grands parcs, a borough or a related municipality, this was still the only entry in the Directory, and by that very fact, the only natural environment to comply with all the City’s requirements for being considered protected.

In 2015, the Montr al agglomeration adopted its Sch ma d’am nement et de d veloppement (the “Sch ma d’am nement”) in which it committed to the objective of increasing the proportion of the agglomeration’s land territory protected as natural environments to 10%, which represents a total surface area of 5,009 ha, or the equivalent of the total surface area of Riv re-des-Prairies–Pointe-aux-Trembles borough plus twice the surface area of Outremont borough. This protection target of 10% of the Montr al agglomeration’s land territory as natural environments (the “10% natural environment protection target”) is still in effect today.

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<sup>9</sup> The text does not refer solely to local parks, but to all municipal parks, depending on whether the decision to protect them falls under the authority of the urban agglomeration council, the City council or a borough council. Thus, all protected natural environments that come under the City’s authority, including those under the responsibility of the Service des grands parcs and the boroughs, should be listed in the Directory.

This concern for protecting natural terrestrial environments is not addressed solely in the Schéma d'aménagement and *the Policy*. The City also made this one of the ten collective targets set out in Sustainable Montréal 2016–2020 by reproducing the Schéma d'aménagement's objective of increasing, in the medium term, the share of protected land areas to 10% of the agglomeration's territory. No timeline was given for this target, in either this Plan de développement durable or the Schéma d'aménagement. Section 32 of the *Act respecting land use planning and development*<sup>10</sup> specifies that the "plan creates no obligation in respect of the calendar or the terms and conditions of implementation of the public services and infrastructure provided for in the plan."

From the time *the Policy* was adopted (in 2004) until October 2019, the area of protected natural environments on the agglomeration's land territory rose from 1,569 ha (3.1%) to 3,070 ha (6.1%).<sup>11</sup> This increase of 1,501 ha was obtained through several methods:

- the acquisition of sites in ecoterritories: 314 ha;
- the protection of sites in ecoterritories (other than acquisitions by the City)<sup>12</sup>: 622 ha;
- the contribution of large urban parks: 441 ha;
- the protection of local parks under ecological management: 124 ha.

As of 2019, in order to reach the 10% natural environment protection target, it was necessary to protect an additional total surface area of 1,939 ha, or more than the progress made since 2004.

Table 1 shows the decision-making bodies and the business units responsible for management and maintenance according to the four types of parks that exist in the Montréal agglomeration. With the exception of local parks, all other parks are classified as large parks. It should be noted that not all large parks in the Montréal agglomeration meet the IUCN definition. For example, urban parks such as Jarry and Maisonneuve, or metropolitan parks, such as Jeanne-Mance, while they are significant green spaces in Montréal, either do not contain any or do not contain enough woodlands, brushlands or wetlands to be natural environments. The list of large parks that were considered protected natural environments at the time of our audit is given in Appendix 5.2.

<sup>10</sup> Chapter A-19.1.

<sup>11</sup> In 2015, the protected surface area reached 3,003 ha (6%). Since then, progress has been very slow, reaching 3,070 ha in October 2019, equivalent to a 0.1% increase in three years.

<sup>12</sup> The ways of protecting a natural environment other than acquisition are land transfer, land donation, land exchange and placement of a conservation easement on a property.

**Table 1 – Decision-Making Bodies and Business Units Responsible for the Different Types of Parks on the Territory of the Montréal Agglomeration**

TYPE OF PARK		EXAMPLES OF PARKS	DECISION-MAKING BODY	BUSINESS UNIT RESPONSIBLE
Large parks	Urban parks	Angrignon, Jarry, Maisonneuve, des Rapides, La Fontaine	City council	Service des grands parcs, du Mont-Royal et des sports
	Nature parks	Anse-à-l'Orme, Bois-d'Anjou, Bois-de-Saraguay, Île de la Visitation	Urban agglomeration council	
	Metropolitan parks	Frédéric-Back, Mont-Royal, Jeanne-Mance, parc Tiohtià:ke Otsira'kéhne, pronounced djodjâgué otchira'guén (Troisième Sommet)		
Local parks		Thomas-Chapais, Marcel-Laurin, René-Masson, Terra-Cotta (Pointe-Claire)	Borough council or City council (related municipalities)	Boroughs or related municipalities

## 2. PURPOSE AND SCOPE OF THE AUDIT

Under the provisions of the *Cities and Towns Act*, we completed a value-for-money audit mission on the protection of natural environments. We performed this mission in accordance with the Canadian Standard on Assurance Engagement (CSAE) 3001, described in the CPA Canada Handbook, as well as other Canadian public sector certification standards issued by the CPA Canada Auditing and Certification Standards Board.

The purpose of this audit was to ensure that the City has developed a planned and structured procedure for increasing the proportion of protected natural areas on its territory in order to comply with the Schéma d'aménagement et de développement de l'agglomération de Montréal and the City's Plan de développement durable, as well as to maintain this conservation status.

The role of the Auditor General of the Ville de Montréal is to provide a conclusion regarding the objectives of the audit. To do so, we collected a sufficient amount of relevant evidence on which to base our conclusion and to obtain a reasonable level of assurance. Our assessment is based on criteria we have deemed valid for the purposes of this audit. They are presented in Appendix 5.1.

The Auditor General of the Ville de Montréal applies Canadian Standard on Quality Control (CSQC) 1 from the CPA Canada Handbook and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements. In addition, it complies with the independence and other ethical requirements of the *Code of ethics of chartered professional accountants*, which are founded on fundamental principles of integrity, professional competence and due diligence, confidentiality, and professional conduct.

Our audit work focused on the period from January 1, 2015, to June 15, 2019. However, for some aspects, data prior to these years was also considered. It was primarily completed from May to December 2019. We also took into account information that was sent to us up to February 2020.<sup>13</sup>

This work was mainly performed with the following business units:

- the Service des grands parcs;
- Mercier–Hochelaga-Maisonneuve borough;
- Rivière-des-Prairies–Pointe-aux-Trembles borough;
- Saint-Laurent borough.

Upon completing our audit work, we submitted a draft audit report to managers of each audited business unit for discussion purposes. The final report was then forwarded to the management of each business unit involved in the audit in order to obtain action plans and timelines for implementing the recommendations concerning it, as well as to the Direction générale, the deputy director general of Mobilité et attractivité, the deputy director general of the Service aux citoyens and the director of the Service de la concertation des arrondissements. A copy of the final report was also submitted, for information purposes, to borough directors not directly targeted by our audit, so they could implement recommendations if appropriate.

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<sup>13</sup> The month corresponding to the one in which the last audit letter of declaration was received.

## 3. AUDIT RESULTS

### 3.1. Natural Environment Protection Strategy of the Montréal Agglomeration

As mentioned above, in October 2019, 6.1% of the land surface of the Montréal agglomeration was protected as natural environments. From 2004 to 2018, the City's efforts resulted in a 3% increase in this proportion, from 3.1% to 6.1%. We tried to find out whether the City, as the entity responsible for implementing *the Policy* and the Schéma d'aménagement, had adopted a strategy for making an equivalent, or even greater, effort to raise this proportion by nearly 4% to reach the 10% natural environment protection target.

#### 3.1.1. Knowledge of Natural Environments on the Territory of the Montréal Agglomeration

##### 3.1.1.A. Background and Findings

In order to be able to manage natural environments on the territory of the Montréal agglomeration, it is necessary to know that they exist. That is why we sought to determine whether the Service des grands parcs had an inventory of currently protected natural environments that already contribute to achieving the 10% natural environment protection target and of natural environments that can potentially contribute to achieving this target. The Service des grands parcs has two georeferenced databases. The first, a compilation of protected and potentially protectable sites, was launched in 2004 when *the Policy* was developed, and it is continuously updated based on updates of the City's planning program or Schéma d'aménagement. The surface areas of the various sites compiled in this database show that a total of 6,455 ha of natural environments are already protected or potentially protectable. Not all the sites belong to the City. Without undertaking a comprehensive comparison between the natural environments in the Schéma d'aménagement and those appearing in the database of the Service des grands parcs, we identified natural environments that were missing from the database of the Service des grands parcs, including various local parks (non-exhaustive list) with a total surface area of 23 ha<sup>14</sup>, such as:

- Parc Docteur-Bernard-Paquet,  
in Saint-Laurent borough (0.6 ha);
- Parc Mackenzie-King, in Côte-des-Neiges–  
Notre-Dame-de-Grâce borough (1.7 ha);

<sup>14</sup> The surface areas reported for these parks are not the total surface areas of the parks, but only the portions occupied by woodlands, brushlands and wetlands appearing in the City's open data portal.

- Parc Marien/5<sup>e</sup> avenue, in Rivière-des-Prairies–Pointe-aux-Trembles borough (3.7 ha);
- Parc du Mail, in Anjou borough (0.8 ha);
- Parc Marie-Gérin-Lajoie, in Côte-des-Neiges–Notre-Dame-de-Grâce borough (1 ha);
- Parc Michel-Bourdon, in Mercier–Hochelaga-Maisonneuve borough (0.4 ha);
- Parc Philippe-Laheurte, in Saint-Laurent borough (0.5 ha);
- Parc du Centenaire (Williams-Cosgrove), in the related municipality of Dollard-des-Ormeaux (14.2 ha).

The fact that local parks considered in the Schéma d'aménagement are not listed in this database means that the Service des grands parcs does not have an overview of their protection potential, or the leeway it has for reaching the 10% natural environment protection target.

The second database of the Service des grands parcs covers protected natural environments that already contribute to achieving the 10% natural environment protection target. This is also a georeferenced database and contains 101 entries. Information extracted from this database, which we obtained on October 21, 2019, reveals that the total surface area of protected natural environments was 3,084 ha, or 6.1% of the land territory of the Montréal agglomeration. A total of 80.3% of the surface areas of these sites come under municipal authority (urban parks, nature parks, metropolitan parks and local parks). The sites that are referred to as protected in this database are found in the database of protected and potentially protectable sites. This second database is therefore a subset of the first.

The Service des grands parcs has a database of protected natural environments, but the information it contains is not complete. For 82 environments out of the 101 entered in the database (81.2%), the protection status is not specified. For the others, the information given specifies whether there is a conservation easement and conservation zoning or whether it is a natural reserve recognized by the government. If the Guidelines for entering a natural environment in the Directory require that the site meet the IUCN definition of a natural environment, this information is not provided for 77 of the sites in the database (76.2%). Lastly, for 53 sites (52.5%), the lot numbers for the sites are not documented.

In our opinion, the Service des grands parcs must have comprehensive, accurate information for all sites in the database of protected natural areas so that it can identify a site quickly and adequately and justify why it is considered protected.

## RECOMMENDATION

**3.1.1.B.** We recommend that the Service des grands parcs, du Mont-Royal et des sports undertake a comprehensive review of the content of the database of sites that are currently considered protected natural environments on the territory of the agglomeration so that there is comprehensive, accurate information on each site that the City can use for analysis and accountability purposes.

## BUSINESS UNIT'S RESPONSE

**3.1.1.B.** *Service des grands parcs, du Mont-Royal et des sports*  
[TRANSLATION] Review all the databases.

*Develop a protocol that includes all the rules for identifying the different sites.*

*Develop a formal process to standardize the methodology for creating and updating data. (Planned completion: November 2020)*

## 3.1.2. Development of the Natural Environment Protection Strategy

### 3.1.2.A. Background and Findings

#### Natural Environment Protection Strategy for Attaining the 10% Natural Environment Protection Target

The Service des grands parcs adopted a strategy aimed at eventually reaching this 10% natural environment protection target described in the Schéma d'aménagement. This strategy is in keeping with a comprehensive approach followed by the City, called *Vision 2020-2030*, which is aimed at defining major orientations for the coming decade, especially in the area of ecological transition. This strategy (the "Protection Strategy") was developed internally by the Service des grands parcs based on knowledge acquired since *the Policy* came into effect in 2004. This is how the Service des grands parcs went about identifying woodlands, brushlands and wetlands that were within the boundaries of ecoterritories as well as adjacent to nature parks with a view to annexing them to these parks, thereby increasing their surface areas. In 2018, the Service des grands parcs made several regulatory amendments to ensure that the sites covered are found within the boundaries of nature parks before proceeding to purchase them. That is how the boundaries of the Parc-nature de l'Anse-à-l'Orme were expanded in May 2018 as were those of the Parc-nature de Bois-d'Anjou in June 2018.

The Service des grands parcs identified 71 lots of interest at the edges of nature parks for which a right of preemption was approved by the urban agglomeration council in October 2018. This right grants the City, for 10 years, the option of purchasing a site under the same conditions as those appearing in an offer made by a third party that is accepted by the owner of the site. The total surface area of these lots is 163 ha for a 2017 property assessment roll value of \$25.3M. It should be stressed that the purchase price will reflect the market value more than the property assessment roll value, and that the right of preemption does not guarantee that the City will become the owner of the site. In fact, the owner has no obligation to sell, and in the event of a sale, the City has no obligation to purchase, for example if it considers the third party offer received by the owner too high. Considering that in early 2019, 1,939 ha still needed to be protected in order to attain the 10% natural environment protection target, the acquisition of the 71 lots would represent 8.4% of all the land that still needs to be protected. Of these 71 lots, 58 (81.7%) are shown on maps produced by the Service des grands parcs as natural environments for which a protection project is a priority or of interest, representing a total of 143 ha. The other lots covered by the right of preemption are not on these maps, because even though they could be used to expand nature parks, they are lesser priorities for the Service des grands parcs.

Since 2014, the Service des grands parcs has also been collaborating with the ministère de l'Environnement et de la Lutte contre les changements climatiques to make a portion of Île Bizard of roughly 1,000 ha the first humanized landscape in Québec. This status is granted by the Québec Government. According to the Ministry, this is an inhabited territory modified by human activity, and the preservation of its biodiversity is related to this type of activity, which is still practised there. This is a protection status recognized by the IUCN. A file initiating the request for recognition was submitted to the Ministry in January 2015, and a notice of admissibility was received in September of the same year. A conservation and enhancement plan was then developed by the Service des grands parcs in March 2017. At the time of our audit, however, the status had still not been obtained, because discussions with the Ministry concerning the surface area to be recognized were still ongoing – the Québec Government did not recognize a golf course that the Service des grands parcs included within the boundaries of the territory for which the status was requested. For the Service des grands parcs, the issue of obtaining humanized landscape status is an important one, because it would, in a single step, protect half the area that still needs to be protected to attain the 10% natural environment protection target without the City having to acquire properties.

In a presentation given by the Service des grands parcs to the Comité de coordination des projets d'envergure (CCPE)<sup>15</sup> in October 2019<sup>16</sup>, achieving the 10% natural environment protection target was itemized as follows:

- Currently protected natural environments: 3,070 ha (6.1 %)<sup>17</sup>
- Humanized landscape of Île Bizard: 1,000 ha (2.0 %)
- Subsequent acquisitions: 500 ha (1.0 %)
  - 2019–2022 phase: 217 ha
  - 2023–2029 phase: 283 ha
- Protection of local parks: 180 ha (0.4 %)
- Protection of private and institutional land: 250 ha (0.5 %)

Theoretically, this strategy is feasible, because the database used by the Service des grands parcs to identify protected and protectable natural environments specifies a surface area equivalent to 6,455 ha, or 12.9% of the agglomeration's land territory, which gives the City leeway of just under 3%, or 1,446 ha.

### **Boroughs' Lack of Awareness of the Protection Strategy**

In developing the Protection Strategy, the Service des grands parcs did not work together with boroughs to evaluate their possible additional contributions towards attaining the 10% natural environment protection target. During the exercise undertaken by the Service des grands parcs in 2008 to develop the Directory, 25 local parks, with a total surface area of 230 ha, had been identified as *"showing an interest in becoming conservation parks under ecological management to be entered in the Directory"*. At the time of our audit, only 16 of these parks, with a total surface area of 148 ha, contributed to achieving the 10% natural environment protection target. However, 12 more unidentified local parks were added to these 16 local parks in 2008, bringing the surface area of natural environments currently protected by boroughs to 195 ha.

<sup>15</sup> The CCPE consists of the President of the Executive Committee, the Vice-President of the Executive Committee, elected officials, the director general of the City, the Deputy Director General of the Services institutionnels and the director of the Bureau des projets et des programmes d'immobilisation, and has the role of ensuring multidisciplinary cooperation, recommending that projects proceed to subsequent phases, ensuring monthly monitoring of project progress, formulating recommendations concerning certain issues that may arise during the project and recommending project phasing to the Executive Committee.

<sup>16</sup> This presentation took place outside the period covered by our audit. However, we chose to take it into account because it provides the most up-to-date picture of the strategy considered by the Service des grands parcs to reach the 10% natural environment protection target.

<sup>17</sup> The presentation uses the figure of 3,070 ha to designate the surface area that was already protected in October 2019, whereas in September 2019, the total protected surface area listed in the database of the Service des grands parcs is 3,084 ha. This discrepancy does not affect the percentage of protected natural environments and has no impact on our conclusions.

As mentioned above, we identified non-exhaustively 23 ha of natural environments that appear in the Schéma d'aménagement but neither currently contribute to achieving the 10% natural environment protection target nor appear in the database of the Service des grands parcs for protected and protectable natural environments. Considering that nine local parks identified in 2008 are not currently protected, and considering these additional 23 ha, 105 ha of natural environments could potentially be protected by boroughs and related municipalities. However, this value is lower (58.1%) than the 180 ha contribution expected by the Service des grands parcs, the boroughs and related municipalities.

The three boroughs audited say that they were aware of the 10% natural environment protection target under the responsibility of the Service des grands parcs but do not know how the City will go about reaching it, and have not received any information from the Service des grands parcs concerning local targets they need to reach in order to contribute to this overall target. At the time of our audit, the Service des grands parcs recognized that the boroughs had not been informed of the procedure and that a presentation tour on the Protection Strategy should eventually be held.

Since we know that the share of the boroughs and related municipalities in the Protection Strategy is 9.3% (180 ha out of 1,930 ha), we think that the City is at risk of not reaching the 10% natural environment protection target, because the Service des grands parcs does not have a comprehensive evaluation of potentially protectable local parks in the boroughs and related municipalities.

### **RECOMMENDATION**

**3.1.2.B. We recommend that the Service des grands parcs, du Mont-Royal et des sports undertake an exercise of identifying all local parks in boroughs and related municipalities that can contribute to achieving the 10% natural environment protection target in order to increase the potential for achieving the natural environment protection target.**

### **BUSINESS UNIT'S RESPONSE**

**3.1.2.B. Service des grands parcs, du Mont-Royal et des sports**

*[TRANSLATION] Update the list of local parks that show an interest in becoming conservation areas under ecological management.*

**(Planned completion: August 2020)**

*Review the database of local parks that can contribute to the achievement of the 10% target. (Planned completion: November 2020)*

## **Boroughs' Lack of Awareness of Mechanisms for Contributing to Achieving the 10% Target**

If the boroughs do not know what role the Service des grands parcs expects them to play in order for the City to attain its 10% natural environment protection target, then they cannot agree on the requirements that must be fulfilled in order for a local park to be considered as contributing to achieving this target.

For Saint-Laurent borough, in order for a local park to contribute to achieving this target, it must be entered in the Directory, and it must therefore meet the requirements set out in the Guidelines, i.e., in addition to being a natural environment within the meaning of the IUCN definition, it must be covered by conservation zoning, and at least 75% of its area must have a predominantly natural character to which ecological management is applied. This interpretation is in line with discussions that took place between the boroughs and the Service des grands parcs in 2008, when the Directory was developed.

Mercier–Hochelaga-Maisonneuve and Rivière-des-Prairies–Pointe-aux-Trembles boroughs, for their part, both consider it unnecessary for a local park to be entered in the Directory in order for it to be able to contribute to achieving the 10% natural environment protection target, since local parks for which they are responsible already contribute to this target without having an ecological management plan. Yet these two boroughs had also participated in the 2008 meetings with the Service des grands parcs. And furthermore, in the case of Rivière-des-Prairies–Pointe-aux-Trembles borough, the borough council had adopted a resolution to support the creation of the Directory, reiterating the requirements to be entered in it and the natural environment protection target.

Because of these diverging interpretations about the requirements for contributing to achieving the 10% natural environment protection target, out of the 14 local parks and municipal sites under the responsibility of one of the three boroughs audited, only one meets all the requirements (the Boisé du parc Marcel-Laurin in Saint-Laurent borough) (see Table 2). Neither of the two local parks under the responsibility of Mercier–Hochelaga-Maisonneuve borough has an ecological management plan or conservation zoning; instead they have zoning for community gardens, parks and walkways, which does not confer conservation status on a park. In Rivière-des-Prairies–Pointe-aux-Trembles borough, none of the 11 local parks and municipal sites that already contribute to achieving this target has an ecological management plan, and only half of them have conservation zoning.

**Table 2 – Number of Local Parks in the Boroughs Audited Meeting the Requirements of the Guidelines for Entering and Managing Designated Sites in the Directory**

<b>BOROUGH</b>	<b>LOCAL PARKS/ MUNICIPAL SITES CONTRIBUTING TO ACHIEVING THE TARGET</b>	<b>LOCAL PARKS/ MUNICIPAL SITES UNDER ECOLOGICAL MANAGEMENT</b>	<b>LOCAL PARKS/ MUNICIPAL SITES WITH CONSERVATION ZONING</b>
Mercier–Hochelaga- Maisonneuve	2	0	0
Rivière-des-Prairies– Pointe-aux-Trembles	11	0	6
Saint-Laurent	1	1	1
<b>TOTAL</b>	<b>14</b>	<b>1</b>	<b>7</b>

It can be seen that, despite the participation of the three boroughs audited in the 2008 meetings, and despite the resolutions passed by Rivière-des-Prairies–Pointe-aux-Trembles and Saint-Laurent boroughs to support the process of creating and contributing to the Directory, only Saint-Laurent borough fully completed the process.

Considering that these local parks and municipal sites represent a total surface area of 81 ha, but that only the Boisé du parc Marcel-Laurin, with its 16 ha (or 19.8% of this total surface area), complies with the requirements for contributing to achieving the 10% natural environment protection target, there is reason to question the true protection status of local parks and municipal sites under the responsibility of the boroughs that already contribute to achieving the 10% natural environment protection target. By strictly applying the requirements of the Service des grands parcs in the Guidelines, and with the knowledge that only the Boisé du parc Marcel-Laurin is subject to an ecological management plan for its maintenance, out of the 317 ha of protected natural environments for which the boroughs are responsible, only 16 ha should actually be counted, which would make the proportion of land territory currently protected as natural environments drop from 6.1% to 5.6%.

## RECOMMENDATION

3.1.2.C. We recommend that the Service des grands parcs, du Mont-Royal et des sports undertake an exercise of communicating with boroughs so that they understand the requirements as well as the commitments that must be made in order for a site under their responsibility to be considered as contributing to achieving the 10% natural environment protection target.

## BUSINESS UNIT'S RESPONSE

3.1.2.C. *Service des grands parcs, du Mont-Royal et des sports*

*[TRANSLATION] Reevaluate the tools available for protecting natural environments to ensure they are protected while maximizing investments.*

*Contact all the boroughs and related municipalities to share information with them on requirements and commitments when the tools are reevaluated.*

*(Planned completion: February 2021)*

## RECOMMENDATION

3.1.2.D. We recommend that Mercier–Hochelaga-Maisonneuve and Rivière-des-Prairies–Pointe-aux-Trembles boroughs assign a conservation status to sites under their responsibility that currently contribute to achieving the 10% natural environment protection target in order to meet the requirements set out in the City’s Guidelines for entering and managing designated sites in the Directory.

## BUSINESS UNITS’ RESPONSE

### 3.1.2.D. *Mercier–Hochelaga-Maisonneuve borough*

#### *Amendment of Urban planning by-law for Mercier–Hochelaga-Maisonneuve borough (01-275)*

[TRANSLATION]

- *Category E.1(1) replaced by category E.1(2) (natural space).*
- *(Approval (construction and expansion) under title VIII, art. 387.2, under the designation of “woodland” (Parc du Boisé Jean-Milot and Parc Thomas-Chapais). (Planned completion: December 2020)*

#### *Schéma d’aménagement et de développement de l’agglomération de Montréal*

- *Area assignment of “Predominantly residential” replaced by “Conservation” (Parc du Boisé Jean-Milot). (Planned completion: 2021 and beyond)*

#### *Plan d’urbanisme de la Ville de Montréal (04-047)*

- *Area assignment of “Residential sector” replaced by “Conservation” (Parc du Boisé Jean-Milot). (Planned completion: 2021 and beyond)*

### *Rivière-des-Prairies–Pointe-aux-Trembles borough*

[TRANSLATION] *Identification of land areas with conservation potential under the borough’s responsibility. (Planned completion: August 2020)*

*Tabling of draft amendments to the Zoning By-Law to create new conservation zones (use class P5) out of land areas under the borough’s responsibility.*

*(Planned completion: November 2023 (depending on progress made with respect to 3.2.1.D.)*

### 3.1.3. Implementation of the Natural Environment Protection Strategy

#### 3.1.3.A. Background and Findings

At the time of our audits, the Service des grands parcs was to develop a strategic plan for all its projects, including natural environment protection, as well as an action plan to implement it. The 2020–2030 strategic plan is structured mainly around the protection of natural environments, including an action plan being prepared for the Service des grands parcs that is structured around the following major activities:<sup>18</sup>

- Expanding the boundaries of nature parks;
- Submitting a financial strategy;
- Obtaining humanized landscape status for Île Bizard;
- Carrying out ecosystem restoration work in the networks of large parks.

Table 3 establishes the correlation between what the Service des grands parcs hopes to protect in order to reach the 10% natural environment protection target and what it plans to do, according to its strategic plan and the action plan it is currently developing. At the time of our audit, we noted that implementation of the Protection Strategy is planned only for elements that fall under the responsibility of the Service des grands parcs (1,500 ha of the 1,930 ha required, or 77.7%), while the Protection Strategy also relies on the private sector and boroughs to reach the 10% natural environment protection target.

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<sup>18</sup> No specific action had yet been entered in any of the major actions set out in the action plan of the Service des grands parcs, in the version that we obtained. This is more a draft framework than an actual action plan

Table 3 – **Alignment of Elements of the Protection Strategy with the Strategic Plan and the Action Plan of the Service des Grands Parcs, du Mont-Royal et des Sports**

ELEMENT OF THE PROTECTION STRATEGY	TOTAL AREA COVERED	ELEMENT COVERED IN THE STRATEGIC PLAN	ELEMENT COVERED IN THE ACTION PLAN UNDER DEVELOPMENT
Humanized landscape of Île Bizard	1,000 ha	Yes	Yes
Subsequent acquisitions	500 ha	Yes	Yes
Protection of local parks	180 ha	No	No
Protection of private and institutional land	250 ha	No	No
<b>TOTAL</b>	<b>1,930 ha</b>		

In our opinion, without an action plan outlining the actions to be carried out for each element of the Protection Strategy and for each site that needs to be protected over a given period, the Service des grands parcs cannot adequately prioritize the actions to be executed. In the absence of such an action plan, the Service des grands parcs cannot accurately and adequately monitor the progress of protection projects at every site.

### RECOMMENDATION

**3.1.3.B.** We recommend that the Service des grands parcs, du Mont-Royal et des sports establish and implement a detailed, specific action plan according to the different natural environments of interest to be protected so that the progress of work to be carried out can be monitored for the purpose of acquiring natural environments or, in the case of Île Bizard, obtaining humanized landscape status.

### BUSINESS UNIT'S RESPONSE

**3.1.3.B.** *Service des grands parcs, du Mont-Royal et des sports*

*[TRANSLATION] Develop a more specific action plan for achieving the 10% target in its 2020–2030 Montréal green strategy. (Planned completion: November 2020)*

*Carry out a public consultation in anticipation of its designation as a humanized landscape status by the government (following the adoption of Bill 46).*

*(Planned completion: May 2020)*

*Produce an action plan for implementing the humanized landscape.*

*(Planned completion: August 2020)*

## Budget

Nearly a quarter of the land covered by the Protection Strategy (500 ha out of the 1,930 ha) is based on acquisitions of sites by the City so that they can be turned into protected natural environments under the responsibility of the Service des grands parcs. In this context, we sought to determine, first, whether the Service des grands parcs had assessed the cost of acquiring 500 ha of land on the Montréal agglomeration's territory, and second, whether a budget had been established for these acquisitions.

The Service des grands parcs assessed, in inflation-adjusted dollars, the average cost per ha paid for all sites acquired since *the Policy* came into effect in 2004. Over a period this long, the fluctuation of costs paid per ha is so large from one transaction to the next that the Service des grands parcs and the Service de la gestion et de la planification immobilière consider this value to be not very representative.<sup>19</sup>

In October 2019, the City acquired a site on the territory of Ville de Sainte-Anne-de-Bellevue with a surface area of 9.8 ha for \$5.1M, or the equivalent of approximately \$520,000/ha. In December 2019, it made the major acquisition of a 140 ha site in Pierrefonds-Roxboro borough at a cost of \$73M, which is, again, the equivalent of \$520,000/ha.<sup>20</sup> Based on the assumption that these unit costs accurately reflect what the City can expect to pay on average to acquire sites in the future, it would need a total budget of \$260M for its anticipated acquisition of 500 ha between now and 2030.

This average unit cost per ha is of the same order of magnitude as what the Service des grands parcs anticipates it will need from 2019 to 2022 to carry out its first acquisition phase, which involves the addition of 217 ha of protected natural environments (see Table 4). We must therefore conclude that the assumption for evaluating investment needs is realistic. However, considering that for the 2019-2021 period, the Service des grands parcs has a Three-year capital expenditures program (TCEP) of \$20M a year, at the end of 2021, there would be a shortfall of nearly \$27M to finalize the 2021 acquisitions. By adding the projected investments for 2022, the Service des grands parcs should obtain approval for a \$50M long-term loan to complete the first phase of the acquisitions required for the Protection Strategy.

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<sup>19</sup> Out of 40 transactions conducted from 2004 to 2018, the lowest cost per hectare, adjusted for inflation, is 42 times lower than the average adjusted cost per ha, while the highest cost per ha adjusted for inflation is 39 times greater than the average adjusted cost per ha.

<sup>20</sup> These transactions were the subject of official press releases issued by the City, which specified the site surface area and the price of the transaction.

The loan by-law that was approved for this acquisition program is therefore too limited in relation to the objectives of the first phase of the Protection Strategy, or conversely, these acquisition objectives are too ambitious for the investments that were authorized by the Service des grands parcs.

When we drafted our audit report, the Service des grands parcs submitted its investment requirements for the 2020-2022 period to the Commission sur les finances et l'administration.<sup>21</sup> For the natural environment acquisition program, the department says it needs \$37.98M in 2020, \$43.17M in 2021 and \$23.17M in 2022 for a total of \$104.32M over three years. With the addition of \$6.18M projected for 2019, the total investments for 2019-2022 with this new TCEP would be \$110.5M, which is of the same order of magnitude as the projected investments required shown in Table 4. Nonetheless, these are significantly greater investments for the City for 2020 and 2021 than those announced in the 2019-2021 TCEP.

If the 217 ha of natural environments are acquired by the end of 2022, in order to complete the acquisitions provided for in the Protection Strategy (283 ha), again, based on a presumed unit cost of around \$500,000/ha, investments of \$20.2M would be needed every year for a seven-year period, or up to 2029.

The annual amounts in the 2020-2022 TCEP are the most substantial that the Service des grands parcs has ever obtained for this natural environment acquisition program from 2004 to 2018, in which the annual amount approved in different TCEPs varied from \$3M to \$12M. Over this 2004-2018 period, the Service des grands parcs had obtained approval for investments of \$160.5M, but was able to make only 48.7% of the investments (\$78.1M). It has never been as important for the Service des grands parcs to have permission to invest in this program as it is in 2020-2022, but its performance objectives have never been on this large a scale, either.

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<sup>21</sup> On January 15, 2020, the Executive Committee of Ville de Montréal passed two loan by-laws totalling \$106.5M to finance development work on the Grand parc de l'Ouest and purchase properties in order to protect natural environments on the territory of the Montréal agglomeration.

Table 4 – **Budget Required for the 2019-2022 Phase and Theoretical Annual Balance of the 2019-2021 Three-Year Capital Expenditures Program**

YEAR	PROJECTED INVESTMENTS REQUIRED	TOTAL SURFACE AREA (ha)	ESTIMATED UNIT COST	2019-2021 THREE-YEAR CAPITAL EXPENDITURE PROGRAM	THEORETICAL BALANCE
2019	\$6,180,545	35	\$176,587/ha	\$20,000,000	\$13,819,455
2020 <sup>[a]</sup>	\$37,810,000	62	\$609,839/ha	\$20,000,000	-\$3,990,545
2021 <sup>[a]</sup>	\$43,000,000	82	\$524,390/ha	\$20,000,000	-\$26,990,545
2022	\$23,000,000	38	\$605,263/ha	N/A	N/A
<b>TOTAL</b>	<b>\$109,990,545</b>	<b>217</b>	<b>\$506,869/ha</b>		

<sup>[a]</sup> Acquisitions planned for 2020 and 2021 include the 140 ha site that the City acquired in December 2019 for \$73M.

### 3.2. Management of Natural Environments for the Purpose of Maintaining Their Ecological Value

Protecting a natural environment is an ongoing task. It is not enough to enter it in a Directory. It must be maintained so that its ecological value is preserved and it is not invaded by harmful plants that could limit the growth of – and even eradicate – natural native species that make up the richness of the natural environment. For this reason, we sought to determine whether boroughs and the Service des grands parcs carry out ecological management of the protected natural environments in this way.

According to *the Policy*, the purpose of ecological management is to identify and recognize the natural heritage of a site, ensure its protection and its enhancement, maintain its plant and animal biodiversity, detect changes in biophysical resources on the territory and provide practical solutions to the consequences of human and natural disturbances in the ecological balance of the area. There is a planning component, which covers what must be done in the natural environment based on knowledge of the area, and a management component, which covers actions carried out in order to maintain the integrity of the natural environment.

## 3.2.1. Knowledge Update of Natural Environments

### 3.2.1.A. Background and Findings

#### Ecological Audits in Large Protected Parks

An ecological audit consists of an inventory of flora, birds (avifauna), mammals or herpetofauna.<sup>22</sup> Both the *Programme-cadre de la stratégie de conservation et de mise en valeur des milieux naturels dans les parcs existants de l'agglomération de Montréal*, which the Service des grands parcs issued to boroughs in 2008, and the *Programme de gestion des écosystèmes des parcs-nature* specify the frequency at which these ecological audits should be conducted. For the record, flora audits should be conducted every ten years, while audits on mammals, birds or herpetofauna should be conducted every five years. These documents also recommend that the impact of trail use and degradation be evaluated every three to five years.

We obtained from the Service des grands parcs a 2017 assessment of the ecological audits conducted in nature parks and a list of contracts granted from 2015 to 2019 for such audits. We examined the last dates on which ecological audits were conducted in order to determine whether, based on the frequencies recommended by the Service des grands parcs, there were any delays in conducting these audits.

For all the parks for which we obtained information – 10 nature parks<sup>23</sup> plus one Parc métropolitain du Mont-Royal – at the time of our audit, there were delays in conducting at least one type of ecological audit (see Table 5). With the exception of the bird audit, there were delays in all the other types of ecological audits and trail impact studies in most of these large parks. In Parc-nature de l'Anse-à-l'Orme and Parc-nature du Bois-d'Anjou, vegetation audits go back to 2000, or nearly 20 years ago, whereas they should be conducted every 10 years.

At the time of our audit, the Service des grands parcs had just awarded a series of contracts to conduct ecological audits from 2019 to 2021 on vegetation, avifauna, herpetofauna and trail-use impact studies. According to the decision-making summary issued during the awarding of these contracts, the last audits go back to 2009, and for some parks, even back to 2000, which is confirmed by the information that we obtained. And even despite the fact that these ecological audits are planned, for some parks under the responsibility of the Service des grands parcs, the knowledge acquisition updates will still be late (black cells in Table 5).

<sup>22</sup> Fauna consisting of amphibians and reptiles.

<sup>23</sup> The 2017 assessment of the ecological audits that we obtained did not contain any information on Parc-nature des Rapides-du-Cheval-Blanc.

There is therefore a risk, despite the intensification of ecological audits projected for the next few years, that the Service des grands parcs will not have accurate, up-to-date knowledge of the ecological quality of the natural environments under its protection. This could lead to delays in taking steps to maintain the ecological value of these parks.

**Table 5 – Last Ecological Audits Conducted in Large Parks and Dates of Next Audits According to the Frequency Recommended by the Service des Grands Parcs, du Mont-Royal et des Sports**

NATURE/ METROPOLITAN PARKS	VEGETATION		AVIFAUNA		HERPETOFAUNA		MAMMALS		TRAILS	
	DONE	DUE	DONE	DUE	DONE	DUE	DONE	DUE	DONE	DUE
Anse-à-l'Orme	2000	2010 <sup>[a]</sup>	2017	2022	N/A	Due	2015	2020	2008 <sup>[e]</sup>	2013
Bois-d'Anjou	2000	2010	N/A	Due	N/A	Due	N/A	Due		2013
Bois-de-l'Île-Bizard	2015	2025	2015	2020	2015	2020	N/A	Due		2013
Bois-de-Liesse	2012	2022	2015	2020	2015	2020	2015	2020		2013
Bois-de-Saraguay	2010	2020 <sup>[c]</sup>	2017	2022	2018	2023	N/A	Due	2017 2018	2023
Cap-Saint-Jacques	2003	2013	2017	2022	N/A	Due	2015	2020		2023
Île-de-la-Visitation	2006	2016	2017	2022	N/A	Due	2015	2020	2008 <sup>[e]</sup>	2013
Pointe-aux-Prairies	2015	2025	2015	2020	2015	2020	2015	2020		2013
Ruisseau-De-Montigny	N/A <sup>[d]</sup>	Due	2017	2022	N/A	Due	N/A	Due		2013
Bois-de-la-Roche	2017	2027	2015	2020	2017	2022	2017	2022		2013
Parc du Mont-Royal	2006	2016 <sup>[b]</sup>	2014	2019	2015	2020	N/A	Due	2013	

<sup>[a]</sup> The ecological audit was due at the time of our audit, and is planned between now and 2021.

<sup>[b]</sup> The ecological audit was due at the time of our audit, but no new audit is planned.

<sup>[c]</sup> White cells with the year in boldface indicate that a new audit is already planned between now and 2021.

<sup>[d]</sup> In the absence of information, we concluded that no ecological audit had ever been undertaken and that it was necessary to conduct one.

<sup>[e]</sup> Studies were conducted in 1996, 2001 and 2007–2008 in the nature parks. We considered the last study (2008) to cover all parks (a conservative approach).

## RECOMMENDATION

**3.2.1.B.** We recommend that the Service des grands parcs, du Mont-Royal et des sports increase the pace at which it conducts ecological audits and trail-use impact studies in parks for which it is responsible, in order to ensure that knowledge acquisition work is carried out at a frequency that is in keeping with the values provided for in the ecological management program of nature park ecosystems and enables the Service des grands parcs, du Mont-Royal et des sports to adequately plan actions required to maintain their ecological value.

## BUSINESS UNIT'S RESPONSE

**3.2.1.B.** *Service des grands parcs, du Mont-Royal et des sports*

*[TRANSLATION] Continue to conduct 2019-2021 ecological audits in accordance with current plans.*

*(Planned completion: action is currently being taken)*

*Analyze and confirm these frequencies as well as the focus of ecological audits in order to optimize our practices while ensuring the achievement of objectives aimed at maintaining ecological integrity by 2022, when the awarding of the next ecological audit contracts is scheduled.*

*(Planned completion: November 2021)*

## Ecological Audits in Local Protected Parks

Of the three boroughs audited, Rivière-des-Prairies–Pointe-aux-Trembles borough is the one with the most local parks that already contribute to achieving the 10% natural environment protection target, but it did not have an ecological management plan for its protected parks, nor has it undertaken an ecological audit. The borough states that the natural environment of Parc René-Masson should be characterized, but at the time of our audit, no contract had been granted for this purpose.

Mercier–Hochelaga-Maisonneuve borough and Saint-Laurent borough both have a history of ecological audits of local parks that currently contribute to achieving the 10% natural environment protection target. Table 6 shows the history of ecological audits of local parks in the boroughs audited. In order to comply with the frequency recommended by the Service des grands parcs, ecological audits must be conducted for Parc du Boisé-Jean-Milot for birds, herpetofauna and mammals. In the case of Boisé du parc Marcel-Laurin, only the bird audit is late. It is worth highlighting, however, that new ecological audits for herpetofauna and mammals will already be due in 2020 and 2021, respectively. No recent ecological audit was brought to our attention for a local park, Parc Thomas-Chapais, in Mercier–Hochelaga-Maisonneuve borough, which is the second local park in this borough contributing to achieving the 10% natural environment protection target.

Just as we mentioned above, for the Service des grands parcs, there is a risk that the boroughs audited, and to a lesser extent Saint-Laurent borough, will not have accurate, up-to-date knowledge of the ecological quality of the natural environments under their protection. This could lead to delays in taking steps to maintain the ecological value of these parks.

**Table 6 – Last Ecological Audits Conducted in Protected Local Parks of the Boroughs Audited**

LOCAL PARKS CONTRIBUTING TO ACHIEVING THE 10% TARGET	VEGETATION		AVIFAUNA		HERPETOFAUNA		MAMMALS		TRAILS	
	DONE	DUE	DONE	DUE	DONE	DUE	DONE	DUE	DONE	DUE
Rivière-des-Prairies–Pointe-aux-Trembles borough	N/A <sup>[a]</sup>	Due	N/A	Due	N/A	Due	N/A	Due	N/A	Due
Parc Thomas-Chapais (Mercier–Hochelaga-Maisonneuve)	N/A	Due	N/A	Due	N/A	Due	N/A	Due	N/A	Due
Boisé Jean-Milot (Mercier–Hochelaga-Maisonneuve)	2015	2025	2004	2009 <sup>[b]</sup>	N/A	Due	2004	2009	2018 <sup>[c]</sup>	2023
Boisé du parc Marcel-Laurin (Saint-Laurent)	2014	2022 <sup>[d]</sup>	2009	2014	2015	2020	2016	2021	2018 <sup>[e]</sup>	2019

<sup>[a]</sup> No information was available for this park for this type of ecological audit. In our analysis, it was treated as if no audit of this type had yet been conducted. It is therefore necessary to conduct one.

<sup>[b]</sup> The ecological audit was due at the time of our audit.

<sup>[c]</sup> Every year, non-profit organizations (NPOs) organize volunteer cleaning and trail-restoration activities in these local parks.

<sup>[d]</sup> Under the ecological management plan for Boisé du parc Marcel-Laurin this audit should be conducted every eight years.

<sup>[e]</sup> Under the ecological management plan for Boisé du parc Marcel-Laurin, trail-use impact studies should be undertaken twice a year.

## RECOMMENDATION

3.2.1.C. We recommend that Saint-Laurent borough plan ecological audits starting immediately for Boisé du parc Marcel-Laurin in order to ensure that this knowledge acquisition work is carried out at a frequency that is in keeping with the values set out in the parks' ecological management plan.

## BUSINESS UNIT'S RESPONSE

### 3.2.1.C. *Saint-Laurent borough*

*[TRANSLATION] Saint-Laurent borough intends to plan ecological audits for Boisé du parc Marcel-Laurin in order to ensure that the knowledge acquisition work is carried out at a frequency in keeping with the values set out in the ecological management plan for this park.*

*(Planned completion: November 2020)*

## RECOMMENDATION

**3.2.1.D.** We recommend that Mercier–Hochelaga-Maisonneuve borough and Rivière-des-Prairies–Pointe-aux-Trembles borough establish an ecological knowledge acquisition program that complies with the frequency recommended in the *Programme-cadre de la stratégie de conservation et de mise en valeur des milieux naturels dans les parcs existants de l'agglomération de Montréal* for each park under their responsibility that contributes to achieving the 10% natural environment protection target in order to ensure that they maintain their ecological value.

## BUSINESS UNITS' RESPONSE

### **3.2.1.D. Mercier–Hochelaga-Maisonneuve borough**

*[TRANSLATION]* The borough plans to establish an ecological knowledge acquisition program that complies with the recommended frequencies for Parc du Boisé Jean-Milot and Parc Thomas-Chapais.

**(Planned completion: studies for upgrading our knowledge April to December 2020)**

Initially, in the course of 2020, the borough will upgrade its knowledge about the two parks in question. Ecological audits will be conducted in the areas that need to be studied for Parc du Boisé Jean-Milot (avifauna, herpetofauna and mammals) and for Parc Thomas-Chapais (vegetation, avifauna, herpetofauna, mammals and trails).

Subsequently, to maintain our level of knowledge about the ecological value of the two parks, audits will be conducted at the recommended frequencies: every ten years for vegetation studies and every five years for studies on avifauna, herpetofauna, mammals and the state of trails.

**(Planned completion: renewal of studies at the recommended frequencies: starting in 2021, and every year thereafter, in accordance with the schedules provided for)**

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### **Rivière-des-Prairies–Pointe-aux-Trembles borough**

*[TRANSLATION]* Pursue ecological characterization studies covering from 10 to 15 local parks and sites, calling on the services of specialized outside firms, and provide for the budgets required for these contracts on the basis of budget availability.

**(Planned completion: in progress and on an ongoing basis – November 2023)**

## 3.2.2. Development and Implementation of an Ecological Management Plan

### 3.2.2.A. Background and Findings

#### Ecological Management Plan for Large Protected Parks

According to Appendix 1 of the Guidelines, the ecological management plan regulates how the protected natural environment is managed. It must be based on previous ecological audits and present an environmental action program and a monitoring program to evaluate the evolution of the natural environment (a program for updating ecological audits, a trail-use study, more ad hoc observations of the presence of at-risk plant or animal species or the presence of invasive species). The plan must specify various types and frequencies of actions to be carried out in order to maintain the ecological value of the area.

For large parks that are considered protected natural areas, a process had been undertaken in 2014 to provide Parc Angrignon (an urban park), Parc-nature du Cap-Saint-Jacques and Parc-nature de la Pointe-aux-Prairies (nature parks), and Parc du Mont-Royal (a metropolitan park), with such ecological management plans, but the final result never saw the light of day because of changes in priorities and staff allocation. Consequently, at the time of our audit, no large park under the responsibility of the Service des grands parcs that contributed to achieving the 10% natural environment protection target had an ecological management plan.

Following the new ecological audits, which are scheduled to be conducted from 2019 to 2021 in various nature parks and one metropolitan park, the Service des grands parcs plans to develop ecological management plans for Parc-nature du Bois-de-Saraguay (2020) and Parc-nature du Cap-Saint-Jacques (2020) nature parks, one urban park, Parc Angrignon (2020), one metropolitan park, Parc du Mont-Royal (2021), and Parc-nature de l'Île-de-la-Visitation (2021) and Parc-nature de la Pointe-aux-Prairies (2022) nature parks.

The fact that there is currently no ecological management plan in parks under the responsibility of the Service des grands parcs does not mean that this department does not undertake upkeep and maintenance work in these protected natural areas to ensure their ecological value. In fact, we obtained a list of ecological maintenance contracts covering various parks under the responsibility of the Service des grands parcs from 2015 to 2019.

Despite the plan introduced by the Service des grands parcs to provide six parks under its responsibility with an ecological management plan by 2022, several other natural environments for which the Service des grands parcs is responsible will not be covered by such a plan at the end of the 2022 fiscal year. We know that the Service des grands parcs is responsible for 30 of the sites that currently contribute

to achieving the 10% natural environment protection target<sup>24</sup>, only a fraction of which (20%) will be regulated by an ecological management plan if the Service des grands parcs adheres to its work plan. In order to ensure that the ecological value of protected natural environments is preserved, we think it is crucially important that the maintenance of all sites for which the Service des grands parcs is responsible be regulated.

## RECOMMENDATION

**3.2.2.B. We recommend that the Service des grands parcs, du Mont-Royal et des sports develop an ecological management plan for each protected natural environment under its responsibility in order to ensure that they are maintained and monitored to preserve their ecological value.**

## BUSINESS UNIT'S RESPONSE

**3.2.2.B. Service des grands parcs, du Mont-Royal et des sports**

*[TRANSLATION] Prepare two ecological management plans (Parc-nature du Bois-de-Saraguay and Parc-nature du Cap-Saint-Jacques) and have them adopted by the authorities. (Planned completion: November 2020)*

*Provide the planning for the production and adoption of ecological management plans for the entire network of large parks.*

*(Planned completion: May 2020)*

## Ecological Management Plan for Local Protected Parks

As mentioned above, Bois  du parc Marcel-Laurin in Saint-Laurent borough is the only natural environment already contributing to achieving the 10% natural environment protection target that has an ecological management plan. Some of the activities set out in the ecological management plan of Bois  du parc Marcel-Laurin are implemented annually by a NPO. The organization's work involves two components. First, it handles the ecological development (conservation and enhancement) of the woodland, helping to protect and increase the biodiversity of the area by controlling invasive species and planting native vegetation to restore wildlife habitats. Second, it handles maintenance of the woodland, i.e., upkeep of trails and interpretation panels and infrastructure repair.<sup>25</sup>

<sup>24</sup> In addition to the 16 large parks presented in Appendix 5.2 as protected natural environments under the responsibility of the Service des grands parcs, the database of sites that currently contribute to achieving the 10% natural environment protection target contains 14 other protected sites under the responsibility of this department, including, for example, nature reserves of  le-Bonfoin,  le-M nard and  le Cadastre 150.

<sup>25</sup> A distinction must be made between the upkeep of trails, which can be described as physical maintenance, and the ecological maintenance covered by an ecological management plan or the ecological development done by the NPO.

None of the natural environments that contribute to reaching the 10% natural environment protection target under the responsibility of Mercier–Hochelaga-Maisonneuve and Rivière-des-Prairies–Pointe-aux-Trembles boroughs has such a management plan.

While there is no ecological management plan for Parc du Boisé-Jean-Milot in Mercier–Hochelaga-Maisonneuve borough, which is somewhat similar to the situation of Boisé du parc Marcel-Laurin, the borough has entrusted some of the maintenance activities of the woodland to an NPO since before 2015. This organization organizes and manages maintenance activities of the woodland and trails, including clean-up, development and planting work.

Since Boisé du parc Marcel-Laurin is the only one that both contributes to achieving the 10% natural environment protection target and has an ecological management plan, and considering that it is the only protected natural environment that falls under the responsibility of Saint-Laurent borough, we concluded that the other two boroughs audited did not follow the requirements established in 2008 in connection with the creation of the Directory and contribution to achieving this target.

We questioned whether the Service des grands parcs, as the entity responsible for *the Policy* and the Protection Strategy, ensured that boroughs carry out ecological maintenance supported by a plan for the ecological management of protected natural environments under their responsibility.

In the Background section, we described a process undertaken by the Service des grands parcs in 2008 to establish an assistance program for the ecological management of local parks for the purpose of supporting boroughs in the conversion of local parks into protected natural environments, largely through technical expertise, financing and assistance in carrying out development work. However, this initiative, which was to last from 2010 to 2014, was never launched. The Service des grands parcs states that it now wants to develop a guide, by 2020, to help boroughs manage their protected natural environments. Yet at the time of our audit, the Service des grands parcs was not supporting boroughs in the development of ecological management plans and did not require them to report on maintenance work in the protected natural environments for which they were responsible.

## RECOMMENDATION

3.2.2.C. We recommend that Mercier–Hochelaga-Maisonneuve and Rivière-des-Prairies–Pointe-aux-Trembles boroughs develop and implement ecological management plans for each natural environment under their responsibility that contributes to achieving the 10% natural environment protection target in order to ensure that the ecological value of these sites is maintained.

## BUSINESS UNITS' RESPONSE

### 3.2.2.C. *Mercier–Hochelaga-Maisonneuve borough*

*[TRANSLATION] Ecological management plans for Parc du Boisé Jean-Milot and Parc Thomas-Chapais will be developed starting in April 2020. The plans will be prepared concurrently with the acquisition of knowledge during audits that will be conducted in 2020. (Planned completion: December 2020)*

*Ecological management plans will be implemented starting in 2021.*

***Parc du Boisé Jean-Milot:** the ecological management plan will be implemented on an annual basis through a service contract with a non-profit organization specializing in ecological management.*

***Parc Thomas-Chapais:** the ecological management plan will be implemented by the borough's Division de l'horticulture et des parcs. In 2021, the employees assigned to this work will receive training that is in line with the requirements of the ecological management plan, in order to learn the appropriate work methods.*

*(Planned completion: starting in 2021)*

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### *Rivière-des-Prairies–Pointe-aux-Trembles borough*

*[TRANSLATION] Outsource contracts for the development of ecological management plans based on the results of ecological characterization studies showing the preservation and development potential of natural environments and provide for the budgets required on the basis of budget availability.*

*Implement a collaboration and follow-up protocol with the City's Direction des grands parcs et du verdissement.*

*Determine the stewardship and maintenance activities to be done internally or outsourced. (Planned completion: November 2023)*

### 3.2.3. Budget Availability for Ecological Management

#### 3.2.3.A. Background and Findings

##### Cost Evaluation of Ecological Management of Large Protected Parks

In order to be able to implement an ecological management plan and in order to conduct regular ecological audits and conduct ecological maintenance work in protected natural environments, it is necessary to have a recurring budget. We therefore sought to determine, first, whether the Service des grands parcs had evaluated the cost per ha that had to be provided for every year in order to carry out all these actions, and second, whether the department's budget provided for a recurring total amount for all the protected areas under its responsibility.

During a presentation given to the Comité corporatif de gestion des projets d'envergure<sup>26</sup> (CCGPE) in 2019, the Service des grands parcs stated that minimum annual expenditures of \$1,000/ha are necessary to maintain the value of natural environments by limiting encroachments and excessive degradation of these areas and to intervene in cases where public safety is threatened, for example, by felling dead trees that have become dangerous.<sup>27</sup> This cost also includes regular ecological audits.

In its 2019 presentation to the CCGPE the Service des grands parcs estimated that, based on this annual unit cost, with the 314 ha of natural areas acquired from 2004 to 2018, a recurring annual budget of \$314,000 would be needed. With the acquisitions projected between now and 2021, the Service des grands parcs estimated that it would need \$518,000 per year to conduct ecological maintenance work in all the natural environments that will have been acquired by then. Yet this evaluation takes into account only what the Service des grands parcs has acquired since *the Policy* came into effect in 2004, and it excludes large urban parks that contribute to achieving the 10% natural environment protection target (Parc Angrignon, Parc Frédéric-Back, Parc du Troisième Sommet, Parc du Mont-Royal, Parc des Rapides) and nature parks with the composition they had prior to 2004. As of October 2019, according to the database of the Service des grands parcs, this department was responsible for a total surface area of protected natural environments of 2,238 ha.<sup>28</sup> As of now, based on the estimate provided by the Service des grands parcs of the unit cost for ecological maintenance, an annual budget of \$2.2M would be needed to ensure that the ecological value of the protected natural environments under the responsibility of the Service des

<sup>26</sup> The CCGPE consists of the director general of the City, the deputy directors general, the director of the Service des finances and the director of the Bureau des projets et des programmes d'immobilisations. No elected official sits on this committee.

<sup>27</sup> This expenditure does not include maintenance of buildings, parking areas and picnic areas. In 2017, the Service des grands parcs granted a series of 36-month contracts for \$5.06M for this infrastructure maintenance in nature parks, of which 924 ha are accessible to the public. This yields an annual unit cost of \$1,823/ha-year.

<sup>28</sup> Total surface area listed in the database of the Service des grands parcs as of September 2019 for the 30 protected natural environments for which it is responsible.

grands parcs is maintained. Moreover, considering that this department intends, through the Protection Strategy, to eventually acquire an additional 500 ha, the annual maintenance costs would then climb to \$2.7M. But in an interview, the Service des grands parcs told us that these ecological maintenance costs are not specifically provided for in the department's operating budget. Furthermore, the exercise that we performed here to assess how much it would cost the Service des grands parcs per year, at the end of the period covered by the Protection Strategy, to carry out ecological maintenance of the natural environments under its responsibility, was not performed by this department when it developed the strategy. It should also be noted that when elected officials pass a resolution authorizing the City to acquire a site for the purpose of protecting a natural environment, the decision-making summary that is presented to them does not address the concept of recurring costs for ecological maintenance. In our opinion, this is relevant information that they should have in order to make an informed decision.

We also attempted to assess how much the Service des grands parcs would spend every year on ecological maintenance of the natural environments under its responsibility. This department had not performed such an exercise but provided us with ecological maintenance costs for each nature park, the metropolitan park Parc du Mont-Royal, and the urban parks Parc Angrignon, Parc des Rapides, Parc Frédéric-Back, Falaise Saint-Jacques and Coulée Grou, from 2015 to 2019, specifying whether the expense had been paid out of the operating budget or the TCEP. By weighting all these costs by the surface area of each of the natural environments concerned, we established an estimate of the annual unit cost of ecological maintenance of large parks (see Table 7).

Overall, we noted that since 2015, there has been an increase in the ecological maintenance spending paid out of the operating budget of the Service des grands parcs.<sup>29</sup> In 2019, it was 5.4 times greater than in 2015. The year for which our estimate of the annual unit cost is the highest (\$328/ha-year) is 2019; this however, was only one third of the figure that the Service des grands parcs announced to the CCGPE in 2019. In our estimate, the average value for the last five years (\$152/ha-year) is 6.6 times lower than this target value of \$1,000/ha-year.

This estimate of the annual unit cost for ecological audits and maintenance of large parks, which are paid out of the operating budget of the Service des grands parcs, is in addition to expenses for other audits and ecological maintenance work that were carried out within the framework of development projects and were therefore paid by the Development TCEP. In the same way as we estimated the annual unit cost in the operating budget, we estimated an annual unit cost of \$217/ha-year paid by this TCEP for an estimated total of \$369/ha-year for the ecological maintenance of large parks that are considered protected natural environments.

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<sup>29</sup> The unit cost of ecological maintenance paid out of the operating budget dropped significantly in 2018, not because the total maintenance expenses were low – they were the second highest over the 2015-2019 period – but because they were associated with a large number of parks and therefore with a much larger total surface area.

Considering that no expense is specifically provided for in the operating budget for ecological maintenance of protected natural environments, we think it is difficult for the Service des grands parcs to ensure that it will be able to maintain the ecological value of these natural environments in the future. Furthermore, while the Service des grands parcs spends significantly less on average for that ecological maintenance than what it says is the target value, it was unable to specify the manner in which this figure of \$1,000/ha-year had been established. We therefore think it is necessary for the Service des grands parcs to carry out an exercise to assess the actual financial requirements for ecological maintenance of these natural environments.

**Table 7 – Estimate of Unit Costs of Ecological Audits and Maintenance Work in Nature Parks, Urban Parks and Metropolitan Parks**

<b>YEAR</b>	<b>OPERATING BUDGET</b>	<b>THREE-YEAR CAPITAL EXPENDITURES PROGRAM DEVELOPMENT</b>	<b>TOTAL</b>
2015	\$61/ha-year	\$414/ha-year	\$475/ha-year
2016	\$113/ha-year	\$268/ha-year	\$381/ha-year
2017	\$168/ha-year	\$257/ha-year	\$425/ha-year
2018	\$92/ha-year	\$146/ha-year	\$238/ha-year
2019	\$328/ha-year	\$0/ha-year	\$328/ha-year
<b>AVERAGE</b>	<b>\$152/ha-year</b>	<b>\$217/ha-year</b>	<b>\$369/ha-year</b>

## RECOMMENDATION

3.2.3.B. We recommend that the Service des grands parcs, du Mont-Royal et des sports reevaluate the annual costs per hectare for the acquisition of knowledge and ecological maintenance of natural environments for which it is responsible, and provide for this recurring amount in its annual budget in order to ensure that it is able to carry out the work required to maintain the ecological value of these natural environments.

## BUSINESS UNIT'S RESPONSE

3.2.3.B. *Service des grands parcs, du Mont-Royal et des sports*

*[TRANSLATION] Evaluate the annual costs per hectare for the implementation of all the priorities of the ecosystem management program (knowledge acquisition, actions and monitoring):*

- *Annual recurring budget;*
- *Budget associated with the restoration of ecosystems after ash trees were cut down (funded by the TCEP for urban forest land).*  
*(Planned completion: August 2020)*

## RECOMMENDATION

3.2.3.C. We recommend that the Service des grands parcs, du Mont-Royal et des sports add to its decision-making summary, with respect to the acquisition of sites for the purpose of protecting their natural environments, an estimate of the annual costs that must be provided for in the department's annual budget for ecological maintenance and knowledge acquisition about the sites in order to maintain their ecological value, so that elected officials have comprehensive information on the financial impacts resulting from the acquisition.

## BUSINESS UNIT'S RESPONSE

3.2.3.C. *Service des grands parcs, du Mont-Royal et des sports*

*[TRANSLATION] Enter the budgets for all acquisitions in the summaries, starting in 2020. (Planned completion: starting on August 31, 2020, for all subsequent summaries)*

## **Cost Evaluation of Ecological Management of Local Protected Parks**

Boroughs must assume the costs associated with the ecological management of protected natural environments for which they are responsible. Although maintenance expenditures are made both internally and externally, the three boroughs audited said that they have no specific budget item for ecological management of protected natural environments that fall under their responsibility. The absence of a defined budget allocated to ecological management of local parks puts boroughs at risk of being unable to acquire the knowledge required to plan subsequent maintenance work, let alone to carry out this maintenance work. Depending on the priorities assigned to various projects in the borough, excessive postponement of the ecological management of a natural environment due to lack of budget would lead to the loss of the site's ecological value, including as the result of a proliferation of invasive plants.

Some of the maintenance activities of Parc du Boisé-Jean-Milot in Mercier-Hochelaga-Maisonneuve borough, as well as some of the maintenance and development activities of Boisé du parc Marcel-Laurin in Saint-Laurent borough, as mentioned above, are undertaken by NPOs. We attempted to quantify the costs of these agreements in order to assess what it might cost a borough every year to maintain the ecological value of a site, knowing that in 2008, the Service des grands parcs presented boroughs the case of Verdun borough, which entrusted an NPO with the ecological maintenance of a park, involving maintenance and inspection of the park, detecting disturbances in the environment, organizing work and volunteers and seeking funding, for the amount of \$2,500/ha-year.

The agreement between the NPO and Saint-Laurent borough covers the physical maintenance of the woodland (upkeep of trails and interpretation panels, infrastructure repair and eradication of invasive plants in developed areas, which, according to the Service des grands parcs, is similar to the work that Verdun borough entrusted to an NPO in 2008), as well as the ecological development (ecological maintenance), conservation and ecological enhancement of the site (which is more in line with what the Service des grands parcs does through its ecological audits and its ecological maintenance activities). For Parc du Boisé-Jean-Milot, the agreement between the NPO and Mercier-Hochelaga-Maisonneuve borough is similar to the maintenance component of work carried out in Boisé du parc Marcel-Laurin Park. We examined the agreements with these NPOs for the period from 2015 to 2019 in order to identify their average annual unit costs (see Table 8).

**Table 8 – Summary of Estimates of Unit Costs of Ecological Audits and Maintenance Work and Unit Costs of Physical Maintenance Work of Protected Large Parks and Local Parks**

NATURE OF WORK	ESTIMATE OF UNIT COSTS FOR LARGE PARKS	ESTIMATE OF UNIT COSTS FOR LOCAL PARKS
Audits and ecological maintenance works	\$369/ha-year	\$878/ha-year
Physical maintenance	\$1,823/ha-year	\$3,258/ha-year <sup>[a]</sup>
<b>TOTAL</b>	<b>\$2,192/ha-year</b>	<b>\$4,130/ha-year</b>

<sup>[a]</sup> The estimate of unit costs of the physical maintenance of local parks falling under the responsibility of the boroughs is of the same order of magnitude as the updated annual unit cost for Verdun borough.<sup>30</sup>

Since the estimated annual unit cost of ecological audits and maintenance work in boroughs is more than double what the Service des grands parcs provides for on average, we think it is probable that an insufficient number of ecological audits are conducted and an insufficient amount maintenance work is undertaken in large parks that are considered protected natural environments. This is also borne out by the discrepancy between this estimate of \$369/ha-year and the projected cost of \$1,000/ha-year reported by the Service des grands parcs.

Considering that some ecological and physical maintenance activities are carried out by NPOs that can benefit from other sources of income (foundations and companies) to carry out the work, these unit costs must be considered the minimum amount that boroughs should invest. In view of this total annual unit cost of ecological audits and maintenance and physical maintenance, and in view of the total surface area of the protected natural environments for which the three boroughs audited are responsible, the minimum expenses provided for in these boroughs' operating budgets should be of the order of \$87,000/year for Mercier-Hochelaga-Maisonneuve borough (21.17 ha), \$178,000/year for Rivière-des-Prairies-Pointe-aux-Trembles borough (43.31 ha) and \$65,000/year for Saint-Laurent borough (15.97 ha).

<sup>30</sup> The cost of \$2,500/ha-year in 2008 was adjusted for 2018 to take into account the consumer price index for the services in the Montréal region, which saw a 22.8% increase from 2008 to 2018.

## RECOMMENDATION

**3.2.3.D.** We recommend that Mercier–Hochelaga-Maisonneuve, Rivière-des-Prairies–Pointe-aux-Trembles and Saint-Laurent boroughs set aside a specific amount in their annual budgets for the ecological development and physical maintenance of local parks that are under ecological management and contribute to achieving the 10% natural environment protection target so that it is able to carry out, on an annual basis, the work required to maintain and preserve the ecological value of these natural environments.

## BUSINESS UNITS' RESPONSE

### **3.2.3.D. Mercier–Hochelaga-Maisonneuve borough**

*[TRANSLATION] The borough has funds available for contracting professional firms to conduct the necessary studies so that it can decide on an action plan for maintaining natural environments.*

*Maintenance of these natural areas will be done by committed volunteers, non-profit organizations, and a team of blue-collar workers and foremen who are aware of the importance of these spaces.*

***(Planned completion: completed)***

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### **Rivière-des-Prairies–Pointe-aux-Trembles borough**

*[TRANSLATION] Make representations and formulate recommendations to the management of Rivière-des-Prairies–Pointe-aux-Trembles borough.*

*Create separate budget allocations specifically for the ecological management of the sites identified.*

*Depending on budget availability, grant recurring budgets based on the ecological management plans that will have been developed.*

***(Planned completion: August 2020)***

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### **Saint-Laurent borough**

*[TRANSLATION] Saint-Laurent borough plans to set aside a specific amount in its annual budget for ecological development and physical maintenance of local parks that are under ecological management and contribute to achieving the 10% natural environment protection target so that it will be able to carry out, on an annual basis, the work required to maintain and preserve the ecological value of natural environments.*

***(Planned completion: February 2021)***

### **3.3. Accountability Reporting Regarding Protection of Natural Environments**

#### **3.3.1. Accountability Reporting Regarding Achieving the 10% Natural Environment Protection Target**

##### **3.3.1.A. Background and Findings**

There is no obligation in connection with the Schéma d'aménagement to submit accountability reports on the progress made towards achieving the 10% natural environment protection target. Nonetheless, in view of the investments required by both the agglomeration and the City, we sought to determine whether the Service des grands parcs had established an accountability reporting process.

We were provided evidence that at least once a year, or even twice a year, the Service des grands parcs gives a presentation to a City authority – the City's Executive Committee, the CCPE or the CCGPE – on which various elected officials sit. During these presentations, the Service des grands parcs addresses developments in investments, developments in achieving the 10% target, and estimates of future financial needs. The Service des grands parcs also responds on an ad hoc basis to elected officials' questions about resolutions to be adopted by the City council or the urban agglomeration council.

The Guidelines for entering and managing designated sites in the Directory require that once a year, the Service des grands parcs submit to the urban agglomeration council a report describing the protection status of natural environments on the territory, progress made in making entries in the Directory and the monitoring of actions that may have been carried out on protected municipal sites. This monitoring involves a series of measures to be implemented in order to avoid any net loss of surface area if work is carried out in the natural environment. During the period covered by our audit, the Service des grands parcs did not produce any such annual report for the urban agglomeration council. Yet we obtained a record of some of the questions that mayors of related municipalities asked the Service des grands parcs, some of whom wanted to know how much progress the City had made towards reaching the 10% natural environment protection target. An annual report of this type would have provided them with this information.

Considering that the Guidelines state that the Directory is intended “to formally identify all sites[...], with varying surface areas and compositions, that are dedicated to the protection, maintenance and/or enhancement of biodiversity on the territory of the Montréal agglomeration” and that all sites under the responsibility of the Service des grands parcs or a borough that currently contribute to achieving the 10% natural environment protection target should therefore be entered in it (assuming that all these sites meet the three conditions set out in these Guidelines), and not just one site, as is currently the case, then the accountability reports that the Service des grands parcs submits to the urban agglomeration council should be much more extensive.

### RECOMMENDATION

**3.3.1.B. We recommend that the Service des grands parcs, du Mont-Royal et des sports submit a report every year to the urban agglomeration council, as required in the Guidelines for entering and managing designated sites in the Directory in order to comply with this requirement and provide the agglomeration’s elected officials a periodic overview of the progress made towards reaching the target of protecting 10% of the natural environment.**

### BUSINESS UNIT’S RESPONSE

**3.3.1.B. Service des grands parcs, du Mont-Royal et des sports**

*[TRANSLATION] The Service des grands parcs, du Mont-Royal et des sports will have to undertake a review of the Guidelines and the additional tools in the Directory.*

*After that, a report will be submitted to the urban agglomeration council on a yearly basis. (Planned completion: November 2020)*

### RECOMMENDATION

**3.3.1.C. We recommend that the Service des grands parcs, du Mont-Royal et des sports undertake to enter in the Directory the protected natural environments for which it is responsible in order to comply with the Guidelines for entering and managing designated sites in the Directory.**

### BUSINESS UNIT’S RESPONSE

**3.3.1.C. Service des grands parcs, du Mont-Royal et des sports**

*[TRANSLATION] Review the Guidelines for registering and managing sites designated as protected natural environments in order to update the process.*

*Have the revised Guidelines approved by the urban agglomeration council.*

*Produce a plan for registering designated sites that is consistent with the production of ecological management plans.*

*(Planned completion: November 2020)*

## 3.3.2. Accountability Reporting Regarding Ecological Management

### 3.3.2.A. Background and Findings

As mentioned above, according to *the Policy*, one of the objectives of carrying out ecological management of a natural environment is to maintain its plant and animal biodiversity, i.e., its ecological value. Considering that natural environments were acquired through a loan by-law, and that, according to the ministère des Affaires municipales et de l'Habitation, a capital project within the framework of a TCEP is associated with the acquisition of an asset for the purpose of achieving a specific objective, natural environments under the City's responsibility that are protected in this way, either by the Service des grands parcs or the boroughs, should be considered assets that must be maintained in the same way as a building or vehicle.

In this context, since November 2018, a new administrative framework<sup>31</sup> on knowledge of the state of assets requires that each business unit evaluate, at least every five years, the state of all its assets and, on a yearly basis, produce an assessment of the state of assets based on data collected the previous year. This assessment must be submitted to the Direction générale. The directive is the responsibility of the Bureau des projets et programmes d'immobilisations.

However, unlike a building or vehicle, which has a theoretical service life and a replacement value, a natural environment lends itself less well to such an assessment exercise, or at least not with the same parameters. Since this is a new directive, the first assessments must be submitted to the Direction générale no later than January 30, 2020. We think it is necessary to clarify what is meant by an asset in order to determine whether protected natural environments belonging to the City are subject to this new directive.

Concerning the boroughs, all three that we audited state that they are not required to submit accountability reports either to the Direction générale or the Service des grands parcs in connection with ecological management of protected natural environments for which they are responsible. In this context, we think it is difficult for the Service des grands parcs to obtain assurance that the natural environments under the responsibility of the boroughs that contribute to achieving the 10% natural environment protection target are still of adequate ecological value and are covered by the objectives of the *Politique de protection et de mise en valeur des milieux naturels*.

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<sup>31</sup> C-OG-BPPI-D-18-001.

## RECOMMENDATION

3.3.2.B. We recommend that the Direction générale give a verdict on whether a protected natural environment belonging to the City should be considered an asset and is therefore subject to the *Directive sur la connaissance de l'état des actifs*, and if so, ask the business units concerned to provide an annual assessment of the state of protected natural environments for which they are responsible, so that the Direction générale will have an accurate picture of whether the ecological value of these protected natural environments is being maintained.

## BUSINESS UNIT'S RESPONSE

### 3.3.2.B. Direction générale

*[TRANSLATION] The Direction générale is in agreement with this recommendation. In collaboration with the Service des grands parcs, du Mont-Royal et des sports, a reflection process is under way to determine which protected natural environments should be considered as assets and should therefore be subject to the Directive sur la connaissance de l'état des actifs. In view of the special nature of this type of asset, some aspects, including the frequency and the methodology that should be advocated, must be examined in more depth. (Planned completion: November 2020)*

## RECOMMENDATION

3.3.2.C. We recommend that the Service des grands parcs, du Mont-Royal et des sports obtain assurance from boroughs that ecological maintenance work has been done on each natural environment for which they are responsible that contributes to achieving the 10% natural environment protection target in order to ensure that these environments preserve their ecological value and continue to contribute to achieving this target.

## BUSINESS UNIT'S RESPONSE

### 3.3.2.C. Service des grands parcs, du Mont-Royal et des sports

*[TRANSLATION] Implement a toolbox (specifications, protocols, operational methodologies, etc.) for supporting ecological management and preserving the ecological integrity of protected natural environments under the responsibility of boroughs. (Planned completion: August 2020)*

*Establish an ecological maintenance monitoring process for local parks registered as protected. (Planned completion: February 2021)*

## 4. CONCLUSION

The Ville de Montréal (“the City”) wants to protect 10% of all the land on the agglomeration’s territory as natural environments. As of October 2019, 6.1% of the territory is protected in this way. To reach the 10% target, the City alone, through the Service des grands parcs, du Mont-Royal et des sports (“the Service des grands parcs”), aims to protect 1,500 of the 1,930 hectares (10,000 m<sup>2</sup>) (ha), or 77.7% of the effort, by 2030.

Our audit leads us to conclude that the City’s Protection Strategy could theoretically enable it to reach the 10% natural environment protection target in accordance with what is set out in Schéma d’aménagement et de développement de Montréal and the City’s Plan de développement durable. The Service des grands parcs carried out several important actions, in particular, by filing a suit to enforce a right of preemption on 71 lots on the edges of nature parks, which, if the City acquired them, would expand these natural environments, and by acquiring roughly 150 ha of natural environments in Sainte-Anne-de-Bellevue and in Pierrefonds-Roxboro borough in the fall of 2019. However, in the course of these actions, the City did not seek to acquire comprehensive knowledge of potentially protectable natural environments since various local parks under the responsibility of the boroughs or related municipalities identified in the Schéma d’aménagement as having characteristics of natural environments were not recorded by the Service des grands parcs as potentially protectable sites. This knowledge would give the City more leeway in reaching the 10% natural environment protection target. We stress that the Service des grands parcs now needs to establish a specific action plan to implement this process and to communicate to the boroughs and related municipalities the role they will have to play between now and 2030 in order to contribute to achieving the 10% natural environment protection target.

Our audit also leads us to conclude that neither the Service des grands parcs nor the boroughs are adequately equipped, mainly in terms of budget but also in terms of planning work, to undertake ecological maintenance of protected natural environments for which they are responsible and thereby ensure that they maintain their ecological value, which is why there was an interest in protecting these natural environments in the first place.

With the exception of one local park that has a conservation status and an ecological management plan in Saint-Laurent borough, no other natural environment under the responsibility of either the Service des grands parcs or a borough has such an ecological management plan or is entered in the Directory of protected natural environments of the Montréal agglomeration (the “Directory”). This is a case of non-compliance with the Guidelines for entering and managing designated sites in the Directory and the objectives governing the creation of the Directory.

In view of the investments that will be required in the next few years, acquisition of the natural environments required to reach the 10% target could have a major economic impact. Moreover, neither the boroughs nor the Service des grands parcs have recurring budgets allocated to providing ecological maintenance of the protected natural environments, nor did the Service des grands parcs perform the exercise of assessing the recurring financial impact associated with maintaining the ecological value of all the protected natural environments that will fall under the City's responsibility once the 10% natural environment protection target is reached.

In light of these findings, and for the purpose of promoting the protection of natural terrestrial environments in an achievable, economically planned way, we have recommended, in particular, that the business units audited:

- undertake an exercise of identifying all local parks in boroughs and related municipalities that can meet the three conditions set out in the Guidelines for entering and managing designated sites in the Directory of protected natural environments in the Montréal agglomeration, so that they can contribute to achieving the 10% natural environment protection target;
- assign a conservation status to sites for which they are responsible that already contribute to achieving the 10% natural environment protection target (boroughs);
- establish a detailed action plan to implement the Protection Strategy and make all business units aware of the role they must play in it;
- make sure they conduct ecological audits at the prescribed frequencies;
- establish an ecological management plan for each protected natural environment for which they are responsible;
- evaluate the annual costs required to ensure that the ecological value of each protected natural environment for which they are responsible is maintained, and make sure that they have budgets allocated accordingly to carry out this ecological maintenance work;
- submit to the urban agglomeration council annual accountability reports regarding natural environment protection and progress in making entries in the Directory, and produce for the Direction générale, on an annual basis if necessary, an assessment of the state of natural environments, just as they do for any other asset belonging to the City.

Natural environments play several ecological, social and economic roles. In the era of climate change, it is important to preserve them. In the past 15 years, the City has made major progress in this area, but a great deal of effort still needs to be made in order to reach the target that the agglomeration has set for itself in its Schéma d'aménagement et de développement. If the City still hopes to succeed in protecting a sizeable surface area in order to reach this target, we think it is just as important that it acquire the tools and financial resources it will require in order to maintain the ecological value of all these sites over time.

## 5. APPENDICES

### 5.1. Objective and Evaluation Criteria

#### Objective

Ensure that the City has developed a planned and structured procedure for increasing the proportion of land areas that are protected natural environments in order to comply with the Schéma d'aménagement et de développement de l'agglomération de Montréal and the City's Plan de développement durable, and maintain this conservation status.

#### Evaluation Criteria

- The City has an up-to-date inventory of protected and potentially protectable natural terrestrial environments on the agglomeration's territory.
- There is an existing strategy for reaching the target of protecting 10% of the agglomeration's land territory as natural environments, as discussed in the Schéma d'aménagement et de développement.
- An ecological management plan exists, is applied and is documented for sites the City controls in order to ensure that its mission of ensuring land identified as protected natural environments is preserved as such.
- Accountability mechanisms are in place to ensure that the progress towards achieving natural environment status is reported.
- Sufficient recurring budget credits are allocated for the maintenance of existing assets and new assets acquired.

## 5.2. List of large parks considered as protected natural environments

### Metropolitan Parks

- Frédéric-Back
- Mont-Royal
- Tiohtià:ke Otsira'kéhne, pronounced djodjâgué otchira'guén (Troisième Sommet)

### Urban Parks

- Angrignon
- des Rapides

### Nature Parks

- L'Anse-à-l'Orme
- Bois-d'Anjou
- Bois-de-l'Île-Bizard
- Bois-de-Liesse
- Bois-de-Saraguay
- Bois-de-la-Roche (agricultural park)
- Cap-Saint-Jacques
- Île-de-la-Visitation
- Pointe-aux-Prairies
- Ruisseau-De Montigny
- Rapides-du-Cheval-Blanc



# 4.3.

## Management of the *Climate Change Adaptation Plan*

February 24, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Ensure that the measures provided for in the *Climate Change Adaptation Plan for the Montréal Urban Agglomeration (CCAP) 2015–2020* were appropriately planned and were implemented.

# RESULTS

The *CCAP* adopted by the urban agglomeration council in 2015 includes adaptation measures that must be implemented by both the departments and boroughs of the Ville de Montréal (the City) and the related municipalities. Responsibility for this *CCAP* now falls to the Bureau de la transition écologique et de la résilience (BTER), which is currently working on a new Climate plan that will replace the *CCAP*. There are several problems raised by the planning and implementation of these measures. In this regard, we believe that improvements should be made in the following key areas:

- The competencies of the bodies involved in implementing the climate change adaptation measures should be clarified in order to facilitate their execution;
- Governance should be put in place throughout the Montréal agglomeration to support a broader management of climate change adaptation in order to promote the implementation of the *CCAP*;
- The planning of activities surrounding the implementation of the *CCAP* will have to be strengthened in order to provide a clear framework for the choices made (methodology, evaluation of effectiveness, prioritization, targets and indicators, etc.);
- Monitoring mechanisms will have to be more rigorous to allow for the collection of more reliable data for decision-making;
- Knowledge development in the field of adaptation to climate change should be monitored in a structured and organized manner with a view to promoting the creation and implementation of innovative solutions in this field;
- The content of reports needs to be reviewed and accountability reporting needs to be done more frequently to better inform decision makers so that they can take corrective action as quickly as possible.

*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.*



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# LIST OF ACRONYMS

<b>BTER</b>	Bureau de la transition écologique et de la résilience
<b>CCAP</b>	<i>Climate Change Adaptation Plan for the Montréal Urban Agglomeration</i>
<b>CUD</b>	Citizens' Universal Declaration of Climate Emergency
<b>FCM</b>	Federation of Canadian Municipalities
<b>GHGs</b>	Greenhouse gases
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>OQACC</b>	Observatoire québécois de l'adaptation aux changements climatiques
<b>UMQ</b>	Union des municipalités du Québec



## 1. BACKGROUND

In October 2018, the Intergovernmental Panel on Climate Change (IPCC)<sup>1</sup> published a special report on the consequences of global warming of 1.5°C. One of the important messages highlighted in this report is that the consequences of global warming of an average of 1°C are already real (melting ice in the Arctic, sea levels rising and extreme weather events). Climate change is already affecting ecosystems and people around the world. These are significant impacts that already require adaptation measures. According to this report, if the current rate of Greenhouse gases (GHGs) emissions is maintained, the global warming threshold of +1.5°C will be reached between 2030 and 2052.<sup>2</sup>

According to a recent report produced by the Government of Canada (in 2019),<sup>3</sup> over the course of the last 70 years, average temperatures in Canada increased by 1.7°C to 2.3°C<sup>4</sup> depending on the region. In Québec, the average temperature increase is reported to have been 1.1°C during the same period. According to this same report, temperatures is also expected to increase even more in the future.<sup>5</sup> The municipalities recognizes that: *“Due to its northern location, Québec must prepare for a more significant increase in temperatures.”*<sup>6</sup>

Also, in 2017 and 2018, GHGs levels increased globally.<sup>7</sup> This observation also applies to Canada for the period of 2016 and 2017.<sup>8</sup> Furthermore, the more the climate warms, the more the number of climatic events and their impacts increase.

Pursuant to the Paris Accord of 2015, countries agreed to strengthen their capacities to deal with the consequences of climate change.

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<sup>1</sup> The Intergovernmental Panel on Climate Change was established in 1988. It is a place of expertise aimed at synthesizing the work carried out in laboratories around the world. It brings together the expertise of the scientific community on the issue of climate change and the role played by humankind. The IPCC is made up of scientists elected by the plenary assembly to represent the different disciplines and regions of the world.

<sup>2</sup> “Global warming of 1.5°C.” Intergovernmental panel on climate change. Switzerland, October 2018.

<sup>3</sup> “Canada’s Changing Climate Report.” Government of Canada, Environment and Climate Change Canada, 2019 (CCCR-2019).

<sup>4</sup> Ibid., page 117.

<sup>5</sup> Ibid., page 431.

<sup>6</sup> “Changements climatiques : pour des municipalités plus résilientes,” in *Revue Urbana* Le magazine de l’Union des municipalités du Québec (UMQ), vol. 40, no. 01, March 2019, page 20.

<sup>7</sup> “Global Energy & CO2 status report.” International Energy Agency. GECO 2019.

<sup>8</sup> “National Inventory Report 1990–2017: Greenhouse Gas Sources and Sinks in Canada. Canada’s Submission to the United Nations Framework Convention on Climate Change.” Government of Canada, 2019.

Created in 2018, the Global Commission on Adaptation<sup>9</sup> produced a report in September 2019 in which it states that climate change is already happening and that the impacts are becoming more severe each year. Global actions to reduce climate change are promising but insufficient, and significant efforts are needed to adapt to the conditions that are now inevitable, including rising temperatures, rising sea levels, destructive storms, unpredictable heavy rainfall and ocean acidity.<sup>10</sup> Thus, the world can no longer limit itself to trying to reduce GHGs; it is essential that it prepare for the impacts of climate change that are already at work. According to the Global Commission on Adaptation, a dollar invested in climate change adaptation yields significant benefits in terms of mitigating future damage in addition to other technological, economic and environmental benefits.

For example, climate change can take different forms, including extreme heat events in the summer, frequent and/or more intense rainfall causing flooding and severe storms and thunderstorms. These phenomena have impacts on municipalities that can affect different aspects of their communities and their citizens. Moreover, recent events that occurred in Québec municipalities have demonstrated the impacts they can have on infrastructure, economic activity, the built environment, quality of life and citizens' health, not to mention the magnitude of the financial losses and the costs required to restore damaged or destroyed property.

In such a context, adapting<sup>11</sup> to climate change becomes as much a priority as reducing GHGs emissions for governments and municipalities.

Municipalities are the places where people live and work, which is an important factor with respect to the impacts of climate change and the population density in these places. Both organizations representing municipalities and governments recognize that municipalities are front-line players when it comes to addressing the impacts of climate change. Through their role as local governments, they are in a position to manage the risks and measures related to climate change, particularly through land-use planning, building public infrastructure, adopting and enforcing municipal by-laws, implementing emergency response services and operating transportation networks.

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<sup>9</sup> The Global Commission on Adaptation was established in 2018 and validated by the United Nations. It includes several key figures who have held important positions as ministers, chief executive officers or mayors. It is headed by former UN Secretary-General Ban Ki-Moon, Bill Gates and Kristalina Georgieva, the Managing Director of the World Bank. It has been adopted by 17 countries, including Canada, to encourage bold solutions to build resilience to the threats of climate change.

<sup>10</sup> Global Commission on Adaptation. Report titled "Adapt Now: A Global Call for Leadership on Climate Resilience," September 2019, page 3.

<sup>11</sup> Definition of adaptation: Process by which communities and ecosystems adjust to climate change and its associated effects, in order to limit their negative consequences and enjoy their potential benefits. For human environments, adaptation makes it possible to prepare for new climate conditions. In natural environments, plant and animal populations will also adapt, but in a reactive way, and will suffer more negative short-term impacts. Adaptation concerns every level of decision-making (individual, local, regional, national, international) and demands a worldwide and highly integrated approach, as issues affect many sectors and often stretch beyond administrative limits. (Source: Follow-up of the *Climate Change Adaptation Plan (CCAP)*, Ville de Montréal, 2019.)

The governing bodies<sup>12</sup> representing the municipalities have put forward tools for implementing climate change mitigation and adaptation initiatives (guides, funding programs and analyses). Among the municipal priorities identified by the Federation of Canadian Municipalities (FCM) for the 2018 budget was, “*Working together to tackle climate change.*”

In Québec, more than 300 municipalities—representing close to two thirds of Québec’s population, including Montréal’s—have supported the “Citizens’ Universal Declaration of Climate Emergency (CUD).”<sup>13</sup>

The federal government has produced a number of documents for municipalities on climate change adaptation, including guides on the subject.

The Québec government has also produced documents relating to the fight against climate change, including the adoption of the first *Action Plan on Climate Change 2006–2012*, which led to the creation of the *Climate Municipalities Program*. This program includes financial assistance to municipalities for various climate change mitigation projects, including the development of a *CCAP*.

In 2010, the Ville de Montréal (hereinafter the City) applied for financial assistance on behalf of the Montréal agglomeration under phase 2 of this program. The Québec government confirmed financial assistance in the amount of \$1,880,781 that same year. In managing this financial assistance granted by the Québec government, the City acted on its own behalf as well as on behalf of the 13 related municipalities.<sup>14</sup>

Following receipt of this financial assistance, City officials worked on the development of a *CCAP* for the Montréal agglomeration, among other things. In 2012, the City, along with all of the participating related municipalities, signed a financial assistance agreement related to the amount granted by the government after the urban agglomeration council had approved the agreements in 2011.

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<sup>12</sup> The UMQ and the FCM.

<sup>13</sup> The CUD is a document drafted and promoted by a group of environmental activists which is calling for an immediate reduction in GHGs emissions and a transition to a carbon-neutral society.

<sup>14</sup> The Town of Hampstead filed an application for financial assistance directly to the department concerned and is therefore not included in this plan. The Town of Dorval Island is not covered by the plan since it does not have permanent residents and does therefore not meet the requirements for eligibility for financial assistance under the *Climate Municipalities Program*’s normative framework.

In December 2015, the urban agglomeration council adopted the *Montréal CCAP 2015–2020*. The plan includes two main sections, Report and Adaptation Measures, and is structured around three main objectives, namely:

1. *Consolidate all the adaptation measures already in place which contribute to climate change adaptation, even if they do not refer to it;*
2. *Provide relevant, tailored information regarding climate change risks to the 34 municipalities and boroughs included in the Agglomeration's territory and to Central Services;*
3. *Plan the Montréal agglomeration's development as well as maintenance and repair operations while taking into account the constraints associated with climate change.*

The report section presents the diagnosis and the vulnerabilities to climate change facing the Montréal agglomeration. It also presents the observed and anticipated impacts on the population, infrastructure, the natural environment and all activities taking place on the territory of the Montréal agglomeration. This section therefore presents the six climate hazards identified within the Montréal agglomeration, namely:

- higher average temperatures;
- heavy rainfalls;
- heat waves;
- destructive storms;
- droughts;
- river floods.

On the basis of these climate hazards and vulnerability diagnoses, 24 adaptation measures<sup>15</sup> were identified, as presented in Appendix 5.2. The section on adaptation measures includes commitments<sup>16</sup> that the City's departments, the boroughs and the participating related municipalities have chosen to implement in order to respond to these climate hazards to adapt to climate change. For example, with respect to the climate hazard concerning "heat waves," the *CCAP* presents adaptation measure 3.2, which reads as follows: "Provide spaces for people to cool off and avoid exposure to oppressive heat (cooling islands)." In response to this, one borough committed to "Increasing the capacity of air-conditioned public spaces and extending operating schedules during heat waves (libraries, community centres, etc.)."

Globally, for the City's departments, the boroughs and the related municipalities, hundreds of commitments will have to be put in place between now and 2020 in order to successfully implement the *CCAP*.

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<sup>15</sup> In the case of measures, these include both commitments and actions for adaptation.

<sup>16</sup> In the case of commitments, these also include actions for adaptation.

In 2018, the City created the Bureau de la transition écologique et de la résilience (BTER) and placed it in charge of the *CCAP* (which was formerly the responsibility of the Service de l'environnement).

The City is currently at work on the production of a new *Climate Plan* as a successor to the soon-to-expire *CCAP 2015–2020*. This plan was announced at a press conference held in Montréal on June 19, 2019. In December 2019, the Direction générale set its organizational priorities, one of its themes being the ecological transition. In a way, these priorities are part of the City's strategic alignment with Vision Montréal 2030—aimed at creating a common and shared vision of the metropolis for the next decade. The new *Climate Plan* is part of this priority, and it will inspire and guide both individual and collective actions as of the beginning of 2020.

## 2. PURPOSE AND SCOPE OF THE AUDIT

Pursuant to the provisions of the *Cities and Towns Act*, we carried out a resource optimization audit mission on the "*Management of the CCAP*". 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 objective of this audit was to ensure that the measures provided in the *CCAP* were planned appropriately and implemented.

The responsibility of the Auditor General of the Ville de Montréal 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 5.1.

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.

Our audit work covered the period extending from when the urban agglomeration council adopted the *CCAP* in December 2015 up to August 31, 2019. However, certain earlier planning aspects were also examined. Our audit was carried out mainly between September 2019 and January 2020. We also took into account information provided to us up to February 2020.<sup>17</sup>

We carried out most of our work within the following business units:

- Bureau de la transition écologique et de la résilience;
- Service de l'eau;
- Service de l'urbanisme et de la mobilité;
- Ahuntsic-Cartierville borough;
- Île-Bizard–Sainte-Geneviève borough;
- Montréal-Nord borough;
- Pierrefonds-Roxboro borough.

At the end of our work, a draft audit report was presented to the relevant managers in each of the audited business units for discussion purposes. The final report was then sent to the management of each business unit concerned, for the purpose of obtaining action plans and timetables for their implementation, as well as to the Direction générale. A copy of the final report was also sent to the deputy director-general, Mobilité et attractivité, to the deputy director-general, Qualité de vie, to the deputy director-general, Service aux citoyens, and to the city manager, Service de la concertation des arrondissements. Also, a copy of the final report was sent for information purposes to the managers of the boroughs not directly concerned by our audit so that they can implement the recommendations when the situation warrants it.

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<sup>17</sup> The month corresponding to the month in which the last letter of representation was received.

## 3. AUDIT RESULTS

### 3.1. Jurisdiction, Governance, Roles and Responsibilities

#### 3.1.1. Jurisdiction Regarding Adaptation

##### 3.1.1.A. Background and Findings

Jurisdictions are associated with decision-making bodies. For the Island of Montréal, these bodies concern the Montréal agglomeration, the City, the boroughs and the other related municipalities. Jurisdictions could be said to represent the respective responsibilities exercised by these bodies over municipal activities. These jurisdictions are held by the authorities by virtue of laws and regulations delegating authority.

The *CCAP* includes a large number of commitments that the boroughs, the City's departments and the related municipalities have implemented or plan to implement for each of the adaptation measures. These commitments cover a very wide variety of topics. For example, there are commitments relating to land use planning, sports and leisure activities, civil security, the environment and infrastructure maintenance.

In addition, jurisdiction over the budget is also shared among decision-making bodies, making the management of the climate change adaptation process more complex and representing significant constraints.

The urban agglomeration council played a role with respect to these commitments. Indeed, some stem from the modifications made to the *Montréal Urban Agglomeration Land Use and Development Plan* that came into force in April 2015, somewhat before the urban agglomeration council adopted the *CCAP*.

Also, for the purposes of managing the funding and developing the *CCAP*, including the adaptation measures, the City signed an agreement with each of the related municipalities, which includes a series of conditions.

In this context, our audit work consisted namely in verifying whether legal steps had been taken to clarify all the powers of each governing body, including those of the urban agglomeration council, particularly as they relate to climate change adaptation, before the *CCAP* was adopted. Our work also consisted in verifying whether, based on the results of this process, measures had been identified to develop solutions to ensure the adaptation measures were implemented, taking into account the jurisdictions shared between the authorities.

According to information we obtained from BTER staff, no such steps were taken prior to the *CCAP* being adopted. Also, we were unable to locate any documents to this effect. However, we did find documents of a legal nature related to decision-making summaries that have to do mainly with, on the one hand, the review of the agreement between the City and the Québec government for funding under the *Climate Municipalities Program* and on the other hand with the agreements with the related municipalities regarding this funding.

Such an approach seems critical to us for the following reasons:

- Firstly, although the *CCAP* was adopted by the urban agglomeration council, one related municipality did not participate and therefore is not included in the *CCAP*, and another related municipality (Dorval Island) was not included for reasons related to the normative framework of the Québec government's *Climate Municipalities Program*. The 2011 decision-making summary indicates that the Québec government accepted the Town of Hampstead's separate application for financial assistance under the program. Given that not all of the related municipalities were included in the *CCAP*, we deem it important to clarify the jurisdiction of the Montréal agglomeration with respect to climate change adaptation.
- Secondly, the adaptation measures concern a number of different types of subjects that in turn refer to various laws and regulations, jurisdiction over which is shared among the various bodies. It seems important to us that all of the authorities' jurisdictions regarding these subjects be identified and clarified, in order to develop more detailed knowledge of them with a view to developing solutions aimed at ensuring that the adaptation measures are implemented. For example, with regard to the boroughs' jurisdictions, the *Charter of Ville de Montréal* stipulates that city council, when it deems that it is in the general interest of the City, may declare itself as having jurisdiction over all boroughs, for a period of time that it determines, to exercise a power or jurisdiction that is granted under law to all of the borough councils.<sup>18</sup>

Once such a process has been completed, we believe that the BTER will be better able to develop solutions, given the shared jurisdictions between the governing bodies. It will thus be in a position to know the limits of its interventions and the existing means of reinforcing obligations with respect to its interventions.

BTER staff told us that under the new *Climate Plan*, they had recently begun a process aimed at identifying the specific jurisdictions that should be associated with given subjects.

In our opinion, this is a good initiative since it is critical that the BTER take the necessary steps to clarify the jurisdictions of the various bodies with respect to climate change adaptation measures for the reasons outlined above and to ensure that the bodies' roles and responsibilities are clear and known to all.

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<sup>18</sup> CQLR, chapter C-11.4, section 85.5.

## RECOMMENDATION

**3.1.1.B.** We recommend that the Bureau de la transition écologique et de la résilience take the necessary measures to clarify the jurisdictions of the different governing bodies when it comes to climate change adaptation measures, in order to identify the legal or administrative means needed to ensure their implementation.

## RESPONSE

**3.1.1.B.** *The audit report was issued to the business unit concerned between February 3 and 12, 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 May 18, 2020.*

## 3.1.2. Governance, Roles and Responsibilities

### 3.1.2.A. Background and Findings

Governance refers to the set of measures and rules, as well as the decision-making, information and monitoring bodies that ensure an organization's proper functioning and control. This includes providing strategic direction and ensuring that risks are managed, resources are used responsibly and objectives are met. Its role is also to ensure respect for public authorities, citizens and partners. It is based on the following four principles:

- accountability;
- transparency;
- compliance with the law;
- participation.

The business units' roles and responsibilities are part of governance; it is therefore important that these roles and responsibilities be well defined.

As previously mentioned, jurisdiction over the various subjects related to the adaptation measures described in the *CCAP* is shared among the boroughs, the City, the other related municipalities and the Montréal agglomeration. Various laws and regulations govern these responsibilities. As a result, the municipal organizational structure of the territory of the Island of Montréal is complex, making it equally complex to develop and manage climate change adaptation measures. Consequently, this has the effect of limiting the BTER's authority over the boroughs and related municipalities. BTER staff also told us that, in the current situation, it was impossible for them to impose the implementation of the adaptation measures.

For these reasons, we feel it is important to clarify the governing bodies' jurisdictions in relation to adaptation measures and to clearly define the business units' roles and responsibilities.

We therefore sought to verify whether the roles and responsibilities of the business units were clearly defined with respect to certain aspects of the implementation of the adaptation measures, for example, with regard to appointing a person responsible for the adaptation measures, evaluating the measures, monitoring their implementation and developing knowledge.

Our audit work found that not all of the roles and responsibilities, regarding these aspects within the audited business units were clearly defined.

With respect to the existence of an individual responsible for the *CCAP*, we found that there is not always a named or identified person within the business unit. In some cases, a staff member had acted as the lead but had left some time ago. However, no one else had been appointed to assume responsibility for the *CCAP*.

With respect to evaluating the adaptation measures, the staff members with whom we met in the boroughs and the two audited departments had different positions on this issue. For the boroughs, it appears that the BTER would be in the best position to carry out this evaluation. For the departments, the response obtained was less affirmative. In some cases, the department would be able to take on this responsibility and, in other cases, it would be the BTER.

We found that there was not always a clearly identified individual (or individuals) responsible for monitoring the implementation of the adaptation measures and actions and that their responsibilities were not always clearly defined. For example, in two audited boroughs (Île-Bizard–Sainte-Geneviève and Pierrefonds-Roxboro), although people were appointed to respond to us, they told us that they had not been formally designated as responsible for monitoring. In the case of the Service de l'urbanisme et de la mobilité and of the Direction de la Mobilité, no one had been formally appointed to assume responsibility for monitoring. In addition, a member of staff from the Service de l'eau told us that they do not have a clear mandate to monitor the implementation of an adaptation action under the *CCAP*.

We found that responsibility for monitoring aimed at research and knowledge development was not clearly defined within the audited boroughs, the audited departments and the BTER. For example, once an innovative adaptation solution is proposed by a department or a borough, it must be taken in charge with the objective that it be implemented. Our interviews with the staff we met with at the Service de l'eau revealed that this was not clearly defined.

Moreover, the Direction de l'urbanisme has particular expertise in its field and is called upon to provide support to the boroughs and related municipalities. However, the personnel with whom we met at the Direction de l'urbanisme told us that it did not have a specific mandate to produce guides to support boroughs, other municipal departments and related municipalities on aspects related to the implementation of adaptation measures with respect to urban planning.

In our view, it is important that the business units' overall roles and responsibilities in the climate change adaptation process be clearly defined. For example, the Service de l'eau and the Service de l'urbanisme et de la mobilité, in addition to being responsible for implementing certain adaptation commitments, also provide support to the boroughs, other municipal departments and related municipalities. It is important that this responsibility in the adaptation process be clearly defined in order to determine the support they can provide to the boroughs, other departments and related municipalities.

Our audit work also revealed that the City signed financial assistance agreements with each of the participating related municipalities, following the agreement reached with the Québec government concerning the funding obtained under the *Climate Municipalities Program*. The financial assistance agreements provide certain conditions for the development and preparation of the *CCAP*, including the obligation for the related municipality to pass a resolution confirming acceptance of those climate change adaptation measures contained in the *CCAP* that are specific to the related municipality. However, according to BTER staff, not all of the related municipalities have confirmed, by resolution of their municipal council or executive committee, the adaptation measures as provided for in section 4.3.1 of the agreement. It is important to remember that one of the related municipalities did not participate in the *CCAP*. Also, it should be noted that these agreements do not provide for the implementation of adaptation measures and commitments.

We also found in the audited boroughs that the *CCAP* as well as the adaptation measures and commitments contained therein were not well known to all staff members involved in implementing them.

We believe that the involvement of the boroughs, City departments and all related municipalities in the adaptation process should be clearly defined. Organizations such as the Union des municipalités du Québec (UMQ) and the FCM have stated that the municipalities are at the forefront of the impacts of climate change as well as in terms of adaptation responses. It has often been pointed out by various authors and scientists that climate change transcends local boundaries and that action must also be taken at the global level. However, because of its size, structure, leadership and the expertise of its departments in various fields, the City has a significant influence on the design and strategy of climate change adaptations.

Consequently, once the jurisdiction of the concerned bodies has been clarified with regard to adaptation and the roles and responsibilities of the business units have been clearly defined, it is important that the municipal administration identify the means to ensure the involvement of all bodies and business units in the climate change adaptation process to ensure that the adaptation measures are implemented.

For example, these means could include:

- concluding agreements with the related municipalities and boroughs;
- the urban agglomeration council using the means provided for by law (e.g., modification of the Montréal urban agglomeration's land use and development plan and delegation of powers);
- city council using the tools and legal means provided for in the *Charter of Ville de Montréal* (e.g., repatriation of powers, amendment of the *Master Plan*, declaration of a strategic issue and delegation of powers to the boroughs).

In our opinion, in order to improve the management of the climate change adaptation process and the development of these means to ensure that everyone is involved in implementing the adaptation measures, it is essential that governance be established at the level of the territory of the Montréal agglomeration and the City, which should focus on the following aspects:

- a clearly defined set of measures, rules, decision-making and monitoring bodies to ensure proper functioning and control in the implementation of the adaptation measures;
- clear strategic direction provided for climate change adaptation;
- the establishment of mechanisms to ensure that objectives are met, that climate change risks and impacts are mitigated and that resources mobilized in the process of adapting to climate change are used responsibly;
- governance oriented so as to respect citizens, public authorities and partners.

In addition, this governance should aim to:

- obtain the commitment of the bodies and business units to achieving individual and collective results, i.e., for the entire Montréal agglomeration;
- develop a common vision and understanding of the objectives to be achieved;
- achieve results and share these results among all of the actors involved.

Finally, during the course of our audit work, we retraced a written note, sent by the BTER to the City's boroughs in July 2019, concerning the development of a new *Climate Plan*. The note stated that "... the BTER team is preparing the agglomeration's next *Climate Change Adaptation Plan*, which will address the reduction of greenhouse gas emissions from the community and municipal activities as well as adaptation to climate change." However, a BTER staff member told us in December 2019 that, as part of the next *Climate Plan*, the related municipalities will be met and invited to participate in achieving all of the actions of the new *Climate Plan*. They could therefore possibly be parties to the Montréal agglomeration's *Climate Plan*.

We are puzzled by this situation since, in the case of the *CCAP* adopted in 2015, the City was acting on its own behalf and on behalf of the participating related municipalities. In addition, in the *Climate Municipalities Program*, which provided the City with funding for the development of the *CCAP*, the Québec government states:

*“The successful implementation of an action plan and, where applicable, an adaptation plan, depends not only on the municipal bodies drafting them, but also on the contribution of non-governmental organizations, public institutions (e.g., schools), citizens and other potential partners (e.g., businesses, neighbouring municipal bodies). That is why it is necessary to plan ways to reach out to these players and raise their awareness so that they can participate in the municipal effort to combat climate change.”<sup>19</sup>*

The decision-making summaries prepared by the City in 2010 and 2011 concerning the application for financial assistance under the *Climate Municipalities Program* and the agreement with the Québec government each include this sentence: *“In terms of reduction and adaptation plans, their successful implementation depends on the contribution of all of the players involved.”<sup>20</sup>*

We believe that it is important that the municipal administration’s message be clear and non-contradictory. Without the participation of related municipalities in the climate change adaptation process, Montréal’s climate change strategy is likely to be flawed since the related municipalities are intertwined on the territory of the Island of Montréal with the boroughs, and their contribution to this process is not negligible. The involvement of the related municipalities and boroughs allows the City to work on the entire territory of the Island of Montréal and is therefore more likely to lead to a successful climate change adaptation process.

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<sup>19</sup> *Climate Municipalities Program*, revised version dated August 22, 2011, Québec government, ministère du Développement durable, de l’Environnement et des Parcs, page 4.

<sup>20</sup> Decision-making records Nos. 1105072001 and 1095072002.

## RECOMMENDATION

**3.1.2.B.** We recommend that the Bureau de la transition écologique et de la résilience, in collaboration with the Service de l'eau and the Service de l'urbanisme et de la mobilité, as well as Ahuntsic-Cartierville, Île-Bizard–Sainte-Geneviève, Montréal-Nord and Pierrefonds-Roxboro boroughs, ensure that the roles and responsibilities in relation to climate change adaptation measures are clearly defined in order to foster sound management of the climate change adaptation process.

## RESPONSE

**3.1.2.B.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## RECOMMENDATION

**3.1.2.C.** We recommend that the Direction générale, in collaboration with the Bureau de la transition écologique et de la résilience, develop a governance strategy to ensure the involvement of all of the Montréal agglomeration's governing bodies and business units in order to promote the successful implementation of the *Climate Change Adaptation Plan*.

## RESPONSE

**3.1.2.C.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## 3.2. Planning and Implementation of Adaptation Measures

### 3.2.1. Planning the Implementation

#### 3.2.1.A. Background and Findings

Planning consists basically of developing an action plan to implement adaptation measures, for example, by selecting and prioritizing the most structuring measures based on selection criteria related to reducing the impacts of climate hazards and cost-benefits. It also consists of developing measures and ensuring they have quality targets and indicators in addition to setting up support mechanisms for their implementation. Finally, planning must provide for the evaluation of the measures in terms of their effectiveness.

For the boroughs and the related municipalities, the commitments appearing in the *CCAP* were selected from a list of commitments proposed by the Service de l'environnement according to the 24 measurements and 6 climate hazards that it had selected. These commitments were sent to each borough and the related municipalities. The boroughs and related municipalities had to select the commitments that concerned them and that could affect them.

For the departments, the Service de l'environnement consulted them and requested they propose ideas for action to adapt to climate change.

In 2013, the Service de l'environnement had prepared a document titled *Stratégie d'adaptation de la collectivité montréalaise aux changements climatiques* for the development and design of the *CCAP*. It is, essentially, a planning document that presents the adaptation strategy to be followed for the Montréal community, which identifies the key ingredients for a successful adaptation, the description of the *CCAP* project and the constraints related to climate change adaptation. This document included a prioritization of the adaptation options.

However, in reviewing the documents we obtained and the interviews we conducted with BTER, department and borough staff members, we found that adaptation measures and commitments were not prioritized in any way, particularly in terms of available resources or specific criteria, whether those included in the *CCAP* or the new ones.

Our audit work also revealed that the adaptation commitments were selected and deployed without regard to any cost-benefit analysis or effectiveness analysis to assess whether they were the most appropriate to achieve the intended impacts. Thus, we did not find any methodology for selecting adaptation commitments. We note that the most structuring measures were not selected with the objective of prioritizing them.

Moreover, we observed that many of these commitments are also found in sustainable development plans or other documents. A review of the *CCAP* shows that it included commitments that had already been completed at the time of its design and adoption by the urban agglomeration council. In our view, grouping elements already in place with real adaptation commitments to be implemented does not allow for an assessment of the level of the effort contributed to climate change adaptation.

BTER staff told us that under the next *Climate Plan*, the issue of prioritizing adaptation measures will be taken into consideration. The mid-term follow-up report of the *CCAP* released in October 2019<sup>21</sup> provides guidance on "*Prioritizing the adaptation measures to be put in place.*"

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<sup>21</sup> *CCAP* follow-up review, October 2019, BTER, Resolution CG19 0459 of the urban agglomeration council, October 24, 2019, session.

Given the absence of an analysis of the adaptation measures for prioritization purposes according to determined criteria, the commitments selected by the business units are likely to not necessarily be the most appropriate and effective in response to the climate hazards that impact the City and the related municipalities. The lack of a prioritization methodology also means that reviewing links between different adaptation actions is hindered.

For example, our audit work revealed shortcomings in implementation planning, including the lack of a real action plan for implementation, the lack of a methodology for selecting adaptation commitments and the lack of a criteria-based prioritization of the measures.

In our view, there is a need to revisit planning to develop a real action plan for implementing the adaptation measures, and said plan must be accompanied by a timetable and follow-up. A methodology must be developed to identify the commitments that are the most appropriate, i.e., the most structuring, to foster adaptation. Finally, it is also important to develop an approach to prioritize these measures according to the defined criteria.

## RECOMMENDATION

**3.2.1.B.** We recommend that the Bureau de la transition écologique et de la résilience, in collaboration with the Service de l'eau and the Service de l'urbanisme et de la mobilité, as well as Ahuntsic-Cartierville, Île-Bizard–Sainte-Geneviève, Montréal-Nord and Pierrefonds-Roxboro boroughs:

- adopt a real action plan for implementing the adaptation measures, to ensure that they are implemented;
- develop a methodology for selecting adaptation commitments, in order to identify the most structuring ones;
- develop an approach for prioritizing the adaptation measures based on defined criteria.

## RESPONSE

**3.2.1.B.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## 3.2.2. Targets and Indicators

### 3.2.2.A. Background and Findings

The target can be seen as representing the goal that you want to achieve. It can be expressed as a number or a percentage. It is used to express the results achieved when it is associated with an indicator, making it possible to illustrate the degree of progress. An indicator must have certain characteristics to be effective. It must be reliable, precise, specific, understandable, simple, usable by all stakeholders, applicable over time, relevant to the objective or target and useful for enlightening the decision-making process.

It is therefore important that targets be set, as they help to illustrate the desired results in a more concrete way. It is also important that these targets be accompanied by indicators with the above characteristics, in order to express as clearly as possible the progress achieved in implementing the adaptation measure and commitment.

During our audit work, we sought assurance that targets and indicators had been set for the adaptation commitments to the extent possible.

Our audit work revealed that the *CCAP* had objectives, but very few targets. However, during the review of documents obtained and through several interviews with staff in the audited boroughs and departments, we found available data on the status of several adaptation commitments in the *CCAP*. It was therefore possible to set targets in several of these cases and incorporate them into the *CCAP*.

The BTER's staff acknowledges that there is a weakness in the *CCAP* with respect to targets and that the next *Climate Plan* will include targets. Given that the BTER's staff is aware of this situation, we believe that this is an issue which they must correct.

With regard to indicators, our audit work showed that several of the borough commitments made in the *CCAP* were accompanied by monitoring indicators. This was not always the case for the departments.

A review of the CCAP's monitoring indicators, however, reveals gaps and inconsistencies. For example, in the case of similar commitments related to the City's *By-law 11-010 concerning the protection of buildings against sewer back-up*, the indicators are not the same in the different audited boroughs. In the case of Ahuntsic-Cartierville borough, the indicator is "adoption of the by-law." For Île-Bizard–Sainte-Geneviève, Montréal-Nord and Pierrefonds-Roxboro boroughs, the following indicators apply:

- "Number of buildings where valves were installed/number of valves";
- "Number of buildings where valves were installed";
- "Number of inspections and corrections."

In our view, these indicators do not meet many of the criteria we mentioned at the outset. The indicator for Ahuntsic-Cartierville borough does not illustrate the degree of progress and is of no use to enlighten the decision-making process. Moreover, it is not relevant since this by-law was already adopted by city council in June 2011 and came into force on July 1, 2011, for this borough. The indicators for the other three boroughs lack precision since there is no reference to the total number of buildings concerned. As a result, they are of little use in enlightening the decision-making process and do not illustrate the degree of progress.

With respect to other commitments made by Ahuntsic-Cartierville borough, we were able to identify other indicators that are similarly worded. For example, for the commitment to apply *By-law 13-023 concerning the use of drinking water*, the indicator is worded as follows: "Application of the by-law." In Île-Bizard–Sainte-Geneviève and Montréal-Nord boroughs, the same commitment is accompanied by this indicator. Once again, this indicator is not very precise and does not illustrate the degree of progress made.

Other examples of indicators with commitments from the audited boroughs are worded as follows:

- "Change in the programming";
- "Number of projects";
- "Square meters (m<sup>2</sup>) of permeable liner".

These indicators have shortcomings, they are not very precise and they do not illustrate the degree of progress. They often lack a reference to a target against which to measure progress, as well as a reference to the initial picture (e.g., the number to be reached out of the total number).

In general, for the four boroughs audited, we also found that commitments were not always accompanied by an indicator.

In our view, it is important that additional effort be invested to ensure consistency in the indicators that are set for similar commitments. Care must be taken to ensure that the criteria we set out at the outset are met when selecting or developing indicators.

We also believe that efforts need to be invested at the planning stage, when adaptation commitments are selected, to ensure that they are accompanied by quality indicators and targets. Otherwise, at the time of monitoring, there is a risk that targets and indicators may not be useful and may therefore need to be reformulated or others selected. In fact, our audit work showed that indicators were indeed reformulated at the time of monitoring for the preparation of the mid-term report published in October 2019.

The documents proposing measures and commitments addressed to the boroughs, the City's departments and the related municipalities during the development of the CCAP included a guideline on indicators, which stated the following: *"Indicate the monitoring indicator used for each measure listed. You may use the recommended monitoring indicators from the proposed action file as a guide."*

Although the proposal documents included this directive concerning, among other things, the selection of the monitoring indicator, we believe that it was not accurate enough. In our opinion, this directive needs to better define the development of targets and indicators to ensure that the most appropriate ones are selected or developed, including the requirement to meet the criteria we previously stated.

Finally, departments' adaptation commitments should also be accompanied by indicators where possible. Indeed, we noted a similar problem for the audited departments with regard to targets and indicators.

## RECOMMENDATION

3.2.2.B. We recommend that the Bureau de la transition écologique et de la résilience ensure that:

- the measures and commitments contained in the *Climate Change Adaptation Plan* are accompanied by targets and indicators so that progress can be tracked;
- the indicators developed are consistent and their quality meets recognized criteria;
- the guidelines produced are specific enough to facilitate the selection of relevant indicators.

## RESPONSE

3.2.2.B. *The audit report was issued to the business unit concerned between February 3 and 12, 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 May 18, 2020.*

## 3.2.3. Support Mechanisms for Implementation

### 3.2.3.A. Background and Findings

The implementation of adaptation measures and commitments is an activity that can be complex for the boroughs, the City's departments and the related municipalities. Various types of support mechanisms are available to facilitate this implementation.

The personnel we met or contacted in the boroughs and departments told us of a need for support when it comes to implementing adaptation measures and commitments.

In addition, City departments have expertise in several areas related to these adaptation measures and commitments. More specifically, the staff of the Direction de l'urbanisme pointed out to us that the *Montréal Urban Agglomeration Land Use and Development Plan*, which was amended in 2015, included urban planning and development aspects related to climate change adaptation measures. For example, these aspects included heat island control, increasing the canopy and reducing the quantity and improving the quality of surface water. However, implementing these measures can prove to be difficult for the boroughs and related municipalities, particularly in view of their complexity. Guides aimed at supporting them in the implementation of these measures could be produced by management. However, the staff we met with told us that they do not have a specific mandate in this regard, which would be necessary to guide their work.

Also, as part of our audit work, we were able to retrace a memo sent on July 12, 2019, to borough directors as part of their contribution to the new *Climate Plan* intended to replace the *CCAP*. The memo states:

*“... note that, after the plan is released, the BTER’s team will work to support the administrative units responsible for implementing the measures contained in the plan.”*

In our view, this is a promising avenue for the BTER. However, we believe that the BTER should already address the issue of support to the boroughs, the City’s departments and the related municipalities, particularly with respect to adaptation measures that have yet to be implemented, since the *CCAP* is still in force. In any event, for both the *CCAP* and the next *Climate Plan*, the BTER should assess the needs in terms of support to facilitate the implementation of adaptation measures and develop a support mechanism accordingly. It should also assess the expertise of the City’s departments to determine their potential contribution. In this regard, it should examine the possibility of giving specific mandates to the departments concerned to produce, in particular, guides or tools to support the boroughs, the other departments and the related municipalities in the implementation of the adaptation measures.

In our opinion, such support is essential to the successful implementation of the adaptation measures. The BTER must exercise its leadership to implement a support mechanism and must provide guidance, with the assistance of the departments concerned, with respect to the mandates to produce guides or any other means of support.

### **RECOMMENDATION**

**3.2.3.B.** We recommend that the Bureau de la transition écologique et de la résilience proceed with an assessment of needs in terms of supporting the boroughs, the City’s departments and the related municipalities and develop mechanisms to support them in adopting the adaptation measures in order to facilitate their implementation.

### **RESPONSE**

**3.2.3.B.** *The audit report was issued to the business unit concerned between February 3 and 12, 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 May 18, 2020.*

## 3.2.4. Mechanisms for Assessing the Adaptation Measures

### 3.2.4.A. Background and Findings

Once implemented, the adaptation measures and commitments should, in principle, produce beneficial effects that provide authorities with some assurance that citizens will be better prepared to deal with the impacts of climate change. Since resources are used for implementation and enforcement purposes, an evaluation of their performance and the results they generate makes it possible to verify the effectiveness of the adaptation measures and commitments and to make the necessary corrections.

Our audit work did not provide any evidence that the effectiveness of the adaptation measures and commitments in the *CCAP* had been evaluated in any way. The fact that few targets have been included in the *CCAP* does not help to support this type of evaluation.

However, the staff we met or contacted in the audited business units told us that assessing the effectiveness of the adaptation measures and commitments presents certain difficulties. In some cases, the science is not yet available or it is very costly to conduct an evaluation of the effectiveness of an adaptation measure. However, we found that for some adaptation measures, there are tools available to assist stakeholders. For example, with respect to reducing urban heat islands, the Bureau de normalisation du Québec<sup>22</sup> has produced guidelines and the Québec government<sup>23</sup> has published a guide to facilitate measurement assessment.

We are aware of the difficulties surrounding this type of evaluation; however, we believe that efforts must be made to identify guides and tools that can be used for evaluation purposes or to develop such tools.

In our view, it is important that efforts be made to evaluate these adaptation measures and commitments given that resources are or will be invested. It is important to know the merits of these measures before allocating resources to them and to reassure decision makers to this effect.

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<sup>22</sup> Reducing the Urban Heat Island Effect – Parking Lot Development – Design Guide, BNQ 3019-190/2013 Guidelines, Bureau de normalisation du Québec, 2013.

<sup>23</sup> Urban Heat Island Mitigation Strategies, Institut national de santé publique du Québec, Québec government, July 2009.

## RECOMMENDATION

**3.2.4.B.** We recommend that the Bureau de la transition écologique et de la résilience take the steps it deems appropriate to identify and develop tools to evaluate the effectiveness of the adaptation measures and commitments.

## RESPONSE

**3.2.4.B.** *The audit report was issued to the business unit concerned between February 3 and 12, 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 May 18, 2020.*

## 3.2.5. Budgeting Exercise

### 3.2.5.A. Background and Findings

Groupe AGÉCO<sup>24</sup> published a study in May 2019 on behalf of the UMQ<sup>25</sup> on assessing the costs to municipalities of adapting to climate change. The study targeted Québec's ten largest cities<sup>26</sup> for various projects, including drinking water supply, water intake management and pavement and building rehabilitation. According to this study, climate change adaptation costs could reach \$2 billion for Québec's ten largest cities within five years. These costs could even double for all of Québec's municipalities, which is a considerable amount of money.

It is an increasingly known fact that adapting to climate change is costly for municipalities and will cost even more in the years to come.

It is therefore essential that a budgeting exercise be carried out with regard to climate change adaptation. The study also states:

*"The budgeting exercise is necessary to achieve sound and proactive investment planning. The support to be provided to municipal authorities to carry out this exercise appears crucial to better understand the extent of the needs."<sup>27</sup>*

<sup>24</sup> This group is a private consulting firm that specializes in the accountability of organizations and economic studies. It conducts a variety of studies and analyses.

<sup>25</sup> *Vers de grandes villes résilientes : Le coût de l'adaptation aux changements climatiques. Évaluation du coût de l'adaptation aux changements climatiques pour les 10 grandes villes du Québec.* Groupe AGÉCO, commissioned by the UMQ. Final report, May 2019.

<sup>26</sup> Gatineau, Laval, Lévis, Longueuil, Montréal, Québec City, Saguenay, Sherbrooke, Terrebonne and Trois-Rivières.

<sup>27</sup> *Vers de grandes villes résilientes : Le coût de l'adaptation aux changements climatiques. Évaluation du coût de l'adaptation aux changements climatiques pour les 10 grandes villes du Québec.* Groupe AGÉCO, commissioned by the UMQ. Final report, May 2019, page 20.

A review of the *CCAP* shows that it does not cover any financial or budgetary aspects. The same is true of the *CCAP* monitoring report produced by the BTER in 2019. However, BTER staff told us, during meetings, that the next *Climate Plan* will include aspects allowing for the disclosure of information, both of a budgetary and financial nature, related to climate and that the City's Service des finances has been mandated to examine the question of including such information in the City's annual budget and annual financial report.

Both Vancouver and Toronto,<sup>28</sup> among others, included a section presenting unaudited climate-related information in their 2018 financial reports, including some financial and budgetary information.

The staff we met at the Service des finances noted that the climate change budgeting exercise, including adaptation, is in its infancy and presents both challenges and complexities because it is difficult to establish costs in some cases. However, this issue is currently being analyzed by the Service des finances in collaboration with other major Canadian cities to standardize the methodology and disclosure of climate-related financial information. Consideration is also being given to finding solutions.<sup>29</sup> It is therefore legitimate to know the size of the resources that could be allocated since public funds are involved.

We believe that this is a good initiative that should be pursued, as we deem it necessary in order to know the extent of the resources involved in implementing the *CCAP* and to facilitate decision-making on the choices to be made.

## RECOMMENDATION

**3.2.5.B.** We recommend that the Service des finances, in collaboration with the Bureau de la transition écologique et de la résilience, develop a model that would enable it to determine all of the costs involved in implementing the *Climate Change Adaptation Plan* in order to make an informed decision.

## RESPONSE

**3.2.5.B.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

<sup>28</sup> City of Vancouver – 2018 Annual Financial Report, page 29; City of Toronto, 2018 Annual Financial Report, page 126.

<sup>29</sup> The staff of the Service des finances of the City mentioned to us that a note on climate will be published in the 2019 Annual Financial Report.

## 3.3. Monitoring the Implementation of Adaptation Measures

### 3.3.1. Monitoring Mechanisms

#### 3.3.1.A. Background and Findings

To ensure the implementation of the adaptation measures, the degree of progress needs to be assessed through monitoring. This step is important because it not only provides information on the implementation status of the adaptation measures, but also makes it possible to measure whether the established targets have been met.

As part of our audit work, we sought to determine the mechanisms that are in place to monitor the implementation of the adaptation measures.

Our audit work revealed that only a single more formal follow-up was carried out to report on the status of implementation of the adaptation measures and commitments. This follow-up was carried out with a view to producing the mid-term report provided for in the *CCAP* for 2017–2018, the final report of which was published in October 2019. The monitoring process was initiated by a team from the Service de l'environnement, which is now part of the BTER. A tracking tool was developed by the Service de l'environnement for each of the boroughs, for each of the departments concerned and for each of the participating related municipalities and was sent to them in March and April 2018 for completion. Our audit work revealed that the monitoring tool was only obtained by the business units in 2018. However, in the business units we audited, it is the only monitoring tool that reports on all of the business unit's actions and commitments that we traced. We believe it is important that the monitoring tool be used as soon as possible to allow them to monitor the implementation of the commitments that concern them.

For the boroughs and related municipalities, the monitoring tool includes a directive to provide information to the Service de l'environnement. The Service de l'environnement states that it:

*“... prepares the mid-term report of the Climate Change Adaptation Plan for the Montréal Urban Agglomeration (CCAP) 2017-2018.*

*To do so, information is requested about the commitments made by your city/borough. On the one hand, this information aims to identify the status of the adaptation measures in each city/borough. On the other hand, it aims to identify the status of adaptation to climate change in the Montréal agglomeration.”*

In the case of the departments, a similar guideline is mentioned, but the monitoring tool includes an additional guideline: *“You must fill in the ‘Status as of December 31, 2017,’ column for your orientations, objectives and actions identified in relation to hazards: in progress, completed or not started.”* We have not traced another directive relating to the monitoring of the implementation of adaptation measures and commitments produced by the BTER. Furthermore, according to a staff member whom we contacted at the Service de l’eau, a clear directive had not been given to the person in charge of the follow-up of the adaptation measures and commitments that concerned the department. A more specific monitoring tool directly related to the adaptation commitment had not been developed at the administrative unit level. The connection with the adaptation commitment appearing in the *CCAP* and in the monitoring tool that includes all of the business unit’s commitments is therefore more difficult to make.

The BTER collected the monitoring tools once completed by the business units in order to design the mid-term report. However, we noted in the monitoring tool for the audited districts marked as “processed” that, for several commitments, there were no indicators. For Ahuntsic-Cartierville borough, 57% of the commitments had an indicator. For Île-Bizard–Sainte-Geneviève, Montréal-Nord and Pierrefonds-Roxboro boroughs, respectively, 73%, 76% and 66% of the commitments had an indicator.

In the Pierrefonds-Roxboro borough, we noted that new adaptation commitments were implemented, but they had not been recorded in the monitoring tool or in another monitoring document. For example, for the past three years, in the case of construction projects, a reduction in the number of parking spots has been applied in order to reduce paved surfaces, which, by the same token, helps fight against heat islands. The directive that is part of the monitoring tool indicates that new commitments must be included in the monitoring tool.

Our audit work reveals that the monitoring tool used by the Direction de l’urbanisme of the Service de l’urbanisme et de la mobilité that includes the adaptation commitments was not updated following the organizational restructuring in January 2019. Commitments that have become the responsibility of the Service de l’habitation since this restructuring can be found in the monitoring tool of the Service de l’urbanisme et de la mobilité. This situation creates a risk that some of these commitments may not be tracked.

Furthermore, our audit work revealed that, in general, a manager had not always been formally appointed in each business or administrative unit to follow up on the adaptation measures and commitments. We found that monitoring tools had not been updated with respect to the names of the individuals responsible for them. For example, the name of a person in charge who had left the borough some time previously was still in the monitoring tool, and was the only name that appeared in the tool. As a result, no other manager had been appointed. In other cases, the name of an official is mentioned in the tool, and this person informs us that they are not necessarily responsible for monitoring. In one borough, the people we met were not aware of the monitoring tool. In another borough, although the names of some staff members appear in the monitoring tool as the people responsible for the adaptation commitments, they were not aware of the monitoring tool.

Our audit work reveals shortcomings and a lack of rigour in monitoring the implementation of the adaptation measures and commitments. We believe that monitoring is an important step in the adaptation management process. It must therefore be well supervised and rigorously applied. The weakness in monitoring the implementation of adaptation measures and commitments has several impacts, including the following:

- difficulties in accurately measuring progress, due to the lack of indicators for all of the commitments;
- the risk that adaptation measures and commitments will not be implemented;
- weakness in accountability.

## **RECOMMENDATION**

**3.3.1.B. We recommend that the Bureau de la transition écologique et de la résilience:**

- **review monitoring practices in order to put in place mechanisms to follow the implementation of the measures and commitments;**
- **develop and issue clear directives to all staff concerned to foster a consistent application of the mechanisms established.**

## **RESPONSE**

**3.3.1.B.** *The audit report was issued to the business unit concerned between February 3 and 12, 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 May 18, 2020.*

## RECOMMENDATION

**3.3.1.C.** We recommend that the Service de l'eau and the Service de l'urbanisme et de la mobilité, as well as Ahuntsic-Cartierville, Île-Bizard–Sainte-Geneviève, Montréal-Nord et Pierrefonds-Roxboro boroughs, apply the guidelines of the Bureau de la transition écologique et de la résilience for monitoring the implementation of the adaptation measures and commitments to be able to ensure relevant accountability.

## RESPONSE

**3.3.1.C.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## 3.3.2. Data Validation Mechanisms

### 3.3.2.A. Background and Findings

Data collection is important as it provides the basis for monitoring, measuring and reporting on the progress of the CCAP. Therefore, validating the data to ensure accuracy is also important, since the data is used for the purposes just described. In the absence of validation mechanisms, the information provided using this data presents various risks, including inconsistency and unreliability, while affecting decision-making.

It is important to recall that the data and information contained in the monitoring tools were used to develop the follow-up report produced in 2019.

In order to verify whether mechanisms for validating the data appearing in the monitoring tools have been put in place, we carried out a sampling exercise.

For the audited boroughs, we selected an adaptation measure and a commitment in the final version of the monitoring tool provided by the BTER, for each of the six climate hazards. Among the selected commitments, some did not include data. For the four boroughs, we therefore obtained the following number of samples:

- Ahuntsic-Cartierville borough: six commitments, including one without data;
- Île-Bizard–Sainte-Geneviève borough: six commitments, including one without data;
- Montréal-Nord borough: six commitments;
- Pierrefonds-Roxboro borough: six commitments, including one without data.

We thus wanted to validate the samples in order to determine whether the data entered in the monitoring tool for each borough, which was processed by the BTER once it was received, was accurate. However, we were not able to validate all the data in the samples. In fact, only an insignificant proportion of the data proved to be accurate. The data and evidence of it were erroneous, incomplete or missing.

During the interviews we conducted in the four boroughs, the staff we met or contacted told us that they did not always have a specific data validation mechanism in place as part of this process.

In addition, a review of the commitments with an indicator in the monitoring tools of the four audited boroughs shows that several do not include data:

- Ahuntsic-Cartierville borough: data not provided for 71% of these commitments;
- Île-Bizard–Sainte-Geneviève borough: data not provided for 55% of these commitments;
- Montréal-Nord borough: data not provided for 21% of these commitments;
- Pierrefonds-Roxboro borough: data not provided for 35% of these commitments.

In our view, this lack of data should be questioned and the commitments should be re-examined to determine whether data can be collected and entered into the monitoring tool. For example, applying *By-law 11-010 concerning the protection of buildings against sewer back-up* is an adaptation commitment in the four audited boroughs. Two of the four boroughs did not insert any data even though this by-law requires the production of a list of annual inspections and, in principle, data should exist.

In the case of the audited departments, we selected the adaptation commitments in the monitoring tool marked “Completed” because the department monitoring tools do not include data. We therefore sought to verify whether the adaptation commitments with this mention are supported by data and whether a validation mechanism exists. Our audit work shows that adaptation commitments are supported by other documents that include data, which are found in specialized computerized applications due to their number and complexity. Although department staff told us that the data is subject to validation, we did not find evidence of a document clearly indicating that the commitment data in the monitoring tool marked “Completed” had been validated. We question the fact that the department monitoring tool does not include data when it is available. Data could therefore be included in the monitoring tool.

For its part, the BTER has not set up a data validation process. According to the people we met, it relies on the boroughs, the City’s departments and the related municipalities for this information.

In our view, it is important that data be included in the monitoring tool. Data allows more accurate measurements of the progress of implementation of the adaptation measures and commitments. Data validation mechanisms must be implemented and applied to ensure their accuracy. Where validation mechanisms exist and data has been validated, the monitoring tool should be documented to this effect.

Lack of validation or evidence of validation creates the risk that data may be incomplete or even erroneous, with the important consequence of making the CCAP mid-term report itself unreliable and not conducive to informed decision-making. BTER staff told us that the mid-term report is one of the tools they intend to use in developing the next *Climate Plan*.

### RECOMMENDATION

**3.3.2.B.** We recommend that the Service de l'eau and the Service de l'urbanisme et de la mobilité, as well as Ahuntsic-Cartierville, Île-Bizard–Sainte-Geneviève, Montréal-Nord and Pierrefonds-Roxboro boroughs, develop a data collection mechanism for all of the commitments in connection with the implementation of the climate change adaptation measures, ensure their reliability and include them in the monitoring tool, in order to provide accountability that is useful for decision-making.

### RESPONSE

**3.3.2.B.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## 3.3.3. Cost Monitoring and Data Collection

### 3.3.3.A. Background and Findings

Monitoring costs provides information on whether the money spent was sufficient to achieve what was planned. It also makes it possible to establish the amounts spent in relation to what was achieved.

We therefore wanted to verify whether costs were tracked as part of the implementation of the adaptation measures and commitments. However, our audit work revealed that there was no tracking of specific costs in the context of this implementation. As mentioned earlier, the CCAP does not include financial information and there was no budgeting exercise. Also, the monitoring tools developed for the preparation of the mid-term report do not include financial information. The same applies to the mid-term report produced in 2019.

Costs were tracked in the context of the floods of 2017 and 2019, but this is mainly related to expenditures for the implementation of emergency and civil security measures.

A review of the documents related to the action plan for the development of the CCAP shows that cost tracking was not planned from the outset with respect to implementing the adaptation measures and commitments.

As stated in the study conducted for the UMQ, which produced a report in May 2019, adaptation to climate change represents significant costs.<sup>30</sup>

Our audit work therefore revealed that data on the costs of implementing the adaptation measures had not been collected as part of this follow-up. However, according to the interviews we conducted with employees in the audited departments, some costs related to the adaptation measures could be identified.

However, the study conducted on behalf of the UMQ, which included the City, raises important questions that the municipal administration must address:

*“Such a study to measure the costs of climate change for municipalities in a structured and concrete way is a first in Canada. Most studies do not deal with the costs of adapting to climate change, so a critical lack of existing data was identified in the course of this study.”<sup>31</sup>*

*“Moreover, their difficulty in providing some of the data revealed a significant gap in cities’ degree of preparedness to face the climate challenge. For example, although adaptation plans have been adopted, there has been virtually no complementary budgetary exercise.”<sup>32</sup>*

*“In the absence of real data, it is very difficult for cities to put a figure on the investments and expenditures associated with the implementation of these measures, which are often themselves required to bring infrastructure up to standard.”<sup>33</sup>*

In our view, it is essential that steps be taken to put in place mechanisms to collect cost data regarding the implementation of the adaptation measures and commitments.

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<sup>30</sup> Final report commissioned by the UMQ. *Vers de grandes villes résilientes : Le coût de l’adaptation aux changements climatiques. Évaluation du coût de l’adaptation aux changements climatiques pour les 10 grandes villes du Québec*. May 2019, page 20.

<sup>31</sup> Final report commissioned by the UMQ. *Vers de grandes villes résilientes : Le coût de l’adaptation aux changements climatiques. Évaluation du coût de l’adaptation aux changements climatiques pour les 10 grandes villes du Québec*. May 2019, page 4.

<sup>32</sup> Final report commissioned by the UMQ. *Vers de grandes villes résilientes : Le coût de l’adaptation aux changements climatiques. Évaluation du coût de l’adaptation aux changements climatiques pour les 10 grandes villes du Québec*. May 2019, page 3.

<sup>33</sup> Final report commissioned by the UMQ. *Vers de grandes villes résilientes : Le coût de l’adaptation aux changements climatiques. Évaluation du coût de l’adaptation aux changements climatiques pour les 10 grandes villes du Québec*. May 2019, page 3.

As mentioned earlier, the Service des finances has begun to reflect on financial and budgetary issues related to the fight against climate change, including adaptation, in order to develop solutions to these issues.

Such mechanisms will thus make it possible to obtain data that can be used for various purposes, in particular to quantify the investments and expenses associated with the implementation of the adaptation measures and commitments, to monitor costs and to carry out cost-benefit studies on the choice of measures and commitments selected.

## RECOMMENDATION

**3.3.3.B. We recommend that the Bureau de la transition écologique et de la résilience, in collaboration with the Service des finances, develop mechanisms for collecting data on the costs associated with the implementation of the *Climate Change Adaptation Plan* in order to establish the importance of the resources allocated by the City in the process of adapting to climate change and to potentially demonstrate the cost-benefit justification in order to make an informed decision.**

## RESPONSE

*3.3.3.B. The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## 3.4. Monitoring and Knowledge Development

### 3.4.A. Background and Findings

Adaptation to climate change involves actions and commitments touching on a wide range of issues, including biodiversity, rainfall, heat, temperature, leisure and sports activities, urban planning and infrastructure and many more. The consequences of climate change on the City's assets and activities as well as on the population can affect a significant number of these issues. In order to fully understand these consequences and to develop adaptation solutions in the form of measures, a wealth of knowledge is essential. Consequently, knowledge development is essential, and one of the ways to foster it is through monitoring. When it comes to adapting to climate change, this type of monitoring consists of surveying and researching strategic and relevant information that can lead to the discovery of innovative solutions or facilitate the resolution of various problems. To be effective, it must be organized, supervised and structured in such a way that concerned staff members are actively involved.

In this regard, the Observatoire québécois de l'adaptation aux changements climatiques (OQACC) states in its November 2017 report: *"Information represents an essential input for adaptation."*<sup>34</sup>

We looked at how knowledge development was organized in the business units.

In 2017, the City reached a three-year agreement with the Ouranos<sup>35</sup> group concerning research on regional climatology and adaptation to climate change. This agreement covers the implementation of various projects. A report was produced for the period from June 2017 to October 2018. One project was completed, which involved mapping the players involved in climate change adaptation and the development of resilience on the Island of Montréal.

In the CCAP's follow-up report published in 2019,<sup>36</sup> the BTER identified several orientations, the fifth of which aimed to "Develop knowledge." For this orientation, the report concluded that *"external expertise remains one of the keys to success in deepening climate knowledge and increasing access to climate data."* The report also states that the partnership with Ouranos *"facilitates access to innovative tools and knowledge on regional climatology and adaptation to climate change as well as to its network of experts."*

Although efforts have been made to foster the development of knowledge with the help of external partners, our audit work revealed through interviews that, in general, within the audited business units, some staff members carry out activities aimed at developing knowledge, but these activities are more at an individual level. We found that no one has been formally appointed to be responsible for such monitoring at the business unit level. Nor has a person been appointed at the BTER to assume responsibility for such monitoring at the level of the City or the Montréal agglomeration. The monitoring carried out by the business units and the BTER for knowledge development is neither organized nor structured.

Although monitoring can be done with the help of external partners, we believe it is important to consider internal knowledge development expertise.

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<sup>34</sup> *Niveau et déterminants de l'adaptation aux changements climatiques dans les municipalités du Québec* (OQACC-006), OQACC, November 10, 2017, page 10. The OQACC is an organization developed in collaboration with the Institut national de santé publique du Québec as part of health measures of the Québec government's 2013–2020 Climate Change Action Plan (CCAP 2020). These objectives are intended to equip public health authorities in their efforts to monitor adaptation to climate change. It is associated with priority 6 of the CCAP 2020 (action 6.6) and aims to support research in adaptation

<sup>35</sup> Ouranos is a research consortium on regional climatology and adaptation to climate change. It is the result of a joint initiative of the Québec government, Hydro-Québec and the Meteorological Service of Canada, with the participation of UQAM, the INRS, Université Laval and McGill University.

<sup>36</sup> CCAP follow-up report, October 2019, page 57.

It is also important, as part of such monitoring, that clear leadership be exercised by a person in charge when it comes to taking in hand an innovative idea or project in the field of adaptation. Our audit work enabled us to note that, in the context of the innovative Water Square<sup>37</sup> project, the leadership in this area was not clear. Someone must therefore be officially appointed to assume responsibility for the innovative ideas and projects proposed, in particular by City staff, so that they can be carried out and included in the process that could lead to their implementation. In our opinion, the BTER must play this role since it is responsible for the CCAP.

## RECOMMENDATION

**3.4.B. We recommend that the Bureau de la transition écologique et de la résilience:**

- set up an organized and structured monitoring system, particularly in the field of adaptation to climate change, with the goal of fostering knowledge development of the staff concerned throughout the territory;
- formally appoint an individual to assume responsibility for monitoring knowledge development and provide leadership on innovative ideas and projects, particularly in the area of adaptation, so that these innovations move forward with a view to being implemented.

## RESPONSE

**3.4.B.** *The audit report was issued to the business unit concerned between February 3 and 12, 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 May 18, 2020.*

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<sup>37</sup> A structure designed to retain rainwater and facilitate rainwater management. This project was proposed in the Plateau-Mont-Royal borough.

## RECOMMENDATION

**3.4.C.** We recommend that the Service de l'eau and the Service de l'urbanisme et de la mobilité, as well as Ahuntsic-Cartierville, Île-Bizard–Sainte-Geneviève, Montréal-Nord and Pierrefonds-Roxboro boroughs, formally appoint an individual to assume responsibility for monitoring knowledge development on adaptation to ensure organized and structured monitoring.

## RESPONSE

**3.4.C.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## 3.5. Accountability Reporting

### 3.5.A. Background and Findings

Accountability reporting should be done on a regular basis to assess progress made in implementing the adaptation measures and to support informed decision-making on corrective action. In addition, accountability reporting must be carried out in a timely manner, for example, after a major event that has an impact on the organization and the population, to allow decision makers to take corrective action quickly so that they can be prepared for the next similar event.

The CCAP provides for the production of two reports, a mid-term report and a final report. The first report was produced by the BTER for the territory of the Montréal agglomeration. The CCAP states: *"We plan to carry out a mid-term report for the climate change adaptation plan in 2017–2018."* The mid-term report was not made available on the Internet until October 2019. In our view, the mid-term report was produced late, as the period covered by the CCAP is quickly coming to an end (2020), and the BTER is currently at work on a new *Climate Plan*. This leaves little time for decision makers to make corrections or significant changes. Moreover, as the impacts of climate change are becoming more and more evident year after year, we believe it is important to establish more frequent accountability reporting. The BTER staff told us that the new *Climate Plan* will include annual accountability reporting. This is an avenue that we share.

The mid-term monitoring report indicates that one borough and one related municipality did not provide the completed monitoring tool: Mercier–Hochelaga-Maisonneuve borough and the City of Côte-Saint-Luc. We believe that it is important for the BTER to obtain monitoring data on the implementation of the adaptation measures from all of the boroughs and related municipalities.

As we mentioned earlier, the data generated by the boroughs to produce their reports raises significant questions, since we were unable to validate a significant number of samples of commitments that we selected. In addition, the results presented in the report raise questions, since the *CCAP* included very few targets from the outset. For the boroughs and related municipalities, the report presents the degree of progress as a percentage of actions undertaken. In our opinion, this lacks precision, since we are left in the dark with respect to the degree of progress on the *CCAP*. For the City's departments, the report presents the degree of progress on various points, including the percentage completed, the percentage completed on an ongoing basis, the percentage in progress and the percentage not started. However, as we have already pointed out, these results raise questions since the monitoring tools produced by the audited departments that were used to create the report do not include data, targets or specific indicators. It is important that the follow-up report provide a more accurate picture of the progress of the *CCAP*. It is therefore important to better document the monitoring tool in terms of data.

With regard to accountability reporting by the boroughs or departments on all of the adaptation measures concerning them more specifically, we have found no evidence of such accountability reporting.

Given that significant events have occurred over the past five years, including floods (in 2017 and 2019) and intense heat waves (in 2018), we sought to determine whether accountability reports were produced for these events, particularly with respect to the adaptation measures. Our work shows that for the audited boroughs that were affected by a major event, accountability reports were prepared during and after the event. However, a review of the documents obtained and retraced in connection with these accountability reports shows that the reports deal mainly with aspects related to civil protection and emergency activities. We believe that accountability reporting, specifically with respect to the adaptation measures, would be appropriate in the context of these events, since several questions need to be asked, including whether the adaptation measures implemented were sufficient or not to deal with a given event.

Finally, it is difficult to obtain an overview of the overall picture and to know precisely the extent to which the adaptation measures and commitments have been implemented from the only follow-up report, made public in October 2019, for accountability purposes. As a result, it is very difficult to know whether the *CCAP* is meeting the third objective set.<sup>38</sup>

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<sup>38</sup> Plan the Montréal agglomeration's development as well as maintenance and repair operations while taking into account the constraints associated with climate change.

## RECOMMENDATION

**3.5.B.** We recommend that the Bureau de la transition écologique et de la résilience:

- review the periodicity and quality of accountability reporting on the adaptation measures to enable decision makers to benefit from relevant information on the progress made with respect to the *Climate Change Adaptation Plan for the Montréal Urban Agglomeration* and to make the necessary corrections as quickly as possible;
- ensure that data on the implementation of the adaptation measures are obtained from all of the boroughs and related municipalities in order to produce a complete accountability report.

## RESPONSE

**3.5.B.** *The audit report was issued to the business unit concerned between February 3 and 12, 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 May 18, 2020.*

## RECOMMENDATION

**3.5.C.** We recommend that the Service de l'eau and the Service de l'urbanisme et de la mobilité, as well as Ahuntsic-Cartierville, Île-Bizard–Sainte-Geneviève, Montréal-Nord and Pierrefonds-Roxboro boroughs, periodically report on the implementation of the adaptation measures that concern them in order to know the extent to which they have been implemented and to promote informed decision-making.

## RESPONSE

**3.5.C.** *The audit report was issued to the business units concerned between February 3 and 12, 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 May 18, 2020.*

## 4. CONCLUSION

The impacts of climate change are becoming increasingly important while the reduction of Greenhouse gases (GHGs) on a global scale remains far from significant. These impacts affect local living environments more directly. Municipalities are the most affected in terms of their assets and activities; at the same time, they are also at the forefront of developing and implementing adaptation measures, as the director of Ouranos recently pointed out<sup>39</sup>:

*“One of the major fronts for action on climate issues is adaptation to climate change, i.e., learning to live with the reality that the climate has already begun to change, a trend that is bound to continue. And, of course, the municipal world is at the forefront of the impacts related to this change.”<sup>40</sup>*

Faced with this situation, and in order to protect its assets and to be able to provide services to citizens and ensure their safety on a daily basis, the Ville de Montréal (hereinafter referred to as the City) has a duty to develop plans and measures to adapt to climate change with the help of higher authorities, the urban agglomeration council and governments. Under these circumstances, the management of the *Climate Change Adaptation Plan (CCAP)* must be orchestrated in such a way as to deal with the impacts of climate change as effectively as possible.

In order to deal with the impacts of climate change, in 2015, the Montréal urban agglomeration council adopted a *CCAP* involving all of the boroughs and the 13 related municipalities.<sup>41</sup> A diagnosis of vulnerabilities was first established for the Montréal urban agglomeration and for each borough and related municipality. The Bureau de la transition écologique et de la résilience (BTER), created in 2018, is the business unit responsible for managing the *CCAP*, particularly with regard to the production of follow-up reports and the new *Climate Plan* that will replace the *CCAP* adopted in 2015.

Based on our audit work, we conclude that the *CCAP* should be better managed to ensure appropriate planning for the implementation of the adaptation measures and commitments.

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<sup>39</sup> Ouranos is a research consortium on regional climatology and adaptation to climate change. It is the result of a joint initiative of the Québec government, Hydro-Québec and the Meteorological Service of Canada, with the participation of UQAM, the INRS, Université Laval and McGill University.

<sup>40</sup> “Changements climatiques : pour des municipalités plus résilientes,” in *Revue Urbaine* Le magazine de l’Union des municipalités du Québec (UMQ), vol. 40, no. 01, March 2019, page 20.

<sup>41</sup> The related municipalities of Hampstead and Dorval Island are not part of the *CCAP*.

A review of the plan to implement the adaptation measures and commitments shows that it is deficient in several respects, including the lack of a real action plan for their implementation, the lack of a methodology for the selection of adaptation commitments, a gap in the evaluation of the effectiveness of the selected commitments, the lack of prioritization of the measures and commitments, few commitments with targets, and indicators that do not always meet recognized criteria.

Based on the only official report, produced in October 2019, it is difficult to have an overall picture and to establish precisely how many of the adaptation measures and commitments have been implemented to date. Under the circumstances, it is very difficult to see how the *CCAP* could meet the third objective that was set.

Given that one of the organizational priorities of the municipal administration is the ecological transition, that the new *Climate Plan* is part of this and that it is essential that adaptation to climate change be considered as a major issue in the fight against climate change, we recommend, among other things, that the City:

- take steps to ensure that the authorities of all of the governing bodies involved in the process of adapting to climate change are clarified in order to identify the means of ensuring the adaptation measures are implemented;
- establish governance at the level of the Montréal agglomeration as a whole to support broader management of the climate change adaptation process and the successful implementation of the *CCAP*;
- strengthen the planning of activities related to implementing the *CCAP* in order to provide a clear framework for the choices made (methodology, evaluation of effectiveness, prioritization, targets and indicators) to measure the results thereof;
- ensure that more rigorous monitoring mechanisms are developed so that reliable data is collected that can be used to assess and report on results;
- establish an organized and structured monitoring system to promote the development of knowledge in the field of adaptation in order to enable the management of information with a view to promoting the creation and implementation of innovative solutions in this field;
- review the content and frequency of accountability reporting so that it is carried out on a more sustained basis to better inform decision makers so that they can take corrective action as quickly as possible.

The current *CCAP* is coming to an end soon, and the issue of the impacts of climate change is increasingly present. Although efforts have been made under this plan, it is important that the next *Climate Plan*, on which the BTER is currently at work, allows for the planning and implementation of concrete and structuring adaptation measures to produce results that will have to be measurable. It is also essential that the next plan be developed in such a way as to consider not only the importance of the role of each authority in the adaptation process, but also the involvement of all of the authorities concerned for collective action to address this critical issue. We believe that this is a complex issue and, in order to foster the effectiveness of the adaptation process, we believe that the municipal administration should consider establishing territorial governance at the level of the Montréal agglomeration as a whole so that local and global management can be exercised.

The municipal administration must be able to demonstrate that the most appropriate choices are made, given the investments involved. A model should therefore be developed that takes into consideration all of the costs incurred in implementing the *CCAP* so as to justify the decision-making process.

## 5. APPENDICES

### 5.1. Objective and Evaluation Criteria

#### Objective

Ensure that the measures set out in the *Climate Change Adaptation Plan for the Montréal Urban Agglomeration (CCAP) 2015–2020* have been adequately planned and that they have been implemented.

#### Evaluation Criteria

- The development and implementation of the adaptation measures were planned.
- The roles and responsibilities of the various players (Ville de Montréal office and departments, boroughs and related municipalities) are clearly defined.
- The measures set out in the *Climate Change Adaptation Plan* have been implemented.
- Monitoring mechanisms are in place to ensure the implementation of the adaptation measures.
- Formal accountability reporting is done on a regular and timely basis.

## 5.2. Adaptation Measures for Each Climate Hazard

### CATEGORIES OF ADAPTATION MEASURES FOR EACH CLIMATE HAZARD

#### Increase in average temperatures



- Protect biodiversity
- Increase the resilience of infrastructure to freeze-thaw phenomena
- Adapt the offering of winter recreational activities and maintenance activities
- Increase the offering of summer recreational activities and maintenance activities
- Control undesirable plant species

#### Heavy rainfalls



- Control or collect rainwaters
- Increase the resilience of infrastructures and buildings to rainwaters
- Minimize impermeable surfaces
- Ensure the capacity of storm sewer and combined sewer systems
- Increase and preserve the vegetation cover
- Develop emergency response measures for heavy rainfalls

#### Heat waves



- Counter heat islands
- Design spaces allowing people to refresh themselves and avoid exposure to extreme heat (cool areas)
- Protect biodiversity against heat waves
- Develop emergency response measures for heat waves

#### Destructive storms



- Increase the resilience of infrastructures and buildings to strong winds and freezing rain
- Develop emergency response measures for extended power failures (in winter conditions)
- Increase the resilience of vegetation to strong winds and freezing rain

#### Droughts



- Ensure both the quality and quantity of drinking water
- Increase the resilience of infrastructures and buildings to the drying out of soils
- Increase the resilience of vegetation to droughts

#### River floods



- Increase the resilience of infrastructures and buildings to flooding of river banks
- Develop emergency response measures for flood-prone areas
- Increase the stability of river banks against erosion

Source: *Climate Change Adaptation Plan 2015–2020 – Summary Version*



## 4.4.

### Management of Rolling Stock

[Service du matériel roulant  
et des ateliers]

March 5, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Evaluate the extent to which the City has established an Investment Strategy (the Strategy) for the upgrading (bridging the obsolescence gap) and optimal maintenance of the vehicle and equipment fleet while meeting users' needs.

# RESULTS

Since January 1, 2017, the different activities related to the life cycle of vehicles and equipment have been consolidated under the direction of a single entity, the Service du matériel roulant et des ateliers, under section 85.5 of the *Charter of Ville de Montréal*. The consolidation was designed to achieve the following objectives: to standardize vehicles, to establish a Strategy for bridging the accumulated obsolescence gap over a four-year period (2018 to 2021) while replacing vehicles that have reached the end of their service life, and to maintain the vehicle inventory in terms of numbers and value. Based on our audit work, we think that improvements should be made in the following main areas:

- The budget documents submitted to authorities make no reference to objectives expressed in measurable terms;
- There is no consistency in the vehicles and equipment inventory between the different management tools (InvFlotte, MIR, MAXIMO for the Service de police de la Ville de Montréal) or with vehicles that are actually in the field;
- Documentation supporting the different parameters of the 10-year Strategy has not been kept;
- Two years after it was approved by the director general, the Strategy has not been updated to take into account new data that has become available;
- The total investment budget is in line with what is provided for in the Strategy but compliance with the budget breakdown cannot be demonstrated;
- To date, no evaluation of the Strategy implementation has been done;
- The acquisition of vehicles to meet new needs does not always follow the official process and the Strategy;
- The timelines for commissioning vehicles and equipment are not analyzed for the purpose of taking the necessary corrective measures;
- Accountability mechanisms on the results achieved, on progress in the implementation of the Strategy, and the extent to which it has achieved the expected benefits resulting from the consolidation of rolling stock activities are not sufficient;
- Quality controls performed on data entry in the different databases are inadequate;
- With the existing replacement process, it is not possible to identify the vehicles needing to be replaced by taking into account their use, all the associated costs and their purpose.

*In addition to these results, we have formulated various recommendations for the 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.*

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# LIST OF ACRONYMS

<b>BPPI</b>	Bureau des projets et des programmes d'immobilisations
<b>SIM</b>	Service de sécurité incendie de Montréal
<b>SIMON</b>	Système Intégré Montréal
<b>SMRA</b>	Service du matériel roulant et des ateliers
<b>SPVM</b>	Service de police de la Ville de Montréal
<b>STI</b>	Service des technologies de l'information
<b>TCEP</b>	Three-year capital expenditures program



## 1. BACKGROUND

The Ville de Montréal (“the City”) owns a fleet of nearly 8,700 vehicles<sup>1</sup> and of equipment. According to an exercise carried out by the Service du matériel roulant et des ateliers (SMRA), in 2017,<sup>2</sup> the replacement value of the vehicle and equipment fleet, which consisted of 7,372 vehicles at that time, was estimated at \$571 million.

The City’s rolling stock is classified under different categories and classes. In all, there are 7 categories<sup>3</sup> and 305 classes of vehicles. For example, the automobile category consists of several classes, including four-door subcompact cars (class 134), and the heavy trucks category includes trucks used to clean sewers (class 309).

Under the *Charter of Ville de Montréal*, borough councils and the city council have powers related to rolling stock assigned to activities falling within their respective jurisdictions. For activities that fall under the jurisdiction of city council, the SMRA is responsible for acquiring and leasing rolling stock, for providing maintenance and repair services for heavy and light vehicles, and for the repair and production of various goods and equipment.<sup>4</sup>

A large number of services provided to citizens are based on the performance and reliability of the rolling stock operated by the City (e.g., snow removal, road works, infrastructure, building and park maintenance, public safety-related activities).

In 2013, as part of the development of *the Plan d’investissement à long terme 2013-2022*, it had been demonstrated that there was a delay in the investments made to maintain the age of the vehicles to the obsolescence standard expected for its fleet of vehicles and equipment. The study referred to an accumulated replacement gap of the vehicle and equipment fleet, evaluated at \$76 million.

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<sup>1</sup> As of September 2019.

<sup>2</sup> Investment Strategy for maintaining the City’s vehicle and equipment fleet and meeting additional needs, produced on January 17, 2018.

<sup>3</sup> 7 categories: A) automobiles (e.g., compact car, 6-cylinder crossover); B) light trucks (nominal gross weight of less than 4,500 kg (e.g., a van, double cabin pickup truck)); C) heavy trucks (nominal gross weight of more than 4,500 kg (e.g., dump truck, fire truck with pump)); D) light tool vehicles (e.g., tractor; steamroller); E) heavy tool vehicles (e.g., wheel loader, ice resurfacing machine); F) other light equipment (e.g., sidewalk salt spreader, snowmobile); and G) other heavy equipment (e.g., theatre trailer, modular tipping bucket).

<sup>4</sup> *By-law concerning departments 14-012* (adopted on March 24, 2014 by city council), article 1, paragraph 18.

To further improve the City's performance and efficiency in the rolling stock function, and to optimize the resources allocated, the municipal administration elected to consolidate various activities related to the life cycle of vehicles and equipment under the direction of a single entity, the SMRA. The life cycle of vehicles and equipment involves the client needs assessment, the development of technical specifications, acquisition or leasing, registration, maintenance and repairs, scrapping and disposal.

Through a resolution passed on November 21, 2016, city council declared that, under section 85.5 of the *Charter of Ville de Montréal*, all rolling stock-related powers that fall under the boroughs' responsibility, except for contracts involving leasing for less than one year and leasing with operator, came under its jurisdiction for a two-year period (from January 1, 2017, to December 31, 2018). At the end of 2018, city council approved the renewal of its jurisdiction over all rolling stock-related powers for a period of three additional years, from January 1, 2019, to December 31, 2021.

The powers that were consolidated under the direction of the SMRA are related to the following functions:

- Vehicle fleet management, including the acquisition, maintenance and repair, disposal and management of vehicles and equipment;
- Management of all machine shops on the territory;
- Operator training;
- Fuel management, including fuel consumption monitoring, management of fuel access cards;
- Administrative and operational support, including management of financial, human, material and informational resources.

In consolidating vehicle and equipment fleet management, the SMRA made it a priority to standardize the vehicles to be purchased, mainly in order to simplify the acquisition process and be able to benefit from a better price by making bulk purchases. However, it is important to ensure that this standardization meets business units' needs so that they can continue to provide services.

In January 2017, the Direction générale also mandated the SMRA and the Bureau des projets et des programmes d'immobilisations (BPPI) to conduct a study aimed at defining an Investment Strategy to bridge the accumulated replacement gap while ensuring that assets are maintained—in other words, making investments to reduce obsolescence while at the same time replacing vehicles that have reached the end of their useful life, so that they, in turn, do not fall into obsolescence. It emerged from this study that as of December 31, 2016, the accumulated replacement gap had decreased slightly since 2013. As of this date, it was evaluated at \$67 million.

At the beginning of 2018, a Strategy for the maintenance of the City's vehicle and equipment fleet and the fulfilment of additional needs (hereinafter the Strategy) was approved by the director general. According to the chosen scenario, the total investments required over a 10-year period were \$469 million, including the accumulated replacement gap of \$67 million. This scenario was aimed at bridging the accumulated gap over a four-year period, while managing the other vehicles' end of life. The Strategy also provided for limiting acquisitions of new vehicles (to meet new needs, not for replacement purposes). This was about new vehicles being added to the rolling stock inventory, which represents additional operating costs. According to this scenario, the projected annual investment was \$46.9 million over a 10-year period.

The decision to replace a vehicle must be justified according to various criteria. The age of the vehicle may be one of them, but other factors can also be taken into consideration, such as its use level, its operating costs, its maintenance and repair costs and its ability to adequately meet business units' current and anticipated needs. There is reason to question whether the SMRA has adopted a strategy for analyzing its vehicle fleet that would enable it to identify vehicles that need to be replaced. If such a Strategy exists, there is reason to question whether it can help optimize the use of vehicles before they are replaced and whether it can be used to identify the vehicles to be replaced well enough in advance that the SMRA and the business units concerned have time to establish an acquisition process that is advantageous for the City, in particular, through bulk purchasing, where possible. There is also reason to question whether the investments provided for are aligned with those effectively allocated to deploy and maintain this Strategy.

## **2. PURPOSE AND SCOPE OF THE AUDIT**

Pursuant to the *Cities and Towns Act* (CTA), we carried out a performance audit mission on the management of rolling stock. 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 extent to which the City has established a Strategy for upgrading the vehicle and equipment fleet (bridging the obsolescence gap) and ensuring its optimal maintenance while meeting users' needs.

The responsibility of the Auditor General of the Ville de Montréal 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 in the circumstances. These criteria are presented in Appendix 5.1.

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.

Our audit work focused on the period from January 1, 2017, to September 30, 2019. However, for some aspects, data prior to this time was also considered. It was primarily carried out from May 2019 to January 2020. We also took into account information that was sent to us up to March 2020.

This work was mainly performed with the following business units:

- The Service du matériel roulant et des ateliers;
- The Service de police de la Ville de Montréal (SPVM);
- The Service de sécurité incendie de Montréal (SIM);
- Pierrefonds-Roxboro borough;
- Saint-Laurent borough;
- Ville-Marie borough;
- Villeray–Saint-Michel–Parc-Extension borough.

Upon completing our audit work, we submitted a draft audit report to the managers of each audited business unit for discussion purposes. The final report was then forwarded to the management of the Service du matériel roulant et des ateliers to obtain action plans and timelines for their implementation, as well as to the Direction générale, the interim deputy director-general of the Services institutionnels, the deputy director-general of the Service aux citoyens and the director of the Service de la concertation des arrondissements. A copy of the final report was also submitted, for information purposes, to borough directors not directly targeted by our audit, so they can implement recommendations if appropriate.

## 3. AUDIT RESULTS

### 3.1. Objectives of the Consolidation of Activities Related to the Rolling Stock Function

#### 3.1.A. Background and Findings

The decision-making record recommended by the Direction générale adjointe aux services institutionnels supporting the city council resolution to declare that the exercise of all rolling stock-related powers falling under the boroughs' responsibility, except for contracts involving leasing for less than one year and leasing with operator, is within its jurisdiction, listed the following expected benefits:

- Economies of scale generated by standardization;
- Better control of the cost of replacement parts;
- Implementation of planning, management and maintenance standards;
- Replacement of conventional vehicles and equipment with 100% electric models or hybrids;
- Introduction of performance indicators that promote accountability and facilitate the identification and tagging of areas for improvement;
- Overall knowledge of activities and assets;
- Integrated management of the life cycle of vehicles and equipment;
- Elimination of duplication in technical specifications and health and safety;
- Flexibility of material and human resources;
- Better follow-up with the Société de l'assurance automobile du Québec to ensure compliance with laws and regulations.

In view of the fact that the workload is significant when the activities of 19 boroughs are consolidated with those of the central departments and that priorities had to be established, we examined the main objectives that have guided the SMRA's management of activities since January 1, 2017.

On the basis of annual budget documents submitted to the Commission permanente sur les finances et l'administration (in 2017, 2018 and 2019), we identified objectives that were directly related to the Strategy or could have an impact on the implementation of this Strategy, and we evaluated the extent to which they were expressed in measurable and temporal terms to make them easier to evaluate.

**Table 1 – Main SMRA Objectives Related to the Implementation of the Investment Strategy**

OBJECTIVE	BUDGET DOCUMENTS			OBJECTIVE EXPRESSED IN TERMS THAT ARE		COMMENTS
	2017	2018	2019	MEASURABLE	TEMPORAL	
Eliminate the obsolescence of \$83 million over 4 years.	N/A	Yes	Yes	Yes over 4 years, but not on an annual basis.	Yes, over 4 years	Targets are established in the annual presentations given to business units (in 2018 and in 2019).
Maintain the 10-Year Global Investment Strategy.	N/A	Yes	Yes	No both on an annual basis and over 10 years.	Yes, over 10 years	Investment targets are established in the Strategy.
Standardize vehicles and equipment.	Yes	Yes	Yes	No	Not in 2017 or 2018 Yes in 2019	
Replace conventional vehicles and equipment with 100% electric models or hybrids.	Yes	No	Yes	Not in 2017 or 2018 Yes in 2019	No	However, objectives appear in the <i>Rolling Stock Green Policy</i> .

We noted that the objectives appearing in budget documents are stated in general terms and are to be achieved over a period longer than one year. We found, however, that they are not usually expressed in measurable terms. We did note, on the other hand, that annual targets were established and appear in documents prepared by the SMRA, such as the annual presentation given to business units, the Strategy and the *Rolling Stock Green Policy*. We also noted that the objective aimed at standardizing vehicles and equipment was not expressed in temporal terms in budget documents. According to the information obtained, one objective and targets were not established from the outset, because the SMRA had to pursue consultations with representatives of the business units beforehand.

This situation does not allow the SMRA to demonstrate later on, during accountability reporting, the extent to which the results were adequate nor that they were achieved within a reasonable time. We think that the SMRA should not only express its objectives in measurable terms, it should also provide information on the annual targets established so that it will eventually be able to produce useful, relevant accountability reporting.

## RECOMMENDATION

**3.1.B.** We recommend that the Service du matériel roulant et des ateliers ensure that it expresses the objectives set out in its budget documents in measurable terms, for all its priorities, accompanied by annual targets, in order to show its commitment and also to be able to report later on the extent to which the results were achieved or not.

## RESPONSE

**3.1.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.2. Knowledge of the City's Vehicle Inventory

### 3.2.A. Background and Findings

In order to be able to manage a fleet of vehicles over their entire life cycle, from the development of specifications in preparation for the acquisition of vehicles to the scrapping of vehicles, it is essential to have a certain amount of information on the fleet, starting with a full inventory. This is what we wished to confirm first in this audit.

#### Vehicle Inventory Management Tools

To manage its vehicle fleet, the SMRA uses several software tools. Central to these tools is a database called InvFlotte, which the SMRA created using WinDev in 2017, before centralization.<sup>5</sup> Initially, the function of this tool was to monitor and invoice services provided by the SMRA to business units.<sup>6</sup> It is now in InvFlotte that a new vehicle serial number is entered, along with all the information related to the vehicle including make, model and date of receipt of the vehicle by the SMRA and the date of entry into service in the business unit.

However, InvFlotte does not contain information on vehicle maintenance and use. This information, such as the periodic statement of kilometres travelled and maintenance costs, is collected in a second database called MIR.<sup>7</sup> Unlike InvFlotte, which contains both active vehicles and equipment and those that are no longer used, MIR lists only assets. Some of the data in InvFlotte and MIR is identical, including the make, the model and the year.

<sup>5</sup> WinDev is a software development application.

<sup>6</sup> Prior to 2017, business units managed their fleets. They had a dedicated budget, and the SMRA billed them for the services it provided.

<sup>7</sup> MIR (Maintenance, Inspection, Repair) is a commercial software program developed to manage the maintenance of a vehicle fleet. The City, however, purchased software licences to continue development independently of the developer.

To load MIR with vehicle maintenance data, the SMRA must rely on two information exchange gateways that the SMRA developed under WinDev. One is TempsDiff, in which a foreman can enter the time worked by a mechanic on a given vehicle, and the other is GestPiece, which will obtain from the Système Intégré Montréal (SIMON) the cost of various parts used for vehicle maintenance and repair. The use of vehicles or equipment, in terms of kilometres travelled or hours of use, is documented in two ways. During maintenance work, the mechanic enters the odometer reading or the total hours of operation on the work order, and the foreman enters them in MIR once the work order is closed. When refuelling at one of the City's fuel stations, to prime the pumps, employees must enter a code that contains the vehicle's serial number and odometer reading. This information is then stored by CoenCorp fuel management software. However, there is no link or automatic sharing of information between MIR and CoenCorp.

The SMRA is no longer able to continue developing tools under WinDev because the staff that had the required knowledge were reassigned to the Service des technologies de l'information (STI). There is therefore a risk of the SMRA being dependent on this department for the development of its tools, especially since it is less flexible and its development needs are prioritized on the basis of those in use at other City departments. According to the SMRA, the STI made a commitment to provide support for tools developed under WinDev. Furthermore, there are no written procedures or methodologies explaining how to use these different tools, so there is a risk that the SMRA will no longer be capable of using these additional tools efficiently if a staff member leaves. For instance, an engineer statistician at the SMRA was working on updating the theoretical service life of vehicle classes. The methodology used was not documented, and since the engineer's departure in 2017, according to the SMRA, the theoretical service life of only one or two of the 305 classes has been revised. This data field, which is currently used to identify vehicles to be replaced, is therefore no longer up to date. This staff member had also prepared reasonable or useful service lives, largely based on vehicle use and maintenance costs.

Finally, the SMRA uses an Excel file (the "Acquisition de véhicules" file) to manage vehicle acquisitions. The Acquisition de véhicules file contains various tabs to monitor the development of specifications and calls for tenders, from the acceptance and preparation of vehicles up to their commissioning in business units. A vehicle identified as needing to be replaced should therefore eventually become inactive in InvFlotte, and the new vehicle replacing it should in turn appear in InvFlotte. There is no direct link between the Acquisition de véhicules file and InvFlotte. Operations must be done manually, with the risk of errors that this entails in transcribing a vehicle's serial number, for example. As part of our audit, we established a random sample<sup>8</sup> for each business unit audited equivalent to 20% of the vehicles that were identified as needing to be replaced since the centralization. This sample consists of 223 vehicles distributed in all categories of SMRA vehicles, including 90 at the Service de police de la Ville de Montréal.

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<sup>8</sup> The vehicle selection for this sample, i.e., the number of vehicles in each category, was made on a discretionary basis. The size of the sample is large enough to provide sufficient evidence to support our conclusions.

Out of 133 randomly selected vehicles, not including SPVM vehicles, six vehicles, or 4.5% of the sample, had serial numbers entered in InvFlotte that did not match those in the Acquisition de véhicules file.

Along with all these tools, the vehicle fleet used by the SPVM is managed by another commercial computer-assisted maintenance management software known as MAXIMO. The acceptance and commissioning dates of a vehicle, its make and model, its serial number, purchase cost, maintenance costs, and odometer reading are all entered directly in MAXIMO. For odometer readings of SPVM vehicles, each unit of this department must electronically transmit the odometer readings of all vehicles it uses once a month. Before data is transferred into MAXIMO, it is compared with the data of the previous month for each vehicle, in order to ensure the values match.

### **Consistency of the Vehicle Inventory Among the Different Tools**

Since InvFlotte and MIR both manage data on the same vehicles, at least for assets, there is reason to expect that the two tools contain the same vehicle and equipment data. As of September 2019, InvFlotte contained 8,676 active vehicles and equipment while MIR contained 8,760 as of the same date. Rather than compare the total number of vehicles, we checked to see whether each vehicle is listed in both tools based on a data extraction. There are 12 vehicles entered in InvFlotte that are not found in MIR and 96 vehicles in MIR that are not found in InvFlotte. Therefore, a total of 108 vehicles, a figure representing 1.2% of the City's vehicle fleet, are found in only one of the two tracking tools. The SMRA states that it was aware that there was a discrepancy between the contents of the two tools, but never sought to identify its cause. Table 2 shows the distribution of vehicles per category in InvFlotte and in MIR as well as the number of vehicles in each category that exists in one database and whether it is found in the other.

While SPVM vehicles are managed by MAXIMO, the InvFlotte database at the SMRA nevertheless contains summary information on these vehicles, such as the serial number, the model and make, the acceptance date, commissioning date and, if applicable, scrapping date. We compared the total MAXIMO inventory with the City's inventory in InvFlotte in order to ensure that all SPVM vehicles are in both databases. Of the 1,443 active SPVM vehicles appearing in InvFlotte, only 1,334 vehicles appeared in MAXIMO, which represents a 7.6% discrepancy. This leads us to question the representativeness of the contents of MAXIMO and InvFlotte at least in terms of vehicles used by the SPVM, which is the business unit with the most vehicles in the City.

We did not try to identify the causes of this discrepancy. However, considering that the City wants to maintain the size of the fleet or its economic value, we think it is important that both the business units that use vehicles and the SMRA have a single reading of the size of the vehicle fleet.

We asked the business units audited to provide us with lists of the vehicles they used in their operations. All the business units provided us with such lists.<sup>9</sup> We attempted to determine whether these vehicles appeared in the SMRA's InvFlotte database. Out of a total of 2,966 vehicles appearing on lists obtained from the business units audited, 86 vehicles, or 2.9% of them, did not appear in InvFlotte. While this is not a high percentage, it still causes us to question, once again, whether the InvFlotte database is complete.

As the body responsible for managing the City's entire vehicle fleet, the SMRA needs to have an accurate reading of the actual number of vehicles in service in all business units. If it does not, and if it erroneously considers vehicles to be in use or is unaware of the existence of other vehicles, the SMRA cannot adequately evaluate the extent to which its vehicle fleet is obsolete, and can therefore not provide for the investment needs for the next few years to manage this obsolescence.

Based on these findings and discrepancies observed between InvFlotte and MIR, we think that a physical inventory of vehicles and equipment should be taken, so that the SMRA can have an accurate reading of the exact size of the City's vehicle fleet.

**Table 2 – Comparison of InvFlotte and MIR for the Number of Vehicles per Category as of September 2019**

DATABASE	EXISTS IN THE OTHER DATABASE	A - LIGHT CARS	B- LIGHT TRUCKS	C- HEAVY TRUCKS	D- LIGHT TOOL VEHICLES	E- HEAVY TOOL VEHICLES	F- OTHER LIGHT EQUIPMENT	G- OTHER HEAVY EQUIPMENT	OTHER VEHICLES NOT BELONGING TO ANY CATEGORY	TOTAL
InvFlotte	Total	2,351	1,403	1,371	370	789	1,932	444	16	8,676
	Yes	2,351	1,403	1,368	370	788	1,926	444	14	8,664
	No	0	0	3	0	1	6	0	2	12
MIR	Total	2,366	1,411	1,376	367	766	1,670	465	339	8,760
	Yes	2,351	1,402	1,367	361	760	1,662	462	299	8,664
	No	15	9	9	6	6	8	3	40	96

<sup>9</sup> Since lists may have been produced on different dates, especially the one for Pierrefonds-Roxboro borough, which was representative of the year 2018, it was not possible to make a comparison to prove or disprove whether the contents of these lists represented the entire vehicle fleet used by a business unit by comparing them to the InvFlotte content as of September 2019.

## Knowledge of the Age of Vehicles

Since the criterion used by the SMRA to identify an obsolete vehicle that needs to be replaced is its age, we wondered whether InvFlotte and MIR contained high-quality data for establishing this parameter. For 218 of the 223 vehicles in our sample, the year of the vehicle is similar in InvFlotte and in MIR<sup>10</sup> and corresponds to the vehicle's serial number.<sup>11</sup> For the other five, in one case, there is no date in InvFlotte for the vehicle that is no longer in service. For three other vehicles, the year of each vehicle is similar in InvFlotte and in MIR, but the vehicles were acquired by the City well after this date, and in this case, the serial numbers take into account the commissioning date rather than the vehicle's year of manufacture. Finally, for one case, a vehicle's serial number is not matched with its year of manufacture or even its commissioning date. Considering this very low rate of non-correspondence (0.4%, or 1 case out of 223), we consider the information on the age of the vehicles in both InvFlotte and MIR to be of a high enough quality<sup>12</sup> to identify obsolete vehicles.

The InvFlotte data does not correspond perfectly to the MIR data; nor does the data in InvFlotte perfectly match the data in MAXIMO. As stated, we also noted errors in the Acquisition de véhicules file for monitoring new vehicles to be accepted in order to manage obsolescence, largely because vehicle information is entered manually. Several other tools developed internally are also necessary for providing an overview of a fleet of close to 8,700 vehicles valued at close to \$700 million for the purpose of managing it.<sup>13</sup> In 2019, the SMRA requested that the STI develop an application to integrate management of the arrival of new vehicles directly into MIR so that it would no longer need to use the Acquisition de véhicules file. At the time of our audit work, there was no new development in this area, according to the SMRA.

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<sup>10</sup> When the vehicle is no longer active, it no longer appears in MIR. So, since we were unable to compare the years given in MIR and InvFlotte and compare these with vehicle serial number, we compared only the age calculated using InvFlotte and compared it to vehicle serial numbers.

<sup>11</sup> The vehicle's serial number is based on the following structure: AAA-BBCCC, where the letters AAA correspond to the three-digit code for the vehicle class, the letters BB refer to the year of the vehicle (e.g., 99 for 1999 and 05 for 2005) and the letters CCC are a unique identifier.

<sup>12</sup> Quality here means that similar values are observed in the two databases for a single vehicle. However, we did not verify on site whether the year associated with a vehicle is accurate.

<sup>13</sup> The value of the fleet was estimated by the Bureau du vérificateur général of the Ville de Montréal on the basis of data available for the City's 8,676 active vehicles in September 2019. As of January 2018, the Strategy for maintaining the City's vehicle and equipment fleet valued the City's fleet of approximately 7,400 vehicles at \$571 million.

## RECOMMENDATION

**3.2.B.** We recommend that the Service du matériel roulant et des ateliers document the methodologies to be followed for using the various tools required for comprehensive management of information on a vehicle's life cycle, in order to ensure that the load capacity of the databases and vehicle fleet management are maintained, regardless of the resources used in the department.

## RESPONSE

**3.2.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## RECOMMENDATION

**3.2.C.** We recommend that the Service du matériel roulant et des ateliers establish a mechanism to ensure consistency among the vehicle entries appearing in the InvFlotte and MIR databases, those appearing in MAXIMO for the Service de police de la Ville de Montréal, those in the Acquisition de véhicules file, and those that are actually in the field and used by the different business units, in order to have a true, accurate picture of the number of active vehicles in the City.

## RESPONSE

**3.2.C.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## RECOMMENDATION

**3.2.D.** We recommend that the Service du matériel roulant et des ateliers document the establishment of the theoretical service life and ensure that it is updated, in order to show that the calculation of the obsolescence of vehicles and equipment is objective and realistic.

## RESPONSE

**3.2.D.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.3. Investment Strategy for Vehicle Replacement

### 3.3.1. Establishing the Investment Strategy

#### 3.3.1.A. Background and Findings

In 2017, the Direction générale mandated the BPPI and the SMRA to develop a long-term Strategy for eliminating the gap and ensuring that assets under the responsibility of the SMRA are maintained. This Strategy was part of the planning of the 2018–2020 Three-year capital expenditures program (TCEP) and the 2018–2027 Ten-Year Plan.

At the end of our analysis, the report produced showed:

- the level of obsolescence of the vehicle and equipment fleet, subdivided into seven categories, as of January 1, 2017. According to the study, for all business units together there were 7,372 vehicles and equipment with a replacement value of \$570.81 million. More specifically, these included:
  - 5,702 vehicles with a replacement value of \$517.30 million and a weighted-average service life of 10.91 years;
  - 1,670 equipment with a replacement value of \$53.51 million and a weighted-average service life of 23.47 years.
- actual expenditures made by all the business units for bridging the gap from 2013 to 2017, fleet maintenance and additional needs. For these five years preceding the consolidation of activities, the average annual expenses amounted to \$36 million;
- at the end of 2016, the accumulated gap for each of the seven categories was \$67 million;
- the investments needed to meet the demand for annual replacements for the fleet and additional needs;
- three possible scenarios for dealing with the obsolescence gap, bridging the gap and additional needs proposing that the gap be bridged over a period of four, six or eight years.

The scenario approved verbally by the director general corresponded to the one recommended by the BPPI and the SMRA, which involved bridging the gap over four years, but with smoothing, which allowed investments to remain stable at \$46.88 million a year for 10 years. This scenario corresponded to the SMRA's increased ability to implement the Strategy, evaluated at \$50 million.

**Table 3 – Annual Investment Needs (Vehicle and Equipment Replacement, and Fulfilment of Additional Needs) (in Millions of Dollars)**

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	TOTAL
Bridging the accumulated gap (4 years)	16.83	16.83	16.83	16.83							67.32
Update for bridging of the gap	0.02	0.55	0.83	1.12							2.52
Obsolescence (maintenance)	16.79	16.67	35.01	28.39	30.61	57.72	54.98	51.41	45.10	42.28	378.96
Additional needs	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	20.0
<b>Total annual needs</b>	<b>35.64</b>	<b>36.05</b>	<b>54.67</b>	<b>48.34</b>	<b>32.61</b>	<b>59.72</b>	<b>56.98</b>	<b>53.41</b>	<b>47.1</b>	<b>44.28</b>	<b>468.8</b>
<b>Annual investments according to the chosen scenario</b>	<b>46.88</b>										

Source: Investment Strategy for maintaining the City’s vehicle and equipment fleet and meeting additional needs, produced by the BPPI as of January 17, 2018.

Given that the Strategy will guide the TCEP budget allocations for the next 10 years in order to achieve the objectives, we wanted to make sure that the numbers used when the Strategy was developed were reliable, since these are the annual investments that were established to guide the TCEP budget for the replacement of vehicles and equipment. First, we were unable to obtain documentation supporting the numbers that were used to establish this Strategy, as of January 1, 2017. We could therefore not be certain that all the data had been considered and that the annual investment needs had been properly evaluated. We think that all documentation supporting such a Strategy should be kept as proof of the data used and the assumptions made. Such documentation would also be useful for purposes of subsequent review.

To make sure these figures were plausible, we compared them with data extracted from the InvFlotte database on January 1, 2017. The results of our analysis reveal that:

- the number of vehicles considered for the purposes of the Strategy was underestimated, because approximately 400 vehicles held as of January 1, 2017, were added to the InvFlotte database after the Strategy was adopted;
- for each class, the replacement value should correspond to the last vehicle acquisition cost. We were unable to reconstruct this data with reasonable assurance. On the one hand, a history of the replacement values used was not kept for all vehicles replaced in 2018 or in 2019. On the other hand, considering that the number of vehicles was underestimated, it is highly probable that the replacement value was, too;

- the weighted-average service life of three categories of vehicles and equipment seems to have been underestimated. Moreover, the fact that the number of vehicles was underestimated is likely to have an impact on this data;
- the accumulated gap: the value established by the SMRA when the Strategy was developed at the end of 2016 was \$67.3 million. According to the information obtained, the accumulated gap as of June 22, 2017, was \$83 million, which was likely to have an impact on the total investment needs.

We are aware that the BPPI and the SMRA used data available in the databases when they conducted their analysis in order to develop the Strategy. According to the information obtained, the Strategy has not been updated since it was approved by the director general in 2018. Considering that two years have elapsed since this Strategy was developed and that new data has become available since then, we think it would be appropriate to update the investment needs. More specifically, with respect to approval of the Strategy, we think that it should initially have been approved by the authorities concerned not only because of the scope of the orientations adopted in it and their impact on all business units, but also because of the resources required to follow up on them. We therefore believe that when the Strategy is updated, the formal authorizations required should be obtained from the authorities concerned. We believe that this would enable them to confirm whether they still support the orientations adopted.

### RECOMMENDATION

**3.3.1.B.** We recommend that the Service du matériel roulant et des ateliers keep the documentation supporting the establishment of an Investment Strategy, in order to show proof of the data used and the assumptions made for control or review purposes.

### RESPONSE

**3.3.1.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## RECOMMENDATION

**3.3.1.C.** We recommend that the Service du matériel roulant et des ateliers update the Investment Strategy for replacing the fleet of specialized vehicles and equipment and obtain all official authorizations required so that it reflects up-to-date information on the level of investments needed for the coming years, including the accumulated gap, so that they are integrated into the Three-year capital expenditures program and the Ten-Year Investment Plan.

## RESPONSE

**3.3.1.C.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.3.2. Investment Budgets for the Implementation of the Strategy

### 3.3.2.A. Background and Findings

In order for the Strategy to be implemented as planned and achieve the expected objectives, the projected budgets must be allocated and spent as planned.

As mentioned above, according to the Strategy approved by the director general in early 2018, the investment budget was to amount to \$47 million and had to help bridge the accumulated obsolescence gap of \$67.3 million over a four-year period (from 2018 to 2021). To achieve the objectives, the chosen scenario involved an investment budget allocation for bridging the accumulated gap, replacing vehicles that have reached the end of their useful service life (maintenance) and for acquisitions attributable to new needs. The allocation of the investment budget targeted three objectives:

- increasing the reliability of vehicles and equipment by bridging the accumulated obsolescence gap;
- preventing vehicles and equipment items that reach the end of their useful service life from falling into obsolescence as well, which would increase the accumulated obsolescence gap;
- keeping vehicle acquisition for the purpose of meeting new needs at a minimum level so as not to increase the vehicle and equipment inventory.

In 2018, new data that was not taken into account when the Strategy was established led the SMRA to revise the accumulated obsolescence gap upward to \$83 million. The objective was still to bridge this gap within four years within the same timeframe, i.e., from 2018 to 2021. As illustrated in Table 4, we found that this revision of the accumulated gap has had an impact on the projected investment budget allocation. Since investments were smoothed over a 10-year period, the discrepancy between the investment needs established and the investment budget granted enabled the SMRA to absorb an accumulated gap that is higher for the first two years of the Strategy.

**Table 4 – Investment Strategy Distribution of Investment Budget for the First 4 Years (2018 to 2021) (in Millions of Dollars)**

	DISTRIBUTION ACCORDING TO THE INVESTMENT STRATEGY INCLUDING THE ACCUMULATED GAP OF \$67.8 MILLION					DISTRIBUTION ACCORDING TO THE INVESTMENT STRATEGY INCLUDING THE ACCUMULATED GAP OF \$83 MILLION				
	2018	2019	2020	2021	4-YEAR TOTAL	2018	2019	2020	2021	4-YEAR TOTAL
Bridging the obsolescence gap	16.83 36%	16.83 36%	16.83 36%	16.83 36%	67.32	24.00 51%	25.00 53%	8.00 17%	26.00 55%	83.00
Obsolescence (maintenance)	16.79 36%	16.67 35%	35.01 74%	28.39 60%	96.86	16.79 36%	16.67 36%	35.01 74%	28.39 60%	96.98
Additional needs	2.00 4%	2.00 4%	2.00 4%	2.00 4%	8.00	2.00 4%	2.00 4%	2.00 4%	2.00 4%	8.00
Bridging update	0.02	0.55	0.83	1.12	2.52	0.02	0.55	0.83	1.12	2.52
Surplus budget	11.24	10.83	(7.79)	(1.46)	12.82	4.07	2.66	1.04	(10.63)	12.82
Annual investment budget	<b>46.88</b>	<b>46.88</b>	<b>46.88</b>	<b>46.88</b>	187.52	<b>46.88</b>	<b>46.88</b>	<b>46.88</b>	<b>46.88</b>	187.52

During our audit, we evaluated the extent to which investment budgets allocated to vehicle replacement were in line with what was provided for in the Strategy approved in 2018. It should first be noted that the investment budget obtained by the SMRA for 2017, which was the first year of consolidation of activities, amounted to \$36 million. We noted that since the development of the Strategy, the SMRA has had an investment budget of \$46.9 million, as provided for 2018 and 2019. According to the information obtained, when the Strategy was approved, this budget had been secured for the SMRA. However, for the following years, it had been agreed that the SMRA had to demonstrate its investment needs every year. At the time of our audit, as a result of the SMRA's representations to the City's budget committee, the investment budget could be maintained at \$46.9 million for 2020. For 2018, 2019 and 2020, the TCEP budget granted to the SMRA is therefore essentially in line with the Strategy. However, according to the information obtained, the SMRA's investment budget is an overall package, and budget planning was not oriented to staying in line with the investment budget allocation as provided for in the Strategy. On the other hand, the planned acquisition of specialized vehicles and equipment was mainly oriented towards bridging the accumulated obsolescence gap, and more particularly towards replacing SIM and SPVM vehicles, since public safety issues are at stake. Since 2018, there has also been an increase in vehicle and equipment acquisitions to meet new needs.

This situation is likely to affect adherence to the scenario calling for bridging the accumulated obsolescence gap over four years, along with all the related disadvantages (e.g., damage to vehicles affecting the delivery of services and increases in repair costs). It is also likely to cause an increase in the vehicle and equipment inventory. We think that the SMRA must stay in line with the investment budget allocation, as provided for in the Strategy, in order to achieve the expected objectives, unless it is granted an officially approved dispensation.

## RECOMMENDATION

**3.3.2.B.** We recommend that the Service du matériel roulant et des ateliers comply with the Investment Strategy, unless it is granted an officially approved dispensation, in order to ensure that it bridges the accumulated obsolescence gap in accordance with the projected scenario and to prevent the gap from increasing, while maintaining the vehicle and equipment fleet inventory.

## RESPONSE

**3.3.2.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

### 3.3.3. Use of Budgets for Implementing the Investment Strategy

#### 3.3.3.A. Background and Findings

In order for the Strategy to be implemented and achieve the expected objectives, the budgets must be spent as planned.

During our audit, we examined the budget monitoring for the three replacement programs managed by the SMRA. As illustrated in Table 5, we noted that more than 90% of the original budget was spent for 2017 and 2019 (10 months) and nearly 74% for 2018. We also noted that the expenditure commitments for future years were quite considerable for 2018 and 2019.

Table 5 – **Overview of Budget Monitoring of Vehicle Replacement Programs (in Millions of Dollars)**

	2017	2018	2019 <sup>[a]</sup>
Original budget	36.0	47.3	47.0
Actual spending	33.9	34.9	42.7
Budget share	94.2%	73.8%	90.9%
Commitments	11.5	55.0	35.2

<sup>[a]</sup> 10 months.

Source: data from SIMON, as of December 7, 2019.

In view of the SMRA's objectives of reducing the obsolescence of the vehicle fleet and limiting the acquisition of vehicles to meet new needs, we attempted to evaluate the extent to which the amounts spent out of the investment budgets of 2017, 2018 and 2019 corresponded to replacements or to a fulfilment of new needs. First of all, we observed that the SMRA had not developed a management report that would enable it to monitor this aspect. We asked the SMRA to provide us with a report on vehicle acceptances for 2017, 2018 and 2019 that distinguished those related to vehicle replacements from those related to new acquisitions. We found that the data extractions produced, when we cross-checked them with the InvFlotte data and the MIR data, could not provide us with reliable information to address our concern. As Table 6 below illustrates, it was not possible, using the data provided, to determine the number of vehicles pertaining to either of these two situations.

Table 6 – **Acceptance of Vehicles and Equipment (in Numbers) for 2017, 2018 and 2019**

STATUS IN DATABASES	NUMBER OF VEHICLES AND EQUIPMENT		
	2017	2018	2019 (UP TO SEPTEMBER 16)
<b>Total acceptances<sup>[a]</sup></b>	<b>763</b>	<b>730</b>	<b>505</b>
Acceptances with replacements <sup>[b]</sup>	189	388	525
Acceptances with no information on replacements <sup>[b][c]</sup>	574	342	(20)
Vehicles that were replaced			
• Service de police de la Ville de Montréal	(345)	(97)	(22)
• Service de sécurité incendie de Montréal	(11)	(13)	(5)
Vehicles specified as added	(3)	(41)	(59)
<b>Unexplained discrepancy</b>	<b>215</b>	<b>191</b>	<b>(106)</b>

<sup>[a]</sup> Vehicle acceptances according to InvFlotte.

<sup>[b]</sup> Cross-checked data from MIR and InvFlotte.

<sup>[c]</sup> No information indicating replacement.

Source: data from the SMRA.

Concerning the number of vehicles not indicated as being for replacement purposes, according to the information available in the databases, the SMRA was unable to provide us with proof that these were in fact new vehicles. Of this number, we can identify the vehicles that were replaced by the SPVM and the SIM. The others may be cases for which information is missing in the databases, with the result that it is not possible to indicate whether replacements or new acquisitions (new needs) are involved.

In conclusion, we believe that with the information currently entered in the databases, it is not possible to provide management reports illustrating the extent to which actual spending helped reduce obsolescence due to replacements, and the extent to which the number and the cost of new vehicles acquired to meet new needs were in line with the budget allocation provided for in the Strategy. We think it would be useful for the SMRA to have such management information so that it could account for its management to decision-makers, as well as to boroughs, which will be required to renew the competency with city council.

## RECOMMENDATION

**3.3.3.B.** We recommend that the Service du matériel roulant et des ateliers establish mechanisms for ensuring that it has data it can use to identify both vehicle acquisitions that correspond to replacements and those intended to meet new needs, so that it can monitor the budget allocation provided for and demonstrate adherence to these budgets.

## RESPONSE

**3.3.3.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.3.4. Evaluation of the Implementation of the Investment Strategy

### 3.3.4.A. Background and Findings

In order for the Strategy to be implemented as planned and achieve the expected objectives, a periodic evaluation must be carried out to determine whether the rate at which the obsolescence gap is being bridged is adequate. During this mission, we checked to see whether such an evaluation had been done by the SMRA since the Strategy was approved.

Our audit revealed that since the Strategy for maintaining the vehicle and equipment fleet was approved, a replacement process had been established to bridge the obsolescence gap in 2018 and in 2019. However, after two years of being in place, there has been no evaluation as such to judge the extent to which it has been implemented.

Considering that, at the beginning of 2018, the accumulated gap that had been calculated on January 1, 2017, was revalued at \$83 million and that bridging this gap was to take place over a four-year period, reduction of the accumulated gap of \$24 million and \$25 million, respectively was planned for the first two years (2018 and 2019) out of the total investments of \$46.9 million/year. For the first two years, the bridging provided for was therefore a total of \$49 million out of the \$83 million.

Despite the SMRA's efforts, data extracted from InvFlotte revealed, however, that the accumulated gap did not decrease over these first two years, as provided for by the Strategy. Rather, it increased as a result of new vehicles reaching the end of their theoretical service life. Furthermore, in 2019 (as of September 16, 2019), the accumulated gap was to be reduced by \$25 million, but, as shown in Table 7, we noted that it had still not decreased. However, in our opinion, by taking into consideration vehicles that were identified for replacement and for which commissioning was scheduled in 2019, the accumulated gap should be at least

\$50 million as of December 31, 2019. If the commissioning takes place as planned, there will be a decrease in the accumulated gap, but it will definitely not be in line with what was planned in the Strategy, since the accumulated gap was to amount to \$34 million. In fact, according to what was provided for, the accumulated gap was to be representative, as illustrated in Table 7.

**Table 7 – Accumulated Obsolescence Gap for the Period from December 31, 2016, to December 31, 2021**

	<b>ACCUMULATED GAP PROVIDED FOR IN THE INVESTMENT STRATEGY</b>	<b>ACCUMULATED GAP ACCORDING TO THE DATABASE ON SEPTEMBER 16, 2019 <sup>[a] [b]</sup></b>
December 31, 2016	\$67.9 million	
December 31, 2017	\$83.0 million	\$89.2 million
December 31, 2018	\$59.0 million	\$90.4 million
December 31, 2019	\$34.0 million	\$90.4 million
December 31, 2020	\$26.0 million	
December 31, 2021	\$0.0 million	

<sup>[a]</sup> Source: BVG – Data from data extractions from InvFlotte.

<sup>[b]</sup> Includes vehicles that are kept in service, as decided by the SMRA or business units, even though they have reached the end of their service life (2017: \$11.9 million; 2018: \$13.6 million and as of September 16, 2019: \$14.7 million), as well as strategic vehicles used by the SIM for which obsolescence has not been quantified.

According to the SMRA, there would be a delay of a few months in bridging the accumulated gap, which appears unrealistic to us. According to this department, the main causes would be attributable mostly to:

- assets acquired with the TCEP budget without being identified initially (e.g., the SIM boat), resulting in a delay in the planned replacement of other vehicles;
- assets replaced at a cost higher than anticipated as a result of changing needs and technology. Such a situation entails a delay in the replacement of another business unit’s vehicle;
- the theoretical service life, which was still not well established. Some vehicles are replaced before they reach the end of their theoretical service life.

The fact that no exercise was conducted to measure the impact of the implementation of the Strategy made it impossible to monitor changes in the accumulated obsolescence gap and make any necessary adjustments to the processes in place. It also meant that comprehensive information was not provided for the purpose of making decisions about obsolescence management.

We think that a periodic re-evaluation should be conducted so that appropriate steps are taken and decision-makers are informed of this so that they can make appropriate decisions.

#### **RECOMMENDATION**

**3.3.4.B.** We recommend that the Service du matériel roulant et des ateliers carry out an exercise periodically to measure the impact of the implementation of the Investment Strategy, in order to determine whether the rate at which the obsolescence is bridged as well as the projected investments are adequate.

#### **RESPONSE**

**3.3.4.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

### **3.4. Vehicle Replacement Process**

#### **3.4.1. Overall Steps in the Vehicle Replacement Process**

##### **3.4.1.A. Background and Findings**

#### **Identification of Vehicles to be Replaced**

So far, it has been mentioned that the criterion for identifying an obsolete vehicle is its age. At the SPVM, the costs of maintaining and using the vehicle, or its total kilometres travelled, are also considered. When a vehicle qualifies as being eligible for replacement, it is important to know what it is to be replaced with. Thus, in the fall of every year, the SMRA meets with all the business units to give them a presentation on vehicle renewal for the coming year, including feedback on the Strategy for bridging the obsolescence gap and a summary of acquisitions made in previous years. During this presentation, the SMRA provides the business units with all the sheets showing the different standards, as well as a document explaining the future process of identifying and validating vehicles to be replaced.

Following this presentation, the SMRA meets individually with representatives from all business units to discuss the vehicles to be replaced. Prior to this meeting, it has identified vehicles that are obsolete or will become obsolete over the next three years (the purchase of applicable vehicles out of the TCEP). These lists are sent in advance to business units so that they can discuss them internally. In fact, the instruction booklet given to business units states that a person is to be appointed to meet with the SMRA and that this person must have previously discussed with the rest of the business unit the list of vehicles sent by the SMRA.

At the meeting with the SMRA, for each vehicle, the business unit must specify whether it wants to keep a similar vehicle (in compliance with standards) or replace it with another type of vehicle if the business unit's needs have changed. If the type of vehicle is changed, the SMRA agrees that its value should be no more than 20% greater than that of the vehicle to be replaced. If the value exceeds this threshold, the vehicle is not considered a replacement, but an added vehicle for which a special request must be made and approved by the Direction générale. The SMRA also agrees that one vehicle can be replaced by two vehicles whose total value is equivalent to that of the replaced vehicle.

At this meeting, the business unit can also request that the SMRA prioritize one vehicle over another if replacements for both are already planned, or, for exceptional reasons, request the replacement of a vehicle that has not yet reached the end of its service life.<sup>14</sup> At these meetings, there is no official form for requesting that the SMRA make changes to the preliminary list that was sent beforehand. Requests are made verbally by the business unit.

In the weeks following this meeting, the SMRA sends each business unit a new list of vehicles to be replaced, taking into account the comments expressed at the previous meeting. The minutes of this meeting are also sent. Business units then have one week for the department or borough director to make a final validation of this list of vehicles. Subsequently, the SMRA can compile all lists and develop specifications for the purchase of vehicles.

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<sup>14</sup> The SMRA considers a request for the replacement of a vehicle that has not yet reached the end of its service life to be a request for an additional vehicle. However, we noted one example of a request for early replacement by a borough because of the vehicle's advanced state of deterioration.

## **Purchase and Preparation of Vehicles Before They Are Delivered to Business Units**

Once the business units have validated the list of vehicles to be replaced, the SMRA begins the vehicle acquisition process, which can be summarized in three major steps for which it is responsible.

- Developing specifications, planning and validating calls for tenders:
  - The SMRA groups together vehicles of the same class and prepares technical tender specifications. Depending on the value of the acquisitions and, more importantly, the number of vehicles concerned, the SMRA can make a purchase by agreement if applicable;
  - Depending on the complexity of the specifications, the estimated delivery date (the delivery quarter) can be adjusted;
  - The call for tenders is launched and the SMRA then evaluates the technical compliance of offers received before proceeding to the section on the contracting authority.
- Awarding purchase contracts and ordering vehicles:
  - The SMRA prepares the required documents to obtain the final authorizations to award the contract from the decision-making authorities of the City or agglomeration;
  - Once the authorizations are obtained, a purchase order is prepared and sent to the contracting authority.
- Accepting, preparing and fitting, and commissioning vehicles:
  - When the vehicle is accepted, a vehicle inspection takes place to ensure that it meets the technical specifications. In the case of specialized SIM vehicles that are manufactured specifically for the City, inspections are made while the vehicles are being manufactured in order to minimize non-compliances at the time of delivery and thereby accelerate the process;
  - The vehicle is then prepared. This can simply mean doing the lettering on the vehicle to identify it as a City vehicle, installing various equipment that were specified when the replacement was validated, or doing a complete fitting of the vehicle for special operations;
  - Finally, the business unit is informed that the vehicle is ready for commissioning.

## 3.4.2. Compliance With Vehicle Replacement Criteria

### 3.4.2.A. Background and Findings

Theoretically, an SMRA vehicle must be replaced if, because of its age, it has reached the end of its theoretical service life, as evaluated by this department. In the case of vehicles used by the SPVM, two of the three criteria (age, odometer, maintenance and repair costs) must be met in order for it to be replaced. We sought to evaluate the extent to which this rule was observed.

Based on our sample of 133 vehicles identified as needing to be replaced in the business units audited, excluding the SPVM, we noted that 84.7% of the vehicles met this age criterion. For the vehicles used by the SPVM, 81.9% of the vehicles in the sample<sup>15</sup> fulfilled at least two of the three criteria (in 32.5% of cases, all 3 criteria were met). When only two criteria were met, they involved the “Age–Cost” pair more often than “Age–Odometer,” with the result that age and maintenance and repair costs take precedence in the choice of vehicles to be replaced at the SPVM.

Based on this analysis, we can conclude that a high proportion of vehicles that were replaced by the City for reasons of obsolescence were replaced in compliance with the current criteria for obsolescence. However, we think that the SMRA should document the reasons justifying the replacement in cases where the vehicles being replaced do not fulfil the age criterion or two out of the three criteria used at the SPVM.

### RECOMMENDATION

**3.4.2.B. We recommend that the Service du matériel roulant et des ateliers document the reasons supporting the replacement of a vehicle that does not fulfil the defined obsolescence criterion or criteria, in order to account for this at the appropriate time.**

### RESPONSE

**3.4.2.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

<sup>15</sup> The exercise here could only be performed on 83 of the 90 vehicles in the sample, because seven vehicles did not correspond to any of the four groups of vehicles for which the criteria of use, age and repair costs had been provided.

## 3.5. Vehicle Replacement Process Seen by the Business Units

### 3.5.1. Mechanism in Place to Enable Business Units to Monitor the Vehicle Replacement Status

#### 3.5.1.A. Background and Findings

A few times a year (the instruction booklet given to business units refers to a quarterly frequency), the SMRA sends each business unit a chart, similar to the one submitted for validation of vehicles to be replaced (the “Identified Replacement Tracking File”). This file shows in particular the progress status of the vehicle replacement (the projected quarter for delivery to the business unit). The boroughs audited state that there are often changes in projected delivery dates of vehicles from one version of the monitoring charts to another, but that these differences are not explicitly indicated. The boroughs themselves must do the work of comparing the different versions in order to find out about these changes. Delays in the delivery of vehicles can have impacts on the services that boroughs provide to citizens. If they do not receive a vehicle as planned, this can delay work or activities that were planned for the vehicle, or force them to do the work with an obsolete vehicle with a higher risk of breaking down, potentially leading to lower productivity over the same period than that of a new vehicle.

The SPVM and the SIM each hold separate statutory meetings with the SMRA every two weeks. At these meetings, vehicle maintenance monitoring and the process of replacing and acquiring vehicles are discussed. We noted that during these meetings, the SMRA presented the SIM with a list of vehicles in the process of being replaced along with the status of the number of vehicles received, vehicles not received, delivery forecasts and reasons justifying certain delays. While we are unable to demonstrate this, we think these recurring meetings must play a positive role in the transfer of information between these business units and the SMRA. We think that this business model between the SMRA and the SPVM or the SIM should be replicated with the other business units, if needed.

## RECOMMENDATION

**3.5.1.B.** We recommend that the Service du matériel roulant et des ateliers clearly and explicitly indicate on the monitoring charts for vehicles needing to be replaced the changes made since the last monitoring and the reasons justifying these changes, so that business units can easily do their own monitoring of the vehicles to be replaced and adjust their operations on the basis of expected changes in the delivery dates of vehicles.

## RESPONSE

**3.5.1.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## RECOMMENDATION

**3.5.1.C.** We recommend that the Service du matériel roulant et des ateliers hold statutory meetings with all business units with vehicles that are in the process of being replaced, if needed, at a frequency dictated by their needs, in order to keep them informed of the progress status of vehicle replacements and the reasons that may justify delays.

## RESPONSE

**3.5.1.C.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.5.2. Non-Availability of Data for Vehicle Replacement Process Since Centralization

### 3.5.2.A. Background and Findings

During the first year of centralization (and prior to the centralization for business units whose fleet was managed by the SMRA), the SMRA produced vehicle replacement tables that showed, for each vehicle class and for each vehicle, its age, whether it was eligible for a replacement due to its obsolescence in the next four years, the maintenance and repair costs over the past three years, its fuel consumption (or hours of use) over this same period, and the last odometer reading. It then became possible to evaluate what the SMRA calls the reasonable service life of a vehicle, which, unlike the theoretical service life of a vehicle, which is based solely on its age, takes economic aspects into account.

At that time, the business units had a great deal more information than they do now to validate the vehicles to be replaced. First, they had an overview of the entire fleet concerning them and not just vehicles identified by the SMRA as needing to be replaced. Second, data on use and repairs enabled business units to compare vehicles, and possibly, to choose to replace a vehicle that was not old but whose maintenance or repair costs were becoming substantial considering its use, or to keep an older vehicle that was still efficient. Saint-Laurent borough, when its vehicle fleet was not managed by the SMRA, decided which vehicles were to be replaced on the basis of their age, their maintenance costs and their general condition.

According to the information we obtained, the last time these tables were produced was in 2017. They were generated by a program developed internally at the SMRA by an employee who retired in 2017. Changes were later made to the programming languages of the databases, and, without the expertise of the person who developed the program used to generate these tables, it was no longer possible to generate them.

### **RECOMMENDATION**

**3.5.2.B.** We recommend that, at annual working meetings aimed at identifying vehicles as needing to be replaced, the Service du matériel roulant et des ateliers present business units with a list of all vehicles in service associated with each business unit, together with historical information on maintenance, repair and use, so that each business unit can identify vehicles which, for reasons of efficiency, should be replaced.

### **RESPONSE**

**3.5.2.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

### 3.5.3. Taking Users' Needs into Account

#### 3.5.3.A. Background and Findings

Even though there is a process in place that is explained every year to business units to give them a chance to express their vehicle needs, the boroughs audited gave us several examples of situations that led them to say that they still do not feel as though they are being heard. We highlight three of them here as examples:

- In September 2018, one borough requested the prioritization of one vehicle in particular that had already been identified as needing to be replaced and for which the delivery date was to be before the end of 2018. The following year, the vehicle had still not been delivered and its projected delivery date had been postponed to the second quarter of 2020, despite the prioritization requested;
- One borough requested that a class 164 vehicle be replaced by a class 167 vehicle, because it was a total loss.<sup>16</sup> The list for the final validation by the business unit clearly showed that it would be replaced by a 167. One year later, in the list of replacements in progress, the new vehicle identified was once again a class 164 one. The Acquisition de véhicules file used by the SMRA to manage the specifications, orders and acceptance of new vehicles, in its June 2019 version, also showed that the vehicle on order was a class 164 one (standard 164A);
- One borough was to receive, based on the initial planning, three snowblower heads in the third quarter of 2018. At the end of August 2019, in the file concerning new obsolescences sent by the SMRA to the borough, delivery of two of the three snowblower heads was now scheduled for the third quarter of 2019 and the third for the third quarter of 2020. In an email to the borough, the SMRA explained that the delivery of the third head had to be postponed until 2020, in order to stay within its 2019 budget envelope, which had already been fully used. According to a message sent by the borough to the SMRA, this postponement “*jeopardized snow removal operations*”, because the borough had added an extra snowblowing team for the 2019–2020 season in order to comply with a change in snow removal practices imposed by the Service de la concertation des arrondissements.

These different areas of dissatisfaction that we identified when it comes to taking users' needs into consideration are reflected in two surveys conducted by the SMRA after the first and second years of the centralization. After the first year, 54.8% of the respondents said they were dissatisfied or very dissatisfied with the service obtained in connection with the acquisition of vehicles and equipment. This percentage climbed to 63.2% when the SMRA repeated the survey, broadening its scope to cover the first two years of the centralization. In view of the results of these surveys and the findings that we made that were directly related to the

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<sup>16</sup> A class 164 vehicle is a sport utility vehicle or a four-cylinder crossover, while a class 167 vehicle has six cylinders.

service provided to business units, major changes are needed in the vehicle replacement process and the tools used before it is appropriate for the SMRA to repeat a survey of its users.

### **RECOMMENDATION**

**3.5.3.B.** We recommend that the Service du matériel roulant et des ateliers develop tools so that business units can express in writing their needs and the changes that need to be made to replacement vehicle management and that they are informed of the follow-up taken on each of these requests, in order to ensure that requests and responses to them are traceable in the planning for vehicles needing to be replaced.

### **RESPONSE**

**3.5.3.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## **3.5.4. Definition of the Standards Used to Standardize the Vehicle Fleet**

### **3.5.4.A. Background and Findings**

Beginning in 2017, when the SMRA was entrusted with the management of the City's entire vehicle fleet, it undertook an extensive project to standardize vehicles belonging to the same vehicle class. According to the SMRA, the standardization objectives were to accelerate the vehicle acquisition process by further regulating the choices of vehicles, to facilitate the training of mechanics and operators by limiting the number of different vehicles that perform similar functions, to reduce the need for parts for all types of maintenance and repair work, and to generate savings through volume purchasing. According to the SMRA, the annual savings expected from this standardization was evaluated at \$4 million for 2018. However, we were provided with no documentation to support this assertion.

At the time of our audit work, the standardization had been defined for 92% of the total value of the City's vehicle fleet, excluding that of the SPVM and the SIM.<sup>17</sup> For each vehicle class, the SMRA produced a sheet defining what the standard contains. In some cases, for a single vehicle class, there may be a few variations from the standard. For instance, for class 140, which includes compact four-door sedans or hatchbacks with an electric drive, there are two variations from the standard, depending on whether the business unit wants to have a light bar on the roof or a retractable signalling arrow.

The borough representatives we met with as part of our audit generally recognize the need for standardizing the City's vehicle fleet. However, they state that in the short term, this can cause problems, such as incompatibility of the coupling systems of old equipment with the new vehicles they must be used on. They feel that standards will have to be adjusted so that realities specific to the built environment of boroughs are taken into account to a greater extent.

### RECOMMENDATION

**3.5.4.B.** We recommend that the Service du matériel roulant et des ateliers periodically review the definition of standards, in order to ensure that they adequately meet the business units' needs and that they take into account the special characteristics of vehicles and equipment and the contexts in which they are mainly used.

### RESPONSE

**3.5.4.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.6. Acquisition Process for New Needs

### 3.6.A. Background and Findings

In a context in which one of the objectives is to maintain the inventory of the fleet of specialized vehicles and equipment in terms of numbers and value of vehicles, and in which the maximum portion of the investment budget provided for this type of acquisition is limited to \$2 million/year, mechanisms must be in place to ensure that additional requests are justified and authorized. During this mission, we evaluated the existence of such a process and how it was monitored.

<sup>17</sup> This does not mean that 92% of the current fleet was standardized, but that if the entire fleet had to be replaced, 92% of it, based on its value, would be standardized.

First of all, during our audit work, we noted that an official process for acquiring vehicles for new needs had been established by the SMRA and that business units were informed of it at the annual visits that were made.

According to this process, all additional acquisition requests must be stated on a form designed for this purpose. Business units in particular must specify on the form the desired equipment class, whether it must be fitted, the cost estimate and the reason justifying the request. The form must be signed by the management of the business unit (a Corporate Department or borough) and sent to the SMRA, which receives the requests, compiles them and submits them to the director general for authorization. When additional requests are authorized, the new vehicles to be purchased then follow the same process as described above. They are therefore integrated into the planning process.

An examination of the additional request tracking file revealed that 315 requests that were made on a form had been received at the SMRA since 2017, for an estimated value of \$26.7 million. According to the tracking file, the situation illustrated in Table 8 shows that only 10% of the requests, amounting to \$5.5 million, were approved and gave rise to an acquisition or were in the planning process. According to the information obtained, for the other requests, 45% of them were made on a justified form and authorized by the borough or department director but did not give rise to an acquisition due to a lack of budget funds. The remaining 45% of the requests received were not sufficiently justified to demonstrate the need for a new acquisition or were not approved by the officer in charge at the business unit.

**Table 8 – Official Process for Authorizing Additional Requests  
Status of Requests Received**

STATUS OF THE REQUEST	NUMBER OF REQUESTS	VALUE
Total requests approved by the director general	33 (10%)	\$5.5 million
Request completed	1 (0.1%)	\$0.2 million
Planned requests	15 (4.9%)	\$1.4 million
Unplanned requests	17 (5%)	\$3.9 million
Total complete requests awaiting approval (complete status)	142 (45%)	\$10.8 million
Total incomplete requests or requests remaining to be justified	140 (45%)	\$10.4 million
<b>TOTAL REQUESTS RECEIVED</b>	<b>315</b>	<b>\$26.7 MILLION</b>

During our audit work, we examined, for the business units selected, whether additional requests concerning them had been adequately documented, justified and authorized. To do this, we asked them to provide us with any additional requests they had sent to the SMRA and we compared these requests with those appearing in the SMRA's tracking file. This exercise, which was carried out for the business units audited, involved 23 additional requests. Our findings are as follows:

- Some additional justified, authorized request forms were tracked down. They appear in the SMRA's tracking file (7/23);
- Some additional request forms could not be tracked down (10/23) even though the additional requests file listed them. Consequently, we had no proof that there was an actual request and whether it was approved and justified, or unjustified, as the case may be;
- Some additional request forms were tracked down, but were incomplete, because a signature was missing or the proof of need was missing (4/23). We found that there was no follow-up on incomplete requests so that corrective measures could be taken by business units for the purpose of having their requests approved;
- The request tracking file includes one incomplete request that was reformulated (1/23). A duplicate exists; the file should be cleaned up;
- One request sent by a business unit was not compiled in the tracking file (1/23), which does not ensure that this file is complete.

We therefore think that the SMRA should make sure that it keeps additional form requests and should systematically provide business units with feedback to inform them of the status of their requests. We also believe that the file should be updated periodically.

Although a process for approving additional requests was put in place and announced to the business units, we also noted that additions (without replacements) were made outside of the established process. According to the information obtained, there has been a growing number of this type of request since 2017. Table 9 shows acquisitions not involving replacements that have been commissioned, are in the process of being commissioned or have been planned since 2017.

**Table 9 – Acquisition in Excess of Additional Requests that Follow the Process Number and Value (in Millions of Dollars) of Vehicles and Equipment from 2017 to 2019 (9-Month Period)**

PROCESS STEP	2017		2018		2019		TOTAL	
	NUMBER	VALUE	NUMBER	VALUE	NUMBER	VALUE	NUMBER	VALUE
Commissioning	8	0.3	16	1.9	45	3.6	<b>69</b>	<b>5.8</b>
Process – specifications/ orders					125	7.6	<b>125</b>	<b>7.6</b>
In the planning process					59	4.5	<b>59</b>	<b>4.5</b>
<b>TOTAL</b>							<b>253</b>	<b>\$17.9</b>
<b>ADJUSTMENTS</b>								
Less requests authorized by the director general							<b>(24)</b>	<b>(1.8)</b>
Less planned requests – in additional request files								<b>(1.0)</b>
<b>TOTAL</b>							<b>229</b>	<b>15.1</b>

According to the information obtained, these are urgent requests that are made by business units or arise from the municipal administration’s priorities. They do not follow the official process and are approved by the SMRA. A standard form is not used to justify these requests, and they are not approved by the director general, as provided for by the official process.

We think that the process of acquiring vehicles for new needs should be reviewed, considering that a parallel process exists. The consequence of this situation is an overrun in the budget share provided for this in the TCEP budget according to the Strategy. This affects the credibility of the official process with business units. Meeting one business unit’s additional need can delay a vehicle replacement for another business unit and have an impact on the delivery of services. On a large scale, such a practice is likely to delay the bridging of the accumulated gap and affect the maintenance of obsolescence management, even undermine the credibility of the vehicle replacement procedure. In conclusion, this way of doing things does not comply with the Strategy.

## RECOMMENDATION

**3.6.B.** We recommend that the Service du matériel roulant et des ateliers establish a mechanism for monitoring additional acquisition requests to:

- compile all acquisition requests in a single file so that it can evaluate their monetary value and therefore be able to account for them and periodically re-evaluate the Investment Strategy;
- keep proof that managers of the business units concerned have justified and approved these requests;
- keep proof that the Direction générale has approved the requests;
- provide business units with feedback (approval, reason for refusal or incompleteness);

in order to create a complete picture of requests originating from the business units.

## RESPONSE

**3.6.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.7. Vehicle Acquisition Monitoring

### 3.7.A. Background and Findings

#### Monitoring Tools

As mentioned above in section 3.2., the Acquisition de véhicules file was developed to plan and monitor the acquisition of vehicles, based on the projected commissioning dates. To this end, tabs were created to track the main dates of each overall step:

- Specifications monitoring:
  - Start and end dates – preparation of specifications;
  - Scheduled tender date;
  - Projected delivery date;
  - Scheduled disbursement date.

- Purchase order monitoring:
  - Purchase order issue date;
  - Projected delivery date;
  - Revised delivery date.
  
- Operational monitoring of the commissioning of new vehicles:
  - Projected commissioning date;
  - Vehicle acceptance date;
  - Commissioning steps (the actual dates are shown):
    - › Inspection date;
    - › Lettering date;
    - › Date of compliance with specifications;
    - › Date of fitting (date sent and date completed);
    - › Development of the maintenance record.

This file is filled out manually by several SMRA staff members. It is also used to update a second tracking file, the Replacement Tracking File described in section 3.5.1. This Replacement Tracking File is sent to the business units, not including the SPVM, in order to report on the progress of the vehicle replacement (according to the projected commissioning quarter). It goes without saying that the information must be realistic because it affects the planning of the business units' operations and, by the same token, the delivery of services.

### **Compliance with Vehicle Commissioning Dates**

Based on a sample of 133 vehicles identified for replacement in the business units selected, excluding the SPVM, we evaluated the extent to which the projected commissioning dates had been complied with. In the case of vehicles that were commissioned and delivered to business units, we found that more than half were commissioned after the initially scheduled date.

During our audit work, we asked the SMRA about their knowledge and tracking of the time elapsed between the preparation of technical specifications and the commissioning of vehicles. According to the information obtained, the dates of all the steps are compiled manually in the Acquisition de véhicules file but are not analyzed and compared with objectives concerning timelines. According to the information obtained, indicators were nonetheless compiled up to July 2018, but this practice stopped, following the departure of the manager responsible. These indicators were then evaluated on a monthly basis and covered various internal steps in the vehicle acquisition process: preparation of orders in relation to planning, acceptance of vehicles in relation to planning, commissioning

in relation to planning and acceptance in relation to commissioning. In short, these indicators provide the SMRA with management information enabling them to identify problem areas.

Although each step in the process must be analyzed, we were interested in determining whether the last step in the acquisition process, from the acceptance of a new vehicle to its commissioning, could be problematic from the standpoint of preparation timelines. To do this, we considered, based on InvFlotte, all<sup>18</sup> the vehicles accepted and commissioned after January 1, 2017. We evaluated the number of days between the acceptance date and the commissioning date. We calculated the average time per year per vehicle class and, in cases in which the SMRA had accepted vehicles of the same class for at least two years, not necessarily consecutive years, we examined whether there had been an increase or a decrease in the average time. Table 10 shows the results that we obtained by consolidating the vehicle classes in each category. There was an overall increase in time in all categories except light tool vehicles. For instance, for class 237 (straight truck with a weight of 14,000 to 16,500 lbs, category C), the average time rose from 61 days in 2017 to 112 days in 2019. This average overall increase in the time between the acceptance and the delivery of a vehicle since the beginning of the centralization process can have an impact on ultimate compliance with the delivery due date and therefore on business units' perception of the quality of the service obtained from the SMRA.

**Table 10 – Percentage of Vehicle Classes, Grouped by Category, for Which the Average Time Between Acceptance at the Service du matériel roulant et des ateliers and Commissioning Varied from 2017 to 2019**

CATEGORY	INCREASE	DECREASE
A- Light cars	62.5%	37.5%
B- Light trucks	66.7%	33.3%
C- Heavy trucks	70.0%	30.0%
D- Light tool vehicles	25.0%	75.0%
E- Heavy tool vehicles	80.0%	20.0%
F- Other light equipment	60.0%	40.0%
G- Other heavy equipment	75.0%	25.0%
<b>TOTAL</b>	<b>64.0%</b>	<b>36.0%</b>

<sup>18</sup> For this exercise, we worked with all vehicles replaced since 2017 (1,043 vehicles) and not solely the vehicles in our sample, because few vehicles in the sample had completed the replacement process.

Considering that the time elapsed between the acceptance and commissioning of vehicles, varied upward for almost all vehicle categories, and that no analysis was conducted by the SMRA, we questioned the SMRA's ability to adequately identify, from the beginning of the process, the expected delivery date (quarter) of the vehicle.

To determine this, we referred to our sample of 133 vehicles<sup>19</sup> to compare changes in projected delivery dates that were entered in the version of the replacement tracking file that was sent to business units when it was preparing for the annual meeting with the SMRA to identify the next vehicles to be replaced.

We found that in 69.3% of cases, there was no projected delivery date for vehicles to be replaced in the first year in which there were entries for them on this list. This proportion drops to 27.5% when vehicles have been in the process for a year, i.e., when they begin the second year of the process. So, after one full year, after the vehicles to be replaced are identified, business units have not yet settled on a projected delivery date for a little more than one vehicle out of four. When a projected year of delivery is available for the first and second year in which a vehicle is on a vehicle replacement tracking sheet, this date remains unchanged in 19.1% of cases and is postponed in only 4.5% of cases. However, if the vehicle has not yet been delivered at the start of the third year, we noted a significant jump in the percentage of postponed delivery dates, surging to 30.4% of cases, and no date that was scheduled for the beginning of the second year is maintained at the beginning of the third year.

In the light of these findings, we conclude that the SMRA is not always able to evaluate, from the time of its presentation to business units, a realistic projected date for the delivery of vehicles to business units (the commissioning date). Later, when business units are informed of these dates, they are disregarded to a large extent and tend to get delayed as time goes on. We also conclude that the SMRA has not established mechanisms to measure its performance with respect to vehicle preparation times, any more than for the other steps in the process. We think that such mechanisms must be established to identify the different timelines, compare them with the projected timelines and take the necessary corrective measures.

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<sup>19</sup> The 90 vehicles in our sample belonging to the SPVM could not be considered in this exercise, because the SMRA had only one replacement tracking sheet at the SPVM, for the year 2019 (2019–2021 TCEP).

## RECOMMENDATION

**3.7.B.** We recommend that the Service du matériel roulant et des ateliers analyze the time periods between acceptance dates and commissioning dates (in the past or anticipated) in comparison with what was provided for, in order to make improvements to processes, particularly in the area of establishing the timeline itself or in the area of certain steps in the commissioning process.

## RESPONSE

**3.7.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## RECOMMENDATION

**3.7.C.** We recommend that the Service du matériel roulant et des ateliers review the way it plans delivery dates of replacement vehicles, so that as soon as the vehicle to be replaced for a business unit is identified, it can provide the business unit with a realistic estimate of the projected time until it will receive the new vehicle.

## RESPONSE

**3.7.C.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.8. Accountability

### 3.8.A. Background and Findings

When a business unit implements the orientations approved by the municipal administration, it must monitor their progress, evaluate them regularly and report on them. Accountability mechanisms must be established within the structure so that informed decisions are made in a timely manner. It was from this perspective that we examined the accountability mechanisms in place to determine whether they help inform decision-makers adequately.

First of all, since the consolidation of activities related to rolling stock management, the SMRA has presented a report to all the business units at two annual meetings, one held in the spring of 2018 and the other in the fall of 2019. At these two meetings, the SMRA presented its achievements, respectively, as follows:

- For the year 2017: the summary of vehicle acquisitions (in terms of the number of vehicles per class), the increase or decrease in the accumulated gap for each vehicle category, the classes of vehicles that were standardized;
- For the first eight months of 2019: the summary of vehicle acquisitions (in terms of the number and value of vehicles received and to be received), the (overall) percentage of the extent to which the accumulated obsolescence gap was bridged for the end of 2019, the classes of vehicles that were standardized.

In October 2018, the SMRA also produced an implementation summary after the rolling stock function was consolidated, when a decision-making record was submitted to city council to justify the renewal of its competency over activities related to rolling stock management. In it, the SMRA stated that it had worked in particular on the standardization and electrification of the vehicle fleet as well as the elimination of obsolescence. We noted that it provided the results achieved in the first two areas, but not in its bridging of the obsolescence gap. In this same summary, the SMRA reported the results of surveys of the business units that were conducted in 2017 and 2018 (e.g., the most appreciated aspects, the aspects that improved the most, the least appreciated aspects). In addition, the SMRA presented the results achieved for 10 indicators established based on the major concerns of the City and the SMRA (e.g., average downtime, number of kilometres travelled between two abnormal breakages). In our opinion, this summary was relevant and useful, but an exercise of this type was not repeated for the year 2019. As a result, since this exercise, the SMRA has not reported on the achievement of objectives and the progress of various initiatives that it had committed to introduce to business units (e.g., reducing acquisition times following clients' requests, pursuing the Strategy to promote the rejuvenation of the fleet and ensuring the availability of vehicles, refining and updating vehicle fleet management data). We believe that a summary of the consolidation should be made on an annual basis, without waiting for a new decision-making record to be produced for the purpose of renewing city council's jurisdiction over management of the rolling stock function.

We also noted that every year, the SMRA reports on its achievements through budget presentations. In the documents presented in 2018 and in 2019, the SMRA reported on progress in its vehicle standardization exercise and its progress in replacing conventional vehicles and equipment with electric models or hybrids. In these documents, the SMRA also stated that it was aiming to eliminate the accumulated obsolescence gap over a four-year period and that it was maintaining the Ten-Year Global Investment Strategy.

In addition to the presentations described in the above paragraphs, we would have expected to find an accountability report reconciling the achievements with the objectives and the targets established, mainly with respect to the implementation of the Vehicle and Equipment Strategy. However, as we noted in section 3.1., the fact that the objectives were not phrased in measurable terms made this exercise difficult. We also expected the SMRA to have demonstrated to authorities the extent to which the expected benefits have been achieved since the consolidation of the rolling stock function. However, to date, the SMRA has not produced an accountability report that consolidates all these elements.

We believe that accountability mechanisms should be established to inform decision-makers about the evolution of the obsolescence of the fleet of specialized vehicles and equipment, about the extent to which the Strategy has been implemented compared with what was provided for when it was approved, about the results achieved by the various initiatives adopted and finally about the extent to which the expected benefits have been achieved since the consolidation of the rolling stock function. Clearly, this accountability reporting should bring to light the consequences for the implementation of the Strategy, if any, of simultaneously pursuing other objectives, such as the standardization and acquisition of electric vehicles.

## RECOMMENDATION

**3.8.B.** We recommend that the Service du matériel roulant et des ateliers establish regular accountability reporting mechanisms on the evolution of the obsolescence of the vehicle and equipment fleet, on the extent to which the Investment Strategy has been implemented, on the results achieved by the various initiatives adopted and on the extent to which the expected benefits have been achieved since the consolidation of the rolling stock function, so that decision-makers can make informed decisions.

## RESPONSE

**3.8.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.9. Evaluation of the Vehicle and Equipment Replacement Method Based on Best Practices

### 3.9.1. Data Availability

#### 3.9.1.A. Background and Findings

In order to propose an approach for managing the obsolescence of a vehicle fleet based on industry best practices, it is necessary to have, in addition to a known inventory, a certain amount of data, such as:

- Age of the vehicle;
- Fuel cost (or fuel consumption);
- Maintenance and repair costs;
- Use of the vehicle, i.e., total distance travelled;
- Purchase cost of the vehicle;
- General condition of the vehicle.

As shown in Table 11, with the exception of the general condition of the vehicle and its fuel costs, the other data are theoretically available in one of the databases or tools used by the SMRA. The lack of information on vehicle fuel consumption costs can be offset by knowledge of the use of the vehicle (kilometres travelled).

**Table 11 – Types of Data Appearing in Databases and Tools of the Service du matériel roulant et des ateliers for Vehicle Management**

DATA	INVFLOTTE	MIR	COENCORP	MAXIMO (SERVICE DE POLICE DE LA VILLE DE MONTRÉAL)
Age of the vehicle	Indirectly <sup>[a]</sup>	Indirectly <sup>[a]</sup>	No	Yes
Fuel cost	No	No	No	No
Maintenance and repair costs	No	Yes	No	Yes
Kilometres travelled	No	Yes	Yes	Yes
Purchase cost or replacement cost of the vehicle	Yes	No	No	Yes
General condition of the vehicle	No	No	No	No

[a] The year of commissioning of the vehicle is known information; it is therefore possible to evaluate its age.

Starting from the idea that this data should be collected, we sought to determine the extent to which such data was available for each vehicle in the City’s vehicle fleet and how reliable this data could be. To do this, we checked for the presence of these values for the 223 vehicles in our sample. As a result of this analysis, we noted that:

- the age of a vehicle is available by calculation based on its year of manufacture or commissioning for 99,6% of the sample;
- a maintenance and repair cost is available for 89.2% of the sample. However, we noted that:
  - several years may elapse with no maintenance and repair costs for a vehicle; maintenance work should be done on vehicles at least once a year;
  - mechanics’ hourly rate was adjusted upward or downward from the average rate that the SMRA claims to use to reflect differences in the types of repair work done in various vehicle classes. This therefore affects the actual maintenance or repair cost of a vehicle.

- the kilometres travelled by vehicles is available for 140 out of the 170 vehicles that are still active in our sample, which represents 82.3% of the active vehicles in the sample; here is the breakdown:
  - Data from MAXIMO for SPVM vehicles is collected once a month in each SPVM unit, and the odometer value is compared with the value for the previous month for the same vehicle to control the quality of the reading;
  - Data from MIR consists of odometer readings taken by mechanics when they do a repair or maintenance job. According to the SMRA, no controls are performed on these values entered in the shop;
  - The kilometres travelled can also be viewed in the database associated with CoenCorp. However, according to the SMRA, no controls are performed on the odometer value that a vehicle user can enter when refuelling at one of the City’s fuel stations. Furthermore, there is no corroboration between odometer values entered at the pump and those entered in the shop.
- The actual vehicle purchase price is available for only 65.5% of the sample.

Based on our sample, we found the data on both maintenance and repair costs and vehicle and equipment use to be of poor quality. We think that mechanisms must be established as soon as possible to enable the SMRA to have available, reliable data for its entire vehicle and equipment fleet.

## RECOMMENDATION

**3.9.1.B.** We recommend that the Service du matériel roulant et des ateliers establish regulated procedures to perform checks periodically on new data entered in the different databases used to manage the City’s vehicle fleet, in order to ensure a high level of data quality and as a result be able to manage the fleet based on credible, reliable data.

## RESPONSE

**3.9.1.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 3.9.2. Best Practices in Vehicle Fleet Obsolescence Management

### 3.9.2.A. Background and Findings

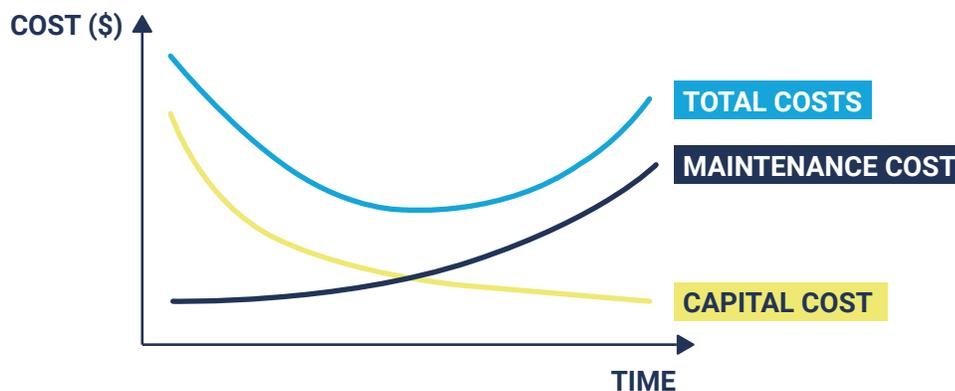
To show the importance of undertaking a reflection on the obsolescence management approach, after three years had elapsed since the consolidation of the activities related to the rolling stock function, we examined what was being done in terms of best practices.

Best practices mean that vehicle replacement is supported by an economic analysis that takes vehicle use into account. In principle, an economic life analysis consists in managing vehicles' life cycle by taking into account all expenses over the service life of the vehicle. This essentially consists in monitoring expenses associated with the capital cost on the one hand and the maintenance cost on the other hand:

- The capital cost takes into account acquisition and financing costs as well as the vehicle resale value;
- The maintenance cost includes all expenses associated with maintenance and repair of the vehicle. These costs include both expenses paid to external suppliers and direct expenses arising from work carried out in the City's garages. These expenses include the cost of parts and the cost of labour.

Figure 1 illustrates the fluctuation of expenses over time.

Figure 1 – **Fluctuation of Expenses**



Taking all costs into account makes it possible to determine a suitable replacement time.

Using this approach, vehicle replacement must be considered when the sum of the capital cost and the maintenance cost is at its lowest, i.e., in the dip in the total costs curve. As shown in Figure 1, this curve is the total of the curve representing the capital cost plus the curve representing the maintenance cost.

According to best practices, the evaluation of overall costs takes the use of a vehicle into account. This use is measured in kilometres travelled or in engine hours; costs are put in the form of a cost/km ratio or cost/engine hour. The costs retained were all the operating costs for a year divided by the corresponding use. Taking use into account helps put the information collected in perspective and thereby obtain an objective picture of the expenses incurred. For instance, two identical vehicles of the same year that cost \$10,000 each in maintenance work can be distinguished if their respective use is taken into account. If one of these two vehicles has travelled 1,000 km a year and the other has travelled 500 km a year, their respective costs, when use is taken into account, will be \$10/km and \$20/km, respectively, or twice as expensive to operate for the second vehicle.

As stated throughout this report, the SMRA, excluding the SPVM, established its vehicle replacement criteria based on the age of the vehicles, without regard to their use. The SMRA considers a vehicle to have reached the end of its useful life when it has reached a predefined number of years since its commissioning (theoretical service life). In addition, the SMRA does not make any distinction among the various types of purposes for similar vehicles. We can therefore say that 10-wheel trucks used for a specific type of work will not be evaluated differently from all the City's 10-wheel trucks, all of which have an established service life of 10 years. By not considering the purpose of the vehicle, the SMRA cannot adjust the replacement age established for each sector of activity. Furthermore, the consequence of not taking use into account is that a vehicle that has travelled a low number of kilometres but has reached the end of its theoretical service life will be replaced, while other vehicles with a higher number of kilometres travelled and greater operating costs will not be considered for replacement.

As part of our audit work, we wanted to assess whether the replacement methods used by the SMRA, excluding vehicles used by the SPVM, could be used to identify the highest-cost vehicles while taking their use into consideration. At this point, it should be noted that we obtained from the SMRA data extractions for vehicle classes that we targeted, those with:

- the most active vehicles;
- the most obsolete vehicles;
- the highest maintenance costs;
- the greatest total value;
- the greatest obsolescence value.

Each of the target classes, clearly, had to have vehicle replacements. In all, 14 classes were selected for the purposes of our analysis.

For each class selected, the maintenance costs of vehicles were extracted using the MIR software, and kilometres travelled and hours of use were extracted using the Fuel Management System (COENCORP). The extracted data covered two full years, from October 2017 to September 2019. At this point, it should be noted that we used data available from the SMRA, and that it is the same data that officials would use to make decisions.

For the classes selected, all vehicles and equipment were successively analyzed so that they could be divided according to three separate comparison criteria, presented in Table 12.

**Table 12 – Analysis Criteria for the Vehicle and Equipment Classes Selected**

CRITERION	DESCRIPTION	NUMBER OF CORRESPONDING VEHICLES
1) Scrapping-Sample (replacement standard of the Service du matériel roulant et des ateliers).	Vehicles replaced and scrapped based on the end of useful life established by the Service du matériel roulant et des ateliers.	124 out of 197 vehicles (63%) had valid data for the analysis.
2) Vehicles are operational and have reached the end of their useful life.	Vehicles that have reached the end of their useful life, but are still operational and in service.	983 out of 1,457 vehicles (67%) had valid data for the analysis.
3) Vehicles are operational but have not yet reached the end of their useful life.	Vehicles are active and operational and have not reached the end of their useful life.	

It should be noted that data extracted from the systems showed significant deficiencies in the areas of consistency and reliability, which confirms the findings we made previously. For this reason, for all classes retained, vehicles and equipment could not be analyzed in their entirety due to the lack of available data.

The main reasons for data not being retained for the purposes of our analysis are as follows:

- Vehicles for which no data was provided on maintenance costs and kilometres travelled in their last two years of service;
- Vehicles for which data was provided on kilometres travelled, but not on maintenance costs;
- Vehicles for which data was provided on maintenance costs, but for which no data was provided on kilometres travelled or valid machine-hours.

Nonetheless, for the classes selected, 63% of vehicles that were replaced for the targeted period were analyzed (124 out of 197 vehicles), through a comparison with operational vehicles and equipment in these same classes.

It should also be noted that in comparing the maintenance and repair costs of different vehicles, the hourly rate used for the purposes of our analysis was harmonized for all work orders. The number of hours worked per work order was accounted for at a single hourly rate of \$97/h, which is the SMRA's current effective rate. In addition, data on kilometres travelled and machine-hours used for the purposes of our analysis comes from the CoenCorp fuel management system. We conducted several analyses with data from the fuel system for each vehicle considered to be assured of the quality of this data and that it represents the actual use of these vehicles.

As illustrated in Table 13, the results of our analysis for the targeted classes and whose use is measured in kilometres travelled are as follows:

- The average age of vehicles that were replaced in accordance with SMRA standards exceeds its useful life, for five of the six vehicle classes, which can be explained, at least in part, by accumulated obsolescence, which the SMRA wants to reduce within four years;
- The average annual cost per km travelled of classes of vehicles that are still operational and have reached the end of their useful life is higher for four of the six classes in which vehicles have been replaced. Based on the sample, this means that replaced vehicles cost less to use than vehicles that are still in service;
- The average annual cost per km travelled of subcompact cars (class 134) that were replaced is \$1,808, while the average annual cost per km travelled of subcompact cars that are still operational and have reached the end of their useful life is \$3,819. The average age of both of these is identical: 11.1 years. The cost of vehicles in this class that are still in service and have reached the end of their useful life exceeds the cost of replaced vehicles by more than 111%;
- The average annual cost per km travelled of the three vans (class 179) that were replaced and for which valid data exists is only \$578, while the average annual cost per km travelled of the 80 vans that are still operational and have reached the end of their useful life is \$3,071. The cost of vehicles that are still in service and have reached the end of their useful life exceeds the cost of replaced vehicles by more than 421%.

As illustrated in Table 14, the results of our analysis for the targeted classes and whose use is measured in engine hours are as follows:

- The average age of vehicles that are still operational and have reached the end of their useful life is 13.5 years, compared with the average age of replaced vehicles based on SMRA standards, which is 10.1 years;
- The average annual cost per hour of classes of vehicles that are still operational and have reached the end of their useful life is higher than that of replaced vehicles.

**Table 13 – Analysis Conducted by the Bureau du vérificateur général  
Results – Maintenance Costs Based on Average Annual Kilometres Travelled for Targeted Vehicle  
and Equipment Classes**

*Legend:* The results in red are the highest costs for the three criteria analyzed for each type of vehicle

The results in green are the lowest costs for each criterion for each type of vehicle

STATUS	DESCRIPTION OF TYPES OF VEHICLES BY CLASS	USEFUL LIFE SMRA (YEARS)	CRITERIA						REFERENCE: AVERAGE ANNUAL KM TRAVELLED PER VEHICLE TYPE			
			SCRAPPING SAMPLE (SMRA REPLACEMENT STANDARD)			VEHICLE STILL OPERATIONAL END OF SERVICE LIFE REACHED				OPERATIONAL AND END OF SERVICE LIFE NOT YET REACHED		
			AVERAGE AGE (YEARS)	AVERAGE ANNUAL COST/KM	NUMBER	AVERAGE AGE (YEARS)	AVERAGE ANNUAL COST/KM	NUMBER		AVERAGE AGE (YEARS)	AVERAGE ANNUAL COST/KM	NUMBER
Classes with the greatest number of active vehicles	134-4-CYLINDER 4-DOOR SUBCOMPACT CAR	10	61	11.1	\$1,808	76	11.1	\$3,819	252	4.7	\$1,414	4,408
	176-6-CYLINDER WINDOW MINIVAN	10	16	11.9	\$2,024	27	10.1	\$3,570	58	4.2	\$1,440	4,420
	212-VAN 5001-10000 LB EQUIPPED CABIN	10	18	12.7	\$6,229	97	11.8	\$5,522	221	4.2	\$4,439	7,101
Class with most obsolete vehicles	179-8-CYLINDER NO-WINDOW MINIVAN	10	3	14.0	\$578*	80	12.5	\$3,071	26	7.1	\$1,530	2,134
Classes with vehicles with significant maintenance costs	316-COMPACTOR TRUCK 20-23.9 CU.YD	10	8	13.0	\$20,866	8	13.4	\$26,754	32	3.3	\$18,872	10,710
	317-COMPACTOR TRUCK 24-27.9 CU.YD	10	11	7.7	\$28,607	6	10.2	\$8,154	20	3.9	\$29,371	12,372
<b>TOTAL</b>			<b>117</b>			<b>294</b>			<b>609</b>			
<b>OVERALL AVERAGE</b>			<b>11.4</b>		<b>\$6,309</b>		<b>11.7</b>	<b>\$4,867</b>		<b>4.5</b>	<b>\$4,355</b>	

\* These three vehicles belong to the Service de la gestion et de la planification immobilière and the Jardin botanique de Montréal, two departments that use vehicles differently from the other business units (e.g., the Montréal Botanical Garden does not operate its vehicles very much, while vehicles operated by the Service de la gestion et de la planification immobilière travel three to four times more kilometres than the average).



In conclusion, our analysis helped show that for some targeted classes, replacement decisions were not always the most economical ones. To achieve this, the Bureau du vérificateur général had to do several data extractions and take several corroborative measures, with the support of the SMRA. Furthermore, a large percentage of vehicles were not analyzed because valid data was missing, which prevented us from having a complete picture. At the time of our audit work, the SMRA said that it did not conduct this type of analysis, which is nonetheless relevant for the purpose of managing a fleet of nearly 8,700 vehicles and equipment.

To propose an approach to managing the obsolescence of a vehicle fleet based on industry best practices, we think that the City must above all improve the quality of the data it collects. Otherwise, such an obsolescence evaluation cannot be done on all vehicles and might not reflect the reality because of the poor quality of the data used.

In addition, the fact that vehicle and equipment use and maintenance costs are not taken into account in the replacement process prevents the SMRA from systematically targeting the most expensive vehicles to be replaced. Consequently, vehicles that cost less to use are replaced, while other, more expensive vehicles are kept and used. We think that mechanisms should be established to enable the SMRA to identify vehicles to be replaced while taking into account their use, all associated costs and their intended purpose.

### **RECOMMENDATION**

**3.9.2.B.** We recommend that the Service du matériel roulant et des ateliers establish mechanisms for identifying vehicles to be replaced while taking into account their use, all associated costs and their intended purpose, in order to promote informed decision-making.

### **RESPONSE**

**3.9.2.B.** *The audit report was issued to the business unit concerned. 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 June 1, 2020.*

## 4. CONCLUSION

In 2016, city council decided to consolidate activities related to the rolling stock function by declaring that it had competency over them for a two-year period (from January 1, 2017, to December 31, 2018); this decision was renewed for three additional years, up to December 31, 2021. This decision represents a major challenge in a municipal organization consisting of 19 boroughs and several central departments that are required to provide a broad range of services to citizens. This was intended to help improve the efficiency of the Ville de Montréal (the City) in the rolling stock function. The main objectives of this restructuring were, on the one hand, to reduce the obsolescence of the vehicle and equipment fleet in order to improve the delivery of services, thereby reducing maintenance and repair costs, and on the other hand, to keep the number and value of vehicles held by the City at a stable level in order to limit operating costs.

An Investment Strategy (the Strategy) was approved by the director general in early 2018 to establish the investment needs for the next 10 years. When this Strategy was established, the fleet had close to 7,400 vehicles and equipment with a total replacement value of \$571 million and the accumulated obsolescence gap was established at \$67.3 million. The chosen scenario called for investment needs required to bridge the accumulated gap over four years (from 2018 to 2021), to replace vehicles that have already reached the end of their service life according to the process in place and to limit the acquisition of vehicles to meet new needs.

Right from the first year, new data on the number of vehicles and their obsolescence led the City to revise the accumulated obsolescence gap upward to \$83 million. The preferred scenario still involved bridging this gap over a four-year period.

Since the Strategy was approved, the required budgets have played a prominent part. However, the accumulated obsolescence gap is not being reduced at the expected rate and vehicles being acquired to meet new needs are higher than anticipated.

Considering the size of the vehicle and equipment fleet to be managed (close to 8,700 vehicles at the time of our audit), and considering the business units' need for reliable vehicles in order to provide the expected services, our audit work led us to conclude that the management practices in place are not sufficient to ensure that objectives are being achieved and that users' needs are being met. With this in mind, in order to remedy these problems, we recommend that the City:

- formulate objectives in measurable terms for all the priorities that contribute to implementing the Vehicle Fleet Management Strategy;
- conduct an exercise to ensure consistency among the vehicle entries appearing in the different databases (e.g., InvFlotte, MIR, MAXIMO for the Service de police de la Ville de Montréal (SPVM)) as well as vehicles that are actually in the field;
- update the Strategy to take into account new data on the number of vehicles, results obtained or new objectives;
- ensure compliance with the Strategy in the interest of achieving the objectives according to the planned schedule;
- keep documents supporting any revision of the Strategy;
- regularly evaluate the Strategy implementation;
- establish monitoring and control mechanisms for vehicle acquisitions (to meet new needs) in order to comply with the Strategy;
- analyze the actual commissioning timelines so that the necessary corrective measures can be taken;
- establish regular accountability reporting mechanisms for providing information on progress in the implementation of the Strategy and the extent to which the expected benefits have been achieved since the consolidation of activities related to the rolling stock function;
- establish procedures for periodically performing controls on data entered in the different databases used for vehicle fleet management.

The Strategy is a response to an orientation of the municipal administration. Even though efforts have been undertaken up until now to bridge the accumulated obsolescence gap, we think that, at the time of our audit work, the City was not aware of the true extent to which the Strategy has been implemented, according to the projected scenario. To do this, we believe that first and foremost, the availability and quality of the data collected for the entire vehicle and equipment fleet must be improved as soon as possible. We also believe that the City must establish, just as best practices dictate, mechanisms for identifying vehicles to be replaced by taking into account their use, all the associated costs and their purpose in order to make the best management decisions, which is not the case at present.

## 5. APPENDIX

### 5.1. Objective and Evaluation Criteria

#### Objective

Evaluate the extent to which the City has established an Investment Strategy for the upgrading (bridging the obsolescence gap) and optimal maintenance of the vehicle and equipment fleet while meeting users' needs.

#### Evaluation criteria

- Roles and responsibilities in the areas of acquisition and replacement of rolling stock are clearly documented and communicated.
- An inventory of the City's vehicles and equipment is kept up to date and can be used to adequately monitor changes in the fleet of specialized vehicles and equipment used by the City.
- Persons in charge have all the relevant data they need on the fleet of specialized vehicles and equipment to manage their replacement effectively and efficiently.
- An Obsolescence Management Strategy based on technical and economic criteria is supported by adequate investment budgets and is implemented.
- Mechanisms exist to identify and evaluate users' needs.
- An annual planning process for acquiring specialized vehicles and equipment is in place in accordance with the Strategy established and is monitored to ensure that it is implemented as planned.
- Accountability mechanisms are in place to keep decision-makers informed on rolling stock management.



# 4.5.

## Human Resources Succession Management

April 6, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Ensure that the Ville de Montréal (the City) has put in place appropriate measures aimed at the sound succession management of strategic and highly vulnerable positions to maintain the delivery of services to citizens.

# RESULTS

A large number of employees will become eligible for retirement in the coming years, and both the number of voluntary departures and the turnover rate are rising. At the same time, filling positions has become more difficult due to the realities of the labour market. Since 2008, various steps have been initiated by the City to address Workforce (WF) issues. Some measures were put in place to solve the problems encountered. The most recent human resources planning process undertaken under the title “Gestion prévisionnelle des ressources humaines” (GPRH), deployed in January 2019, is an organizational priority for the director general. Its success lies in bringing together several winning conditions. In the wake of our audit work, we believe that improvements need to be made with respect to the following major elements:

- The roles and responsibilities of all stakeholders involved at every stage of the succession management process are not clearly communicated;
- The business units do not have easy and continuous access to all relevant data to perform full quality diagnoses of the state of their WF;
- Succession management is done in a reactive way when problems arise, and business units assume the costs related to the measures taken directly from their operating budget;
- The measures identified to mitigate vulnerabilities are not integrated into action plans in terms of their impact on the delivery of services and on strategic orientations, to facilitate monitoring of their implementation based on established timelines and budgets;
- There are gaps in training or information at all stages of the succession management process for all the stakeholders involved;
- To date, measurable objectives have not been established to gauge the expected benefits of the GPRH process, and no reporting mechanisms have been provided as of yet.

*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.*



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# LIST OF ACRONYMS

<b>CRHA</b>	Ordre des conseillers en ressources humaines agréés
<b>GPMO</b>	Gestion prévisionnelle de la main-d'œuvre
<b>GPRH</b>	Gestion prévisionnelle des ressources humaines
<b>HR</b>	Human Resources
<b>HRM</b>	Human Resources Management
<b>OHS</b>	Occupational Health and Safety
<b>PARH</b>	Direction partenaires d'affaires ressources humaines
<b>PQMO</b>	<i>Plan quinquennal de main-d'œuvre 2014-2018</i>
<b>SIM</b>	Service de sécurité incendie de Montréal
<b>SRH</b>	Service des ressources humaines
<b>WF</b>	Workforce



## 1. BACKGROUND

In recent years, the job situation has greatly evolved. According to Statistics Canada, population aging will accelerate between 2011 and 2031, with baby boomers reaching the age of 65 during this period.<sup>1</sup> Again according to Statistics Canada, people aged 25 to 54 are considered to be of core working-age because of their strong attachment to the labour market. However, this age group has decreased in recent years, from 54% in 2007 to 49% in 2016. That proportion is projected to continue to decline and could even drop to 46% by 2026.<sup>2</sup> The Institut du Québec<sup>3</sup> points out that population aging will become the main impediment to job growth in Québec. Currently, several generations make up the working population in the labour market. New generations have a different view of the labour market than that of baby boomers, and their behaviour is characterized by a desire to balance their personal and work lives. They have no hesitation in changing jobs to take advantage of better conditions and, consequently, will not necessarily work at one place until retirement.

Factors such as technological changes and the scarcity of skills in certain industry sectors also have a major impact on the labour market. Against this backdrop, organizations face real business risks today. If they fail to meet current and future Workforce (WF) needs, they run the risk of jeopardizing the achievement of their objectives.

In the case of the Ville de Montréal (the City), these factors are also of concern. For several years, the City has faced issues with WF renewal, attraction of new resources and retention of municipal employees. In 2008, the City had already assessed a significant number of anticipated departures due to retirement over a five-year period (from 2008 to 2012), i.e., 17% of permanent employees, 23% of senior managers, 20% of administrative managers and 15% of scientific professionals.<sup>4</sup> These departures due to retirement represented challenges for the City and required WF transition planning, failing which the pressure on operations would risk affecting the delivery of services to citizens. Since 2008, various steps have been initiated by the City to plan WF needs for succession management. During the same period, commitments were also made and orientations taken by elected officials and the municipal administration.

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<sup>1</sup> Population growth: migratory increase overtakes natural increase, Statistics Canada, October 9, 2014.

<sup>2</sup> The impact of aging on labour market participation rates, Statistics Canada, June 14, 2017.

<sup>3</sup> 2018 Québec jobs report: The emergence of a divide between the metropolis and the regions.

<sup>4</sup> Source: *La Gestion prévisionnelle de la main-d'œuvre à la Ville de Montréal – une pratique de gestion à introduire*, October 2008.

As a first step, in June 2008, the Direction générale and the Service du capital humain<sup>5</sup> began deploying a workforce planning process titled “Gestion prévisionnelle de la main-d’œuvre” (GPMO) aimed at supporting and providing a framework for all business units to develop a *Plan de main-d’œuvre 2009-2011*. This process consisted of forecasting future WF needs and assessing the extent to which available Human Resources (HR) would be able to meet these needs. The anticipated benefits were as follows:

- Ensuring resources in sufficient numbers based on the required skills;
- Adjusting the delivery of services based on organizational and budgetary issues;
- Reducing the business risk related to vulnerabilities in the staffing structure;
- Ensuring the transfer of expertise and succession preparation.

In response, several business units developed WF plans and a certain number of corporate measures were implemented.

Second, the *Politique de dotation et de gestion de la main-d’œuvre de la Ville de Montréal* was approved by the executive committee on September 28, 2011. Under this policy, the City committed, in particular, “[...] to preparing continuity for strategic or highly vulnerable positions.” It also mentions that:

*“[...] workforce planning with the purpose of identifying human resources needs to ensure the attainment of business objectives should be done in an integrated way with the annual preparation of the City’s budget. This planning takes into particular consideration departures due to retirement, the possibility of abolishing permanent positions when it is feasible to do so, and to replace resources.”*

Third, in 2012, the director general at the time requested that business units undertake new WF planning for the 2012–2014 period. In response, almost all the business units developed WF plans and a certain number of measures were implemented.

Fourth, in 2014, the *Plan quinquennal de main-d’œuvre 2014-2018 (PQMO)* was introduced as a new organizational priority by the Direction générale, with the objective of improving the City’s performance. To achieve this, the objective of a net reduction of 2,200 employees was set that was to generate \$240 million in savings, or 10% of the 2013 total payroll. The aim of the PQMO was to abolish positions made vacant by resignation or retirement, e.g., one out of two vacant positions (three out of four vacant positions in the targeted units), regardless of the reason why the position became vacant. Implementation of this plan was to be gradual based on “the City’s priority commitments, the characteristics of the departments and boroughs, and the City’s decision to maintain or even develop its

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<sup>5</sup> Known as the Service des ressources humaines (SRH) since 2014.

*internal expertise in certain strategic or key business segments.”* At no time was the request made to formally end the GPMO, although it was abandoned by the business units.

A summary of the results of the PQMO produced in 2019 by the SRH reports that 1,744 positions were abolished between 2014 and 2018 out of a goal of 2,200.<sup>6</sup>

Finally, faced with alarming updated findings regarding staff that will be retiring in the next five years (e.g., 25% from 2018 to 2022), the increased rate of employee turnover, the rise in resignations between 2014 and 2017, and the realities of the labour market, a new HR planning process titled “Gestion prévisionnelle des ressources humaines” (GPRH) was deployed in January 2019. This process was in response to one of the 2019 organizational priorities established by the director general “*to **proactively** respond to various issues to ensure an available and qualified workforce.*” The GPRH is defined as:

*“[...] a dynamic and concerted management process aimed at anticipating quantitative and qualitative needs in terms of human resources to ensure the long-term availability of the skills needed by the firm, taking into account the internal and external environment of the firm.”<sup>7</sup>*

This process aims, in particular, to:

1. Identify the organization’s HR vulnerabilities;
2. Synthesize the cross-sectional needs of the organization;
3. Recommend appropriate strategies and implement action plans by HR managers and stakeholders.

It should be noted that the GPRH process is essentially equivalent to the GPMO, both of which are aimed at anticipating and planning HR needs over a three-year period, taking into account the internal and external environment of the City.

At the time of producing this audit report, the GPRH process was still being deployed. Diagnoses were produced by the business units in October 2019. The next step will be the preparation of action plans by the business units. Planned completion is June 2020. Note that the proposed measures will only be implemented thereafter.

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<sup>6</sup> PQMO 2014–2018 – Summary of Results 2018 and Cumulative Results 2014–2018, SRH, April 10, 2019.

<sup>7</sup> Project charter – GPRH, January 16, 2019.

## 2. PURPOSE AND SCOPE OF THE AUDIT

Pursuant to the provisions of the *Cities and Towns Act*, we conducted a performance audit of the Human Resources Succession Management process. We carried out this mission in accordance with the Canadian Standard on Assurance Engagements (CSAE 3001) of the *CPA Canada Handbook – Assurance* and other Canadian assurance standards that apply to the public sector, as issued by the Auditing and Assurance Standards Board of CPA Canada.

The purpose of this audit was to ensure that the City had put in place appropriate measures aimed at the sound succession management of strategic and highly vulnerable positions, to maintain the delivery of services to citizens.

The responsibility of the Auditor General of the Ville de Montréal consists of providing a conclusion on the audit's objectives. 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 in the circumstances. These criteria are outlined in Appendix 5.1.

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 other applicable legal and regulatory requirements. He also complies with the rules of 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.

Our audit work focused on the period from January 1, 2018, to September 30, 2019, but, for certain aspects, facts dating back prior to this time were taken in consideration. Our work was carried out primarily from May 2019 to February 2020. We also considered information that was sent to us up to April 6, 2020.

This work focused primarily on the following business units:

- Service des ressources humaines<sup>8</sup>;
- Service de l'évaluation foncière;
- Service de sécurité incendie de Montréal (SIM);
- Saint-Léonard borough;
- Verdun borough;
- Ville-Marie borough;
- Villeray–Saint-Michel–Parc-Extension borough.

Upon completion of our work, we submitted a draft audit report to the managers of each of the audited business units for discussion purposes. The final report was then forwarded to the management of each of the business units involved and to the director general to obtain action plans and timelines for implementing the recommendations concerning them, as well as to the acting deputy director-general of the Services institutionnels, the deputy director-general of the Service aux citoyens and the director of the Service de la concertation des arrondissements. A copy of the final report was also sent, for information purposes, to the directors of the boroughs not directly targeted by our audit work, to enable them to implement the recommendations if appropriate.

### 3. AUDIT RESULTS

#### Foreword – Succession Management

From the outset, although various terminology (GPMO, GPRH, succession planning) has been used depending on the references consulted, it is worth clarifying that succession management is a process aimed at identifying and reducing gaps between current WF resources and the future needs of the organization by implementing appropriate measures. The objective of succession management is to ensure an available and qualified WF when needed to achieve the objectives of the organization.

A GPRH process should apply to all staff. However, based on the orientations favoured by the organization, the decision may be made to apply the process to a single business segment, groups of specific jobs or jobs deemed to be vulnerable and key to the organization. Best practices<sup>9</sup> suggest planning for a two- to five-year period.

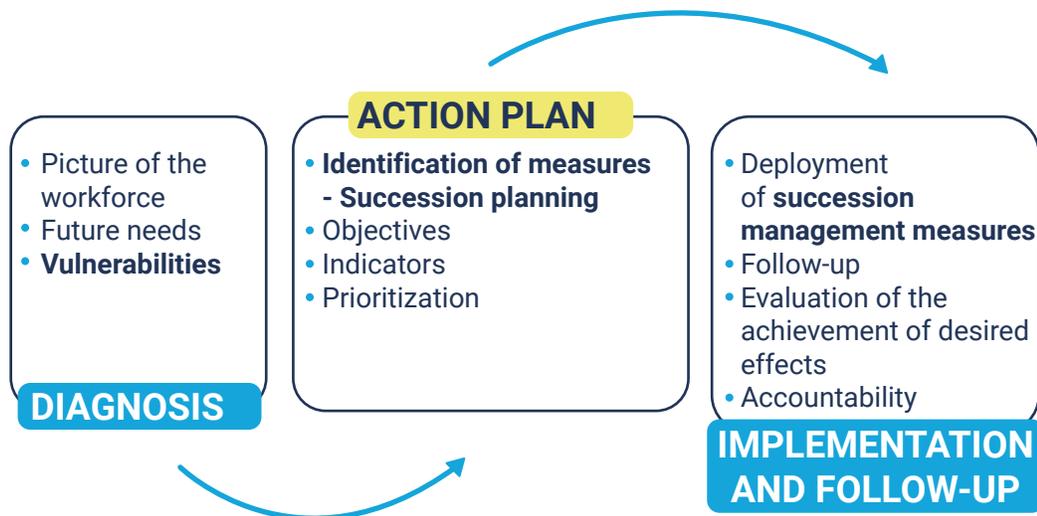
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<sup>8</sup> The SRH was not audited as a business unit managing succession for its own employees but rather as the department that provides Human Resources Management (HRM) services to all the business units.

<sup>9</sup> The practices of the Ordre des conseillers en ressources humaines agréés (CRHA), for example.

As illustrated in the figure below, the succession management process involves three key steps.

Figure 1 – **Succession Management Process**



A first step in succession management involves making a diagnosis of the current WF situation based on qualitative and quantitative data, identifying future needs and comparing the two findings to highlight gaps, hereinafter called “vulnerabilities.” For example, these vulnerabilities might be positions that will become vacant due to retirement, ones that require new skills because of new activities, environmental concerns, proposed technological changes or the impact of work reorganization.

Second, based on the identified vulnerabilities, measures should be planned to reduce their negative effects, thereby fostering the timely availability of a qualified WF. These measures, which refer to the various HR components shown in Figure 2, must be prioritized and integrated into an action plan. For example, measures to ensure continuity include:

- Skills training and development;
- Knowledge transfer;
- Work organization;
- Deployment of attraction and retention measures.

Finally, to support the execution of measures retained in the established action plan, follow-up mechanisms must be put in place to assess the degree to which they have been met and to report on succession management.

Figure 2 – **Relationship between Human Resources Strategies and Succession Management**<sup>10</sup>



Succession management must be integrated into other HR management strategies, including talent acquisition, performance management, skills development and training.

Best practices also highlight the vital role of management in forward workforce planning. Managers must feel responsible for developing the next generation of employees. They must also have the qualities required to evaluate performance, identify development needs and support their resources.

Effective succession management cannot be successful without the true commitment of managers at all levels of the organization, starting with senior management, failing which the organization will incur substantial costs and definite risks (e.g., a high turnover rate leading to increased WF staffing, training and mobilization efforts).

For this audit, we focused particular attention on succession management for “strategic positions” and “highly vulnerable positions,” given the City’s commitment to prepare for continuity for these types of positions in its *Politique de dotation et de gestion de la main-d’œuvre* (hereinafter the Policy), adopted by the executive committee on September 28, 2011. This also dovetails in part with one of the organizational priorities of the current director general. These positions have a significant impact on achieving objectives and organizational priorities, (e.g., strategic positions (longer to fill than technical ones), positions requiring advanced expertise and those facing WF shortages on the labour market).

<sup>10</sup> Source: “Mise en place d’un *Programme de gestion de la relève efficace* : Trois questions cruciales,” CRHA, November 19, 2012.

## 3.1. Roles and Responsibilities

### 3.1.A. Background and Findings

A process such as succession management involves the entire municipal organization. On the one hand, business units must maintain the delivery of services based on their respective responsibilities. They also have strategic or operational objectives to attain. To do this, business units are responsible for managing WF succession to ensure that they have the necessary resources, both in number and in skills. On the other hand, succession management involves the use of HR practitioners acting as experts or advisers. In a complex organizational structure, such as that of the City, roles and responsibilities must be clearly defined and communicated to take charge of succession issues, achieve strategic objectives and maintain the delivery of services for the entire organization.

An important starting point is to present how roles and responsibilities for Human Resources Management (HRM) are shared. Under the *Charter of Ville de Montréal* (hereinafter the *Charter*), HRM powers are shared between city council, the executive committee and the borough councils. In the case of the executive committee, certain HR powers have been delegated, by way of a regulation, to the City's director general, the SRH and officials at various levels of the organization. In the case of the borough councils, each one has also delegated certain powers to officials at various levels.

During our audit work, we examined the extent to which the roles and responsibilities for succession management were defined and communicated to all the business units.

#### Officially Communicated Roles and Responsibilities

First, through the Policy adopted by the executive committee on September 28, 2011, the City committed, among other things, to prepare a succession for strategic or highly vulnerable positions. The current Policy defines the responsibilities of the various stakeholders involved in WF succession and staffing. The Policy also sets out the rules and parameters that guide the staffing of positions, as well as other components of WF management, such as succession, knowledge transfer and re-employment of retirees.

In terms of responsibilities, it provides for the SRH<sup>11</sup> to:

- Have corporate responsibility for applying the Policy and establishing the rules and mechanisms governing the staffing process;
- Conduct the staffing process for the business units to fill positions.

It also holds that the managers (within the business units):

- Are responsible for applying the Policy and filling positions in their administrative unit;
- Determine their WF needs and positions to be filled;
- Ensure that the requirements of the positions to be filled comply with the job descriptions and their application.

Furthermore, the *Règlement sur les services*, approved by city council in 2014, specifies that the SRH is responsible for staffing, labour relations, management support and advice, organizational development, health and wellness, and compensation and payroll management.

To fulfil these responsibilities, the department's 2019 organizational structure provides five branches. As disseminated on the SRH's intranet, four branches are designated as "centres of expertise" in their respective areas of activity. The fifth, the "Direction partenaires d'affaires ressources humaines," known as Direction PARH, has been providing services to the central departments (first-line departments), since 2016, as well as to Lachine borough. The responsibilities of the four branches that play a role of expertise (the services provided are considered to be second-line) are presented in Table 1, while those appearing in the service offer of the Direction PARH are presented in Table 2.

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<sup>11</sup> At the time of approval of the Policy, the department was called the Service du capital humain.

Table 1 – **Service des ressources humaines**  
**Distribution of Expertise Responsibilities**

BRANCHES	RESPONSIBILITIES
Direction de la dotation, des talents et du développement organisationnel	<ul style="list-style-type: none"> <li>• Talent acquisition and staffing of positions</li> <li>• Skills assessment and development</li> <li>• Training</li> <li>• <b>Succession management (corporate programs)</b></li> <li>• Support for organizational transformation and change management (major corporate projects)</li> </ul>
Direction des relations de travail	<ul style="list-style-type: none"> <li>• Negotiation of collective labour agreements</li> <li>• Interpretation of collective agreements</li> <li>• Implementation of collective agreements application tools</li> <li>• Processing of grievances and arbitration management</li> <li>• Training</li> <li>• Consulting services in remedial disciplinary or administrative management</li> </ul>
Direction de la santé, de la sécurité et du mieux-être	<ul style="list-style-type: none"> <li>• Prevention of workplace accidents</li> <li>• Workplace attendance management</li> <li>• Employee assistance program</li> <li>• Support for the application of the <i>Politique de respect et civilité en milieu de travail</i></li> </ul>
Direction de la rémunération globale et des systèmes d'information des ressources humaines	<ul style="list-style-type: none"> <li>• Organizational structure and job use</li> <li>• Development and management of compensation and social benefits</li> <li>• Payroll production</li> <li>• Management information system</li> </ul>

Source: SRH intranet – information as of January 31, 2020.

Table 2 – **Service des ressources humaines**  
**Direction – Partenaires d'affaires des ressources humaines**

**RESPONSIBILITIES BASED ON THE SERVICE OFFER OF 2016**

- Workforce planning:
  - Identifying and planning workforce needs;
  - Analyzing the impact of the *Plan quinquennal de main-d'œuvre 2014-2018* by unit and evaluating scenarios for maintaining or revising service offers at service branches, as support for managers;
  - Identifying positions with critical skills;
  - **Succession planning;**
  - Transfer of expertise.
- Performance management
- Skills development:
  - Supporting managers in needs analysis and **succession preparation;**
  - Organizing activities aimed at promoting career opportunities to employees for positions facing shortages and specific jobs.
- Labour relations
- Compensation management and job structure:
  - Producing the required data for managers to monitor staffing, prepare statistics related to staff movements (e.g., sick leave, the *Plan quinquennal de main-d'œuvre 2014-2018*) and other performance indicators.
- Organizational changes
- Management of returns to work and orientation of complex files

Source: SRH intranet, information as of January 31, 2020.

We found that aspects of succession management were among the responsibilities communicated by the SRH to two of its branches, but at two different levels. First of all, the Direction de la dotation, des talents et du développement organisationnel (see Table 1) is responsible for succession management for corporate programs, which addresses cross-sectional issues common to all business units (e.g., the programme des contremaîtres and the programme de formation Inspectorat, which will be covered in section 3.2.2.). Second, the service offer of the Direction PARH (see Table 2) intended for the central departments involves the planning of their WF. It goes without saying that, to provide the advertised services to the central departments, the Direction PARH can call upon the expertise of other branches of the SRH.

## **Roles and Responsibilities of Human Resources Practitioners Central Departments and Boroughs**

To give the reader a better understanding of the context, it should be noted that, since 2016, the City's central departments have not had HR practitioners in their respective structure, following a municipal reorganization. Since that time, HR practitioners report to the SRH (Direction PARH). Their responsibilities are presented in Table 2.

In the case of the boroughs, whose areas of HR management are set out in the *Charter*, HR practitioners, reporting to each borough, provide first-line services to the managers of their administrative units (e.g., the Direction des travaux publics, the Direction des sports, des loisirs et du développement social).

In the case of the audited boroughs (with the exception of Verdun borough), our work allowed us to observe that the roles and responsibilities—for HRM and, more specifically, in terms of succession management—were not officially described and disseminated. Considering that these HR practitioners provide first-line services to managers in the same way as those of the Direction PARH mentioned previously, we might expect that their roles and responsibilities would be the same. However, without a clear description of the roles and responsibilities, the various aspects of WF management and, more specifically, of succession management appear to be dealt with in different ways by each of the boroughs. Such a situation risks creating confusion in how succession issues are handled or expectations that will not be taken into consideration. For example, borough managers might fail to communicate succession issues in a timely manner, resulting in delays in filling positions.

In the case of Verdun borough, a GPMO process was initiated by the borough director in 2017, prior to the deployment of the GPRH process. As part of this process, we found evidence that the roles and responsibilities for succession management had been defined and communicated on a local scale. To this end, a guide addressed to managers and HR practitioners was produced to ensure a common understanding of the activities to be carried out, the goals set and the expected results. The guide presents the roles and responsibilities of the borough director, the managers of the administrative units and the borough's HR practitioners for all the succession management components, including the development and implementation of a WF plan, the follow-up of planned activities and accountability.

Given that a recent GPRH process was deployed for all the business units in January 2019, we examined the extent to which the documents produced by the SRH clearly defined the roles and responsibilities for succession management. In the presentation of the process to borough directors and department managers, the SRH acts as a facilitator, providing help and advice and developing tools and support measures that have a corporate reach.

We noted that the roles and responsibilities for WF planning had been defined and communicated by the SRH in two guides addressed to borough directors and department managers, as well as to HR practitioners who perform an advisory role on the subject:

- According to the guide on how to develop a diagnosis, department managers and borough directors are responsible for anticipating their HR needs over a three-year period, based on the projected evolution of their unit's activities and their budgetary framework;
- In the other guide, which deals with developing an action plan, we note that the directors and managers were invited to think about possible approaches to take. It should be noted that the guide referred to the SRH's professional services and reference tools (e.g., a plan to transfer knowledge and expertise).

We believe that it is the responsibility of the boroughs to formally communicate, within their unit, the roles and responsibilities for succession management to the borough directors, the managers and the HR practitioners, to foster a consistent understanding and commitment by everyone involved in the process.

### **Responsibilities for Following Up and Reporting on Action Plans**

By comparing the roles and responsibilities communicated by Verdun borough within its unit with those defined by the SRH (e.g., as expert-adviser or first-line services provided to central departments), we determined that the components related to following up and reporting on the action plans had not been clearly defined and communicated to date. We understand that the GPRH process is in its early stages and that all efforts have been deployed to produce a diagnosis and an action plan. But considering that past initiatives and the PQMO have left a negative perception in terms of anticipated results from a WF planning process, we believe that the roles and responsibilities for monitoring and reporting on the action plans should be defined and communicated to all the business units, so that the municipal administration's handling of succession issues can be demonstrated on a consistent and regular basis.

## RECOMMENDATION

**3.1.B.** We recommend that the Service des ressources humaines formaly communicate to all the business units the roles and responsibilities for following up and reporting on the action plans, to demonstrate everyone's commitment to the process and to promote the accountability of the persons involved and the achievement of the results expected from succession management.

## RESPONSE

**3.1.B.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

## RECOMMENDATION

**3.1.C.** We recommend that the Saint-Léonard, Ville-Marie and Villeray–Saint-Michel–Parc-Extension boroughs formaly communicate, within their unit, the roles and responsibilities for all stages of the succession management process, including planning, developing actions plans, following up and reporting, to show everyone's commitment to this process and to foster a consistent understanding within their unit.

## RESPONSE

**3.1.C.** *The audit report was issued to the business units concerned between March 9 and 20, 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 June 29, 2020.*

## 3.2. Succession Management by the Business Units

The massive departure of hundreds of workers is cause for concern about the continuity of the business units' operations. This concern, described as a major issue in 2008, remain just as pressing today, if not more so. While the deployment of the GPRH process is under way and the benefits will not materialize immediately, the expectation is that the business units will be responsible for succession management in the interim.

Given this scenario, we focused on the succession management of “strategic positions” and “highly vulnerable positions,” to be certain that appropriate measures had been put in place to ensure an available and qualified workforce when needed to maintain the delivery of services to citizens. To do this, we examined the three steps of the Succession Management Process illustrated in Figure 1 (page 5) for each of the business units audited:

1. We first set out to confirm that a complete and up-to-date diagnosis of the WF had been performed to identify vulnerabilities;
2. We then sought to confirm that measures had been established in relation to the identified vulnerabilities and looked for them in action plans;
3. Finally, we examined whether a follow-up was done on the implementation of the proposed measures and on the assessment of their expected impact.

The results of our observations are presented in the following sections.

### 3.2.1. Workforce Diagnosis

#### 3.2.1.A. Background and Findings

Succession management is a practice that requires a comprehensive view and in-depth understanding of one’s HR in which various factors, both internal and external, must be taken into consideration. To arrive at a diagnosis of their resources, business units must first establish a quantitative and qualitative picture of the current WF (e.g., turnover rate, performance level, anticipated departures (retirement), unanticipated departures, impact of absenteeism, vacant positions/ job cuts, replacement time for a position). Second, it is important to determine anticipated needs based on operational and strategic orientations (e.g., new service offer, digital transition) and environmental constraints (e.g., budget, collective agreements). Finally, gaps between future needs and available resources must be clearly identified to have a true picture of the vulnerabilities (strategic and highly vulnerable positions), coupled with timely and ongoing succession management.

With this in mind, we focused especially on two aspects, the picture of the WF and the identification of strategic and highly vulnerable positions.

## 3.2.1.1. Picture of the Workforce

### 3.2.1.1.A. Background and Findings

Establishing the picture of the WF requires collecting both quantitative data (e.g., number of staff, number of positions, date of eligibility for retirement) and qualitative data (e.g., internal performance statistics, recruitment indicators), along with a complementary set of market and operational data (e.g., WF shortage in a field of expertise, technological changes).

To do this, business units must have up-to-date data and tools to enable them to create linkages between the evolution of their operations and that of their HR, and thus be able to establish succession issues. From this perspective, we set out to determine the extent to which HR practitioners and managers had the data and tools to establish a diagnosis.

#### Internal Data and Statistics on the Workforce

The City has several HR computer systems, in particular for payroll management, staffing and employee administration, as well as several applications, all installed between 1970 and 1990. Among these computer tools, the infoRH application (ref.: *a data warehouse supplied by different systems and accessible only by HR practitioners*) makes it possible to view and extract data (e.g., employee information, organizational structure, i.e. by operating centres, administrative units, positions). The infoRH application also makes it possible to view postings on the Job Registry and various jobs and business unit accreditations, and to generate Occupational Health and Safety (OHS) statistical reports and some management reports (e.g., seniority list of blue collar workers, list of vacant positions).

While infoRH application allows access to information on the WF and certain reports, the HR practitioners we met pointed out that producing management reports on staff is a painstaking process. For example, to create a picture of a business unit's WF or a picture for the purpose of analyzing a given problem (e.g., number of employees on sick leave), an HR practitioner must submit a request to the system, specifying the useful fields, record the data generated on a spreadsheet (Excel) and manually sort the data computations and cross-references. The practitioners claimed that they had to generate several reports to find the causes of the identified problems.

This complexity increases the risk of errors or omissions of relevant data and calls into question the reliability of the information produced for the purposes of analysis. The HR practitioners also pointed out that they could not generate comparative pictures, since it was impossible to produce reports from an earlier period.

The practitioners we met also deplore the obsolescence of the systems that made it impossible to perform more complex analyses based on the information sought, as well as the absence of functionalities to support talent management practices (e.g., training, reference tools/grids, performance analysis, **succession**, career). These comments are seen as a barrier in several respects, with respect to succession management in continuous mode.

Because of the obsolescence of the systems and their compromised maintenance (caused by the departure of key resources and the scarcity of expertise on the market), the SRH acquired an integrated solution (Oracle) to manage all its operations. This project to replace the current systems and progressively implement the various Oracle modules is at the call for tenders stage. Full deployment is not planned until 2024. Ultimately, the implementation of such an integrated system should make it possible to carry out succession planning in an ultra-refined and optimal manner.

Since 2014, the SRH has produced a quarterly report outlining OHS indicators and statistics as another source of information available to business units. These attendance management statistics are related to the organizational priority of health, safety and wellness.<sup>12</sup> A model of this (Excel) report, available to HR practitioners and officers of the Direction PARH, makes it possible at any time to generate these same statistics in as detailed a manner as desired using infoRH application.

In 2017, the Direction PARH of the SRH installed a dashboard model consisting of a series of indicators, which was to be presented to the managers of the central departments. As a follow-up, data was to be manually generated in the infoRH application for each of the practitioners of the Direction PARH. The planned indicators focused on health and safety (e.g., number of accidents, frequency rate), the attendance at work (e.g., absenteeism rate), the PQMO (e.g., number of positions eliminated), labour relations (e.g., number of grievances) and WF planning (e.g., rate of vacant positions, rate of temporary positions). According to the information obtained, the production of these various dashboards have not been maintained since 2018, because they were time-consuming to produce, poorly understood by the practitioners of the Direction PARH and not used by the managers.

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<sup>12</sup> 2019 Organizational Priorities and Targets – January 2019 – Priority 5 – “Provide a healthy and safe work environment and see to the psychological health of employees on the job.”

This same type of dashboard was also installed independently by some of the audited boroughs. In the case of Saint-Léonard borough, the HR practitioners had been manually compiling data on workplace accidents generated by infoRH application, since 2015. In December 2019, however, the borough developed an application internally to automatically generate these indicators and other relevant data on a monthly basis to facilitate the use of such data for managing OHS. This situation illustrates how the tools provided by the SRH do not always meet the needs of the boroughs.

In summary, the limited ability of the corporate systems to produce relevant management reports leads to a duplication of efforts to obtain the data and indicators needed for WF planning and runs the risk that all the data required for WF planning will not be produced and, therefore, not taken into consideration for the purposes of succession management.

In support of proper succession planning, we believe that, at the very least, key indicators for WF planning must be identified and made available to the business units, for example through a “Dashboard-type” tool. The SRH should also make certain to train the practitioners involved, so that they can use and properly interpret the data and statistics chosen for succession management.

### **Data on Employees Eligible for Retirement**

Regarding data on employees eligible for retirement, while an approximate picture can be drawn using data generated by infoRH application (e.g., age, hiring date), this information is not always accurate, especially due to a history of changes in collective agreements (e.g., change in union accreditation by employees). As a result, the most accurate data on employees eligible for retirement is more likely to come from the Bureau de retraite.<sup>13</sup> According to the information we obtained, while the dates of eligibility for retirement do not indicate that the individuals involved would effectively leave their job at a pre-determined time, they nevertheless represent a relevant indicator for assessing the scope and impact of these potential departures on operations and on the efforts to be deployed to ensure continuity.

### **External Indicators and Statistics (Labour Market)**

We highlighted from the start that upheavals in the labour market represent external factors that influence the City’s WF planning. It is expected, therefore, that the business units would take these impacts into consideration in their planning.

However although the processes deployed historically by the SRH (the GPMO and the GPRH) stated that external factors should be considered in diagnosing the WF, these were not identified, quantified and made available to the business units

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<sup>13</sup> At the request of the SRH, the Bureau des régimes de retraite de Montréal, which is responsible for managing pensions and participants’ files, produces a picture of all the City’s active staff with the corresponding dates of eligibility for retirement.

to encourage proper planning for their WF needs. Consequently, there is a risk that the business units will take an intuitive or inadequate approach when considering the impact of the labour market on the management of their WF or simply not consider it at all. Following our analysis of the situation and discussions with several managers responsible for succession in their business units, this consideration should instead be based on an exhaustive analysis of relevant and influential data on their operations.

In summary, in the context where the expected benefits of implementing the Oracle integrated system are not forecasted to occur for several years, we believe that it is vital to take the necessary means to ensure the continuous availability of the data and statistics required to perform a WF diagnosis. This requirement is directly tied to the fact that succession management is a major issue and that the administration made it a priority for 2019 and 2020. We also believe that the business units should, on an ongoing basis, be able to draw a picture that reflects reality in terms of the evolution of their staff in order to foster proper succession planning and management.

#### **RECOMMENDATION**

**3.2.1.1.B.** We recommend that the Service des ressources humaines, while awaiting the full deployment of the new Oracle system, make available to the business units the means to have a continuous detailed picture of their workforce and all the relevant data (internal and external data) to perform a complete quality diagnosis with a view to succession management.

#### **RESPONSE**

**3.2.1.1.B.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

## RECOMMENDATION

**3.2.1.1.C. We recommend that the Service des ressources humaines ensure that all stakeholders involved in the succession management process be properly trained in using and interpreting the available data and statistics, to encourage continuous succession management.**

## RESPONSE

**3.2.1.1.C.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

## 3.2.1.2. Identification of Strategic and Highly Vulnerable Positions

### 3.2.1.2.A. Background and Findings

#### **Picture of Vulnerabilities (Prior to the “Gestion prévisionnelle des ressources humaines” Process)**

Notwithstanding the limitations we found in terms of accessing relevant data and statistics, the business units are expected to have a picture of “strategic positions” and “highly vulnerable positions” in conjunction with the City’s commitment stated in the Policy, due to their impact on the delivery of services. We therefore sought to examine the extent to which these vulnerabilities had been identified by the audited business units.

At the time of the GPMO process (2009–2011), it was established that key positions had a decisive influence on operational activities or strategic objectives. According to this process, any position identified as key or influential should be considered vulnerable, since the departure of the job holder could be problematic due to either a WF shortage on the job market, the requirement for lengthy on-the-job learning or the impact of this position on the strategic choices of the borough or central department where it is located.

It was further established that the level of vulnerability of positions was also associated with the availability of replacement staff (e.g., low level: potential succession readiness; medium level: potential succession to be developed; and high level: no succession).

While the GPMO, initiated in 2008, required that vulnerability studies be carried out within each business unit and that the process towards producing the *Plan de main-d'oeuvre 2012-2014* guide the thinking based on “highly vulnerable business segments, jobs and positions,” we found that these practices had been abandoned by most of the business units. The practitioners we met claimed that this situation was justified by the introduction of the PQMO in 2014, a priority of the Direction générale at the time, which overrode the GPMO begun in 2008. In our opinion, the GPMO should have been maintained, especially with major staff reductions planned over five years. This was all the more important since the PQMO specified that positions had to be abolished, given the City's decision to maintain or even develop its internal expertise in certain strategic or sensitive sectors of activity.

Despite this context, we asked the audited business units whether they had a complete and up-to-date picture of the “strategic positions” and “highly vulnerable positions.” The analysis of the information obtained revealed that, with the exception of Verdun borough, all the business units audited and the SRH lacked a complete and up-to-date picture of strategic and highly vulnerable positions.

Regarding Verdun borough, which continued this practice, we found evidence that a diagnosis had been done to implement a *Plan de main-d'oeuvre 2017-2021*. It should be added that the Service de l'évaluation foncière performed a documented analysis of succession issues that would impact its operations.

In the other business units, the managers and HR practitioners we met claimed, nevertheless, that they knew the WF issues and that the diagnosis was done informally.

Notwithstanding these claims, identifying vulnerabilities informally, in silos and using inconsistent practices presents a risk that the succession issues will not be identified in a concerted and proactive way. We believe that, during this period, a formal diagnosis should have been performed to provide the business units and, ultimately, the Direction générale with a comprehensive picture of succession issues that put the delivery of services at risk.

### **Picture of Vulnerabilities (Gestion prévisionnelle des ressources humaines Process)**

At this stage of our report, it is appropriate to describe the recent diagnosis made as part of the GPRH process. As outlined in the project timeline (see Appendix 5.2.), at the conclusion of the first step in the GPRH process, business units produced diagnoses of their respective WF in October 2019. On the basis of these diagnoses, the SRH is currently producing a diagnosis of the entire WF for the City.

We understand that the process is being deployed, but beyond what was asked of the business units by the SRH, we are concerned about the various aspects that, according to us, have an impact on the identification of vulnerabilities by the business units and will ultimately have consequences for the results of the process.

### Definition of Vulnerabilities and Related Terminology

We first observed general confusion regarding the definition and understanding of the concepts of vulnerabilities related to certain targeted positions. While the terminology historically used<sup>14</sup> in vulnerability studies referred to strategic or highly vulnerable “positions” or “jobs,” we found that the recent diagnosis requested by the SRH focused instead on identifying “vulnerable areas.” This inconsistency in the terminology historically used to designate WF issues surely contributes to the general confusion felt by the stakeholders. This also shows that the definition of these concepts are not clearly defined or known by all the practitioners involved.

Unlike the GPMO, the GPRH does not put forward any clear definitions or criteria upon which business units can rely to properly designate “strategic positions” or “highly vulnerable positions.” It would have been preferable for the GPRH to provide criteria and weight factors,<sup>15</sup> i.e., a common reference to facilitate and encourage a consistent diagnosis of vulnerabilities across the City, in addition to the various avenues of thought about vulnerabilities.

### Degree of Accuracy of the Diagnosis

With a view to making a diagnosis and implementing cross-sectional measures, the SRH set out to obtain a broad picture of “vulnerable areas,”<sup>16</sup> thereby encouraging business units to undertake analyses at the job level. All the HR practitioners we met felt, however, that such an analysis was too broad to provide a proper and complete identification of WF issues. Instead, they favoured a more granular level of analysis, at the position level.

Given that the GPRH process had a dual purpose (cross-sectional measures and local measures), we believe that the appropriate diagnosis would have been on two levels, specific to the business units, if required, and broader for the SRH.

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<sup>14</sup> GPMO (2008): Vulnerability study (for vulnerable positions and jobs).

Policy (2011): Strategic and highly vulnerable positions.

PMO Guide (2012): Highly vulnerable business segments, jobs and positions.

<sup>15</sup> GPMO – Degree of vulnerability:

- LOW: Succession potentially ready, requires less than six months on-the-job learning;
- MEDIUM: Potential succession to be identified and developed, requires more than six months on-the-job learning, mid-level investment to implement a solution;
- HIGH: No presumed succession due to the scarcity or lack of non-competitive employment conditions, the need for lengthy on-the-job learning or a high-level investment to implement a solution.

<sup>16</sup> Areas of vulnerability: imbalance between current resources and future needs that could compromise operations.

### Scope of the Diagnosis

The City's staff is made up of a significant proportion of temporary workers (25%).<sup>17</sup> The process proposed by the Direction générale looked at permanent employees and a portion of temporary employees. In fact seasonal workers, who represent nearly half of the temporary employees, were excluded from the data provided to the business units. Given their staffing structures, however, some business units expanded their diagnoses to include all staff. This was true of Ville-Marie borough, for example, which deemed it necessary to include these staff members to ensure a quality diagnosis and an appropriate action plan. As a result, although a picture was provided by the SRH, the borough had to redraw the detailed list of all its staff and positions by manipulating the data extracted from infoRH application, thereby multiplying the efforts of the users involved in the process. Based on the comments received, this was counterproductive. We believe, therefore, that all temporary staff who are involved for the most part in direct delivery of services to citizens should also have been considered in the GPRH process, not only because of their significant proportion but also because of the sizeable proportion of resignations they represent. According to the information we received, temporary employees represent 70% of resignations.

### Indicators Provided

Furthermore, the indicators<sup>18</sup> provided for the GPRH process were somewhat limited—six, two of which included 2019 targets (absentee rate due to illness and OHS frequency rate)—and gave an overall picture for each business unit. A breakdown by management and accreditation would have helped identify local issues (e.g., for a given business unit or job), something that was not possible with overall statistics. Some business units did so, with considerable effort, by making the data extracted from infoRH application representative and relevant to the picture provided by the SRH. In the case of other business units, the diagnoses were simply limited to the data provided, running the risk that problems would not be identified.

Limiting the scope of the data and indicators to be analyzed in this way was deemed more appropriate by the SRH to simplify the initial diagnosis.

To encourage the business units to perform quality diagnoses, we believe that it would have been relevant and even preferable to consider the option of a detailed analysis based on a more complete picture, identification of all the vulnerabilities and provision of relevant and detailed indicators.

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<sup>17</sup> 25% of the City's employees are "temporary," the majority of whom (89%) are white collar and blue collar workers, and 73% of these work in the boroughs. (Source: Vision et Stratégies RH – Employeur de choix 2025).

<sup>18</sup> General HR statistics – GPRH: Rate of sick leave, rate of absenteeism, rate of OHS frequency, rate of voluntary turnover, rate of vacant positions, number of resignations (2018).

In summary, because of the many internal and external factors that need to be considered and the absence of clearly defined terminology and criteria to identify vulnerabilities, each business unit's diagnosis risks not being representative of the actual situation. This will have consequences on the quality of the local and corporate action plans that will be developed later.

### Ability and Expertise of Practitioners

During interviews conducted with HR practitioners in the boroughs and within the Direction PARH, issues related to the expertise of resources in succession management were raised. More specifically, the HR practitioners in the boroughs stated that they had only general knowledge of succession management and did not always know whom to turn to at the SRH to find the required expertise. They also said that they were unable to guide managers in operational planning and strategic thinking exercise. We believe that these concerns warrant more in-depth analysis since existing conditions are not ideal to encourage them to take responsibility for succession management and its maintenance. As mentioned previously, the recent guide of the GPRH – Action Plan refers to the professional services and reference tools available from the SRH. However, HR practitioners did not seem to be fully informed about the professional services and tools available to them. We believe that means should be taken to improve the competency of HR practitioners regarding succession management so that they are able to fulfill the responsibilities expected of them. Furthermore, we also believe that the SRH should plan information sessions to raise awareness about the services that are available from them as a centre of expertise.

### **RECOMMENDATION**

**3.2.1.2.B. We recommend that the Service des ressources humaines establish a standardized terminology to be used to identify vulnerabilities, as well as criteria to help assess vulnerabilities, and communicate these formally to all the stakeholders involved, so that the business units can properly and consistently identify succession issues for all of Ville de Montréal.**

### **RESPONSE**

**3.2.1.2.B.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

### **RECOMMENDATION**

**3.2.1.2.C.** We recommend that the Service des ressources humaines include, in its guidelines for producing future diagnoses, the possibility for business units to perform a more detailed analysis and that it provide them with relevant and detailed indicators to ensure adequate support for a quality diagnosis.

### **RESPONSE**

**3.2.1.2.C.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

### **RECOMMENDATION**

**3.2.1.2.D.** We recommend that the Service des ressources humaines take the necessary means to improve the succession management skills of the human resources practitioners who provide first-line services to managers in all the business units, so that they can fully discharge their duties.

### **RESPONSE**

**3.2.1.2.D.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

### **RECOMMENDATION**

**3.2.1.2.E.** We recommend that the Service des ressources humaines plan information sessions for the human resources practitioners who provide first-line services to managers of all the business units, to raise awareness of the expertise services available to help them better equip themselves to fulfill the responsibilities expected of them.

### **RESPONSE**

**3.2.1.2.E.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

## 3.2.2. Measures and Action Plans

### 3.2.2.A. Background and Findings

As a second step in succession planning, the expectation is that measures will be identified to reduce the vulnerabilities mentioned in the HR diagnosis stage and that these will be integrated into an action plan. According to best practices, these measures should be planned and complementary. For example, measures can involve recruitment, training, skills development, and total compensation.

To this end, we looked at whether measures aimed at addressing succession issues had been established regarding the vulnerabilities identified, and whether they were found in action plans.

At this stage, our findings highlighted major shortcomings in HR succession management, in particular the lack of a comprehensive picture of succession issues and the absence of a forecasting culture. These findings are also valid for the Direction générale, which has no comprehensive picture of succession issues nor any action plan to address them. With the exception of Verdun borough and the Service de l'évaluation foncière, we found a general absence of any action plan to address succession issues within the audited business units.

In fact, the Verdun borough has maintained a practice of GPMO succession management since 2017, based on which actions are integrated into an action plan with timelines. The Service de l'évaluation foncière produced an action plan in 2018 to meet identified succession issues. It includes definitions of targeted impacts and measures planned to address them.

We noted that the absence of planned approach and action plans has prevented the other audited business units from having a comprehensive view of the measures to be implemented, prioritizing them based on their impact on the delivery of services and planning a realistic timeline. We believe, however, that the business units must develop such a system to draw up the proposed action plans for June 2020, within the framework of the GPRH, to protect their service delivery from the consequences of inadequate succession management (e.g., loss of expertise, key positions that remain vacant, unqualified staff).

In general, we found that succession management was carried out reactively to solve problems as they arise, instead of being planned and complementary based on best practices, to increase the collective effectiveness of succession management. The current system means that, if structured measures are implemented within a business unit for a given branch, they are not extended to other branches that could also be facing this same issue.

On the other hand, it is important to specify that the audited business units, with the exception of Verdun borough and the Service de l'évaluation foncière, claim to have implemented sporadic measures in recent years whenever succession problems arose. The SRH, for instance, which is responsible for establishing cross-sectional issues, put in place some corporate programs that the business units benefit from.

Regardless of whether the measures were integrated or not into an action plan, we sought to obtain proof that they had been put in place, without conducting a full audit. It should be noted that local measures were established within each of the audited business units, as well as cross-sectional measures established by the SRH and deployed throughout the City. These will be described in detail below.

### **Local Measures – Business Units**

Local measures are the result of joint thinking by HR practitioners and managers about succession issues identified. In particular, these are:

- **Letters of Agreement:** Various agreements reached between Ville-Marie borough and the union of blue collar workers (between 2013 and 2016) with the primary objective of stabilizing positions and staff attached to various public works activities deemed to be critical to maintaining the delivery of services (e.g., the position of Class 1 and Class 3 drivers, roadwork) provide mechanisms for transferring learning and skills development to maintain the quality of operations and to plan the succession for subsequent years following the retirement or other movements of the WF.
- **Skills Management Program** (the SIM since 2016): The plan, put in place in 2016 in one of the SIM's branches, is aimed at identifying and evaluating potential employees for management positions, as well as developing the skills of potential employees identified in order to ensure succession for senior and management positions.
- **Work Reorganization:** This measure is best illustrated by the creation of public works teams with various areas of expertise within Ville-Marie borough (e.g., water and sewer, paving work) to encourage the development of expertise and have pools of skills to ensure succession. Also, Verdun borough has conducted various re-assessments of positions to properly plan the succession resulting from anticipated departures due to retirement.
- **Transfer of Critical Job Skills:** Knowledge transfer, a measure put in place by the SIM and Saint-Léonard, Verdun and Villeray–Saint-Michel–Parc-Extension boroughs, is primarily aimed at positions involving expertise deemed to be critical or whose level of complexity is high (e.g., borough director).

- **Structural Reorganization:** In 2017, the Service de l'évaluation foncière undertook a review of the structure and organization of work (e.g., job descriptions) in one of its branches, to mitigate the vulnerability of its operations in the face of a succession issue involving certain critical positions (e.g., commercial appraisers).
- **Salary Reclassifications:** Ville-Marie borough is considered key (in recognition of its "Downtown" status) largely because of its complexity and traffic density. Given that its public works operations are more complex, steps were taken to recognize additional salary grades to encourage the retention and mobilization of senior management positions.

We also found that succession management for the SIM is not carried out by the practitioners of the SRH's Direction PARH but rather by a second-line practitioner responsible for implementing talent development measures for one of this Department's branches.

### **Cross-Sectional Measures – Service des ressources humaines**

Stemming from the GPMO, three cross-sectional measures were deployed by the SRH to ensure the succession of management positions and jobs in various areas of expertise common to the boroughs or specific to the business units. It should be noted that the cross-sectional measures put in place by the SRH required a considerable investment of time and resources and involved a considerable number of stakeholders at all levels. These support measures are, as follows:

- **Programme de formation Inspectorat:** To address major recruitment and staff retention problems, this program (in effect since 2018) is aimed at developing and supporting inspection skills, featuring a structured and harmonized practice in which inspectors have a common understanding of their role, common standards and effective strategies.

- **Programme de développement des compétences de gestion:**

This program, put in place in 2013, and developed and administered in collaboration with the École nationale d'administration publique (ÉNAP), is aimed at developing the skills enshrined in the "*Profil de compétences génériques de gestion de la Ville de Montréal.*"<sup>19</sup> It is intended for managers. The training covers the following practices:

- Manager Selection;
- Management Skills Development;
- Performance Management;
- Succession Management.

On this subject, while succession management training targets managers, it does not specifically deal with succession planning. For example, matching the needs and talents of the organization, developing employability or managing talents are not the subject of this training. Furthermore, based on the information obtained, this development program is not intended for all the City's managers.

We believe that the succession management component should be developed more specifically and be addressed to all managers, given the importance of their role in the GPRH process.

- **Programme des contremaîtres:** A training and development program specific to the work of foreman was put in place to address the issues of this now critical position, in particular due to major issues (e.g., difficulty attracting, recruiting and retaining people for these positions, as well as gaps in the level of training of the current foremen).

It should be noted that the SRH's *Programme des contremaîtres* is considered by the various stakeholders we met as an excellent initiative that they hope will be broadened to other types of jobs.

We also found that online guides had been made available to managers and HR practitioners. These deal in particular with mentoring, support, integration and professional development.

The practitioners we met deplored not knowing about all the tools that were available to them and that access to a guide was insufficient to ensure the implementation of proper measures to address succession issues.

In an organization the size of the City's, which includes approximately 2,000 managers, it is necessary for everyone to have the skills needed to ensure the succession management of their business unit.

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<sup>19</sup> The profile of the City's generic management skills, considered essential, are aligned with the organizational challenges and values of the City, as well as with the expected role of managers within their teams. These include:

- Basic management skills: coordinating the daily work of the teams;
- Complexity management skills: acting as a liaison between orientations and operational issues;
- Strategic management skills: defining and deploying organizational orientations.

We should also mention that the SRH reached a framework agreement for professional services with an outside firm, offering the possibility for managers to be guided through WF management actions (e.g., group support, team development and a plan to transfer knowledge and expertise). Taking advantage of such services requires prior identification of a succession issue (e.g., the transfer of expertise from key resources before their retirement) and includes costs that must be covered by the business units in their budget.

In summary, measures addressing succession problems within the City are not part of a comprehensive and permanent strategy because they are ad hoc. Some stakeholders that we met claimed that the WF diagnosis they performed as part of the GPRH (in October 2019) showed that some vulnerabilities had persisted since the GPMO. Under these circumstances, it is fair to have doubts regarding the comprehensiveness of the measures put in place in recent years by the audited business units to take responsibility for all succession issues, or to question the lack of follow-up. The SRH claims that, because of the lacklustre performance of HR planning within the City, there were major losses and organizational inefficiencies (e.g., the departure of key resources, the absence of any transfer of knowledge and expertise, the reduction of an available qualified WF) that currently require considerable effort to catch up.

### **Means of Ensuring the Measures are Followed Up**

To be able to eventually follow up the proposed measures, certain methods must be established beforehand, where applicable:

- A designated person in charge;
- A timeline;
- The targeted objective or impact;
- The required budgets.

We set out to determine whether such methods had been put in place, and whether the impact targeted by measures developed by the audited business units and the SRH were clearly identified and assessed in terms of efficiency and effectiveness.

In general, we found that the methods used to follow up on the implementation of the measures were not systematically provided for all the measures put in place within the audited business units. This situation includes the following risks:

- That the effect targeted by the deployed measures will not be achieved;
- That the measures will not be deployed due to a lack of budgeted funds;
- That a follow-up will not be done due to the lack of a designated person in charge.

While the practitioners we met claimed that they were able to see the effect of the measures deployed on their operations and to make adjustments when necessary, we believe that the business units (local action plan), as well as the SRH (corporate action plan), should determine the objectives as soon as the measures are chosen, acquire indicators to enable them to perform a proper follow-up and assess the extent to which the targeted effects have been attained, in order to bring appropriate corrective action when required. Ultimately, these indicators will enable managers to inform the Direction générale of the implementation of their action plans for the succession management of their HR.

Generally speaking, based on the information we obtained, up to now the business units have met the costs related to measures deployed for succession management out of their operating budget. Given the scope and importance of succession planning, the considerable efforts that must be expended and coordinated at both the local and cross-sectional levels require that the financial resources needed be evaluated and budgeted. To assure implementation and follow-up of the measures chosen, we believe that it is necessary for the required budgets to be provided for in the (local and cross-sectional) action plans of all the business units.

### **Action Plan – “Gestion prévisionnelle des ressources humaines”**

Within the framework of the GPRH process, begun in January 2019 as a result of diagnoses made in October 2019, business units are expected to develop action plans by June 2020. According to the guide produced by the SRH, the objective regarding identified vulnerabilities must be limited, and the measures identified. These measures must include a realistic timeline and cost estimate. Such a process requires that the business units prioritize actions and plan for their management and budget. We strongly encourage this practice.

In the interim, based on the information we obtained, the process provides for neither the validation of the measures set out in the action plans nor the validation of the diagnoses performed. Given that succession management within the City is more reactive and that HR practitioners insist that they are not sufficiently equipped to properly support management, SRH guidance (validation by the SRH) is vital. In particular, support is needed to ensure that the action plans expected for June 2020 (the GPRH) match up with the identified succession issues.

We also believe that the deployment of measures (local and cross-sectional) should be prioritized to ensure identified vulnerabilities are dealt with. In addition, this implementation should be followed up, and methods used to assess the measures' effectiveness should be established so that the appropriate corrective actions are taken and, potentially, reported.

## RECOMMENDATION

**3.2.2.B.** We recommend that the Service des ressources humaines provide all managers with training to develop succession management skills, so that they can take proper responsibility for the succession issues in their respective business units.

## RESPONSE

**3.2.2.B.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

## RECOMMENDATION

**3.2.2.C.** We recommend that Saint-Léonard, Ville-Marie and Villeray–Saint-Michel–Parc-Extension boroughs, the Service de l'évaluation foncière and the Service de sécurité incendie de Montréal establish succession management action plans that address the issues previously identified in their diagnoses and in which measures will be prioritized based on their impact on the delivery of services and strategic orientations, and realistic timelines and a budget will be established to facilitate the follow-up of their implementation and, possibly, to report on them to the decision makers.

## RESPONSE

**3.2.2.C.** *The audit report was issued to the business units concerned between March 9 and 20, 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 June 29, 2020.*

### RECOMMENDATION

**3.2.2.D.** We recommend that the Direction générale prioritize the corporate actions that must be put forward and allocate the necessary budgets to both the Service des ressources humaines and the central departments, to enable them to implement the measures determined to ensure succession management and foster the attainment of the expected benefits.

### RESPONSE

**3.2.2.D.** *The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.*

### RECOMMENDATION

**3.2.2.E.** We recommend that Saint-Léonard, Verdun, Ville-Marie and Villeray–Saint-Michel–Parc-Extension boroughs allocate the necessary budgets to implement the succession management measures determined, in order to foster the attainment of the expected benefits.

### RESPONSE

**3.2.2.E.** *The audit report was issued to the business units concerned between March 9 and 20, 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 June 29, 2020.*

## 3.2.3. Follow-Up of Measures

### 3.2.3.A. Background and Findings

Following up on the implementation and benefits of the measures deployed is essential to enable managers to evaluate the progress achieved and to realign the action plans, if necessary, to ensure that the overall succession of their business units is effectively managed. To this end, mechanisms that provide this follow-up must be put in place (e.g., regular meetings, periodic reviews).

With this in mind, we sought to determine whether follow-up mechanisms, an essential component of good management, were in place in the audited business units.

It should be noted that methods that enable measures to be followed up (e.g., targeted effects, budget, timeline) are not systematically provided within the audited business units. As a result, we generally found that mechanisms to follow up on the measures deployed were not planned by all the audited business units. However, we observed the following elements:

- Verdun borough made provision in its methodology for implementation of a follow-up process to gauge the state of progress of the *Plan de gestion prévisionnelle de la main- d'oeuvre* by the Division des ressources humaines, financières et informationnelle. It also asserted that the follow-up of the action plan was the subject of management committee discussions;
- To ensure follow-up of talent development measures in one of the SIM's branches, the HR practitioner (second-line SRH) responsible for their implementation conducts a documented follow-up of their progress and observed benefits;
- The Service de l'évaluation foncière produces an annual report titled "Bilan et perspective" that provides a status on the progress of planned actions and observed benefits regarding HR issues.

As for the cross-sectional measures deployed by the SRH, since these are ongoing measures involving different stakeholders, it is the Direction de la dotation, des talents et du développement organisationnel that is responsible for maintaining them (e.g., the *Programme des contremaîtres*).

Regarding the recent deployed GPRH process, we observed that it does not provide for mechanisms to follow up the action plans that will be developed by the business units. To encourage taking proper responsibility for succession issues and applying appropriate corrective actions when required, we believe that follow-up mechanisms must be established for each business unit's *Plan d'action local* and for the SRH's *Plan d'action transversal*.

## RECOMMENDATION

**3.2.3.B.** We recommend that Saint-Léonard, Verdun, Ville-Marie and Villeray–Saint-Michel–Parc-Extension boroughs, as well as the Service de l'évaluation foncière, the Service de sécurité incendie de Montréal and the Service des ressources humaines, put in place mechanisms to follow-up the succession management action plans, to evaluate whether the targeted effects have been achieved and to apply appropriate corrective action when required to ensure proper succession management of strategic and highly vulnerable positions.

## RESPONSE

**3.2.3.B.** *The audit report was issued to the business units concerned between March 9 and 20, 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 June 29, 2020.*

## 3.3. Accountability

### 3.3.A. Background and Findings

When a business unit implements the orientations of the municipal administration, it must follow their progress, periodically evaluate them and report on them. Reporting mechanisms must be put in place within the structure so that informed decisions are being taken in a timely manner.

With this in mind, therefore, we looked at whether formal reporting mechanisms had been put in place to properly inform decision makers of the effectiveness of the succession management measures implemented. We examined the existence of reporting mechanisms on succession management within the business units and to the director general.

First, in the case of the audited business units (with the exception of Verdun borough and the SRH), based on the information obtained from the persons we met or contacted, there was verbal reporting to the senior management committee on the proposed measures to solve problems specific to succession.

In the case of Verdun borough, the GPMO process initiated in 2017 is included in its strategic plan (2015–2025). Within the framework of this plan, mechanisms for annual reporting to elected officials are provided, especially to follow up on implementation of the GPMO (2017–2019) action plan.

It should also be noted that, as part of the GPRH process initiated in 2019, all the audited business units produced the first deliverable requested by the director general, their HR diagnoses, in October 2019. According to this process, the second deliverable to be produced (for June 2020) will be a *Plan d'action local* in line with

the diagnoses they produced. As part of this process, the SRH was required to report to the director general on the progress of the GPRH project. The SRH will also have to produce a first deliverable, i.e., the picture of the City's WF, and a second deliverable, i.e., recommendations on the implementation of structural projects over a three- to five-year timeline. In the first case, the SRH is currently working on a document that should be presented to the director general. The second deliverable will be completed only after the action plans are received by the director general.

In previous processes (the 2009–2011 and 2012–2014 GPMO) prior to this GPRH process, reporting mechanisms were also put in place within the business units involved. Each of the business units was required to produce a WF plan using the planned methodology. A WF plan for the City with a focus on succession management was produced by the SRH for the director general since he is the driving force behind this process.

While the GPRH process is under way, we observed that reporting mechanisms on the implementation of the measures that will be retained to mitigate the vulnerabilities diagnosed have not been planned to date. We believe that such mechanisms should be provided for at the business unit level to report on the extent to which the objectives envisioned in their action plan have been achieved.

It is important, however, not to lose sight of the fact that, at the time that the GPRH process was undertaken, the anticipated benefits were to:

- Ensure an available and qualified workforce;
- Anticipate retirements;
- Reduce the business risk related to workforce vulnerabilities;
- Plan the succession and anticipated recruitment;
- Foster the development and transfer of expertise.

These objectives are not formulated in measurable terms and, as a result, it will be difficult to assess the adequacy of the results that will be achieved. We believe, therefore, that measurable objectives related to expected benefits should be established beforehand. Performance indicators must also be identified to measure the extent to which these objectives have been achieved. In our opinion, this exercise should be done at both the local level and the corporate level. Thereafter, reporting mechanisms should make it possible to inform the municipal administration of the extent to which the objectives have been achieved so that informed decisions can be made.

## RECOMMENDATION

**3.3.B.** We recommend that the Direction générale, in collaboration with the Service des ressources humaines, establish measurable objectives to evaluate whether the expected benefits have been attained under the “Gestion prévisionnelle des ressources humaines” process and to put in place reporting mechanisms to facilitate informed decision-making.

## RESPONSE

**3.3.B.** *The audit report was issued to the business units concerned between March 9 and 20, 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 June 29, 2020.*

## RECOMMENDATION

**3.3.C.** We recommend that Saint-Léonard, Verdun, Ville-Marie and Villeray–Saint-Michel–Parc-Extension boroughs put in place reporting mechanisms to demonstrate the effectiveness of the “Gestion prévisionnelle des ressources humaines” process and measures deployed, in order to facilitate informed decision-making.

## RESPONSE

**3.3.C.** *The audit report was issued to the business units concerned between March 9 and 20, 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 June 29, 2020.*

## 3.4. Sustainability of the Gestion prévisionnelle des ressources humaines Process

### 3.4.A. Background and Findings

As mentioned in the introduction, a great number of employees will be eligible to retire in the coming years, and the number of voluntary departures is on the rise. The City has become less attractive. At the same time, filling positions has become more difficult because of the realities of the labour market (e.g., aging of the working population, volatility of employees). The City is exposed, therefore, to the loss of expertise that can have major repercussions on operations. This represents costs to the City.

Given this situation, which is unfavourable to staffing, WF planning becomes more and more essential and important to facilitate the implementation of the strategic plan, the achievement of operational objectives and the delivery of services that

citizens expect. As mentioned previously, managers are called upon within all the business units to assume responsibility for the delivery of services. They are the ones who identify WF needs. HR specialists are also called upon as experts or in an advisory role. In short, many resources are involved at all stages of the succession management process and all must work collaboratively to achieve the objectives.

The current GPRH process was initiated by the director general, as were the other previous processes. In this case, the GPRH process is an organizational priority and all department managers and borough directors are committed to collaborating in achieving the requested deliverables as part of their performance evaluation.

This approach seems to have functioned well, since at the time of our audit work, all the diagnoses had been forwarded to the director general by the scheduled date. The next deliverable, i.e., the action plans, is expected in June 2020.

For the GPRH process to achieve the expected results in the long term and for everyone's contributions to meet expectations, we believe that the process must be ongoing and that the administrative frameworks must reflect this. We found that the only administrative framework approved by the executive committee is the *Politique de dotation et de gestion de la main-d'œuvre*, adopted in 2011. Given the importance of the succession management process, we believe that this Policy, currently in effect, must cover all aspects of succession management, including accountability. Failing that, it should be updated.

## RECOMMENDATION

**3.4.B.** We recommend that the Direction générale ensure that the *Politique de dotation et de gestion de la main-d'œuvre*, adopted by the executive committee on September 28, 2011, cover all aspects of succession management and, if necessary, that it be updated to foster sound succession management aimed at supporting the delivery of services offered to the public and the achievement of strategic objectives.

## RESPONSE

**3.4.B.** The audit report was issued to the business unit concerned between March 9 and 20, 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 June 29, 2020.

## 4. CONCLUSION

For the past 10 years, the Ville de Montréal (the City) has been faced with a high number of retirements, a growing number of voluntary departures and an increasing turnover rate. These factors are of concern since the labour market has also evolved during the same period. For example, there have been technological changes, a scarcity of skills in certain industry sectors and a different view of the labour market held by new generations of workers. These realities make filling some positions within the City more difficult.

Since 2008, steps have been initiated by the then director general to prepare workforce (WF) plans (the 2009–2011 “Gestion prévisionnelle de la main-d’œuvre” (GPMO) and the 2012–2014 GPMO). While the degree of involvement of the business units has varied, WF plans were produced. Vulnerabilities were identified by the business units, for certain business segments and types of jobs, and measures were identified to ensure continuity. In 2014, the *Plan quinquennal de main-d’œuvre 2014-2018 (PQMO)* became the priority of the director general at the time. This plan was aimed primarily at eliminating 2,200 positions over five years, which was expected to generate substantial savings. While the GPMO should have been maintained in the context of major staff reductions, succession management efforts ran out of steam instead.

In January 2019, a new “Gestion prévisionnelle des ressources humaines” (GPRH) process was undertaken in all the business units. This process is an organizational priority of the current director general for 2019 and 2020. The process is aimed at anticipating Human Resources (HR) needs over several years, while taking into consideration the internal and external environment of the City. One of the goals is to ensure an available and qualified WF to address succession issues. In accordance with the scheduled timeline, a diagnosis was produced by all the business units in October 2019 and action plans are expected in June 2020. Local and corporate measures will then be provided. The success of this process depends on several winning conditions.

In the context of recent years, our audit work has led us to conclude that all the winning conditions have not been brought together to facilitate sound succession management for strategic and highly vulnerable positions. It is in the spirit of contributing to maintaining the delivery of the City’s services and achieving strategic objectives that we recommend, among other things, that the City:

- Formally communicate the roles and responsibilities to all the stakeholders involved in all the stages of the succession management process;
- Make means available to the business units to enable them to have an ongoing detailed picture of their WF based on all relevant data (internal and external data);
- Prepare succession management action plans in which measures will be prioritized based on their impact on the delivery of services and strategic orientations, and realistic timelines and a budget will be established;

- Provide for training adapted to the needs of all stakeholders involved in succession management, based on their respective responsibilities, at all stages of the process;
- Allocate the necessary budgets to the business units to enable them to implement the measures that will have been prioritized;
- Put in place mechanisms to follow up the succession management action plans;
- Establish objectives to measure the impact of the benefits expected from the GPRH process and put in place reporting mechanisms to demonstrate the effectiveness of the GPRH and of the measures implemented.

Given that succession management involves knowledge of the continually evolving picture of the WF and the state of vulnerabilities, it is critical that this practice be ongoing, all the more so because it contributes to the City's strategic orientations. It is also important that everyone put in the necessary effort to enable succession management to be conducted in a forward looking and strategic mode rather than a reactive and tactical mode as in the past. For these reasons, we believe that the municipal administration must ensure that the *Politique de dotation et de gestion de la main-d'œuvre*, adopted by the executive committee in September 2011, covers all aspects of succession management and update it, as necessary.

## 5. APPENDICES

### 5.1. Objective and Evaluation Criteria

#### Objective

To ensure that the City has put in place appropriate measures aimed at the sound succession management of strategic and highly vulnerable positions to maintain the delivery of services to citizens.

#### Evaluation Criteria

- Responsibilities for succession management are clearly stated and communicated to all business units.
- The Ville de Montréal has a comprehensive view of strategic and highly vulnerable positions, which allows it to identify succession issues.
- Ongoing measures to ensure the succession of strategic and highly vulnerable positions have been established in accordance with the current administrative framework and priorities of the municipal administration.
- Follow-up mechanisms have been put in place to ensure implementation of the established measures.
- Formal reporting mechanisms have been developed to ensure the effectiveness of the measures put in place for the succession management of strategic and highly vulnerable positions.

## 5.2. Gestion prévisionnelle des ressources humaines Process



Reference: "Le processus GPRH illustré", Service des ressources humaines.



# 4.6.

## Management of the Municipal Housing Programs Stemming From the “Montréal Reflex” Framework Agreement

[Service de l'habitation]

April 9, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Ensure that the Service de l'habitation (SH) has taken the necessary measures to enable it to fulfill its new housing responsibilities stemming from the "Montréal Reflex" framework agreement.

# RESULTS

In December 2016, the Québec government and the Ville de Montréal (the City) entered into the "Montréal Reflex" framework agreement, thereby officially recognizing Montréal as the metropolis of Québec. Pursuant to this housing agreement, the Société d'habitation du Québec (SHQ) transfers powers and responsibilities to the City. Henceforth, the City can, without requiring the authorization of the SHQ, adopt and implement a housing program. The City now has the authority to guarantee any loan granted to bodies under the AccèsLogis program. These new powers have led the City to adopt a new AccèsLogis Montréal program adapted to Montréal's reality. Following our audit and considering the importance of the responsibilities as well as the financial risks they represent for the City, we are of the opinion that improvements should be made considering the following main aspects:

- The SHQ and the City have different views on the degree of the City's involvement in terms of housing unit targets to be reached;
- The loan agreement entered into with the approved lender to finance the implementation of the projects does not cover all of the units approved under the AccèsLogis Montréal program;
- The City has not evaluated whether the resources involved in managing projects under the AccèsLogis Montréal program have all the expertise required to assess the financial soundness of the organizations and the viability of the projects;
- The City has not obtained confirmation from the SHQ that the new municipal programs take into account the government's orientations and objectives;
- There is no evidence that bodies that submitted projects under the AccèsLogis Montréal program have or have not encountered financial difficulties with their projects in the past;
- The City has not decided whether projects carried out under the AccèsLogis Montréal program are subject to the governance framework for municipal projects and asset programs;
- The City does not systematically request financial statements from bodies that have submitted projects under the AccèsLogis program, in order to assess their financial soundness;
- Documents sent to the approved lender regarding project financing are not authorized by the manager of the SH in accordance with the delegation of authority from the executive committee;
- There is no evidence that the variables affecting the calculation of subsidies have been verified;
- The City does not make sure that the organizations and contractors are not on the Register of Enterprises Ineligible for Public Contracts (REI);
- Indicators have not been established within the City to assess the extent to which the transfer of authority and responsibility has produced the expected benefits.

*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.*

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# LIST OF ACRONYMS

<b>AFA</b>	Application for Financial Assistance	<b>PA</b>	Preliminary Approval
<b>CC</b>	Conditional Commitment	<b>RAAP</b>	Residential Adaptation Assistance Program
<b>CMHC</b>	Canada Mortgage and Housing Corporation	<b>REI</b>	Register of Enterprises Ineligible for Public Contracts
<b>CTA</b>	<i>Cities and Towns Act</i>	<b>RQP</b>	Renovation Québec Program
<b>DC</b>	Definitive Commitment	<b>RSP</b>	Rent Supplement Program
<b>IAD</b>	Interest Adjustment Date	<b>SH</b>	Service de l'habitation
<b>LRH</b>	Low-Rental Housing	<b>SHQ</b>	Société d'habitation du Québec
<b>MAMH</b>	Ministère des Affaires municipales et de l'Habitation	<b>TK</b>	Turnkey
<b>MPC</b>	Maximum Permissible Costs	<b>TRG</b>	Technical Resource Group



## 1. BACKGROUND

On December 8, 2016, the Ville de Montréal (the City) and the Québec government entered into a framework agreement titled “Montréal Reflex” which officially recognized Montréal as the metropolis of Québec. The agreement covers several aspects, including housing.<sup>1</sup> To implement the “Montréal Reflex,” the government intended to:

- add a “Montréal Chapter” to all economic and social policies clearly identifying the social, economic and financial impacts on the metropolis of the measures put forward by the Québec government;
- consult the City when appropriate regarding laws, regulations, programs, policies or directives that directly concern or affect it.

On September 21, 2017, Bill 121, *An Act to increase the autonomy and powers of Ville de Montréal, the metropolis of Québec*, was adopted by the National Assembly, providing enabling powers to the City. Consequently, the *Charter of Ville de Montréal* was renamed the *Charter of Ville de Montréal, metropolis of Québec*. More specifically, with respect to housing, powers were transferred from the Société d’habitation du Québec (SHQ) to the City. Thus, the *Act respecting the Société d’habitation du Québec* was amended to include two new sections:

- The City may, without the SHQ authorization or approval, prepare, adopt by by-law and implement in its territory a housing program to promote the development of dwellings to be made available to persons or families of low or moderate income and to allow the improvement of existing dwellings;
- The City may, without the authorization of the Minister in charge of the Ministère des Affaires municipales et de l’Habitation (MAMH), grant a loan guarantee in the administration of a program under section 56.4 of the *Act respecting the Société d’habitation du Québec*.<sup>2</sup>

The municipal housing programs targeted by the transfer of powers and responsibilities are the housing financial assistance programs, namely the AccèsLogis program, the Renovation Québec Program (RQP) and the Residential Adaptation Assistance Program (RAAP). A description of these programs can be found in Appendix 5.1.

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<sup>1</sup> Other aspects covered: combatting homelessness, immigration, culture and heritage, school infrastructure and equipment.

<sup>2</sup> *Act respecting the Société d’habitation du Québec*, section 56.5.

On December 14, 2017, regarding the newly transferred responsibilities, the City's urban agglomeration council adopted an amendment to the *By-law concerning subsidies for the development of non-profit cooperative housing (02-102)* regarding the AccèsLogis program.<sup>3</sup> Thus, certain sections have been modified in order to adapt the program to Montréal's reality and new sections have been inserted, including those dealing with loan guarantees. The AccèsLogis Montréal program (*By-law 02-102B*)<sup>4</sup> was born.

Also on December 14, 2017, the City's urban agglomeration council delegated to the executive committee, through its internal by-law,<sup>5</sup> the power to guarantee any loan extended under the AccèsLogis Montréal program since social housing is an urban agglomeration power. In turn, the executive committee delegated this responsibility to the manager of the Service de l'habitation (SH).<sup>6</sup>

The "Montréal Reflex" framework agreement resulted in the City reaching sectoral agreements. Thus, on March 29, 2018, the City's urban agglomeration council approved the final version<sup>7</sup> of the sectoral agreement between the City and the SHQ titled *Agreement regarding the transfer of budgets and housing responsibility* (the sectoral agreement with the SHQ). This agreement contains, in particular, provisions regarding the financial transfer framework, the budget for housing programs, the payment of subsidies, accountability and the monitoring committee. The agreement also aims to ensure that the measures provided for in the "Montréal Reflex" framework agreement will lead to:

- The transfer from the SHQ to the City of budgets and responsibilities relative to the development of housing on its territory<sup>8</sup>;
- The SHQ's commitment to modify its intervention framework to enable the City to manage the amounts earmarked for its territory in accordance with its operational criteria adapted to its reality and government orientations, particularly with regard to the objectives to be achieved, so as to implement municipal housing programs to develop housing for low- and moderate-income persons. It will also enter into agreements with the City regarding their financing and monitoring, as well as the compliance of its management through ex post facto accountability, particularly with regard to government objectives.

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<sup>3</sup> RCG 17-036: *By-law amending the By-law concerning subsidies for the development of non-profit cooperative housing (new program) (02-102)*.

<sup>4</sup> *By-law 02-102B: By-law concerning subsidies for the development of non-profit cooperative housing (AccèsLogis Montréal)*.

<sup>5</sup> RCG 17-037: *Urban agglomeration council internal management by-law concerning the delegation of urban agglomeration council powers to the executive committee regarding the assistance program for the development of non-profit cooperative housing*.

<sup>6</sup> RCE 02-004, section 41.10.2. *By-law concerning the delegation of powers to officers and employees*.

<sup>7</sup> Initial version approved by the same body on September 28, 2017.

<sup>8</sup> Excluding the budgets of the Low-Rental Housing (LRH) stock, which is subject to an agreement with the Canada Mortgage and Housing Corporation (CMHC).

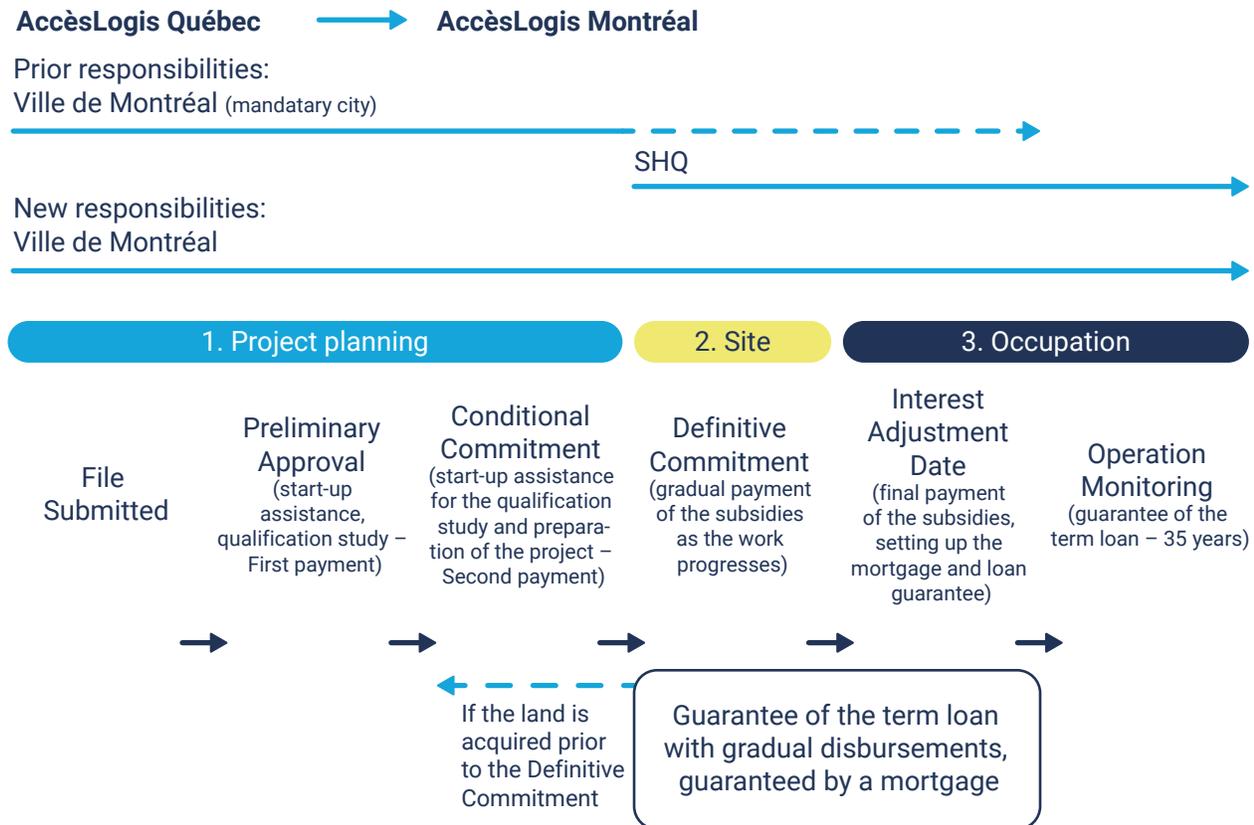
The budgets transferred correspond to an overall budget of \$93.7 million for fiscal year 2017–2018, i.e., 36% of the budget made available to the SHQ, and this percentage will increase annually by one percentage point until it reaches 40% in the fifth year of the sectoral agreement with the SHQ, i.e., on March 31, 2022. In addition, the new powers conferred to the City allow it to proceed with an in-depth review of current financial assistance programs to better adapt them to Montréal’s reality. This agreement is also in keeping with the municipal administration’s desire to develop 12,000 social and affordable housing units between 2018 and 2021, including 6,000 social and community housing units and 6,000 affordable housing units.

On June 6, 2018, the City’s executive committee approved a draft agreement between the SHQ and the City titled *Entente concernant l’utilisation de la demande d’aide financière, du fichier de gestion des débours et du fichier de factures à la Ville*, which will enable the City to access the digital tools for the AccèsLogis Montréal program (the same tools already used by the SHQ for the AccèsLogis Québec program), in particular the Application for Financial Assistance (AFA), the disbursement management file and the invoice file.

On June 13, 2018, in connection with the City’s responsibility to guarantee loans to bodies, the City’s executive committee approved a draft loan agreement with an approved lender titled *Agreement respecting the AccèsLogis program to develop non-profit cooperative housing units*.

Note that, prior to the conclusion of the “Montréal Reflex” framework agreement, the City, as mandatory city, already assumed expanded responsibilities with respect to the AccèsLogis program (AccèsLogis Québec) before powers and responsibilities were transferred. Figure 1 below illustrates the differences in responsibilities for the City between the AccèsLogis Québec and AccèsLogis Montréal programs.

## Figure 1 – Responsibilities of the Ville de Montréal



Source : Service de l'habitation

Most of the City's powers and responsibilities stem from the sectoral agreement with the SHQ regarding the AccèsLogis Montréal program because of the loan guarantees, since the agreement now grants financial assistance in the form of loan guarantees to bodies to complete social housing projects. This is a major responsibility because of the financial risks for the City in the event of a default by the bodies on their financial obligations to the lending institution. In fact, as of October 31, 2019, the City has guaranteed an amount of \$6.1 million<sup>9</sup> and it is estimated that it will be called upon to guarantee an amount of \$158.3 million<sup>10</sup> for all the projects that have passed the Preliminary Approval (PA) stage. In addition, the City will be required to monitor projects in operation over a 35-year period, due to the term of the mortgage, to ensure that they are well managed. It should be noted that as of October 31, 2019, there are no projects in operation.

Approval of the sectoral agreement with the SHQ will also make it possible to improve or review existing programs to make them more effective and, above all, better adapted to the needs and issues. The AccèsLogis program is the one that presents the most urgent situation, since its current standards make it increasingly difficult to apply on the territory of Montréal.

<sup>9</sup> According to the information obtained from the SH.

<sup>10</sup> Net implementation costs of project subsidy amounts.

## 2. PURPOSE AND SCOPE OF THE AUDIT

Pursuant to the provisions of the *Cities and Towns Act*, we conducted a performance audit mission on the management of municipal housing programs stemming from the “Montréal Reflex” framework agreement. 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 objective of this audit was to ensure that the SH has taken the necessary measures to enable it to fulfill its new housing responsibilities stemming from the “Montréal Reflex” framework agreement.

The new responsibilities are related to three programs (AccèsLogis, RQP and RAAP). However, these new responsibilities relate more to the AccèsLogis program and, as such, our audit work was mainly oriented towards this program. Furthermore, we conducted an audit mission of the RQP in 2017. One of the objectives was to assess the extent to which grants were rigorously monitored for compliance with the conditions set out in the regulations for the five RQP subprograms. Thus, the analysis of applications for financial assistance, the calculation of grants, compliance with regulatory provisions, budget monitoring and accountability have been considered.

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 5.2.

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.

Our audit covered the period extending from April 23, 2018, to October 31, 2019. However, for certain aspects, earlier data was also examined. Our work was carried out mainly between June 2019 and February 2020. We also took into account information provided to us up to April 9, 2020.

Most of our audit work involved the SH.

At the end of our work, a draft audit report was presented for discussion to the relevant managers within the SH.

The final report was then sent to the management of the SH as well as to the director general for the purpose of obtaining action plans and timetables for the implementation of the recommendations concerning them. A copy of the final report was also sent to the deputy director-general of Qualité de vie.

### 3. AUDIT RESULTS

#### 3.1. Applicable Agreements and New Responsibilities Regarding the Targeted Housing Programs

The various applicable agreements have had the impact of conferring new responsibilities on the City, as mentioned in the introduction. In this section, we shall therefore describe these new responsibilities and then raise a few aspects that hinder their full implementation.

##### 3.1.1. Agreement Regarding the Transfer of Housing Budgets and Responsibilities (the Sectoral Agreement with the Société d’habitation du Québec)

###### 3.1.1.A. Background and Findings

So far, three budget periods have elapsed since the transfer of responsibilities to the City. The total budgets granted by the SHQ (according to the government’s budget period, i.e., from April 1 to March 31) and the distribution of the budget envelope by the SH are shown in Table 1.

Table 1 – **Distribution of Budgets Per Program Conveyed by the Société d’habitation du Québec (in Millions of Dollars)**

YEAR	ACCÈSLOGIS	RENOVATION QUÉBEC PROGRAM	RESIDENTIAL ADAPTATION ASSISTANCE PROGRAM	TOTAL
2017-2018	74.6	9	10.1	<b>93.7</b>
2018-2019	85.36	9.25	9.25	<b>103.86</b>
2019-2020	-	19.5	23.4	<b>42.9</b>
<b>TOTAL</b>	<b>159.96</b>	<b>37.75</b>	<b>42.75</b>	<b>240.46</b>

We note that the budgets granted to the City by the Québec government cover the 2017–2018 and 2018–2019 budget periods. For the 2019–2020 period, a partial budget has been allocated since the government has made no commitment regarding the AccèsLogis Montréal program. According to the information obtained from the SH, the government has not allocated a budget for this program because of the program’s desire to complete projects for which units had already been committed under the AccèsLogis Québec program. The SH made a budget request to the government for the AccèsLogis Montréal program in order to pursue social housing projects while maintaining its autonomy as a metropolis, but the request has remained unanswered to date. In the absence of such budgets, the SH cannot commit to new projects under the AccèsLogis Montréal program.

## **New Responsibilities**

### Transfer of Housing Programs Budgets

The sectoral agreement with the SHQ states in its preamble that the City can manage the amounts provided for on its territory according to not only its operational criteria adapted to its reality, but also government orientations, including with regard to the objectives to be achieved. In the course of our audit work, we first sought to obtain more details on this aspect, namely whether the government had communicated targets to the City. We also sought to understand how the City would ensure compliance with this aspect. According to the information obtained from the SH, the SHQ communicated targets “in terms of housing units” for the 2018–2019 budget period. The SH’s position is that the transfer of responsibilities and powers:

*“[...] enables it to determine the subsidy quantum<sup>11</sup> per housing unit. The City can therefore increase the unit grants, which it does in order to deal with the conditions under which projects are carried out on its territory.” This position is justified by the fact that the targets stated by the SHQ “create equity issues [...] because each unit developed in Montréal requires a financial effort greater than that required to develop housing in other regions.”*

The SH pointed out this contradiction in writing to the SHQ in August 2018 and, according to information obtained, the SHQ reiterated in writing, in December 2018, that:

*“[...] the City must also contribute to the attainment of various government objectives,” announcing, however, that a procedure would be put in place to consult Montréal “prior to the establishment of future government objectives and orientations concerning municipal housing programs.”*

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<sup>11</sup> Amount determined.

We will come back to this subject in section 3.3.1. To date, there has been no outcome and we believe that the SH must clarify this aspect with the SHQ to ensure that both parties agree in order to prevent the City from finding itself in a situation where it might not meet its obligations.

## RECOMMENDATION

**3.1.1.B.** We recommend that the Service de l'habitation follow up with representatives of the Société d'habitation du Québec to obtain clarification as to the meaning of the objectives mentioned in the sectoral agreement with respect to housing programs in order to avoid a situation that could jeopardize the obtaining of budgets because of non-compliance with its obligations in this regard.

## RESPONSE

**3.1.1.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

## 3.1.2. Agreement for Investment in Affordable Housing (Canada Mortgage and Housing Corporation)

### 3.1.2.A. Background and Findings

The sectoral agreement with the SHQ indicates that the City acknowledges having received a copy of the financing agreements between the SHQ and the CMHC, which participates in the financing of various housing programs. These agreements stipulate the SHQ's obligations towards the CMHC in order to report on a quarterly basis.

As part of our audit work, we asked the SH for copies of the funding agreements to assess whether the City had responsibilities towards the CMHC.

We first obtained a copy of the initial agreement between the SHQ and the CMHC, titled *Agreement for Investment in Affordable Housing 2011–2014* and signed by the parties on March 19, 2012. We also obtained a copy of the extension of *"the agreement for investment in affordable housing"*<sup>12</sup> for the 2014–2019 period, signed by the parties on July 27, 2015. Finally, the SH also provided us with a copy of the letter addressed to the SHQ by the CMHC, confirming that the AccèsLogis Montréal program is now included in the agreement for investment in affordable housing. In this letter, the CMHC reminds us that, although the SHQ may enter into arrangements with third parties, such as municipalities, to carry out certain responsibilities under the agreement, the SHQ remains solely responsible to the

<sup>12</sup> Also includes social housing.

CMHC, without the CMHC having to deal with the third parties. As a result, the evidence we have obtained confirms that the SH is directly accountable to the SHQ and not to the CMHC.

However, the last extension of the agreement between the SHQ and the CMHC for investment in affordable housing ended on March 31, 2019, and the agreement has yet to be renewed. An agreement for investment in affordable housing is currently under negotiation, but in the meantime, the SHQ can no longer submit new projects to the CMHC, which is likely to have repercussions for the City. According to the information obtained, the SHQ must instead complete projects already under way. It must also ensure that the projects remain affordable for 10 years, so a follow-up is required for this period. In addition, as part of the negotiations, discussions are under way with the CMHC to streamline the reporting process that will eventually be carried out by the SH for the SHQ.

Considering the municipal administration's priority to complete the development of 12,000 social and affordable housing units by 2021, namely 6,000 social and community housing units and 6,000 affordable housing units, we are of the opinion that this situation takes on even more importance as the development of these housing units could be slowed down. The SH must therefore remain vigilant with regard to how this situation evolves.

### **RECOMMENDATION**

**3.1.2.B.** We recommend that the Service de l'habitation make the necessary representations to the Société d'habitation du Québec in order to know when the budgets will be available so as to keep up the pace of activities and avoid compromising the goal of attaining municipal objectives.

### **RESPONSE**

**3.1.2.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### 3.1.3. Agreement Regarding the AccèsLogis Program for the Development of Non-Profit Cooperative Housing

#### 3.1.3.A. Background and Findings

It is important to note that “*Ville de Montréal may, without the Minister’s authorization (MAMH), grant a loan guarantee in the administration of a program under section 56.4 of the Act respecting the Société d’habitation du Québec.*”

#### New Responsibilities

Since the AccèsLogis Montréal program came into force, adopted by the urban agglomeration council in December 2017, the City provides assistance in the form of loan guarantees for projects deemed eligible by the SH. To do so, the City had to negotiate and conclude a framework financing agreement with an approved lender. According to the information recorded in the decision-making summary, a call for interest was issued and the responses received from the institutions were evaluated by a selection committee based on the following criteria:

- Understanding of the mandate and the issues;
- Experience and expertise of the financial institution with similar projects;
- Experience and expertise of the staff assigned to the mandate;
- Any additional elements that could improve the funding structure according to the specific needs of the assistance program.

As noted earlier, in addition to guaranteeing loans to bodies throughout the construction phase, the City will subsequently be required to guarantee the loans for an operating period of 35 years.

#### Scope of the Projects Targeted by the Framework Agreement

The framework agreement reached with the approved lender indicates that the financing covers the construction of approximately 950 social housing units.

Consequently, in order to apply this framework agreement, the SH first had to define at which stage of the AccèsLogis program (PA, Conditional Commitment (CC), Definitive Commitment (DC), Interest Adjustment Date (IAD) the units would be included in the scope of this new program, since eligible projects were already under way under the AccèsLogis Québec program. The City’s executive committee therefore approved by resolution the dates and stages at which the projects will be included in the scope of the AccèsLogis Montréal program.<sup>13,14</sup> Thus, projects that

<sup>13</sup> Order 5 of *By-law 02-102* adopted by the executive committee on June 5, 2019 (repeals order 3 of the same by-law adopted on April 23, 2018).

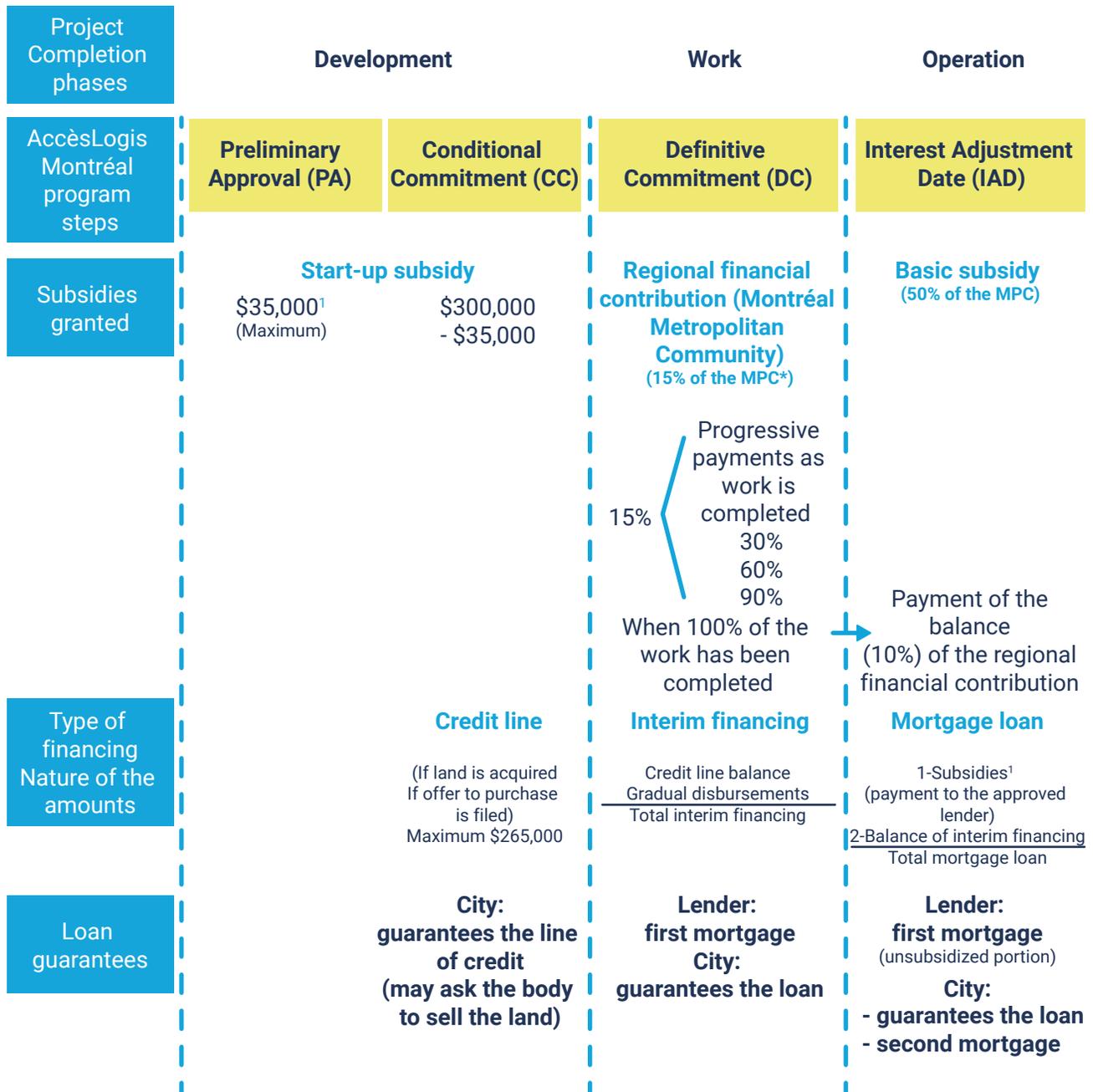
<sup>14</sup> Order 7 of *By-law 02-102* adopted by the executive committee on June 26, 2019.

obtained PA between April 24, 2018, and June 30, 2019, will be part of the scope of the AccèsLogis Montréal program, and the new *By-law (02-102B)* has been amended to this effect. It should be noted that the SH did not grant a PA between March 1, 2017, and April 24, 2018. Projects that were already under way before March 1 are therefore covered by the AccèsLogis Québec program, as are projects that were deemed eligible as of July 1, 2019, since the City has not received any new budget to date under the sectoral agreement with the SHQ.

### **Operation of Bonding and Financing**

Before presenting a portrait of the projects involved, we will briefly describe how bonding and financing works. As for the City's guarantee of loans, it is linked to the project implementation phases, the AccèsLogis program stages (PA, CC, DC and IAD) and the type of financing. In Figure 2, we present the balance of these three elements.

Figure 2 – Operation of Loan Guarantees



<sup>1</sup> SHQ budget transferred to the City  
 \* MPC: Maximum Permissible Costs

### Types of Financing

According to this figure, a body can benefit from a start-up grant to help it cover certain expenses such as the preparation of the file. A maximum amount of \$35,000 comes from the SHQ budgets transferred to the City, and the approved lender does not advance any money at this stage. It is possible for the City to guarantee loans to bodies as early as the CC stage if the body is acquiring land or making a deposit on an offer to purchase a building at this stage, and the money advanced by the lender will come from a line of credit. Once the CC stage is completed, it is at the DC stage that the approved lender will advance the necessary amounts to the body as progressive disbursements so that the body can make payments to the contractor as the work progresses. At this stage, the progressive disbursements will be in the form of a variable rate loan and the loan will also include any balance on the line of credit. This is referred to as “interim financing.” At this stage, the City also notifies the approved lender that it approves the project and informs the lender of the amount of the promised subsidy. Once the work has been completed and found to be compliant, the IAD stage is triggered to determine when the interim financing will be converted into a mortgage loan. The mortgage loan (net of the amount of the City’s subsidy) will be at a fixed rate over a 35-year amortization period. The subsidy will be paid directly to the approved lender within 180 days following the IAD.

The mortgage loan will also include an amount (a provision) corresponding to 2.7% of the development costs of projects that could potentially experience financial difficulties. The approved lender will pay the amount to the City, which will then apply it to the contingency fund.

The profile of projects under the AccèsLogis Montréal program (based on the information received from the SH) is presented in Table 2.

Table 2 – **Portrait of AccèsLogis Montréal Projects as of October 31, 2019 (in Millions of Dollars)**

<b>ACCÈSLOGIS MONTRÉAL STAGES</b>	<b>NUMBER OF PROJECTS</b>	<b>NUMBER OF UNITS</b>	<b>DEVELOPMENT COSTS<sup>[1]</sup></b>	<b>SUBSIDIES AMOUNTS<sup>[1] [2]</sup></b>	<b>GUARANTEED AMOUNTS</b>
<b>AMOUNTS COMMITTED FOR 2017–2018</b>					
Preliminary Approval	1	86	16.7	8.8	
Conditional Commitment	6	239	71.1	31.1	1.3
Definitive Commitment	5	403	90.1	53.5	3.8
<b>TOTAL 2017-2018</b>	<b>12</b>	<b>728</b>	<b>177.9</b>	<b>93.4</b>	<b>5.1</b>
<b>AMOUNTS COMMITTED FOR 2018–2019</b>					
Preliminary Approval	5	259	59.2	33.5	-
Conditional Commitment	4	393	115.3	69.1	0.6
Definitive Commitment	1	24	8.3	6.5	0.4
<b>TOTAL 2018-2019</b>	<b>10</b>	<b>676</b>	<b>182.8</b>	<b>109.1</b>	<b>1.0</b>
<b>GRAND TOTAL</b>	<b>22</b>	<b>1,404</b>	<b>360.7</b>	<b>202.5</b>	<b>6.1</b>

<sup>[1]</sup> Estimated amounts.

<sup>[2]</sup> Includes the basic subsidies, the subsidies of the Montréal Metropolitan Community, additional subsidies and the social enhancement.

According to the loan agreement, the maximum total loan amount is \$150 million and the financial institution agrees to provide short-term financing (interim financing), a portion of which will be converted into long-term financing for an approximate amount of \$52.5 million (a mortgage loan), and the subsidies therefore total an estimated \$97.5 million. This assistance in the form of a loan guarantee applies only to the AccèsLogis Montréal program.

As indicated in Table 2, the estimated cost of completing eligible projects under way under the AccèsLogis Montréal program is approximately \$360.7 million. As of October 31, 2019, the global loans total approximately \$158.2 million, if we subtract the subsidies that the City plans to grant (\$360.7 million – \$202.5 million). As noted above, the maximum loan amount under the framework agreement is \$150 million, which is lower than the estimated aggregate loans to date. During the course of our audit, we discussed with the SH the possibility that the loan amount may be exceeded. The SH indicated that it is aware of this situation and is working to identify additional sources of funding. We are of the opinion that a financing agreement must be concluded as soon as possible to avoid hindering the completion of projects and thus help the municipal government achieve its social housing targets.

### **RECOMMENDATION**

**3.1.3.B. We recommend that the Service de l'habitation take the necessary measures to ensure that the Ville de Montréal concludes, at the appropriate time, an additional financing agreement with a financial institution to cover all units authorized under the AccèsLogis Montréal program, in order to ensure that the projects are carried out as planned.**

### **RESPONSE**

**3.1.3.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

## **3.1.4. Agreement Regarding the Use of the Application for Financial Assistance, the Disbursement Management File and the Invoice File at the Ville de Montréal**

### **3.1.4.A. Background and Findings**

To enable the City to fully assume its new responsibilities and to ensure the rapid transfer of knowledge, an agreement was reached in June 2018 with the SHQ so that its tools could be used by the City. These tools concern the disbursement management file, the invoice file and the AFA and are used within the AccèsLogis program.

The AFA tool is an Excel file used to calculate the basic subsidy amount and to assess the project's viability. It includes formulas and manual entries. The file contains basic parameters such as Maximum Permissible Costs (MPC), interest rates, tax rates and median rents.<sup>15</sup> The number of units per typology, the unit component, the production costs, the estimated operating costs and the community contributions are entered for the purpose of calculating the amount of the basic subsidy. It should be noted that the model takes into account the amounts required for the mortgage reserve and the contingency fund. Once all of these items have been calculated, the file calculates the market rent<sup>16</sup> and this rent is compared with the median rents.

## 3.2. Activities Arising from the New Responsibilities and Evaluation of the Resources

### 3.2.A. Background and Findings

In order for the SH to properly fulfil its new responsibilities, it must not only understand them, but also plan the activities that arise from them. An assessment of staffing levels, required expertise and budgets is therefore necessary to ensure that processes are properly carried out while providing the appropriate controls.

During our audit, we obtained the decision-making summary, which the urban agglomeration council had approved in December 2017, and which set out the request for an additional operating budget for the addition of resources and the use of professional services, as well as the analyses supporting these two elements. To follow up on this information, we assessed the extent to which the SH had conducted analyses to support its requests. We also assessed the extent to which the SH had reviewed its processes to meet its new responsibilities and its activities resulting from the applicable agreements described in section 3.1 of this report.

It must be noted that, at this stage, our review of the decision-making summary did not reveal any information on the nature of the positions and professional services, nor the associated activities. In short, after reading this summary, it is difficult to understand why it is necessary to allocate an additional operating budget. As such, the authorities do not have all the useful and relevant information they need to make decisions.

<sup>15</sup> Rent based on the rents paid by households occupying a dwelling in the rental market of a given census agglomeration. It is the rent that is halfway between the lowest and highest market rents. (Chapter 1 – Definitions and interpretations of the AccèsLogis Montréal project development and completion guide).

<sup>16</sup> The rent that will be in effect once the project has been completed and that will make it possible to meet all the budgetary standards of the *Programme d'aide à la réalisation de logements coopératifs et à but non lucratif*, without generating either a profit or a loss. (Chapter 1 – Definitions and interpretations of the AccèsLogis Montréal project development and completion guide).

## **Identification of the New Activities Arising from the Applicable Agreements and Evaluation of the Resources Within the Service de l'habitation**

### Programs Development

According to information obtained from the SH, temporary resources have been allocated within the Division de la planification des stratégies résidentielles to review some of these municipal programs (this aspect will be discussed in more detail in section 3.3. of this report). We noted, however, that the analyses produced by the SH do not include an estimate of the time required to review existing municipal programs or to create new programs.

### Loan Guarantees

The loan agreement with the financial institution was concluded and resources have therefore already been allocated to this activity. However, the documents consulted do not indicate how much time should be allocated for following up on this agreement and for negotiating a new agreement in the coming years.

With respect to the guarantee of loans to bodies, the City must set up a contingency fund to have access to these sums in the event of problems involving projects under way. An analysis of the documents reveals that the SH is considering hiring an external firm to help it establish the loan guarantee (the provision). To date, although this activity has been identified by the SH and that *By-law 02-102B* contains a provision in this regard, the time required to set up this fund and how it will operate have not been assessed. As of the date of our report, the contingency fund had not been established.

### Joint Monitoring Committee

According to the sectoral agreement with the SHQ, a joint monitoring committee composed of representatives of each of the parties (the City and the SHQ) and the Secrétariat à la région métropolitaine<sup>17</sup> is to be set up. The mandate of this committee is to produce a report three years after the effective date of the sectoral agreement with the SHQ, i.e., by March 31, 2020, as well as an evaluation of the SHQ and its programs after a five-year period, i.e., after March 31, 2022. Based on the information collected, the committee also discusses aspects that need to be clarified or put into place, such as accountability models. The joint committee's monitoring activity was not identified within the analyses carried out by the SH, and the time required to complete this activity has not been estimated.

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<sup>17</sup> Under the authority of the Minister Responsible for the Metropolis and the Montréal Region and the Minister of Affaires municipales et de l'Habitation.

## Accountability

The sectoral agreement with the SHQ refers to accountability requirements with respect to the CMHC's new agreement for investment in affordable housing. The SH will have to produce the information necessary for the accountability report that the SHQ has to produce for the CMHC. The SH has already produced certain documents relating to the accountability arising from the agreement with the SHQ. The new accountability to the CMHC has been taken into consideration, as has the time required. In terms of accountability with respect to the sectoral agreement with the SHQ, this aspect was not identified in the SH's analysis. Accountability will be discussed at greater length in section 3.5 of the report.

## Monitoring Projects Under Way

As the City becomes responsible for monitoring projects under way, this new activity involves, among other things, establishing a model operating agreement and monitoring the financial soundness of bodies and buildings. The SH has identified operational management monitoring within its analyses and sub-activities as:

- Reviewing financial statements;
- Support;
- Monitoring operating agreements;
- Recovery (in the event of financial difficulties);
- Tracking disbursements.

The SH is considering having these activities performed by an external specialized firm, and a time estimate was established. However, the analyses do not include the time required to prepare an offer of services, to establish the operating mode with respect to services, to supervise the services and to the accountability on this type of project.

## Financial Soundness of the Bodies

An analysis of the documents obtained from the SH shows that, although the risk associated with guaranteeing projects has been identified, validation of the financial soundness of the bodies is not mentioned anywhere in these documents. Since such guarantees require that the City commit large sums of money, we expected this aspect to be highlighted. Indeed, it is important that the SH ensure that this aspect is part of its processes and that it has controls that allow it to assess a body's financial soundness. Although the SH has identified an activity to analyze bodies' financial statements, we noted that it is related to monitoring operations, whereas our concern is more upstream. In our opinion, the SH must address this concern and adopt control mechanisms to ensure that, from a project's outset, it is in a position to assess the financial soundness of the body.

Since loans to bodies are fully guaranteed by the City, there is a significant risk of cash outflows if the appropriate controls are not in place. This aspect will be discussed in more detail in section 3.4. of this report.

In conclusion, the SH should ensure that it has all the required expertise and that it appoints specialized resources in real estate management through increased knowledge of building quality, as well as in-depth knowledge of financial analysis, in order to promote the sound management of social projects and the sustainability of their social mandate.

### **RECOMMENDATION**

**3.2.B.** We recommend that the Service de l'habitation provide all relevant information in the decision-making summaries to justify resource requirements, in terms of numbers, expertise and costs, necessary to adequately assume its new responsibilities so that the bodies are able to make informed decisions.

### **RESPONSE**

**3.2.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### **RECOMMENDATION**

**3.2.C.** We recommend that the Service de l'habitation ensure that the resources involved in AccèsLogis Montréal projects have all the necessary expertise in finance and real estate management to promote the sustainability of projects throughout their life cycle.

### **RESPONSE**

**3.2.C.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

## **3.3. Compliance with Applicable Agreement Requirements**

During our audit work, we identified the key requirements under the various applicable agreements and sought evidence that the City was complying or was in the process of complying with them through the SH.

### **3.3.1. Agreement Regarding the Transfer of Budgets and Responsibility for Housing**

#### **3.3.1.A. Background and Findings**

Most of the requirements that the City must meet are enshrined in the sectoral agreement with the SHQ. It is important for the SH to be certain that its processes are structured to ensure compliance and that it exercises appropriate controls in order to obtain the expected budgets and demonstrate its reliability as a partner.

#### **Budget Transfer Requirements**

In March 2018, the Québec government adopted a decree authorizing the SHQ to implement a program to finance the City's municipal programs. It is also following this decree that the transfer of budgets to the City was made possible through the sectoral agreement with the SHQ.

It is important to specify once again that there have been three budget periods to date (2017–2018, 2018–2019 and 2019–2020) and that the SHQ allocated budgets to all programs during these periods, with the exception of the AccèsLogis Montréal program for 2019–2020.

Pursuant to the sectoral agreement with the SHQ, the City must give the SHQ the breakdown of the budgets it intends to table no later than 30 days following the communication of the commitment budget received from the SHQ. We were able to obtain the budget breakdown for the RQP for the three budget periods (2017–2018, 2018–2019 and 2019–2020), which includes five subprograms.

The City must also give the SHQ its budget forecasts for the following year no later than July 1 annually and reconfirm the accuracy of the forecasts by November 15 of the same year. We therefore sought official correspondence between the SH and the SHQ demonstrating that the City meets these requirements. We were able to obtain from the SH the email sent in November 2019 to the SHQ regarding the five-year forecasts.

#### **Requirements Regarding the Adoption of the Housing Programs**

The program to fund the City's municipal programs came into force when the decree was issued in April 2018, stipulating that municipal programs must indicate the objectives they seek to achieve, as well as the eligibility and selection criteria for recipients and the nature and terms and conditions of the financial assistance granted. Thus, program development must take these criteria into consideration for the programs to be eligible.

The sectoral agreement with the SHQ provides for the following requirements with respect to the City's municipal programs:

#### AccèsLogis Montréal

The sectoral agreement with the SHQ does not specify a timeframe to develop this program. Despite this fact, the SH nevertheless amended certain aspects of *By-law 02-102* (AccèsLogis Québec) in December 2017 to improve project viability. These aspects will be discussed in section 3.4. of this report.

#### Renovation Québec

For the City to be able to receive its share of the budget for this program, the sectoral agreement with the SHQ provided that it had to adopt its municipal program within 12 months following the effective date of a program allowing the payment of budgets to the City (the date of publication of the decree referred to above).

The SH stated that the 12-month timeline was met because it had already reviewed the various programs in 2014, when the SHQ had stopped funding them. In fact, the city council had approved these programs in October 2014. At our request, the SH sent us confirmation from the SHQ that it recognized that the programs comply with the government's orientations and objectives and thus the timeline. At the time this audit report was produced, the SH informed us that it was reviewing the programs in order to better adapt them to Montréal's reality. In fact, we have obtained the decision-making summaries concerning these programs that will be adopted shortly.

#### Residential Adaptation

According to the sectoral agreement with the SHQ, the City must adopt its municipal program no later than 24 months following the effective date of the funding program (the date of publication of the decree referred to above).

This program has been reviewed by the SH in order to adapt it to Montréal's reality, since these residential adaptations affect more tenants than owners. At the time of producing this audit report, we obtained the decision-making summary for the new program, which should be approved shortly by city council and which is scheduled to come into effect on April 1, 2020.

Since the City has committed to managing budgets that will take into account the government's orientations and objectives and to respecting the timelines set out in the sectoral agreement with the SHQ, we believe that the SH must meet this requirement. Although we have, at our request, obtained confirmation from the SHQ for the RQP programs adopted in 2014, we believe that this should also be done for the new RQP and RAAP programs, so that the City does not find itself at risk of not obtaining budgets.

## Requirements Regarding the Joint Monitoring Committee

The sectoral agreement with the SHQ provided for the creation of a joint monitoring committee. As previously stated, the mandate of this committee includes submitting an assessment three years after the effective date of the agreement and conducting an evaluation of the agreement and the programs after five years.

As a follow-up to the information obtained from the SH, the monitoring committee also serves to clarify and implement certain aspects of the agreement with the SHQ. Although the SH provided us with a document summarizing the points discussed by this committee's representatives, we did not obtain any formal summary or minutes in support of these meetings. In our opinion, the points discussed and the decisions made need to be formally recorded in writing.

### RECOMMENDATION

**3.3.1.B.** We recommend that the Service de l'habitation obtain confirmation from the Société d'habitation du Québec that the new municipal programs take into account the government's orientations and objectives so as not to jeopardize the payment of budgets to Ville de Montréal.

### RESPONSE

**3.3.1.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.3.1.C.** We recommend that the Service de l'habitation produce minutes of the meetings of the joint monitoring committee, created pursuant to the sectoral agreement with the Société d'habitation du Québec, in order to record in writing the points agreed upon at each meeting.

### RESPONSE

**3.3.1.C.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### 3.3.2. Agreement Regarding the AccèsLogis Program for the Development of Non-Profit Cooperative Housing Units

#### 3.3.2.A. Background and Findings

According to this agreement, the City must satisfy certain requirements in terms of sending documents, including forwarding the administrative procedures manual to the approved lender as soon as possible. In addition, with regard to financing projects eligible for the AccèsLogis Montréal program, the agreement stipulates the following requirements:

- At the DC stage, the City must send the financial institution a copy of the commitment specifying the amount of the subsidy promised to the body;
- The City must authorize all financial disbursements;
- The City must verify the progress of construction work and authorize progressive disbursements while ensuring that they are allocated to payments for all construction work performed pursuant to the project;
- Upon completion of the work, the City must obtain a document from an architect certifying the substantial completion of the work and communicate the IAD for the purpose of setting the mortgage loan. This date cannot be modified thereafter;
- Finally, the City must provide the subsidy to the financial institution within 180 days following the IAD.

The City must notify the approved lender of any failure by an owner to fully comply with the terms of the program or of any situation involving false or misleading representation of which it is aware. It goes without saying that the City is responsible for paying any amount in default on the part of the body as a result of the loan guarantee it assumes.

Further to the information obtained from the SH, we obtained evidence that an administrative procedures manual had been forwarded to the approved lender. This manual contains the main stakeholders, a description of the operation of the AccèsLogis Montréal program, the requirement for the body to enter into an operating agreement with the City, as well as a high-level description of the requirements stipulated in this agreement. It also describes the responsibilities of the approved lender, the stages of project implementation and financing as well as a description of the role of the notary.

As of October 31, 2019, no projects had been completed.

### **3.4. Viability of the Projects Eligible for the AccèsLogis Montréal Program**

The City provides loan guarantees to the bodies throughout the project and during the operational period, over a period of up to 35 years. It is therefore important for the City to ensure that these projects are viable in order to make sound use of the budgets transferred by the SHQ.

For a project to be considered viable according to the SHQ's criteria, the market rent must be between 75% and 95% of the median rent. This requirement is intended to ensure that the project's development and operating costs make it possible to obtain rents for residential units that are accessible to low- and moderate-income tenants. Among the tools used by the AccèsLogis program, the AFA is used to calculate the viability of projects and to reconfirm it at each stage of the program (the PA, the CC and the DC).

A rigorous viability assessment must therefore be performed to detect the financial stakes of the projects as early as possible, limit financial losses for the City and avoid tarnishing its reputation due to an underestimation of project risks since public funds are at stake.

#### **3.4.1. Past Projects Carried Out on the Territory of Ville de Montréal**

##### **3.4.1.A. Background and Findings**

Considering the importance of rigorously assessing viability, we believe it is essential to have knowledge of past projects that have experienced viability issues under the AccèsLogis Québec program and to identify the reasons for such issues. Such an exercise should make it possible to make the necessary corrections within the AccèsLogis Montréal program, if need be, to be able to detect projects experiencing financial difficulties at the right time to ultimately prevent the City from guaranteeing loans to these bodies. Since there are several stages in the program and time elapses throughout the life cycle of the projects, their viability must be periodically reassessed. In order to determine project viability, it is essential for the SH to have not only knowledge of the projects experiencing difficulty, but also financial expertise in the management of real estate projects and, consequently, to implement the appropriate control mechanisms.

One of the factors that promotes the sound management of projects eligible for the AccèsLogis Montréal program is knowledge of the projects carried out on the City's territory. Therefore, during our audit, we asked the SH whether it was in fact aware of projects that had experienced financial difficulties under the AccèsLogis Québec.

According to the information obtained, in 2017, the SH analyzed the projects experiencing difficulty under AccèsLogis Québec, following receipt by the SHQ of a list indicating the projects for which financial assistance had been granted or for which measures had been taken (e.g., takeover, sale of a building).

At our request, we obtained an updated list of projects from the SHQ that had experienced financial difficulties, and this list was given to the SH.

We then compared the list of projects eligible for the AccèsLogis Montréal program with the list obtained from the SHQ to assess the extent to which bodies under the new program had encountered financial difficulties in the past. We found that 2 bodies out of 22 had experienced difficulties with their projects in the past. In our opinion, the SH should inquire about this information to assess the extent to which bodies submitting projects may expose the City to financial risks.

As mentioned previously, it is essential for the SH to be familiar with all of the variables with respect to past projects and, similarly, to know the reasons that led to additional financial assistance or the sale or transfer of a building for past projects, in order to derive variable-based statistics (e.g., a Technical Resource Group (TRG) involved, the types of organizations (NPO or COOP), the types of projects (e.g., new construction, purchase, renovation, transformation and recycling). The SH already has data for previous years, i.e., the file obtained in 2017 (containing decisions on additional aid up to October 2016) and the file received in 2019 (containing decisions made by the SHQ up to March 2019) from the SHQ. Knowledge of projects experiencing difficulties must also be kept up to date, and the SH must continue this practice. In our opinion, the SH must therefore create a database of past projects under the AccèsLogis Québec program and projects under the AccèsLogis Montréal program, in order to develop the knowledge it needs to manage risks at various stages of the process (e.g., when establishing the eligibility of the body and the project, during the continuation of a project) and also to enable it to act proactively when similar situations arise.

### **RECOMMENDATION**

**3.4.1.B.** We recommend that the Service de l'habitation build up a database of existing and future projects on its territory, regardless of which program (AccèsLogis Québec or AccèsLogis Montréal) they fall under, to be able to proactively carry out relevant analyses with respect to risk management throughout the project cycle.

### **RESPONSE**

**3.4.1.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

## 3.4.2. Parameter Changes

### 3.4.2.A. Background and Findings

To adapt the program to Montréal's reality and promote project viability, the SH modified the parameters when developing the AccèsLogis Montréal program. As part of our audit, we evaluated whether the SH's approach showed that Montréal issues had been taken into account with respect to the main parameters.

#### Maximum Permissible Costs

The AccèsLogis program does not impose a ceiling on the total cost of carrying out a project; however, for the purposes of calculating the subsidy, MPC are recognized. This is one of the parameters that has a direct impact on the amount of the subsidy granted by the City. During our audit, we were told that, according to the SHQ's program (AccèsLogis Québec), the MPC did not reflect the actual construction costs since the recognized amounts date back to 2009. On this basis, the amounts granted in subsidies were therefore underestimated and the development of social housing units was slowed down, since achieving project viability is more difficult.

Indeed, viability is calculated using the AFA tool, as mentioned previously. For the purpose of this calculation, the actual implementation costs are taken into account and the calculated subsidy reduces the amount. The more the amount of the subsidy is underestimated, the more the portion of the mortgage that the body will have to pay will increase. The result is higher operating costs due to the interest charges. Mathematically, viability will be affected because of the ties between these elements.

Considering this situation, as soon as the responsibilities were transferred to the City, the SH made it a priority to review the MPC amounts and these were initially increased by 24%. The MPC amounts were increased a second time in 2018 to take into account the impact of the increase in interest rates on the market, to reflect the fact that construction costs are higher when a building counts seven floors or more, and to introduce a specific MPC category (a central high-density zone) to reflect the fact that completion costs are higher in certain sectors of the City. Finally, the MPC were increased to reflect an increase in development costs.

The changes made should promote project viability.

## Minimum Threshold of Units

The distribution of implementation and operating costs is affected by the number of units within a project, which also affects project viability.

The SH therefore revised the minimum threshold of units that a project must contain to improve viability. For Component 1<sup>18</sup> projects, two thresholds have been established depending on whether or not the project includes elevators. For Component 2<sup>18</sup> projects, a threshold was also established, since the clientele served (people aged 75 and over with slight loss of autonomy) means that elevators are required, resulting in higher construction costs (stricter construction standards).

The changes made should promote project viability.

## Median Rents

Median rents<sup>19</sup> are not covered by the sectoral agreement with the SHQ. Median rents are established by the CMHC, and the SHQ forwards them to the SH, which then updates them in the AccèsLogis Montréal program. However, during our audit, the SH informed us of the limits of the amounts determined. The median rent amount is the same for the entire territory of the City and, as such, does not take into consideration the fluctuation of rents from one sector to the next. The SH notes incongruities at the project level, since a median rent, for example, can end up being too high in one area with the result that the market rent ends up representing less than 75% of the median rents. Construction costs tend to be high in areas where real estate development is booming, and social housing units will therefore also cost more to build when a project takes place in these areas. In these situations, the market rent calculated using the AFA will be higher. Therefore, even if the market rent is between 75% and 95% of the median rent as a result of increasing median rents to take the impact of sector prices into account, the AFA calculation model has limitations. Indeed, social housing is intended for a clientele that does not have the means to pay high rents. In order for this clientele to be able to live in these sectors, they must benefit from additional assistance to help them pay the cost of rent, such as the Rent Supplement Program (RSP).<sup>20</sup>

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<sup>18</sup> Refer to Appendix 5.1.

<sup>19</sup> Established for the Montréal agglomeration.

<sup>20</sup> Program that helps low-income households to live in private-sector rental dwellings or dwellings belonging to housing cooperatives, non-profit organizations or housing authorities while paying a rent similar to that for LRH.

## **Subsidies**

Several types of subsidies can be granted. Note that subsidies are paid to the approved lender only once construction is completed.

### Start-up Subsidy

One aspect that can significantly increase the cost of a project is the presence of contaminants in the soil or in an existing building. With the adoption of the AccèsLogis Montréal program, the SH introduced a start-up subsidy of up to \$35,000 at the PA stage. The amounts granted under this type of subsidy originate from the budgets transferred by the SHQ. The subsidy is therefore aimed at identifying the presence of contaminants as early as possible. If the project does not go ahead, the sums thus paid are lost. It should be noted that the amount of this subsidy is not advanced by the approved lender and the City therefore does not guarantee any amount at this stage.

The changes made should promote project viability.

### Additional and Exceptional Subsidies

Additional subsidies can be added to enhance projects deemed non-viable. As previously stated, a project is not viable according to SHQ parameters when the market rents are either less than 75% or more than 95% of the median rents.

#### **ADDITIONAL SUBSIDY**

Where the basic subsidy (among others) is not sufficient, the additional subsidy may be granted to make the project viable. This subsidy was initially set at a maximum of 15% of the basic subsidy. Subsequently, the SH increased the rate to a maximum of 35%. Specific criteria were expanded to recognize that some types of projects have higher implementation costs than others (e.g., the existence of underground parking).

#### **EXCEPTIONAL SUBSIDY**

When neither the basic subsidy nor the additional subsidy makes the project viable, an exceptional subsidy may be awarded up to a maximum of 35% of the basic and additional subsidies. This subsidy is possible in certain specific cases and must be approved by the urban agglomeration council. According to information obtained from the SH, there is no exceptional subsidy for projects under the AccèsLogis Montréal.

### **RENOVATION QUÉBEC PROGRAM SUBSIDY**

According to the information obtained, part of the RQP subsidies may be allocated to the AccèsLogis Montréal program if an amount is designated as “social enhancements” when the RQP budget is allocated.

### **OTHER SUBSIDIES**

Other subsidies may be added to the basic subsidy, including the following:

- *Heritage Subsidy*: in the case where the building involves heritage elements (new subsidy);
- *Rent Supplement (RSP)*: refer to the footnote number 20.

If, however, the project is not viable once both types of subsidies (additional and exceptional) are considered, solutions must be contemplated before taking additional steps in order to mitigate the City’s risk of suffering financial losses. Viability is validated at each stage of the AccèsLogis program (PA, CC and DC). When the SH determines that the project will not be viable after having considered both types of subsidies, the result is that the project cannot continue in its current form.

Thus, the earlier the decision is made not to proceed with a project, the less the City will be called upon to make a cash outlay if the bond is to be executed. According to the information obtained from the SH, before abandoning a project, it will try, for example, to ensure that additional community contributions are granted or to find another body with which it will be possible to continue the project.

## **3.4.3. Identification and Effectiveness of the Controls**

### **3.4.3.A. Background and Findings**

During our audit, we sought assurance that key controls were in place to validate the financial soundness of the bodies selected and mitigate the risk of cost overruns throughout the stages of the program, thereby promoting project viability. It should also be noted that the SH modified the parameters of the AccèsLogis Montréal program in order to promote project viability.

We will describe the controls that we believe are important to ensure project viability. These may be new controls put in place following the transfer of the new responsibilities as well as certain controls that already existed since the City was acting as the SHQ's mandatary, which, given their nature, are even more important in the context of guaranteeing loans.

In addition, during the course of our audit, we assessed the effectiveness of the controls we selected for the sampled projects. These controls are presented according to the major stages of the AccèsLogis program.

Our sample comprises four projects, two in Turnkey (TK) mode and two in lump sum mode (see Appendix 5.1 for a description of each mode). Of the four projects selected, three were at the DC stage and pertain to the SHQ's 2017–2018 budget period. The fourth project was at the CC stage and pertain to the SHQ's 2018–2019 budget period. It should be noted at the outset that none of these four projects had reached the IAD stage, as the work had not been completed by September 20, 2019. Details of our sample are shown in Table 3.

**Table 3 – Sample  
Data as of September 20, 2019  
(in Millions of Dollars)**

<b>PROJECTS AND BUDGET PERIOD – SOCIÉTÉ D'HABITATION DU QUÉBEC</b>	<b>PROGRAM STAGE</b>	<b>DELIVERY MODE</b>	<b>ESTIMATED COMPLETION COSTS</b>	<b>ESTIMATED BASIC AND MONTRÉAL METROPOLITAN COMMUNITY SUBSIDIES</b>	<b>ADDITIONAL SUBSIDY</b>	<b>PERCENTAGE OF TOTAL SUBSIDIES/COMPLETION COSTS</b>
Project 1 2017-2018	Definitive Commitment	Turnkey	12,983	6,684	905	58.4%
Project 2 2017-2018	Definitive Commitment	Turnkey	3,555	1,872	210	58.6%
Project 3 2017-2018	Definitive Commitment	Lump sum	12,275	7,979	-	65%
Project 4 2018-2019	Conditional Commitment	Lump sum	5,478	2,740	390	57.1%
<b>TOTAL</b>			<b>34,291</b>	<b>19,275</b>	<b>1,505</b>	<b>60.1%</b>

## **Preliminary Approval**

### Support of Bodies by a Technical Resource Group

Under the AccèsLogis Montréal program, bodies must be supported by a TRG, whose role is to provide the necessary support and expertise in the development, presentation and implementation of projects. To do so, bodies must have concluded an agreement with one of the four TRGs recognized on the City's territory as well as by the SHQ.

In the course of our work, we sought evidence that agreements had been reached between the bodies and TRGs. We were able to obtain such agreements for all the selected bodies, and we noted that they benefited from the services of a TRG recognized by the City. However, we observed that one project in our sample (project 4) had been rejected in the past because of viability issues when it was first submitted under the AccèsLogis Québec program. The project (the project 4) was modified and resubmitted under the AccèsLogis Montréal program, but the agreement with the TRG was not updated even though it was several years old. We believe that a new agreement should have been issued to reflect both parties' current commitments.

### Recommendation of the Liaison Committee

From the outset, in order to determine the eligibility of a proposed project, a liaison committee conducts an analysis of the project from several angles. The project is evaluated in terms of municipal priorities, response to needs, quality (e.g., the group driving the project, the quality of the site, the sector and the building) and the conditions under which it will be carried out. The assessment is carried out at this stage by the committee, with a view to recommending whether or not to continue the project.

For two of the four projects (projects 1 and 2), we were able to obtain the admissibility sheets, indicating the results of the project evaluation performed by the liaison committee. For another project (project 3), a new body was chosen and it seems no admissibility sheet was analyzed. The only sheets available were those concerning the previous body and the part concerning the liaison committee had not been completed. Finally, for yet another project (project 4), the admissibility sheet is the one that was produced under the AccèsLogis Québec program when it was submitted before being rejected under this program. Although admissibility sheets were obtained, we were unable to locate the documents containing the content of the elements discussed by the liaison committee that supported the evaluation of the various elements of the file in question.

The liaison committee's review of projects only takes place at the PA stage, and, based on the information obtained, this committee focuses more on the aspect of social housing development, such as assessing the location of a site in an area due to the scarcity and cost of land and offers to purchase that are valid for short periods of time. The SH also tells us that the bodies' financial soundness is not an aspect that is necessarily analyzed, except for Component 3 projects, which, because of the clientele served, do not involve many units but are more costly due to the security mechanisms that such projects require. We asked the SH about the composition of the committee membership; based on the information we received, we noted that they are internal members who work within different administrative units of the SH. Considering the magnitude of the delivery costs as of October 31, 2019, (\$360.7 million) and the estimated amounts for which the City will be called upon to provide guarantees (\$158.2 million), we believe that a review of social housing projects under the AccèsLogis Montréal program should be carried out by an independent committee at each stage of the program. The City has a governance framework in place for major projects, and it is expected that it will be reviewed with a view to expanding the scope based on various operating parameters to be determined not only for large-scale projects but also for smaller-scale projects. We believe that AccèsLogis Montréal projects should be considered within the scope of this framework, in order to assess the financial risks and risks inherent to real estate projects on a case-by-case basis.

#### Bodies' Experience in Real Estate Management

At this stage, although the body is accompanied by a TRG, the SH assesses whether the body and its directors have relevant experience and expertise with real estate projects to foster sound project management.

During our work, we therefore tracked down the relevant documentation in this regard and we noted that this analysis was carried out for all the projects making up our sample. For one project (project 3), it was identified that the body did not have the resources to manage a Component 3 clientele, and it was therefore replaced (see Appendix 5.1 for more details). For the three remaining projects, the bodies have experience and expertise.

#### Obtaining and Analyzing Bodies' Financial Statements

An analysis of the financial statements is required to assess the financial soundness of the bodies and evaluate the extent to which their situation represents a risk for the City because it guarantees their loans.

During our audit, we reviewed the project documents to trace the bodies' financial statements. For the four projects making up the sample, there were no financial statements on file. Although we obtained financial statements for one of the projects (project 3) at our request, we noted that financial statements are not systematically obtained.

We are of the opinion that, because of the magnitude of the loans that the City is called upon to guarantee, there is a need for the SH to obtain the financial statements to be in a position to analyze the bodies' financial soundness. Moreover, the analysis of the financial statements should also allow the SH to assess the extent to which the financial ratios recognized in the field of financial management are respected or acceptable, especially since it is the City that assumes the lion's share of the financial risks. Our concern is all the more justified since, in the case of two bodies, the analysis of the documents (comparative analysis with the list obtained from the SHQ) reveals issues involving past financial difficulties.

#### Environmental Assessment and Characterization Report

In order for projects to comply with environmental regulations, the bodies must provide an environmental assessment and characterization report pursuant to the requirements of the AccèsLogis Montréal program. Since the presence of contaminants can lead to higher construction costs, it is important that this aspect be known and assessed early on in the project implementation process.

As part of our audit, we sought evidence that such studies had been carried out and we can conclude that such studies were obtained for all of the projects in our sample.

#### Signing of a Letter of Intent between the Developer and the Technical Resource Group

In the case of a TK project, a letter of intent must be signed between the developer and the TRG in order to establish the cost of carrying out the project and to formalize both parties' commitment pursuant to the requirements of the AccèsLogis Montréal program.

In the case of the two projects included in our sample that will be carried out in TK mode (projects 1 and 2), we were able to obtain copies of the letters of intent.

### **Conditional Commitment**

#### Expert Report – Soil Remediation and Decontamination Certificate

If contaminants are present, it is important to assess their concentration to avoid incurring considerable costs and to ensure compliance with the applicable laws when developing social residential housing. According to the requirements of the AccèsLogis Montréal program, an expert report must be obtained.

We were able to obtain soil remediation reports and decontamination certificates for the four selected projects.

### Comparison of Turnkey Implementation Costs with Tenders for Similar Projects

Where it is anticipated that the work will be carried out in TK mode, the SH will ensure that the costs of carrying out the project would not be higher than the costs obtained under a lowest bidder process for a similar project.

Following the file review for the two projects carried out in TK mode (projects 1 and 2), we traced the analyses intended to demonstrate that the developer's proposed implementation cost would not be higher than a similar project carried out on a lump sum basis. However, we were not able to trace the basis of calculations. The implementation costs are lower than for similar projects carried out on a lump sum basis. We believe that the source of the information and the basis of calculation should be clearly indicated in the file.

### Obtaining the Market Value Assessment Report

In order to ensure that land costs do not exceed market values in the case of projects carried out on a lump sum basis (calls for tenders), a market value assessment report is requested from the bodies in accordance with the AccèsLogis program requirement.

Our sample included two projects (projects 3 and 4) on a lump sum basis and we were able to obtain the market value assessment report for these projects confirming that the costs are fair.

## **Definitive Commitment and Completion of the Work**

### Acquisition Agreement

An acquisition agreement must be concluded at this stage between the developer and the body when projects are carried out in TK mode, in accordance with the requirements of the AccèsLogis Montréal program.

As stated previously, two projects in our sample (projects 1 and 2) will be carried out in TK mode, and we were able to obtain the respective acquisition agreements for these projects.

### Analysis of Bids

Where projects are carried out on a lump sum basis, the body must issue a public call for tenders for the project in order to meet the requirements of the assistance program. At the AFA level, the lowest bidder must be included while ensuring that the project remains viable.

Two projects (projects 3 and 4) in our sample will be carried out on a lump sum basis, as explained above. Based on the analysis of the bids, we were able to conclude that the lowest bidders were selected and that the AFA reflect these amounts for both projects.

#### Operating Agreement

According to the information obtained, an operating agreement must be concluded between the City and the body before the IAD, pursuant to program requirements. At the time this report was produced, two operating agreements had been concluded (for projects 1 and 2).

### **With Respect to the Preliminary Approval, Conditional Commitment and Definitive Commitment Stages**

#### Accuracy of Grant Calculations

The AFA tool contains parameters that have been changed, such as the increased MPC. It also contains data that must be entered manually. In the course of our work, we wanted to ensure that the subsidies had been properly calculated and, as a result, we observed that some variables were not up to date, such as one project's median rents. Although this led to insignificant variances, we believe that the SH should provide controls to ensure that the amounts shown in the AFA, for MPC and median rents for example, are up to date. In addition, there should be provision to ensure the accuracy of all variables entered, such as the number of units, as well as the component. We are of the opinion that a review of these elements must be carried out and that a record of this review kept on file must demonstrate this in order to prevent significant errors from going unnoticed and consequently affecting the quality of the decisions made (e.g., the viability of a project, the calculation of a subsidy amount).

#### Validation of Project Viability

A project is considered viable if market rents represent a ratio of between 75% and 95% of median rents. For all the projects in our sample, we found that the ratio has been respected. To achieve this ratio, additional subsidies may be granted to projects to make them viable when necessary. Further to the analysis of the projects, we noted that, at the DC stage, the additional assistance identified complies with the provisions of the *By-law concerning subsidies for the development of non-profit cooperative housing (AccèsLogis Montréal)*. An additional subsidy was established for one project and a RQP subsidy was established for two projects. Finally, in the case of one project, no additional assistance was required to make it viable. However, we noted that for this project, a shortfall had been identified before it entered the DC stage. Although an additional and exceptional subsidy had been established, a shortfall nevertheless remained. In our opinion, the project

should not have gone through the subsequent stages under the AccèsLogis Montréal program. We discussed this situation with the SH, which mentioned that it decided to continue the project in order not to delay its progress, since it was aware that there would no longer be a shortfall and that the additional and exceptional subsidy would no longer be required because of the upcoming increased MPC. Although this is an exceptional situation, we believe that it would have been appropriate to document it, indicating that the MPC would soon be increased. Since the SH went ahead with the exceptional subsidy that was approved by the urban agglomeration council, the SH should ensure that the resolution authorizing it is repealed. As of the date of this report, the resolution had not been repealed. We believe that this may lead to confusion and oversights, as the information contained in the AFA prior to the DC stage will not reflect the real situation, since the additional and exceptional subsidy amounts are no longer available for other projects with viability issues.

Again, it should be noted that at the DC stage, subsidies are not paid out (the City will pay out the subsidies within 180 days of the IAD).

#### Reserve for Contingency Fund

We reported that a contingency fund will be set up to inject additional funds into projects under way that are experiencing financial difficulties. For each project, there will be an amount for the contingency fund that is taken into consideration in the AFA. This amount represents 2.7% of implementation costs. According to the information obtained, the percentage is the same as that of the SHQ. Considering the extent of the financial assistance that the SHQ had to inject into projects in operation before the transfer of responsibilities, we question the establishment of this value. Finally, it should be pointed out that, at the time this report was produced, the advisory committee for this fund had not yet been created, nor had the guidelines for the use of the funds and accountability been established. As the work will be completed shortly for certain projects, the administrative procedures must be established, because once the mortgage loans are set, the payment of the amount planned for this fund will be made by the approved lender to the City.

Within the AFA tool, a reserve of 2.7% in the contingency fund is expected to be included in the viability calculation and we wanted to ensure this in the course of our work. We noted that, for all of the projects in our sample, this reserve had been taken into account.

#### Approval of Program Steps

During the course of our work, we wanted to ensure that the letters confirming partial approvals that were sent to the bodies had been signed by the director of the SH since the *By-law concerning subsidies for the development of non-profit cooperative housing (AccèsLogis Montréal)* specifies that she is required to sign them. Further to our review of these notices, we noted that none of the projects

in our sample bear the signature of the director of the SH. In fact, these notices are all signed by a division head, which does not comply with the by-law's provisions.

We are of the opinion that notices to applicants must be authorized in accordance with the by-law in force.

#### Approval of the Bond and Disbursements

In the course of our work, we wanted to ensure that the guaranteed loans were duly authorized by the director of the SH, since the *By-law concerning subsidies for the development of non-profit cooperative housing (AccèsLogis Montréal)* stipulates that she is the one who has the power to authorize them, following a delegation of the executive committee's powers to her. However, our work revealed that the lender's agreement sent by the City does not bear the director's signature in all of the projects in our sample, which is contrary to the powers granted to her. Although internal controls have been established, we believe that official documents should only be signed by the duly authorized person to avoid any risk of unintentional errors.

We feel that the SH needs to review its process so that only the director is allowed to sign formal documents with the approved lender.

#### **Other Items**

Based on the information obtained and an analysis of the documents, we noted that the SH does not verify whether bodies are listed in the Register of Enterprises Ineligible for Public Contracts (REI). Furthermore, in the case of projects carried out in TK mode, we noted that the acquisition agreement includes a clause requiring the developer to provide a list of subcontractors in order to verify whether they are included in the REI. However, we noted that there is no clause indicating that the developer (projects 1 and 2) must not be listed in this register. According to the information obtained, the SH does not undertake any formal validating to ensure that bodies, contractors, developers and their subcontractors are not listed in the REI. In our opinion, this validation must be carried out, given the magnitude of the amounts required to carry out projects, in order to ensure sound management of the use of public funds. Furthermore, we are of the opinion that it would be preferable for the AccèsLogis Montréal program to include a section in its by-law stating that bodies must not be listed in the REI.

It should be noted that, as part of our work, we wanted to ensure that none of the bodies or contractors were listed in the REI and we are therefore able to conclude that, for the four projects in our sample, none of the parties involved had been entered in the register.

### RECOMMENDATION

**3.4.3.B.** We recommend that the Service de l'habitation ensure that, for each project submitted to the AccèsLogis Montréal program, an up-to-date agreement with the Technical Resource Group responsible is kept in order to reflect the parties' obligations.

### RESPONSE

*3.4.3.B. The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.4.3.C.** We recommend that the Service de l'habitation ensure that all elements supporting the project's evaluation are documented using the admissibility sheet in order to demonstrate the transparency of the process.

### RESPONSE

*3.4.3.C. The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.4.3.D.** We recommend that the Direction générale analyze the impact of the new responsibilities conferred on the Ville de Montréal regarding the management of the AccèsLogis Montréal program and rule on the possibility that projects carried out under this program could be subject to the governance framework for municipal projects and asset programs in order to assess the financial risks inherent in these housing projects.

### RESPONSE

*3.4.3.D. The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### **RECOMMENDATION**

**3.4.3.E.** We recommend that the Service de l'habitation obtain the bodies' financial statements, as early as the Preliminary Approval stage, in order to assess their financial soundness and avoid incurring potential financial losses for the Ville de Montréal.

### **RESPONSE**

**3.4.3.E.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### **RECOMMENDATION**

**3.4.3.F.** We recommend that the Service de l'habitation, for projects that will be carried out in Turnkey mode, establish a methodology to compare the costs established by developers for similar projects carried out in lump sum mode and to keep a record of this approach, in order to demonstrate that the implementation costs are not higher than those observed under a lump sum mode.

### **RESPONSE**

**3.4.3.F.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### **RECOMMENDATION**

**3.4.3.G.** We recommend that the Service de l'habitation ensure that variables affecting the calculation of subsidy amounts are monitored and that records are kept to provide assurance that these amounts are current and accurate.

### **RESPONSE**

**3.4.3.G.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.4.3.H.** We recommend that the Service de l'habitation take the necessary measures to ensure that a project cannot go through a subsequent stage of the AccèsLogis Montréal program when it is not viable once the additional and exceptional subsidies have been considered, unless exceptional situations that may arise are documented, so that the City does not find itself in a position of guaranteeing loans for non-viable projects.

### RESPONSE

*3.4.3.H. The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.4.3.I.** We recommend that the Service de l'habitation assess whether the established percentage of 2.7% for the contingency fund is sufficient to ensure the validity of the amount established, given the financial difficulties of past projects.

### RESPONSE

*3.4.3.I. The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.4.3.J.** We recommend that the Service de l'habitation proceed with the creation of the contingency fund committee and subsequently establish guidelines as to the use of the funds and what is required in terms of fund accountability in order to consider all aspects of the fund in a timely manner.

### RESPONSE

*3.4.3.J. The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.4.3.K.** We recommend that the Service de l'habitation take the necessary measures within its processes to ensure that the director approves the amounts to be guaranteed by the Ville de Montréal, including the letters of approval, and to do so at all stages of the program when necessary, in order to ensure that the City guarantees loans to bodies only for viable projects at the appropriate decision-making level.

### RESPONSE

**3.4.3.K.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### RECOMMENDATION

**3.4.3.L.** We recommend that the Service de l'habitation ensure, with respect to all projects, that bodies and contractors do not appear on the Register of Enterprises Ineligible for Public Contracts in order to be able to deal with the Ville de Montréal and promote sound management of public funds.

### RESPONSE

**3.4.3.L.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

## 3.5. Accountability

### 3.5.A. Background and Findings

In this section, we will describe the various accountabilities required under the applicable agreements and assess the extent to which accountability reports have been issued in compliance with the agreements.

We will then describe the City's accountability mechanisms and assess the extent to which the objectives, through the transfer of powers and responsibilities, are being met.

## 3.5.1. Accountability under Applicable Agreements

### 3.5.1.A. Background and Findings

There are two applicable agreements for which accountability is required. They are described below.

#### **Agreement on the Transfer of Housing Budgets and Liability**

Under the provisions of the sectoral agreement with the SHQ, the City must provide, for the AccèsLogis Montréal program and the RQP, an audited statement of disbursements and receipts. We were able to obtain evidence to that effect.

In addition, the City must provide a subsidy progress report indicating the subsidy amount per project, the status of the project and, for projects not yet completed, the percentage of completion of the work. We were able to obtain evidence of these reports, but they did not indicate the percentage of completion.

Finally, on July 1 of each year, the City must send the SHQ a provisional schedule identifying the monthly distribution of the budget that it will have at its disposal to meet needs beginning on April 1. We were not able to obtain evidence that this schedule had been sent.

#### **Agreement Relating to the AccèsLogis Program for the Development of Non-Profit Cooperative Housing**

Under the framework agreement with the approved lender, the lender is required to provide the City with follow-up reports for interim and long-term financing of projects as of August 31, December 31 and March 31 of each year. Two reports must be produced: one indicating the balance of the line of credit and mortgage loan and a second indicating the accrued interest on the line of credit and mortgage loan.

During our audit, we requested the accountability reports produced by the approved lender but were only able to obtain reports dated June 30, 2019, and December 31, 2019. With regard to the report dated June 30, 2019, the SH states that it had previously provided certain information for the projects under the City's program in an Excel file, which was subsequently forwarded to the approved lender, who completed the information regarding the folios and the amounts guaranteed by the City. We were able to obtain from the approved lender the report dated December 31, 2019, concerning the balance of the line of credit and the mortgage loan. We are of the opinion that this reporting is insufficient since the City did not receive the second report indicating the accrued interest of the line of credit and mortgage loan.

As such, the City does not have all the relevant data with respect to the loans it guarantees and does not receive it on the agreed dates.

### **RECOMMENDATION**

**3.5.1.B.** We recommend that the Service de l'habitation ensure that all the reporting required under the sectoral agreement with the Société d'habitation du Québec is produced in compliance with the requirements.

### **RESPONSE**

**3.5.1.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

### **RECOMMENDATION**

**3.5.1.C.** We recommend that the Service de l'habitation take the necessary steps with the approved lender to obtain the two reports under the provisions of the loan agreement, so that the Ville de Montréal may have complete and reliable information.

### **RESPONSE**

**3.5.1.C.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

## **3.5.2. Accountability within the Ville de Montréal**

### **3.5.2.A. Background and Findings**

When a business unit implements orientations that have been approved by the municipal administration, it must monitor, periodically evaluate and report on its progress. Accountability mechanisms must be in place to ensure that informed decisions are made in a timely manner.

In this case, according to the decision-making files supporting the approval of the modifications made to the AccèsLogis program, the objectives included to modulate the projects in accordance with municipal orientations (e.g., policies, strategies, programs), to accelerate project completion times, to improve the viability of social and community housing projects both at the time of their completion and during the operation of the buildings, and to offer affordable rents for low- and moderate-income households in relation to median rents in Montréal.

In the course of our audit, we noted the existence of accountability mechanisms for the strategy behind the development of 12,000 social and affordable housing units – Axis 1. This report presents, among other things, the names of the AccèsLogis Montréal program projects, the number of units at each program stage (PA, CC and DC) and the amounts allocated to these stages in the SHQ budgets.

Further to the analysis of the various reports referred to in this section, we noted that the SH did not produce accounts, for the period under audit, on the attainment of the objectives listed in the decision-making summary. We feel there is a need for the municipal administration to know the extent to which objectives are attained as a result of the transfer of powers and responsibilities. To this end, we believe that indicators to measure the attainment of these objectives should be established. For example, it would be interesting to compare the average completion time for projects under the AccèsLogis Montréal program with that previously noted under the AccèsLogis Québec program, since one of the objectives was to speed up project completion times.

It would also be relevant to establish indicators to assess the viability of projects.

Because of the sums involved and the municipal administration's commitment to producing affordable and social housing, it would also be very relevant for the SH to report, among other things, on the value of subsidies granted to bodies under the AccèsLogis Montréal program, on the number and value of secured loans, on the number of projects experiencing financial difficulties and on those that have been abandoned.

## RECOMMENDATION

**3.5.2.B.** We recommend that the Service de l'habitation develop indicators with respect to the objectives established as a result of the transfer of powers and responsibilities from the Société d'habitation du Québec regarding housing, and produce periodic reports dealing in particular with the subsidies granted to bodies, guaranteed loans, and projects experiencing financial difficulties, in order to evaluate the attainment of these objectives and to report on them to the authorities so that informed decisions can be made.

## RESPONSE

**3.5.2.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

## 3.6. Mandate of the Auditor General of the Ville de Montréal in Accordance with the *Cities and Towns Act*

### 3.6.1.A. Background and Findings

The *Cities and Towns Act* (CTA) defines the mandate of a municipality's auditor general. Section 107.7 identifies the bodies for which the auditor general is required to audit the accounts and business.

These bodies include, among others, the non-profit organizations that are subject to the contractual rules provided for in section 573.3.5 of the CTA and that meet, on January 1 of a given year, the following conditions:

- Their revenues for at least one of the last two years were equal to or greater than \$1,000,000;
- Financial assistance received from a municipality represented an amount equal to or greater than 50% of their revenues for that year.

In the case of these bodies, section 107.8 of the CTA provides that the auditor general may conduct, as he sees appropriate, a financial, compliance or resource optimization audit.

As of November 30, 2019, subsidies of more than \$26 million (calculated according to the degree of progress of the work) have been granted by the City under the AccèsLogis Montréal program. Considering the provisions of the CTA relating to non-profit organizations subject to section 573.3.5, we therefore sought to establish whether bodies that had received financial assistance should be included in the list of bodies covered by the scope of intervention of the City's auditor general. We feel these bodies' financial statements are the preferred tool for our analysis.

The decision that an auditor general must make to define the area of intervention stems from a legal obligation. For the City, obtaining the financial statements of bodies when appropriate is therefore essential to ensure the orderly conduct of business. It should also be noted that, in accordance with section 107.9 of the CTA, these financial statements must be audited if the City paid out an annual subsidy of at least \$100,000.

At the time of our audit, we noted that the SH had not put in place mechanisms to formally inform bodies of the obligation to provide audited financial statements to the auditor general of the Ville de Montréal. Although the operating agreements contain a clause requiring audited financial statements, subsidies of more than \$100,000 are awarded to bodies before the agreement is signed. Moreover, although the Direction générale draws up a list of bodies that must comply with this obligation and sends it to the SH for the necessary follow-up, we believe that the SH must put in place the necessary mechanisms, in accordance with the administrative framework in effect.<sup>21</sup> At the time of writing this report, we had not obtained all of the audited financial statements of the bodies that had received subsidies of \$100,000 or more under the AccèsLogis Montréal program.

## RECOMMENDATION

**3.6.1.B. We recommend that the Service de l'habitation take the necessary steps to ensure that bodies receiving annual financial assistance of more than \$100,000 under the AccèsLogis Montréal program are obliged to provide audited financial statements to the auditor general of the Ville de Montréal, in compliance with the legislation in force.**

## RESPONSE

**3.6.1.B.** *The audit report was issued to the business unit concerned in the week of March 23, 2020. The business unit agree with the recommendation. The Bureau du vérificateur général has asked the business unit to establish an action plan for implementing this recommendation by July 2, 2020.*

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<sup>21</sup> *Guide de gestion des soutiens financiers aux organismes à but non lucratif (OBNL) (C-RF-DG-P-17-001).*

## 4. CONCLUSION

One of the major priorities of the municipal administration of the Ville de Montréal (the City) is the construction of 12,000 social and affordable housing units. Through the conclusion of the sectoral agreement on housing with the Société d'habitation du Québec (SHQ), the City has a means to attain this objective by having been given increased powers and responsibilities in housing matters. With that in mind, the Service de l'habitation (SH) wishes to accelerate the completion of projects, while ensuring that they are viable during both the construction and operational phases, in accordance with municipal and governmental orientations. Since the signing of the sectoral agreement on March 29, 2018, three budget periods have elapsed (2017–2018, 2018–2019 and 2019–2020) and budgets have been allocated to all of the programs except for the AccèsLogis Montréal program, which, to date, has no budget for the 2019–2020 period. Since the City has adapted its AccèsLogis Montréal program to Montréal's reality and issues, the processing of new eligible projects on its territory (after July 1, 2019) could slow down the attainment of the municipal administration's objective.

Our audit enabled us to determine that the SH has taken steps to enable it to fulfill its new responsibilities in the area of housing resulting from the "Montréal Reflex" framework agreement.

Although the SH has reviewed its processes with respect to the AccèsLogis Montréal program with a view to granting not only financial assistance, but also a loan guarantee to bodies, as well as to follow up on subsidized projects for a period of 35 years once they are in operation, the fact remains that the City assumes all financial risks with the approved lender. In the absence of sound administrative and financial management of the guaranteed projects and given the amounts involved, the City could be called upon to make cash disbursements. In our opinion, this warrants an in-depth review of the projects to assess the extent to which the bodies' financial situations and their administrators' ability to assume sound project management expose the City to undue risks. Mechanisms must therefore be put in place to avoid injecting additional sums into projects or the City finding itself in situations where buildings are taken over or sold.

The budgets transferred to the City from the SHQ constitute public funds and, in this context, following our audit on processes and the effectiveness of controls deemed important, we recommend, among other things, that the City:

- Clarify with the SHQ the divergence of opinions, unresolved to date, regarding compliance with the targets in terms of units and to validate whether the new municipal programs comply with the government's orientations;
- Sign an additional financing agreement to cover the units committed by the AccèsLogis Montréal program;
- Ensure that the resources involved in the development and implementation of projects under the AccèsLogis Montréal program have the expertise required to assess the financial soundness of bodies, the viability of projects and the adequacy of funds to guarantee loans;
- Maintain evidence that bodies that have submitted projects under the AccèsLogis Montréal program did not encounter viability issues with respect to past projects that received financial assistance under the AccèsLogis Québec program;
- Rule on the need for projects carried out under AccèsLogis Montréal to be subject to the governance framework for municipal projects and asset programs;
- Systematically require the financial statements of bodies that have submitted projects to the AccèsLogis program in order to assess their financial soundness;
- Ensure that the documents sent to the approved lender regarding the financing of projects are approved by the director of the SH;
- Maintain evidence that the variables affecting the calculation of the subsidy have been validated;
- Ensure that, for all projects, organizations and contractors are not listed in the Register of Enterprises Ineligible for Public Contracts (REI);
- Establish indicators to assess the extent to which the expected benefits have been realized as a result of the transfer of responsibilities and budgets.

Combined with the new housing responsibilities arising from the “Montréal Reflex” framework agreement and which were the subject of this audit, other initiatives have been put in place by the City to facilitate the development of new social projects. These include the right of pre-emption to take advantage of more opportunities to develop social housing, the 12,000 affordable housing units strategy, and the upcoming adoption of the by-law for a diverse metropolis. Given there exists a social housing crisis in Montréal, we are of the opinion that it is essential that the City continuously evaluate its results with regard to the creation of social housing in order to know to what extent this crisis is on its way to being resolved. If not, we believe that it will be necessary to take action to modify certain parameters of the AccèsLogis Montréal program or to make representations to the provincial government so that it modifies other parameters under its jurisdiction.

## 5. APPENDICES

### 5.1. Description of the Programs Covered by the Transfer of Powers and Responsibilities

#### AccèsLogis Montréal Program

*(By-law amending the By-law concerning subsidies for the development of non-profit cooperative housing (02-102B), approved by the urban agglomeration council on December 14, 2017)*

The housing units developed under this program are intended for low- and moderate-income households as well as for tenants with special housing needs. Bodies promoting a social and community housing project must contact consultants, namely the Technical Resource Groups (TRGs), to develop their project and submit their Application for Financial Assistance (AFA). The City recognizes four TRGs. According to the program in effect, the financial assistance granted to developers corresponds to 50% of the Maximum Permissible Costs (MPC) for the completion of a project. In order for bodies to obtain financial assistance for their projects, these must go through various stages and meet program requirements, including the following:

- Submission of the file: The body must submit a file to the SH, which file provides information on the body and the requirements to be met regarding the social, architectural, financial and legal aspects of the project;
- Preliminary Approval (PA): The body identifies a piece of land or a building and begins to develop the project. The SH then verifies the eligibility of the file. The project must meet eligibility criteria in terms of eligible bodies, clientele and the types of work required. There are three types of clientele, namely:
  - Component 1: Low- and moderate-income households, including people living alone, families and independent seniors;
  - Component 2: People aged 75 years and over with slight loss of independence;
  - Component 3: People with special needs (homeless, victims of violence, mental health problems, etc.).

When the project is deemed eligible, a recommendation for the allocation of housing units is made as follows:

- **Conditional Commitment (CC):** The body has an offer to purchase and details its project. This step requires the body to submit documents and information demonstrating that the project's social, architectural, legal and financial aspects comply with the requirements;
- **Definitive Commitment (DC):** This step also involves adding documents and information to the file to demonstrate that the social, architectural, legal and financial aspects comply with the requirements. Completion of this step allows the body to proceed with the acquisition of the building. A contractor is selected on the basis of a call for tenders (if the project is carried out on a lump sum basis) and work can begin.

A project can also be carried out in Turnkey (TK) mode, in which case the owner of the land carries out the construction work before the body takes possession;

- **Interest Adjustment Date (IAD):** Once the work has been completed, a certificate of completion is issued provided the work is compliant. Beneficiaries move into the finished building. Thus, the guaranteed mortgage loan will be set and the subsidy will be paid and applied to reduce the balance owing on the loan.

Financial assistance for projects that are deemed eligible can take on a variety of forms, including the following:

- **Development subsidy:** This subsidy allows the body to proceed with the acquisition of a building or to carry out the work, if necessary, and is based on a percentage of the MPC, which varies according to the type of unit (e.g., studio, one-bedroom, two-bedroom). This subsidy includes the subsidy from the Montréal Metropolitan Community;
- **Additional subsidies:** This type of subsidy is granted under certain conditions to ensure project viability;
- **Subsidies pursuant to the Rent Supplement Program (RSP):** This financial assistance is aimed at low-income households that, without this additional assistance, would have to spend more than 25% of their revenue on rent;
- **Loan guarantees:** The body benefits from a mortgage loan that is guaranteed by a third party (surety).

The operating phase begins once the work has been completed and the mortgage loan has been set.

## Renovation Québec Program

In recent years, this program has consisted of the following five subsidy subprograms:

**1. Home Purchase Assistance program (property acquisition)**

***(By-law concerning the subsidy program for the acquisition of a residential property [By-law 18-025], approved by city council on May 28, 2018)***

This program is designed to encourage Montréal households, particularly those with children, to settle in Montréal through the purchase of a first home or the acquisition of a second property that better meets the changing needs of their household. The financial assistance may take the form of a lump sum for the acquisition of a new property or a partial refund of the real estate transfer tax when purchasing an existing property, subject to conditions regarding the type of dwelling, the number of children and the purchase price.

**2. Urban Housing for Families program**

***(By-law establishing a municipal subsidy program to carry out projects intended for families [By-law 14-034], approved by city council on October 27, 2014)***

This program is designed to promote the construction of properties that meet the needs of families. It focuses primarily on the areas near the centre of the island of Montréal, where there is a lack of such housing.

The program provides the developer with financial assistance in the form of a subsidy applicable only to family dwellings, which must meet the criteria.

**3. Renovation à la carte program**

***(By-law concerning the municipal subsidy for residential renovation for targeted work [By-law 14-037], approved by city council on October 27, 2014)***

This program offers financial assistance to homeowners to renovate or replace certain exterior or interior components of their residential or mixed-use building. Entitlement to financial assistance is conditional on this assistance reaching a minimum threshold on average per dwelling and the applicable work criteria must be met.

**4. Major Residential Renovation program**  
*(By-law concerning the municipal subsidy for residential renovation and demolition–reconstruction [By-law 14-036], approved by city council on October 27, 2014)*

This program is aimed at the renovation of an entire residential building, such as to renovate all of the building's components that require it or in some cases demolish and rebuild a building. The amount of financial assistance and the authorized rent increases are calculated according to a cost schedule of the work established by the City. The renovation work must be major and meet certain objectives as well as the defined building criteria.

**5. Stabilization of Residential Building Foundations program**  
*(By-law concerning the municipal subsidy for the stabilization of foundations of residential buildings [By-law 14-038], approved by city council on October 27, 2014)*

This program provides financial assistance to owner-occupants to help with the potentially high cost of stabilizing foundations affected by subsidence. The work must have been deemed necessary by an engineer and be sufficient to stabilize all parts of the building considered unstable. The financial assistance consists of a lump sum established according to the nature of the work required.

**Residential Adaptation Assistance Program**

The program is intended for people with a disability (tenants or owners), who are limited in the performance of their daily activities and who need to modify and adapt the dwelling they live in in order to have independent access to the dwelling, the rooms and the amenities essential to daily life. Assistance is granted to pay the cost of the work provided that an occupational therapy report demonstrates that the impairment is significant and that modifications to the home are necessary. The full amount of the assistance is paid to the homeowner upon completion of the work following the City's audits.

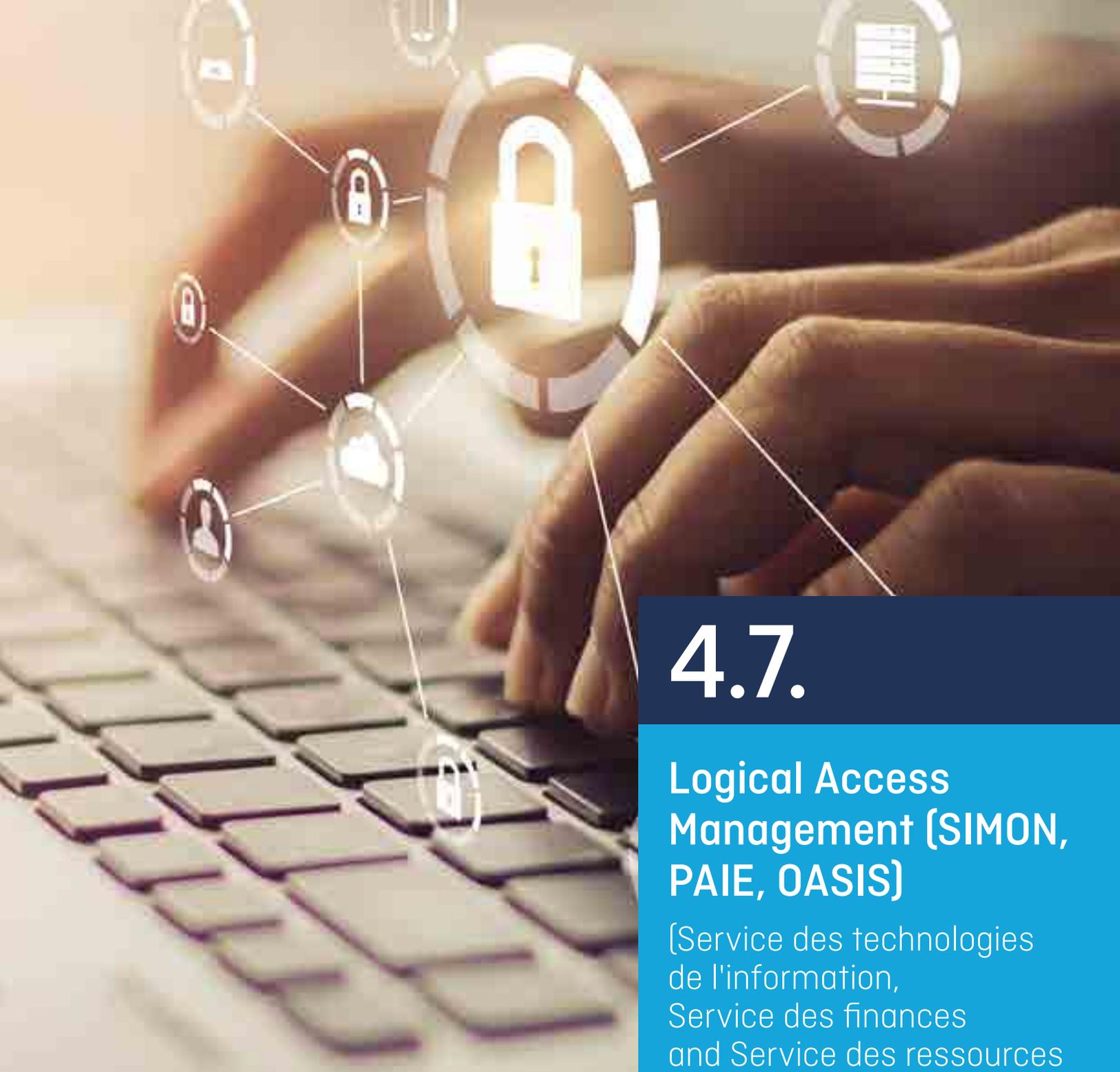
## 5.2. Objective and Evaluation Criteria

### Objective

Ensure that the SH has taken the necessary measures to enable it to fulfill its new housing responsibilities stemming from the “Montréal Reflex” framework agreement.

### Evaluation Criteria

- An assessment of the resources required and the processes in place was carried out to enable the Ville de Montréal (the City) to adequately carry out its new responsibilities;
- Municipal programs are developed using a structured approach that takes into account Montréal’s needs and issues as well as government objectives while respecting applicable agreements;
- Mechanisms for validating the financial soundness of the bodies and the viability of the projects selected for a loan guaranteed by the City have been planned and are being applied (for the AccèsLogis Montréal program);
- A process has been put in place to ensure follow-up and compliance with the applicable agreements;
- Accountability mechanisms are exercised periodically to ensure compliance with the signed agreements and the attainment of housing objectives.



# 4.7.

## Logical Access Management (SIMON, PAIE, OASIS)

[Service des technologies de l'information, Service des finances and Service des ressources humaines]

January 10, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Ensure that the logical access to the SIMON, PAIE and OASIS financial applications are correctly managed and limit the risks of unauthorized or inappropriate access in addition to mitigating the risks of fraud or collusion.

# RESULTS

The Service des technologies de l'information (STI), the Service des finances and the Service des ressources humaines adequately manage the logical access of the financial applications for which they are responsible.

Indeed, the SIMON, PAIE and OASIS financial applications are protected by the following appropriate control mechanisms:

- Access profiles that are pre-established in accordance with the positions held, where compensatory controls are in place to ensure that the access granted is relevant;
- The parameters set to authenticate and manage the applications are adequate, considering the platforms on which they are hosted;
- The logical access is monitored regularly;
- High-privilege accounts are legitimate and their number is limited. Those of the OASIS and PAIE applications are monitored;
- Existing conflicting rights are restricted and authorized.

Nevertheless, we noted the following aspects which would require improvements:

- With respect to users who perform the incompatible duties of issuing purchase orders and receiving goods and services, although special dispensation requests had been duly approved by their superiors, the business units do not systematically follow up to monitor these operations;
- Even though certain logical access management principles are known and applied, they are not included in the frameworks;
- There is no mechanism enabling the validation of the strength of the passwords chosen;
- Access to the OASIS application for the Bureaux Accès Montréal (BAM) must be reviewed on a more frequent basis;
- High-privilege SIMON accounts are not adequately monitored.

*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.*

*Note that the business units have had the opportunity to formulate their comments, which appear after the audit report recommendations.*



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# LIST OF ACRONYMS

<b>ACF2</b>	IBM Access Control Facility
<b>BAM</b>	Bureaux Accès Montréal
<b>GITC</b>	General IT Controls
<b>IAM</b>	Identity and Access Management
<b>SPVM</b>	Service de police de la Ville de Montréal
<b>STI</b>	Service des technologies de l'information
<b>TSO</b>	Time Sharing Option (command line interpreter for IBM mainframe systems)



## 1. BACKGROUND

Access to applications is granted by way of a user ID and password. These elements constitute the access key that will allow their holders to use the applications to perform their respective tasks.

Logical access management consists of granting permissions with respect to a user's authorized actions and data within an application. Best practices dictate that:

- strong passwords must be used;
- a limited number of high-privilege<sup>1</sup> access codes is authorized;
- users' access is re-evaluated regularly;
- users' access is maintained at sufficient and appropriate levels;
- users' access does not allow them to perform incompatible tasks.

At all times, these practices make it possible to limit the risks of unauthorized or inappropriate access and minimize the risks of error, fraud or collusion.

The Ville de Montréal (the City) basically uses three applications to manage its financial information, i.e.:

- SIMON: the City's integrated system that is used mainly for accounting and procurement purposes. It has more than 28,000 users;
- PAIE: the application that manages the payroll of approximately 23,000 employees. The number of users exceeds 280 (approximately \$1.9 billion for the 2019 budget);
- OASIS: the system used to manage municipal tax revenue (approximately \$4.8 billion in 2019). This application has more than 400 users.

The City's infrastructure hosts all three applications.

As part of the annual audit of the General IT Controls (GITC), work is performed with respect to the logical access management of these financial applications.

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<sup>1</sup> Used for the purpose of administering an application. Its user has unlimited rights, including, for example, the right to access any information (read only), to configure parameters and even to modify and delete data.

The SIMON application is an integrated management system that includes general ledger, procurement and payroll modules. It is being used to manage the remuneration of elected officials, judges and retired employees as well as for the Service de police de la Ville de Montréal (SPVM) since January 1, 2019. The platform is an Oracle database.

The PAIE and OASIS applications are hosted on an IBM mainframe computer, and access to them is managed through the IBM Access Control Facility (ACF2). Access to these applications is a two-level process: access to the mainframe computer represents the first level, and access to the application, the second level. SIMON, PAIE and OASIS are therefore hosted in separate IT environments.

To correctly evaluate the logical access management of each of the financial applications included in our audit, it is important to understand how access creation, modification and withdrawal requests are managed. It is also important to be familiar with the various actions that the assigned profiles can perform within the application in order to be able to detect the access rights that represent the highest risks. Finally, it is important to know which incompatible access profiles lead to the risks of recording transactions that could open a door to fraud or collusion.

## 2. PURPOSE AND SCOPE OF THE AUDIT

Pursuant to the provisions of the *Cities and Towns Act* (CTA), we carried out a performance audit mission on the logical access management of the SIMON, PAIE and OASIS financial applications. 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 objective of this audit was to ensure that logical access to the SIMON, PAIE and OASIS financial applications is correctly managed and limits the risks of unauthorized or inappropriate access in addition to mitigating the risks of fraud or collusion.

The responsibility of the Auditor General of the Ville de Montréal 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 in the circumstances. These criteria are presented in Appendix 5.

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.

The purpose of our audit dealt solely with logical access management. To limit the scope of our intervention, it was decided that the City's main financial applications would be audited, namely:

- SIMON;
- PAIE;
- OASIS.

In this context, we met with the following three business units for the targeted applications:

1. the Service des technologies de l'information (STI) for the SIMON application;
2. the Service des finances for the OASIS application;
3. the Service des ressources humaines for the PAIE application.

Furthermore, for the purpose of our audit and to avoid duplicating the work, we excluded from our mission the tasks performed to evaluate the general information technology controls pursuant to the audit of the City's financial statements. This work is performed to ensure that the data generated by the financial systems provides information that is free from material misstatements.

We carried out our audit from April 2018 to December 2019, and our tests covered the period from February 2018 to February 2019. As part of our audit, we interviewed staff, reviewed various documents and conducted such tests as we considered appropriate to obtain the necessary evidentiary information. However, we took into account information that was sent to us up until January 2020.

At the end of our work, a draft audit report was presented for discussion to the relevant managers in each of the audited business units. The final report was then sent to the Direction générale as well as to each business unit concerned for the purpose of obtaining action plans and timetables for their implementation.

## 3. AUDIT RESULTS

### 3.1. Governance

#### 3.1.A. Background and Findings

The publication of policies and guidelines makes it possible to manage the various facets of a subject and limit the risks of inconsistencies in the actions taken in relation to the elements that make up a process.

To provide a framework for the logical access management process (e.g., granting, modifying, withdrawing and reviewing), the City has issued certain rules. Compliance with these rules ensures that the access granted and the actions that are allowed in these applications is authorized. A periodic review of these access rights ensures that the process is working properly.

We examined the various logical access management rules the City has in place.

We focused on the following policies and guidelines:

- the *Politique de sécurité de l'information* (issued in 2006);
- the *Directive sur la gestion des accès aux ressources informationnelles* (issued in 2006);
- the *Standard sur les clés d'accès aux ressources informationnelles* (issued in 2006).

Also, as part of the Identity and Access Management (IAM) project, we were provided with a draft directive on logical access management. The IAM project allows for the unique identification of users requiring access to the City's informational or physical resources (e.g., space, telephone, equipment). This in turn makes it possible to better manage the impact of events (hirings, promotions, transfers, departures) on the various types of access granted. Security is thus strengthened.

Our first observation reveals that certain password security parameters set out in the *Standard sur les clés d'accès aux ressources informationnelles* are weak or are not complied with. Indeed, beyond an acceptable length for the latter, the standard does not specify any mandatory combination of characters. Also, although the standard specifies that passwords must expire within 30 days, our audit of the systems we examined revealed that a 90-day period is in place.

Furthermore, a review of the rules in place reveals that certain principles are absent, namely:

- Minimum privilege: the assigned access privileges are restricted to the informational resources required to perform the necessary tasks;
- Task segregation privilege: the responsibilities for an activity of a critical or strategic nature are divided among several entities (e.g., people, processes) to prevent a single entity from exercising control over the entire activity;
- Traceability principle: all access and attempted access to information assets supporting critical or strategic business processes are recorded and saved.

These principles, which are however found within the IAM project of the directive that was presented to us, are currently applied in an informal manner.

The lack of rules, policies and procedures could lead to inconsistencies in the handling and management of logical access (e.g., granting unauthorized or unjustified access).

In our opinion, as part of the IAM project, the *Standard sur les clés d'accès aux ressources informationnelles* should be revised such as to establish future parameters with respect to password strength and the frequency of password changes.

We also believe that it is appropriate to pursue the adoption of a logical access management directive that would contain the principles set out above.

We are aware, however, that the obsolescence of certain technological platforms hinders:

- the standardization and implementation of more rigorous parameters;
- the updating of the rules regarding password parameters.

## RECOMMENDATION

- 3.1.B. We recommend that the Service des technologies de l'information, as part of the Identity and Access Management project:
- update its rules relating to the logical access management and more specifically the *Standard sur les clés d'accès aux ressources informationnelles* in order to establish future parameters with respect to password strength and the frequency of password changes;
  - continue its efforts to adopt a directive on logical access management so that the principles of minimum privilege, task segregation and traceability are clearly established.

## BUSINESS UNIT'S RESPONSE

3.1.B. *Service des technologies de l'information*

*[TRANSLATION] The logical access management standard is currently being developed and will include criteria consistent with industry best practices covering password length, complexity and validity period.*

*The implementation of these good practices is under way as part of the security program. This initiative is in the implementation phase and is to be rolled out in 2020.*

*The Directive sur la gestion des accès logiques was submitted to the Comité de sécurité de l'information and is now under review by committee members. Afterwards, it will be submitted to the director general for approval. (Planned completion: December 2020)*

## 3.2. Granting Access

### 3.2.A. Background and Findings

The access granted to an application must be appropriate to the tasks to be performed by the user. In addition, users must not hold access rights that are superfluous to their needs.

To ensure that access is granted on an as-needed basis and that the principle of minimum privilege is respected when access to the applications subject to our audit is granted, we sought to answer the following questions:

- Is the access granted appropriate for the user's tasks?
- Does the user have more rights in the application than necessary?

Given the complexity of the types of access granted to certain applications, the use of pre-established profiles based on the tasks to be performed by model users makes it possible to better manage access and minimize the risks of granting these users rights that are superfluous to their needs.

Our audit revealed that, for the SIMON, PAIE and OASIS applications, the granted access is appropriate and takes into account the user's tasks. Furthermore, in the case of the PAIE and OASIS applications, pre-established profiles are used to grant this access. For the SIMON application, a script generates a daily report to identify the users who have transferred to new positions. Following this report, a manual review of the access rights held must be carried out and, if necessary, the required corrections made. Our tests confirmed that these reviews were effective.

No recommendation is necessary.

### **3.3. Password Authentication and Management**

#### **3.3.A. Background and Findings**

An application's access key, i.e., the combination of a user ID and a password, must be robust and restrictive enough to limit the risks of unauthorized access.

We reviewed the parameters of the passwords that were set for each of the three applications we audited. Our work revealed that the parameters set are adequate given the technological limitations of the platforms that host the applications. Indeed, due to the obsolescence of the OASIS and PAIE applications, changing the parameters would require considerable effort, given that the applications could be replaced in the near future.

It should be noted, however, that there is no mechanism for identifying the strength of the chosen passwords used by all of the application's users beyond the criteria set by the parameters. These mechanisms make it possible to qualify passwords according to best practices, so the user would immediately obtain a comment on the security of the password (e.g., insufficient, good, excellent) and the password could then be reviewed for robustness.

Although it is not efficient to develop such mechanisms on older platforms, it would be relevant to consider setting up mechanisms for identifying the strength of user passwords for future sensitive applications, particularly in the context of the IAM project.

Unauthorized access could result if users chose passwords that were not strong enough. However, malicious users do not have direct access to the application and must first sign in to the network.

## RECOMMENDATION

**3.3.B.** We recommend that the Service des technologies de l'information develop and implement mechanisms to identify the strength of passwords for appropriate future applications.

## BUSINESS UNIT'S RESPONSE

**3.3.B.** *Service des technologies de l'information*

*[TRANSLATION] A detailed architecture document on the mechanisms to be put in place to validate password strength is being drafted and is part of the work that will be implemented in 2020.*

*(Planned completion: December 2020)*

## 3.4. Access Monitoring and Review

### 3.4.A. Background and Findings

A process for assigning access is in place for each of the applications covered by our audit. However, there may be several events in the holder's career (e.g., promotion, transfer, departure). It is therefore essential to implement an efficient recurrent review mechanism of existing access in order to remove any access that is no longer legitimate.

To this effect, we examined the access review processes in place for the applications covered by our audit.

#### **SIMON Application**

Access within this application is allocated by module (e.g., GL, Purchasing, Inventory), by responsibility (e.g., to make a query or a transaction) and by level of intervention (e.g., global, administrative unit, amount).

It should be noted at the outset that all employees have a default access to the SIMON application for bidding purposes (the online job application service) as well as to view their electronic payroll slip (the online employee service).

There is no formal regular validation with managers. However, a script is launched daily to deactivate access following the transfer of a user recorded in the register of positions. This register compiles all employee transfers during their career with the City.

In addition, this script generates a report to be reviewed by the people in charge of the *Centre d'expertise SIMON* to ensure that appropriate action is taken. Other analysis scripts are also produced to detect changes in the need to access the SIMON application.

In addition, routines performed by system administrators (sysadmin<sup>2</sup>) on a daily, weekly or monthly basis, as the case may be, make it possible to identify anomalies in the rights granted to users and quickly correct them. Finally, any right assigned to perform a specific action in a module (e.g., responsibility) that is not used for a period of six months is automatically deactivated.

We validated various reports between September 11, 2018, and January 21, 2019, and corrective action had been taken.

No recommendation is necessary.

### **PAIE Application**

Access to the PAIE application is a two-level process. Access to the IBM mainframe computer represents the first level and access to the PAIE application, the second level. Access to this application is validated annually to ensure that the assigned rights are still appropriate or relevant. Access is also validated every two months in the case of departures. This exercise makes it possible to clean up the list of the application's users because, if the user does not connect to the IBM mainframe computer (ACF2) within a period of three months, their IBM access code will initially be suspended and subsequently destroyed after 13 months of inactivity. The code used to access the PAIE application will remain active and present in the list of the application's users even if this access is suspended after a period of six months. The review of the access makes it possible to eliminate access codes that are no longer needed.

We examined the November 2018 reports and our audit enabled us to conclude that the described procedures are carried out.

No recommendation is necessary.

### **OASIS Application**

As is the case for the PAIE application, access to the OASIS application is a two-level process. Access to the IBM system is automatically suspended and ultimately destroyed if the user does not log on within the aforementioned prescribed periods.

Given the destruction parameter, the user will no longer have access to the OASIS application even though the user remains active in the application. While it is important to regularly review access permissions, an effort should be made in these circumstances to remove unwarranted access permissions from the application's database.

---

<sup>2</sup> An administrator access allows access to all of an application's functions and data. It can also be used for maintenance purposes.

Based on our audit of the OASIS application, which covered the period from February 2018 to January 2019, we concluded that monthly follow-up is carried out with the application users' managers. However, with respect to the Bureaux Accès Montréal (BAM), this exercise is only carried out twice a year. A review of the access codes that have not been used for more than one year is also carried out by the person responsible for the security of the OASIS application.

We reviewed reports from September 2018 to January 2019 on access that had been unused for more than a year, and the unused access permissions were removed.

However, we are of the opinion that the review of access to the BAM would benefit from a more frequent schedule since the majority of people who work in these offices have access to tax collection data.

Illegitimate access may remain active in the absence of regular monitoring and review of authorized access.

## RECOMMENDATION

**3.4.B. We recommend that the Service des finances conduct more frequent reviews of access to the OASIS application granted to people working in the Bureaux Accès Montréal.**

## BUSINESS UNIT'S RESPONSE

### **3.4.B. Service des finances**

*[TRANSLATION] The audit carried out on the OASIS application covered the period from February 2018 to January 2019.*

*The procedure was reviewed following receipt of the audit recommendations. Two important changes were made to the process in relation to the accesses Bureaux Accès Montréal:*

- 1. The boroughs' accesses are now validated every quarter;*
- 2. The Système de point de vente was implemented in all of the Bureaux Accès Montréal. With this Système de point de vente, the only changes they can make are changes of address. The offices do not have access to any data other than in view mode. Consequently, the risk of access raised by the audit has been eliminated.*

*We consider that the recommendation has been resolved.*

***(Planned completion: Immediate)***

## 3.5. High-Privilege Accounts

### 3.5.A. Background and Findings

Usually, users should only have the access at the level required to perform their tasks. However, the applications include so-called high-privilege access codes, which allow specific tasks to be performed and which cannot be devolved other than by regular access rights to the application. This is therefore a highly sensitive type of access that has a great impact on the data.

This type of access should be granted on a limited basis and closely monitored.

Each of the applications we audited has its own high-privilege access codes.

#### **SIMON Application**

Our audit pointed out that three users have system administrator rights (sysadmin) in the applications that are linked to their user ID. Furthermore, these same users have access to the sysadmin<sup>3</sup> generic account—a practice that is acceptable.

We also identified the rights to grant high-privilege access to the application. Our audit revealed that these rights are granted only to the system administrators as well as the people working at the *Centre d'expertise SIMON*, which is appropriate.

We found that transactions made using the sysadmin generic account are not adequately logged<sup>4</sup>, as the log is entered manually. As part of the annual work on the GITC, the auditors also issued the “SIMON application high-privilege generic account” recommendation in 2015 to this effect, but the situation still remains to be addressed.

Based on our work, we conclude that privileged access to this application is adequately granted but not monitored.

Apart from the recommendation made in 2015, no further recommendation is necessary.

#### **PAIE Application**

This application's high-privilege access corresponds to the access granting and payroll processing profiles. However, the importance of a user's access is multiplied if the user also has modification rights in the *Registre des postes* application (e.g., changing pay rates following promotions, or statutory increases) or in the Time Sharing Option application (command line interpreter for IBM

<sup>3</sup> A generic account is an account that is not assigned to a specific user. It is usually used in emergency situations only by a restricted group of administrators.

<sup>4</sup> According to the Office québécois de la langue française, logging makes it possible to keep track of certain events for future audits.

mainframe systems (TSO)) on the mainframe that provides direct access to data. Granting access to these last two applications is not the responsibility of the payroll department.

The review of high-privilege accounts revealed the following highlights:

- Three users can grant access in the PAIE application. The other users of this application have profiles that essentially allow them to generate the payroll, which is normal given their work;
- Two users have high-privilege access to the three aforementioned applications (PAIE, *Registre des postes* and TSO). These people are the payroll coordinators. However, not all payroll coordinators have the ability to grant access to the PAIE application, which is satisfactory;
- In addition, we found that 12 individuals have high-privilege access to two of these applications (*Registre des postes* and TSO). Several of these individuals are administrative payroll and benefits control officers who require such access, including the ability to modify pay rates when required.

Administrative payroll reconciliation controls (e.g., code-to-code) and exception reports are reviewed to control how these codes are used.

Based on our work, we conclude that the privileged access to this application is adequately granted and monitored.

No recommendation is necessary.

### **OASIS Application**

We inventoried two types of high-privilege accounts providing access to the following:

- the application security;
- the application's parameters.

Our audit revealed that only those people designated as members of the security personnel have security rights. Indeed, one person has all of the rights in the application and two other persons can intervene for security reasons and to grant access, which is an acceptable practice. All security actions are logged and reviewed on a daily basis.

We also examined the users who had access to the application's parameters. They are nine in total and work for the STI as programmer analysts or consulting analysts.

Based on our work, we conclude that the privileged access to this application is adequately granted and monitored.

No recommendation is necessary.

## 3.6. Incompatible Tasks

### 3.6.A. Background and Findings

Good access practices dictate that no single user should be able to control an organization's process from beginning to end (e.g., recording and paying invoices).

Indeed, segregating incompatible tasks makes it easier to detect errors and prevents fraud since carrying out the tasks requires collusion between two or more people, which complicates matters.

Given the nature of each of the applications covered by our audit, we identified specific incompatible tasks and also analyzed who had access rights to them.

#### **SIMON Application**

For this application, we started off by examining the responsibilities granted in each of the boroughs on the basis that task segregation is sometimes more difficult to achieve given the limited number of people holding a given position.

Next, we examined access to a combination of responsibilities that, if held by the same user, constitute risky profiles.

The following combinations of responsibilities were examined:

- entering and carrying forward entries in the City's logs;
- entering invoices and receipts;
- entering invoices and paying and releasing invoices;
- issuing purchase orders and entering receipts.

Our audit revealed that some users have multiple access with incompatible tasks. When access is granted, despite the fact that the principle of task segregation is not respected, a special dispensation request must be produced and approved. Those responsible for granting access to the SIMON application follow up on requests that have an end date (temporary access).

With respect to the special dispensation requests that we observed, our audit revealed that access was assigned under exceptional circumstances, because teams are restricted or for emergency situations. In these cases, subsequent compensatory controls are carried out (e.g., reporting on transactions carried out using the access).

However, we found that there is an exception for the 149 users who handle the following two incompatible responsibilities, issuing purchase orders (*SIMON – Atelier Acheteur PO*) and entering receipts (*SIMON – Achat en ligne ICX*). Indeed, these incompatible tasks allow users to both create purchase orders and receive goods and services. Although special dispensations were requested and justified by their managers, the managers do not systematically follow up on the transactions carried out by the holders of the two profiles. Yet it is stipulated in an administrative directive on task segregation that managers are required to do exactly that.

We were also informed that, as part of a new business model, the Service de l'approvisionnement intends to centralize the issuance of all purchase orders within its unit. This action will, among other things, ensure compliance with the directive on task segregation.

The absence of mechanisms to monitor users who perform these incompatible tasks increases the risk of unauthorized transactions.

## RECOMMENDATION

**3.6.B.** We recommend that the Service de l'approvisionnement, as part of the new procurement business model, implement a subsequent control in order to monitor the operations of users with the following incompatible responsibilities:

- *SIMON – Atelier Acheteur PO;*
- *SIMON – Achat en ligne ICX.*

## BUSINESS UNIT'S RESPONSE

**3.6.B.** *Service de l'approvisionnement*

*[TRANSLATION] Prior to finalizing the implementation of the Service de l'approvisionnement's new business model, the following actions will be undertaken:*

- *Issue a communication to the business units reminding them of the framework and the obligation to carry out subsequent controls by means of the control report designed for this purpose;*
- *Before March 31, 2020, return the list of special dispensations to the departments concerned for reassessment and clarification of the duration of the special dispensation;*
- *Periodically (quarterly) reassess the special dispensations and extract non-compliant transactions. (Planned completion: in the current year, with follow-up on December 31, 2020)*

## PAIE Application

This application does not present profiles with incompatible tasks because operations are segregated such as to have conflicting actions performed by another section or by an application of the human resources department. As mentioned in section 3.5 "High-Privilege Accounts", the accumulation of access through various applications can result in the multiple rights held by a user being incompatible.

However, based on our audit, we determined that only two users have a combination of high-privilege access. This access is justified given the users' tasks.

We believe that conflicting rights are satisfactorily managed for this application.

No recommendation is necessary.

## **OASIS Application**

For this taxation application, there is also a high level of segmentation of operations between various operational sections. Indeed, the operations are functionally divided between taxation, collection and receipts. Typical access profiles are created from a set of groups of screens and rights within them that allow users to perform their tasks.

Each type of operation has screens that are specific to its needs. For example, access for taxation confers rights that grant access to certificates of appraisal. Similarly, the screens related to the accounting of receipts should not be included in the access available to those working in taxation.

For each of the taxation, collection and receipt operations, we validated that there is no access profile that gives the possibility of intervening in the other groups' specific screens. In addition, we verified that no user had accumulated profiles that would have allowed this incompatible access.

We therefore conclude that conflicting rights are satisfactorily managed for this application.

No recommendation is necessary.

## 4. CONCLUSION

Based on our audit, we conclude that the Service des technologies de l'information (STI), the Service des ressources humaines and the Service des finances respectively manage the logical access to the SIMON, PAIE and OASIS applications adequately.

The control mechanisms in place make it possible to limit both the impacts of unauthorized or inappropriate access and the risks of fraud or collusion.

More specifically, here are the details according to the following evaluation criteria:

### Evaluation Criterion – Governance

The Ville de Montréal (the City) has directives that cover the main spheres of logical access management. The STI is responsible for enacting these directives. However, some of these directives need to be updated, as some parameters have changed since they were initially drafted and are no longer representative of the current situation. Indeed, certain principles of logical access management (i.e., the minimum privilege, task segregation and traceability principles) are applied without, however, being present within the directives.

### Evaluation Criterion – Granting Access

The access granted to the SIMON, PAIE and OASIS applications is appropriate in light of users' tasks. Profiles have been pre-established according to the positions held for the PAIE and OASIS applications. As for the SIMON application, a script launched daily removes access from users who have changed jobs.

### Evaluation Criterion – Password Authentication and Management

The password parameters set for authentication and password management purposes are adequate in the case of the SIMON, PAIE and OASIS applications. However, there is no mechanism enabling the strength of the chosen passwords to be validated.

## Evaluation Criterion – Access Monitoring and Review

Access monitoring and review are adequate for the SIMON, PAIE and OASIS applications. In the case of the PAIE and OASIS applications, there is formal periodic validation with managers. In addition, any access not used for six months is first suspended and then deleted from the main IBM platform. It should be noted, however, that the review of the access granted to the Bureaux Accès Montréal (BAM) staff could be carried out more frequently in the case of the OASIS application.

For the SIMON application, despite the absence of formal periodic validations with managers, scripts launched daily, weekly and monthly make it possible to detect abnormal access and implement appropriate corrective action. In addition, access to any function that is not used within six months is automatically disabled.

## Evaluation Criterion – High-Privilege Accounts

In the case of the SIMON, PAIE and OASIS applications, the number of high-privilege accounts is limited and they are closely monitored, with the exception of the SIMON application, which is monitored manually and therefore inadequately.

## Evaluation Criterion – Incompatible Tasks

Conflicting rights are handled satisfactorily for the PAIE and OASIS applications. In fact, the use of pre-established access profiles as well as how work is organized from an operational standpoint ensure that potentially conflicting situations are not found within the same application or under the responsibility of the same section of their respective departments.

Conflicting rights are managed satisfactorily for the SIMON application, except for users who are responsible for both creating purchase orders and receiving goods and services. In this case, although exemption requests were duly approved, the business unit managers do not systematically follow up to ensure that users with dual access are not making unauthorized transactions.

## 5. APPENDIX

### 5.1. Objective and Evaluation Criteria

#### Objective

Ensure that logical access to the SIMON, PAIE and OASIS financial applications is correctly managed and limits the risks of unauthorized or inappropriate access in addition to mitigating the risks of fraud or collusion.

#### Evaluation Criteria

We based our audit on the following evaluation criteria, divided into six parts:

**1. Governance**

The City documents, communicates and assigns responsibilities for its application access management policies and procedures.

**2. Granting Access**

The administrative units grant access to applications and keep the access active only if it complies with the requirements.

**3. Password Authentication and Management**

The City's password parameters are robust.

**4. Access Monitoring and Review**

The administrative units carry out regular reviews of the access granted, making it possible to withdraw access from users that is no longer required or justified.

**5. High-Privilege Accounts**

The administrative units limit privileged access to only those users who need it.

**6. Incompatible Tasks**

The administrative units ensure that users do not hold access rights that would allow them to significantly control a transactional process.





# 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.*



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# LIST OF ACRONYMS

<b>BdP</b>	Bureau de projets
<b>CSTI</b>	Comité sectoriel des technologies de l'information
<b>EPM</b>	Enterprise Project Management
<b>IT</b>	Information technology
<b>STI</b>	Service des technologies de l'information
<b>TCEP</b>	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 boroughs<sup>1</sup> and #70150 – Replacement of the City’s web portal);
- 2 projects under \$200 thousand: (#68305.05 – Update of the SÉCI application<sup>2</sup> and #78010 – Implementing a corporate Wi-Fi<sup>3</sup>);
- 2 projects that use the “Agile<sup>4</sup>” 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 – Airwatch<sup>5</sup>).

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.

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

<sup>2</sup> Electronic ticketing system (SÉCI).

<sup>3</sup> Redesign of the open data portal.

<sup>4</sup> Iterative and collaborative approach used in project management.

<sup>5</sup> 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.

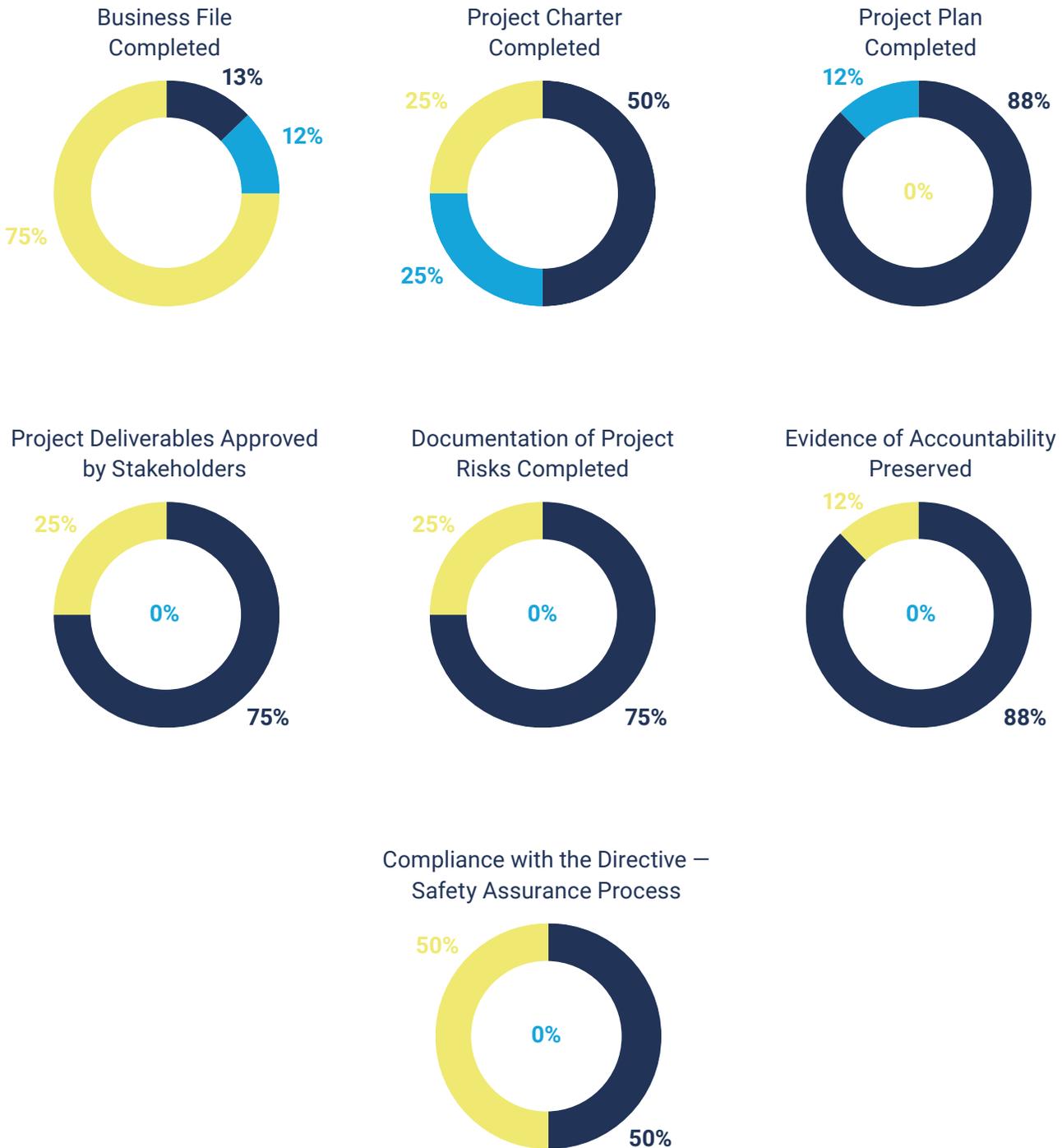
##### 4. Stakeholder Training

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

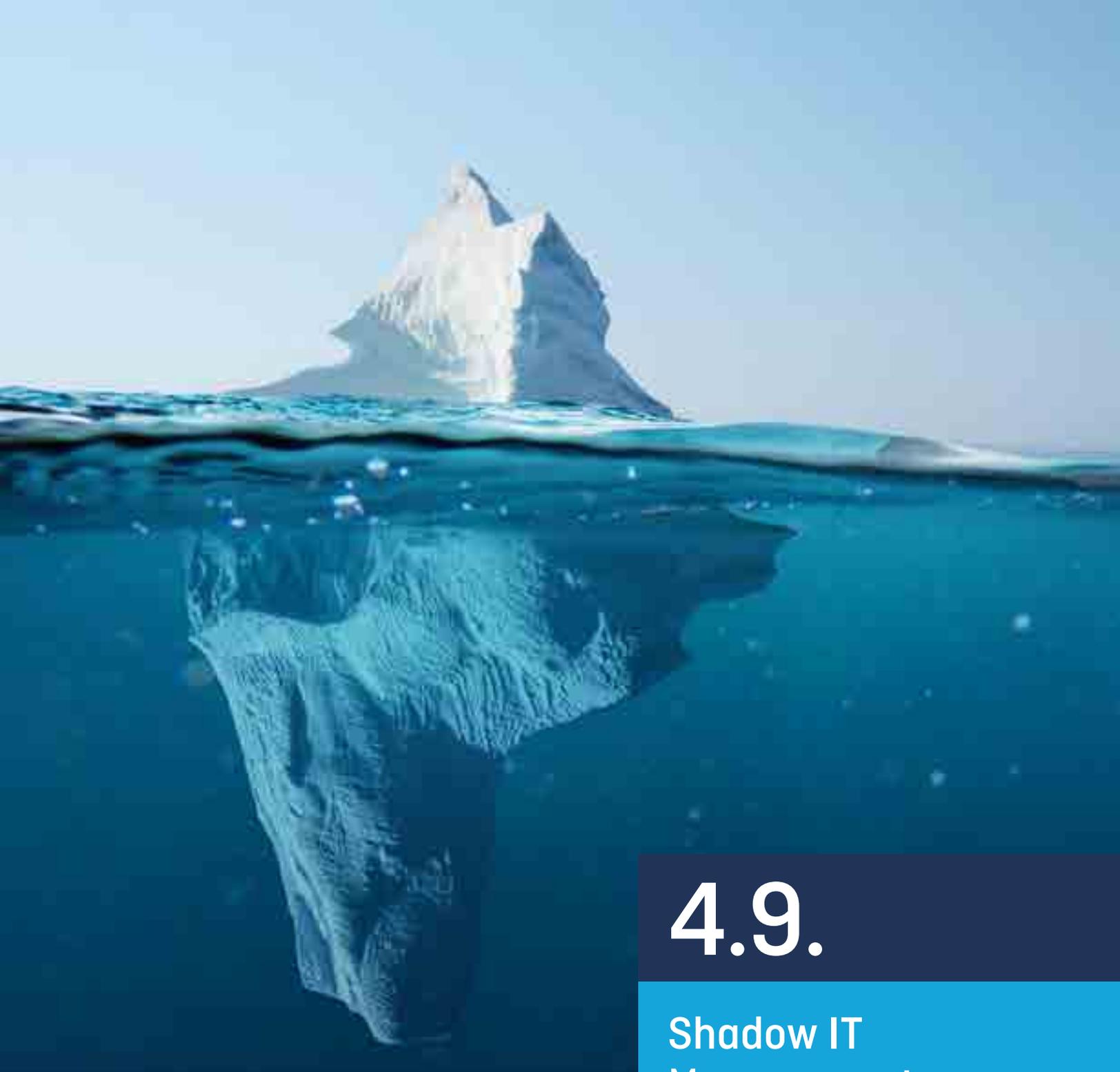
The BdP has documented an IT project planning process that complies with sound practices. A capacity management process has been documented, approved and disseminated.

## 5.2. Project Management Statistics at the City<sup>6</sup>



● Yes   
 ● No   
 ● Partial

<sup>6</sup> Distribution based on the eight projects in our sample.



# 4.9.

## Shadow IT Management

April 16, 2020

**2019 Annual Report**

Auditor General of the Ville de Montréal



# OBJECTIVE

Determine whether the control mechanisms established for Shadow IT management within the Ville de Montréal (the City) can help bring the risks of losing data confidentiality, integrity and availability down to an acceptable level.

Shadow IT is defined as the use of tools or applications unknown to the Service des technologies de l'information (STI).

# RESULTS

Based on our audit work, we conclude that the City has not established control mechanisms to ensure sound Shadow IT management. Without governance for Shadow IT management or a process for detecting any Shadow IT being produced, the City has only partial knowledge of its use by business units.

These findings, combined with the City's delay in delivering its technology projects, make it increasingly likely that business units will turn to Shadow IT solutions.

Several improvements are required in the areas of governance regulating Shadow IT management, the awareness and training strategy for Shadow IT and the process for detecting it.

Here are the main areas in which improvements are needed:

- No governance is in place for Shadow IT management to define Shadow IT, the roles and responsibilities of the stakeholders involved and security measures for dealing with it.
- The Cybersecurity awareness and training strategy, which is applicable to the City as a whole, does not place enough emphasis on aspects associated with Shadow IT.
- No process for detecting Shadow IT has been implemented.
- To date, there has been no management of Shadow IT solutions, which consists in evaluating them and then, based on the results of this evaluation, either approving or rejecting them.
- Since there is no governance to regulate Shadow IT management, there are no sound practices expected of business units on their use of Shadow IT.
- For four of the nine boroughs that use it, the GoFinance application sold by Saint-Laurent borough is not covered by a service agreement, as required by the *Charter of Ville de Montréal, metropolis of Québec*.

*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.*



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# LIST OF ACRONYMS

<b>BC</b>	borough council
<b>IT</b>	Information technology
<b>STI</b>	Service des technologies de l'information
<b>TCEP</b>	Three-year capital expenditures program



## 1. BACKGROUND

Like other large cities, organizations or companies, the Ville de Montréal (the City) is witnessing a growing number of applications, software, devices or services on its computer network, without the explicit authorization of the Service des technologies de l'information (STI). This practice is designated by the commonly used term "*Shadow IT*"<sup>1</sup>.

### 1.1. Definition of Shadow IT

In the City, management of Information technology (IT) is centralized, mainly under the STI. Shadow IT includes the use of any information system component without the knowledge of the STI. As a result, this becomes an element outside of the STI's ownership or control.

One example of Shadow IT is the use of tools or applications whose existence is unknown to the STI. But the STI cannot protect something it does not know about, which is why it is important for it to be aware of all ITs, including all applications, that are being used.

Here are a few common examples of Shadow IT:

- Collaboration tools;
- Task management tools;
- Specialized databases;
- Enterprise resource planning (ERP) tools;
- Financial analysis software;
- File transfer or data exchange solutions;
- IT projects hidden from the view of IT management.

---

<sup>1</sup> "*Shadow IT*" is a term frequently used to designate information and communication systems produced and implemented within organizations without the approval of information systems management.

In the past, Shadow IT arose from employees' desire to access specific hardware, software and Internet services without having to go through the processes required by the STI. These days, it has expanded further, offering, free of charge, a wide range of online services for which users register without taking into account potential risks to the City's computer systems and data security.

The consumerization of IT, with employees bringing popular mass market technologies into the organization, makes it easy for them to deploy technologies without the STI being aware of it.

The use of Shadow IT is generally symptomatic of users' tendency to believe that IT management does not meet their needs sufficiently and that they therefore cannot do otherwise. Their understanding of the services provided by IT management also has an effect on the practice of Shadow IT.

## **1.2. Main Advantages of Shadow IT**

In the perception of users, one of the main reasons why employees turn to Shadow IT is a desire to work more efficiently. In order to work more quickly and communicate more rapidly, they use applications, services and data sharing and storage functions without going through the IT sector because they consider this to be more efficient and less expensive. In other words, by using technologies they need without permission, employees feel they are increasing their productivity.

It is reasonable to distinguish good Shadow IT from bad Shadow IT and thereby find the right balance that allows employees to use solutions that work for them while at the same time allowing IT management to control their use through appropriate security measures.

### 1.3. Main Shadow IT Issues

According to a study by Gartner,<sup>2</sup> by 2020, one third of successful attacks encountered by companies will target their Shadow IT resources.

Gartner further stated that:

*"[...] Business units deal with the reality of the enterprise and will engage with any tool that helps them do the job. Companies should find a way to track shadow IT, and create a culture of acceptance and protection versus detection and punishment."*

In 2016, Microsoft<sup>3</sup> reported that more than 80% of employees in organizations surveyed admitted to having used IT solutions such as SaaS<sup>4</sup> cloud computing<sup>5</sup> applications without their IT management having approved them for business.

The main Shadow IT issues are as follows:

- **Security risk:** The main Shadow IT risk is a security risk. Substantive security measures are taken to protect software and hardware approved by IT sectors, which is not the case with unapproved software and hardware. The City is more at risk for successful cyberattacks targeting its Shadow IT.
- **Leakage, loss, theft or corruption of data:** Some applications, such as data sharing or storage services like Google Docs<sup>6</sup> or DropBox<sup>7</sup> can cause leakage of sensitive, strategic or financial data. This can also create a hidden gateway and result in the loss, theft or corruption of data.
- **Non-compliance:** These applications also pose a risk of non-compliance with laws and regulations such as the *Act respecting access to documents held by public bodies and the protection of personal information*.
- **Bandwidth capacity:**<sup>8</sup> Tools and applications used without the authorization of IT management can affect the bandwidth available due to increased use and prove harmful for other users.

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<sup>2</sup> Gartner, "Gartner's Top 10 Security Predictions 2016," June 15, 2016  
<https://www.gartner.com/smarterwithgartner/top-10-security-predictions-2016/>

<sup>3</sup> Microsoft, "Microsoft Cloud App Security is generally available," April 6, 2016  
<https://www.microsoft.com/security/blog/2016/04/06/microsoft-cloud-app-security-is-generally-available/>

<sup>4</sup> Software as a Service is a software distribution model in which a third-party supplier hosts applications and makes them available for its clients through the Internet.

<sup>5</sup> Cloud computing is a method of processing a client's data, to be used via the Internet in the form of services provided by a service provider.

<sup>6</sup> Internet-based word processing software and Google Office Suite.

<sup>7</sup> Online file sharing and storage service.

<sup>8</sup> Amount of information that can be sent simultaneously through a transmission line.

- **Hidden costs:** If it is not IT management that carries out the tool development, configuration and testing, users will do this during their work hours and will not be performing the tasks for which they are remunerated during this time.
- **Reputation:** The City's reputation can be greatly damaged by successful attacks targeting components not managed by IT management, and this can be accompanied by a loss of credibility and the trust of its citizens.

These risks are not always known to users, even if instances of cyberattacks and data theft are more and more present in the media.

## 2. PURPOSE AND SCOPE OF THE AUDIT

Pursuant to the provisions of the *Cities and Towns Act*, we conducted a performance audit mission on Shadow IT management. 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 determine whether the control mechanisms established for Shadow IT management within the City can help bring the risks of losing data confidentiality, integrity and availability down to an acceptable level.

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. 5.

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.

Our audit focused solely on Shadow IT applications or software tools, more specifically, those purchased or available free of charge from cloud computing. In brief, these are applications not managed by and not known to the STI that are used to meet specific needs.

We excluded from the scope of our audit hardware<sup>9</sup> that can meet the definition of Shadow IT and boroughs not managed by the STI because their IT purchases do not constitute Shadow IT.

To conduct our audit, we selected the following business units:

- Saint-Laurent borough;
- Le Plateau-Mont Royal borough;
- Mercier–Hochelaga-Maisonneuve borough;
- Côte-des-Neiges–Notre-Dame-de-Grâce borough;
- Ville-Marie borough;
- LaSalle borough;
- Le Sud-Ouest borough;
- Villeray–Saint Michel–Parc-Extension borough;
- the Service de l’environnement;
- the Service des ressources humaines;
- the Service de l’infrastructure du réseau routier;
- the STI.

Our audit work focused on the period from July 17, 2019, to January 16, 2020. It consisted in conducting interviews with staff, examining various documents and conducting surveys that we deemed appropriate to obtain the necessary evidentiary information. We also took into account information that was sent to us up to April 2020.

Upon completing our audit work, we submitted a draft audit report to managers of each audited business unit for discussion purposes. The final report was then forwarded to the Direction générale and to the management of each business unit involved in order to obtain action plans and timelines for implementing the recommendations concerning them. A copy of the final report was also submitted to the deputy director-general of the Service aux citoyens, to the deputy director-general of Mobilité et attractivité, to the deputy director-general of Qualité de vie, to the director of the Service de la concertation des arrondissements and to borough directors not directly targeted by our audit, so that they could implement recommendations when the situation justifies it.

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<sup>9</sup> The hardware could be a printer or a server, for example.

## 3. AUDIT RESULTS

### 3.1. Governance

#### 3.1.A. Background and Findings

Governance for Shadow IT management should be formally established to limit the use of applications not approved and not managed by the STI. This governance consists in defining a management framework for Shadow IT management (i.e., in the form of directives and standards) accessible to all the City's employees through its Intranet. The purpose of this management framework is to define what is meant by Shadow IT and the roles and responsibilities involved, and to put together a list of factors aimed at preventing high-risk behaviours, leaks or theft of information.

We noted that there is no management framework for Shadow IT management. The definition of this term within the STI itself varies from one resource to another. The constitution of the City, which is subdivided into boroughs, each managed by a separate borough council (BC), increases the complexity of the application of shared governance. In this context, governance is a major issue within the City.

We noted that Shadow IT management is not covered by any management framework. The STI alone is not responsible for developing a management framework for Shadow IT management, because it actually does not manage all the business units' computer systems. Governance must originate from the City's Direction Générale, which has the appropriate authority to secure the commitment of all City's business units and employees and ensure that they implement and comply with it.

Table 1 shows the profile of IT management in boroughs.

**Table 1 – Profile of IT Management in Boroughs**

<b>BOROUGHS</b>	<b>IT MANAGEMENT</b>
Ahuntsic-Cartierville	STI
Côte-des-Neiges–Notre-Dame-de-Grâce	STI
Le Plateau-Mont-Royal	STI
Le Sud-Ouest	STI
Mercier–Hochelaga-Maisonneuve	STI
Rivière-des-Prairies–Pointe-aux-Trembles	STI
Rosemont–La Petite-Patrie	STI
Ville-Marie	STI
Villeray–Saint-Michel–Parc-Extension	STI
Lachine	In the process of being transferred to the STI
LaSalle	In the process of being transferred to the STI
Pierrefonds-Roxboro	In the process of being transferred to the STI
Verdun	In the process of being transferred to the STI
Anjou	Borough
L'Île-Bizard–Sainte-Geneviève	Borough
Montréal-Nord	Borough
Outremont	Borough
Saint-Laurent	Borough
Saint-Léonard	Borough

The lack of a management framework providing formal guidelines for Shadow IT within the City makes it impossible for the STI to promote sound practices regarding its use. This situation could lead to the use of applications that are not known to, not managed by and not approved by the City's STI, as has been found to be the case in some of the business units audited.

Roles and responsibilities that are not defined, not disclosed, and not known to stakeholders in the management of Shadow IT could lead to a disparity in the right to use it, an increase in its presence, breaches of and non-compliances with its management framework. This in turn could lead to undetected security breaches, theft or loss of strategic, confidential data (e.g., personal information).

## RECOMMENDATION

**3.1.B.** We recommend that the Direction générale define governance for Shadow IT management, disseminate the associated management frameworks and keep them up to date.

## RESPONSE

**3.1.B.** *The audit report was issued to the business unit concerned between February 25 and April 15, 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 August 7, 2020.*

## 3.2. Awareness and Training

### 3.2.A. Background and Findings

An awareness and training strategy for Shadow IT increases awareness, provides training and instills behaviours that are in line with the City's guidelines in this area. The strategy helps make employees aware of potential risks related to the use of Shadow IT, such as theft, disclosure or loss of strategic or confidential information (e.g., personal information), the spread of security breaches and damage to the City's reputation. It is therefore aimed at mitigating these risks to an acceptable level for the City.

We noted that the City has a Cybersecurity awareness and training strategy, which can be consulted to gain a better understanding of Cybersecurity, recognize threats and prevent them through good habits. The STI portal of the City's Intranet has several training capsules for this purpose.

This strategy is part of a project aimed at *"Increasing employees' awareness of cybersecurity and training them: Improving users' awareness of their responsibility to comply with security frameworks and protect information assets."* However, the scope of this strategy does not include aspects associated with Shadow IT.

The Cybersecurity awareness and training strategy's lack of emphasis on the use of Shadow IT and the responsibilities that are incumbent on all employees could result in malfunctions in critical applications and breakdowns in the City's computer network arising from successful cyberattacks targeting their Shadow IT resources, and it could cause strategic, confidential data (e.g., personal information) to lose its confidentiality.

## RECOMMENDATION

**3.2.B.** We recommend that the Service des technologies de l'information add aspects associated with Shadow IT to its Cybersecurity awareness and training strategy applicable to the City as a whole.

## RESPONSE

**3.2.B.** *The audit report was issued to the business unit concerned between February 25 and April 15, 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 August 7, 2020.*

## 3.3. Shadow IT Detection

### 3.3.A. Background and Findings

Shadow IT detection consists in using manual or automated procedures for discovering the presence of Shadow IT. It is aimed at providing an accurate picture of the extent of Shadow IT use and providing assurance to the City that its computing environment consists of applications and software approved by the STI. These should be subject to significant security measures, which is generally not the case for Shadow IT applications and software.

We noted that the City does not have a process for detecting Shadow IT. In fact, no detection tool has been implemented on the City's computer network. Only one proof of concept of a Shadow IT detection product is under way, with no intent to purchase, and it has been so for more than a year. We obtained a preliminary report from the information security team on the situation regarding Shadow IT use. This report was intended as a reference source for identifying the Shadow IT solutions detected. We found, for example, cloud storage services and online document conversion services. However, its insufficient level of detail did not provide us with information on the type of data transferred or on the users of these solutions. As a result, the STI has only partial knowledge of its use by business units.

The fact that no process is in place for detecting Shadow IT could cause it to spread, leading to security breaches without the STI knowing it, and this in turn could result in the theft or loss of strategic or confidential data (e.g., personal information).

## RECOMMENDATION

**3.3.B.** We recommend that the Service des technologies de l'information introduce a process for detecting Shadow IT.

## RESPONSE

**3.3.B.** *The audit report was issued to the business unit concerned between February 25 and April 15, 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 August 7, 2020.*

## 3.4. Shadow IT Management

### 3.4.A. Background and Findings

Sound Shadow IT management consists in evaluating whether it represents the best solution, based on the risks involved, and thereby determining whether its use is appropriate or not. Following this evaluation, a decision should be made either to approve or reject this Shadow IT solution, and the corresponding subsequent measures should be taken.

We found that to date there has been no Shadow IT management, let alone a process for detecting it.

In addition, the STI has not defined a list of the permitted applications to help guide users in choosing solutions.

The absence of Shadow IT management by the STI could lead to an overabundance of Shadow IT solutions that it has not authorized. This could cause security breaches ranging up to the theft or loss of strategic or confidential data (e.g., personal information).

## RECOMMENDATION

**3.4.B.** We recommend that the Service des technologies de l'information establish a process for managing Shadow IT, subject to recommendations 3.1.B and 3.3.B.

## RESPONSE

**3.4.B.** *The audit report was issued to the business unit concerned between February 25 and April 15, 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 August 7, 2020.*

## 3.5. Use of Shadow IT by Business Units

### 3.5.A. Background and Findings

The use of Shadow IT within organizations arises from needs and requests for specific computer services for business units processes not delivered by the IT sector.<sup>10</sup> This reality requires the implementation of sound management practices regarding the use of Shadow IT by business units to prevent the emergence of risks associated with it.

Without management frameworks within the City, sound practices recommend to business units to keep an inventory of the Shadow IT used, to confirm that no equivalent product is supplied by the STI, to conduct a risk analysis before choosing a Shadow IT solution and, finally, to define action plans for mitigating the risks identified.

The establishment of these sound practices can help mitigate risks such as a loss of uniformity in the City's computer equipment and of control of strategic, confidential data.

To get an idea of the extent of their use of Shadow IT, we selected six business units:

- Le Plateau-Mont-Royal borough;
- Mercier–Hochelaga-Maisonneuve borough;
- Côte-des-Neiges–Notre-Dame-de-Grâce borough;
- The Service de l'environnement;
- The Service des ressources humaines;
- The Service de l'infrastructure du réseau routier.

During our interviews with these business units, they mentioned that they do not obtain all the services they request and expect from the STI, which does not necessarily understand their needs or their realities. For example, the use by some of them of the GoFinance application (developed and sold by Saint-Laurent borough) arises from specific needs not covered (e.g., viewing data using a Web interface, probing for financial information and monitoring expenditures). They have been awaiting the Qlik Sense application, which is supposed to fulfil these needs, for more than two years.

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<sup>10</sup> Reference: Atos, "Shadow IT: a 20% increase expected in 2015" London, March 30, 2015 [https://atos.net/fr/2015/communiqués-de-presse/communiqués-generaux\\_2015\\_03\\_30/pr-2015\\_03\\_30\\_01](https://atos.net/fr/2015/communiqués-de-presse/communiqués-generaux_2015_03_30/pr-2015_03_30_01)

Similarly, as part of another of our audit missions on the STI's Management of the Bureau de projets:

- We noted that 99 projects are provided for in the Three-year capital expenditures program (TCEP) 2020-2022, with a budget varying from \$83 million to \$89 million for each of these three years.
- Of the 41 IT projects entered in the TCEP for 2019-2021 and 2020-2022 for which a budget was required, we found that the schedules of about 50% of them were postponed by two or more years.
- The same statistic applies to the 28 IT projects entered in the TCEP that were prioritized for 2020 by the STI. In fact, 13 of these 28 prioritized projects were postponed by two or more years in the last TCEP.

These postponements in the delivery of IT projects could increase the likelihood that business units will turn to Shadow IT solutions originating from cloud computing or other applications that are not under the control of the STI.

Since the City does not have a detection process, there is no inventory that would have enabled us to determine which Shadow IT applications were used by business units. Furthermore, at meetings held at the start of our audit, the six business units selected had brought to our attention the fact that they did not know whether their employees were using Shadow IT solutions, because this concept was unknown to them due to the lack of a municipal management framework for it. As a result, none of the business units interviewed had created a Shadow IT inventory.

After explaining to them what Shadow IT is all about, we obtained their lists of Shadow IT applications that were produced manually, and based on their good faith. From an analysis of these lists, we noted the presence of applications originating from cloud computing, as well as the use of applications that were purchased or developed internally and installed locally on the City's computer systems to meet specific needs.

Table 2 shows the Shadow IT profile according to information obtained from each business unit interviewed.

Table 2 – **Shadow IT Profile According to the Information Obtained from Each Business Unit Interviewed**

<b>BUSINESS UNITS (BOROUGHES AND DEPARTMENTS)</b>	<b>SHADOW IT APPLICATION</b>	<b>INTERNET APPLICATION</b>	<b>AT-RISK APPLICATION<sup>11</sup></b>
Le Plateau-Mont-Royal	1	1	1
Côte-des-Neiges–Notre-Dame-de-Grâce	1	1	1
Mercier–Hochelaga-Maisonneuve	5	0	0
Service de l’environnement	0	N/A	N/A
Service des ressources humaines	38	10	1
Service des infrastructures du réseau routier	37	2	2
<b>TOTALS</b>	<b>82</b>	<b>14</b>	<b>5</b>

<sup>11</sup> Internet applications that may contain strategic or confidential data.

Table 3 shows the four Internet applications that may contain strategic or confidential data, the associated risks and the boroughs using them.

**Table 3 – Internet Applications That May Contain Strategic or Confidential Data, the Associated Risks and Boroughs Using Them**

INTERNET APPLICATIONS THAT MAY CONTAIN STRATEGIC OR CONFIDENTIAL DATA	TYPE OF RISK	BOROUGHS USING THEM
<p><b>Asana</b> <b>Project monitoring tool.</b></p> <p>Example of data: working documents, information on the major deliverables of a project, breakdown of projects, tasks to be executed.</p>	<ul style="list-style-type: none"> <li>• Security risk;</li> <li>• Leakage, theft or corruption of data on deliverables and on the breakdown of a project;</li> <li>• Reputation.</li> </ul>	<ul style="list-style-type: none"> <li>• Côte-des-Neiges–Notre-Dame-de-Grâce;</li> <li>• Service des ressources humaines.</li> </ul>
<p><b>DropBox</b> <b>Document filing tool.</b></p> <p>Example of data: documents of consultants and contractors, videos, photos, plans.</p>	<ul style="list-style-type: none"> <li>• Security risk;</li> <li>• Leakage, theft or corruption of data on the working documents of consultants;</li> <li>• Reputation.</li> </ul>	<ul style="list-style-type: none"> <li>• Service des infrastructures du réseau routier.</li> </ul>
<p><b>Monday</b> <b>Project resource planning tool.</b></p> <p>Example of data: project progress, statements of work completed and expenditures made serving as a basis for payments to be made to the contractor.</p>	<ul style="list-style-type: none"> <li>• Security risk;</li> <li>• Leakage, theft or corruption of data on statements of work completed and expenditures made;</li> <li>• Reputation.</li> </ul>	<ul style="list-style-type: none"> <li>• Service des infrastructures du réseau routier.</li> </ul>
<p><b>Trello</b> <b>Project management tool used to simplify collaboration.</b></p> <p>Example of data: task management charts, geolocation data (mainly addresses), attached documents, photos, videos.</p>	<ul style="list-style-type: none"> <li>• Security risk;</li> <li>• Leakage, theft or corruption of data on attached documents;</li> <li>• Reputation.</li> </ul>	<ul style="list-style-type: none"> <li>• Le Plateau-Mont-Royal.</li> </ul>

As a result of the lack of a management framework and a specific awareness and training strategy for Shadow IT, business units do not have the knowledge or skills needed to implement the sound management practices expected of them.

Improper use of Shadow IT by business units could result in risks, such as loss of uniformity in the City's computer equipment and security breaches with an impact on the confidentiality and integrity of strategic, confidential data.

### **RECOMMENDATION**

**3.5.B.** We recommend that Le Plateau-Mont-Royal, Côte-des-Neiges–Notre-Dame-de-Grâce, Mercier–Hochelaga-Maisonneuve boroughs, the Service des ressources humaines and the Service des infrastructures du réseau routier, pending the implementation of recommendations 3.1.B and 3.2.B:

- keep their Shadow IT inventory up to date;
- confirm that no equivalent product is supplied by the Service des technologies de l'information;
- conduct a risk analysis before deciding on a Shadow IT solution;
- establish action plans to mitigate the risks identified.

### **RESPONSE**

**3.5.B.** *The audit report was issued to the business units concerned between February 25 and April 15, 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 August 7, 2020.*

## RECOMMENDATION

**3.5.C.** We recommend that the Service des technologies de l'information, pending the implementation of recommendations 3.1.B and 3.2.B, support business units and increase their awareness for the purpose of:

- keeping their Shadow IT inventory up to date;
- confirming that no equivalent product is supplied by the Service des technologies de l'information;
- conducting a risk analysis before deciding on a Shadow IT solution;
- establishing action plans to mitigate the risks identified.

## RESPONSE

**3.5.C.** *The audit report was issued to the business unit concerned between February 25 and April 15, 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 August 7, 2020.*

## 3.6. Service Agreement for the Sale of Applications by a Borough

### 3.6.A. Background and Findings

The *Charter of Ville de Montréal, metropolis of Québec* (hereinafter the City's charter) requires that a service agreement be developed for the sale of applications by a borough to another borough. Section 85.1 stipulates that:

*"A borough council may, on the conditions it determines, provide to the council of another borough any service related to one of its jurisdictions. The resolution offering such a provision of service becomes effective on the adoption of a resolution accepting the offer."*

So, the conclusion of a service agreement between two boroughs requires that a resolution be passed by each BC. The adoption of these resolutions is proof of the conclusion of the service agreement between the two boroughs.

A borough that has developed an application internally for its own needs can use it by virtue of section 144 of the City's charter, which is worded as follows:

*"The borough council is responsible for the management of the borough budget adopted by the city council [...]."*

We noted that Saint-Laurent borough sold the GoFinance application it developed to nine of the City’s boroughs. According to information obtained from boroughs, this application was meeting real needs not served by the STI. In fact, the GoFinance application can be used to view data in the SIMON accounting system through an interface accessible from a Web browser. It helps probe for financial information on the operating budget, invoices and purchase orders issued to suppliers and the TCEP project expenditures for the last five years.

Saint-Laurent borough sells the GoFinance application for \$50,000 and charges annual fees of \$10,000 for support.

Table 4 lists the ten boroughs that use the GoFinance application.

**Table 4 – List of the Ten Boroughs That Use the GoFinance Application**

<b>BOROUGHS</b>	<b>UNDER STI MANAGEMENT</b>
Côte-des-Neiges–Notre-Dame-de-Grâce	Yes
Le Plateau-Mont-Royal	Yes
Le Sud-Ouest	Yes
Mercier–Hochelaga-Maisonneuve	Yes
Ville-Marie	Yes
Villeray–Saint-Michel–Parc-Extension	Yes
LaSalle	In Progress
Pierrefonds-Roxboro	In Progress
Saint-Laurent	No
Saint-Léonard	No

We consider GoFinance to be a Shadow IT application, because eight of the boroughs under the control of the STI use it without having informed the department about it beforehand.

With respect to the proposed service partnership agreement and the BC resolutions required to establish a service agreement, Table 5 presents our findings for the nine boroughs that purchased the GoFinance application.

**Table 5 – Boroughs That Purchased the GoFinance Application**

<b>BOROUGHS</b>	<b>PROPOSED SERVICE PARTNERSHIP AGREEMENT (SAINT-LAURENT BOROUGH)</b>	<b>BOROUGH COUNCIL RESOLUTION TO SELL (SAINT-LAURENT BOROUGH)</b>	<b>BOROUGH COUNCIL RESOLUTION TO PURCHASE</b>
Côte-des-Neiges–Notre-Dame-de-Grâce	Yes	Yes	Yes
LaSalle	Yes	Yes	Yes
Le Plateau-Mont-Royal	No	No	No
Le Sud-Ouest	No	No	No
Mercier–Hochelaga-Maisonneuve	No	No	No
Ville-Marie	Yes	Yes	Yes
Villeray–Saint-Michel–Parc-Extension	No	No	No
Pierrefonds-Roxboro	Yes	Yes	Yes
Saint-Léonard	Yes	Yes	Yes
<b>TOTALS</b>	<b>5</b>	<b>5</b>	<b>5</b>

So, although nine boroughs purchased the GoFinance application, only five of them, Côte-des-Neiges–Notre-Dame-de-Grâce, LaSalle, Ville-Marie, Pierrefonds-Roxboro and Saint-Léonard, have the proposed service partnership agreement with Saint-Laurent borough and have adopted the BC resolutions of the stakeholders involved in accordance with the City’s charter.

The fact that there is no duly completed proposal for a service partnership agreement and that no BC resolutions were passed by boroughs is in violation of the City’s charter. Furthermore, the fact that there is no accountability reporting on this situation would prevent elected officials, management and the City’s business units from being aware of its existence.

## RECOMMENDATION

**3.6.B.** We recommend that Saint-Laurent borough, as part of the sale of its GoFinance application:

- define a proposed service partnership agreement and submit it to purchasing boroughs;
- present a resolution to its borough council to have it adopted.

## RESPONSE

**3.6.B.** *The audit report was issued to the business unit concerned between February 25 and April 15, 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 August 7, 2020.*

## RECOMMENDATION

**3.6.C.** We recommend that the boroughs of Le Plateau-Mont-Royal, Le Sud-Ouest, Mercier–Hochelaga-Maisonneuve and Villeray–Saint-Michel–Parc-Extension, as part of the purchase of the GoFinance application:

- make sure they obtain the proposed service partnership agreement with Saint-Laurent borough;
- present a resolution to its borough council to have it adopted.

## RESPONSE

**3.6.C.** *The audit report was issued to the business units concerned between February 25 and April 15, 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 August 7, 2020.*

## 4. CONCLUSION

Based on our audit work, we conclude that the Ville de Montréal (the City) has not established control mechanisms to ensure sound Shadow IT management. Without governance for Shadow IT management or a process for detecting any Shadow IT being produced, the City has only partial knowledge of its use by business units.

These findings, combined with the City's delay in delivering its Information technology (IT) projects, make it increasingly likely that business units will choose solutions other than those offered by the Service des technologies de l'information (STI), in other words, Shadow IT solutions.

In fact, we find significant improvements need to be made in the areas of a management framework for Shadow IT management, an awareness and training strategy for dealing with Shadow IT and a process for detecting it.

More specifically, here is a breakdown according to the following evaluation criteria:

### **Evaluation Criterion – Governance**

The City does not have a management framework for the main strategic guidelines for managing Shadow IT.

The STI is therefore unable to promote sound practices concerning the use of Shadow IT, to ensure that business units have a uniform understanding of it or to develop and implement requirements needed for the establishment of minimum controls.

Roles and responsibilities related to this process have not been formally defined.

### **Evaluation Criterion – Awareness and Training**

The City has a Cybersecurity awareness and training strategy. However, because of the limited scope of this strategy, not enough emphasis is placed on aspects associated with Shadow IT.

### **Evaluation Criterion – Detection of Shadow IT**

The City does not have a process for detecting Shadow IT. No Shadow IT detection product has been officially implemented on the City's computer network. Only one proof of concept of a detection product is under way, with no intent to purchase. At this point, the STI has no detailed report on the use of Shadow IT in the City.

### **Evaluation Criterion – Shadow IT Management**

No Shadow IT management has been established to evaluate the risks associated with Shadow IT solutions being produced in the City and, based on the results of this evaluation, to approve or reject these solutions.

### **Evaluation Criterion – Use of Shadow IT by Business Units**

While five of the six business units in our sample use Shadow IT applications, there are no sound practices expected of business units in their use of Shadow IT in place. As a result, there is no governance for Shadow IT management and no awareness and training strategy for dealing with this issue.

### **Evaluation Criterion – Service Agreement for the Sale of an Application by a Borough**

GoFinance, which is a Shadow IT application developed by Saint-Laurent borough, was sold to nine of the City's boroughs. Only five of them comply with the requirements of the City's charter.

## 5. APPENDIX

### 5.1. Objective and Evaluation Criteria

#### Objective

Determine whether the control mechanisms established for Shadow IT management within the City can help bring the risks of losing data confidentiality, integrity and availability down to an acceptable level.

#### Evaluation Criteria

##### Criterion 1: Governance

The City has an existing management framework for Shadow IT to define the safety requirements, the inclination to adopt it and the acceptable use for Shadow IT.

The roles and responsibilities of the stakeholders involved in managing Shadow IT are defined, disclosed and known to them.

##### Criterion 2: Awareness and Training

Citywide awareness of Shadow IT for all municipal employees is incorporated in the training and awareness strategy.

Shadow IT training is given to targeted specialized staff.

##### Criterion 3: Shadow IT Detection

Processes are in place within the City to discover the use of Shadow IT quickly. These processes involve:

- reviewing unauthorized applications and software identified by discovery tools;
- monitoring network traffic to detect and review unapproved IT solutions;
- recording calls made to the technical assistance department and related incidents to detect and analyze systems that are not in the IT inventory.

#### **Criterion 4: Shadow IT Management**

Shadow IT solutions are evaluated on the basis of risks to determine whether their use is appropriate for the City.

Shadow IT solutions are approved or rejected by a competent authority.

Shadow IT solutions are classified based on the results of a risk assessment, and existing solutions are examined periodically as part of the risk assessment process.

Following the assessment, action is taken either to accept the Shadow IT solution and mitigate the associated risk or to reject it.

These actions consist in:

- listing detailed information on Shadow IT solutions in the IT inventory;
- defining the minimum controls required according to the classification of each Shadow IT solution;
- blocking Shadow IT solutions that were rejected and replacing them in a timely manner with endorsed applications.

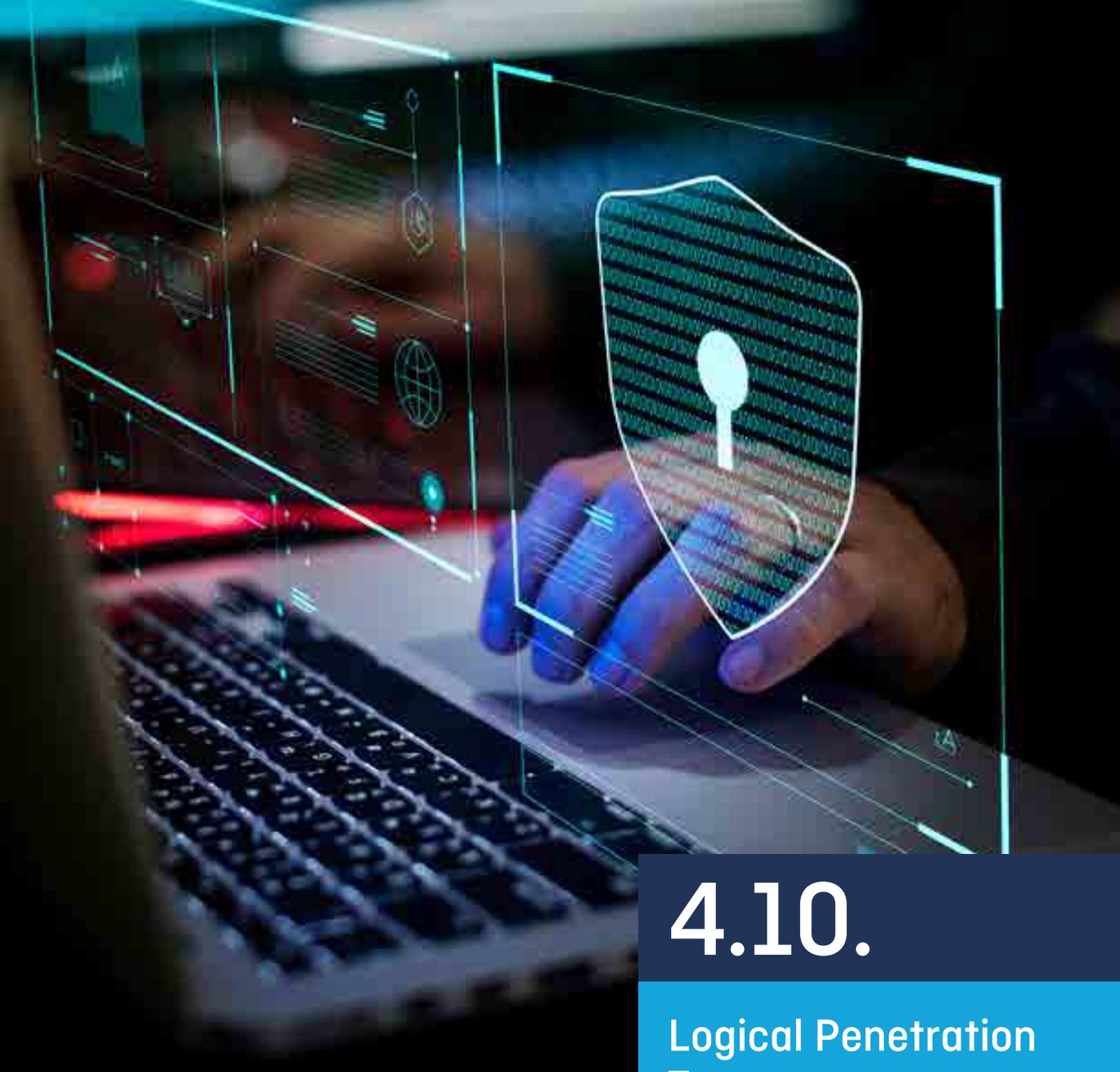
#### **Criterion 5: Use of Shadow IT by Business Units**

- Business units keep their Shadow IT inventory up to date.
- Business units make sure that no equivalent product is supplied by the STI.
- Business units conduct a risk analysis before choosing a Shadow IT solution and define action plans to mitigate the risks identified.

#### **Criterion 6: Service Agreement for the Sale of Applications by a Borough**

Service agreements exist for each application sold by a borough.





# 4.10.

## Logical Penetration Tests

**2019 Annual Report**

Auditor General of the Ville de Montréal



## BACKGROUND

Several Ville de Montréal (the City) business units and some organizations controlled by the City have systems through which critical and confidential information passes.

To have effective security measures to adequately protect information systems against cyberattacks, the industry strongly recommends that logical penetration tests be used to test the strength of controls applied in various computer environments. According to information security experts, testing information systems' resistance to internal or external penetration attempts is a key issue.

Logical penetration tests simulate real attacks on technology infrastructures. To this end, they implement, in a controlled and secure replications of malicious steps taken by hackers to break into systems and networks, either from the Internet or internally, in order to better detect potential flaws in information systems, networks or software and strengthen information security. Unlike hacker penetration attempts, logical penetration tests are legal because the audited entities provide their consent before testing is started. Specialists generally use the same tools and techniques as hackers do. The difference is that they do not damage information systems, make them unavailable, or alter the information handled by them and do not steal confidential information. The attacked systems' integrity, confidentiality and availability are maintained during tests.

There are two main types of logical penetration tests:

- **External logical penetration tests:** they reveal whether a hacker could use the Internet to compromise the security of information systems to:
  - obtain confidential or privileged information;
  - alter the information handled by these systems;
  - make information systems unavailable.
- **Internal logical penetration tests:** they can determine whether a person could use the internal system with his usual access rights to compromise the security of the information systems and perform the same three actions defined for external tests. Internal testing is also used to access and test information systems that are invisible from the Internet.

## **PURPOSE AND SCOPE OF THE AUDIT**

We performed logical penetration tests throughout 2019. The main objective of this engagement was to test the security of IT environments considered critical in order to qualify their resistance to certain levels of attacks.

For obvious security reasons, in this annual report we cannot disclose the details of the target systems and the results of our logical penetration tests. Moreover, the business units concerned would have implemented appropriate action plans to address any deficiencies we would have noted.



# 5.

## Follow-Up on Recommendations of Previous Years

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## **5. FOLLOW-UP ON RECOMMENDATIONS OF PREVIOUS YEARS**

The percentage of recommendations made by the Bureau du vérificateur général (BVG) that have led to concrete measures is an essential indicator in ensuring that central departments and boroughs implement their recommendations.

The BVG's policy is to follow up on the recommendations in the year following their publication in the annual report.

In fiscal 2019, the City's Comptroller General established mechanisms for following up on recommendations with a view to monitoring the measures taken by business units to promote the implementation of action plans as promptly as possible. In particular, reminders of timelines and overdue notices were issued. The Audit Committee also introduced measures to accelerate the implementation of recommendations issued by the BVG that were getting off to a slow start. As of 2020, further mechanisms have yet to be implemented. The year 2019 was also a transition period for both the BVG and the Comptroller General.

## Results of Follow-Up to Recommendations – Performance Audit and Information Technology Audit

The results of follow-up to the recommendations made in the 2014–2018 annual reports are presented in Table 1.

Table 1 – **Results of Follow-Up to Recommendations by Status  
Performance and Information Technology Audit  
As of March 23, 2020**

STATUS OF RECOMMENDATIONS	NUMBER OF RECOMMENDATIONS PER YEAR					
	2014	2015	2016	2017	2018	TOTAL
Resolved	336	293	70	116	56	871
In progress	37	33	25	67	87	249
Deferred	9	3	1	13	16	42
Not resolved	11	0	3	0	0	14
To be implemented <sup>[a]</sup>	0	1	1	14	50	66
<b>TOTAL NUMBER OF RECOMMENDATIONS MADE</b>	<b>393</b>	<b>330</b>	<b>100</b>	<b>210</b>	<b>209</b>	<b>1,242</b>

<sup>[a]</sup> These recommendations have not been followed up by the business units concerned.

We note that recommendations whose status is “resolved” in the first year of follow-up after their publication in the Auditor General’s annual report represent 27% (56/209) for those of 2018 (32% for those of 2017) – (see Figures 1 and 2).

Recommendations whose status is “resolved” in the second year of follow-up after their publication represent 55% (116/210) for those of 2017 (60% for those of 2016) – (see Figures 3 and 4).

Recommendations whose status is “resolved” in the third year of follow-up represent 70% (70/100) for those of 2016 (81% for those of 2015) – (see Figures 5 and 6).

## Figures 1 and 2 – Recommendations Rate of 2018 and 2017 by Status Performance and Information Technology Audit 1st Year of Follow-Up

Figure 1 - 2018 Recommendations  
1st Year of Follow-Up

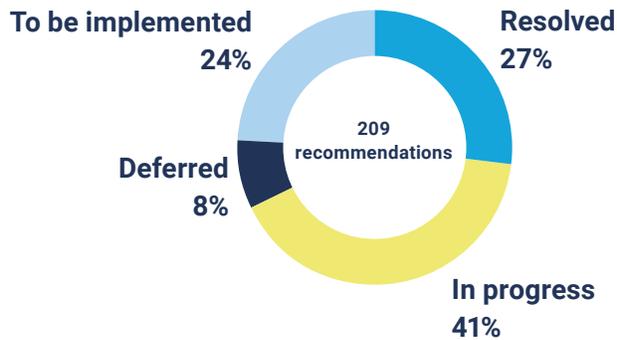
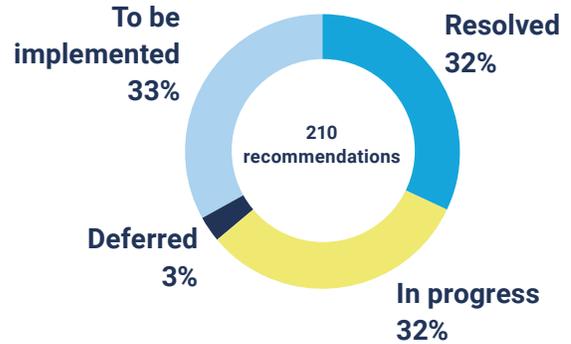


Figure 2 - 2017 Recommendations  
1st Year of Follow-Up



## Figures 3 and 4 – Recommendations Rate of 2017 and 2016 by Status Performance and Information Technology Audit 2nd Year of Follow-Up

Figure 3 - 2017 Recommendations  
2nd Year of Follow-Up

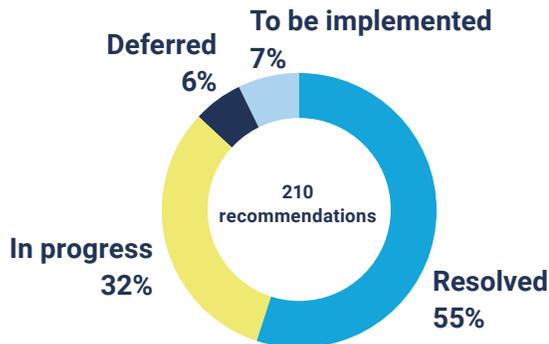
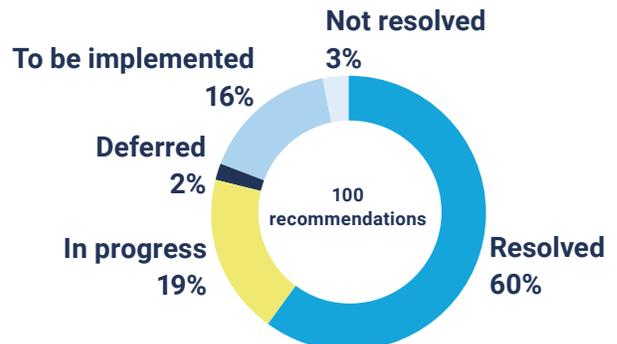


Figure 4 – 2016 Recommendations  
2nd Year of Follow-Up



## Figures 5 and 6 – Recommendations Rate of 2016 and 2015 by Status Performance and Information Technology Audit 3rd Year of Follow-Up

Figure 5 – 2016 Recommendations  
3rd Year of Follow-Up

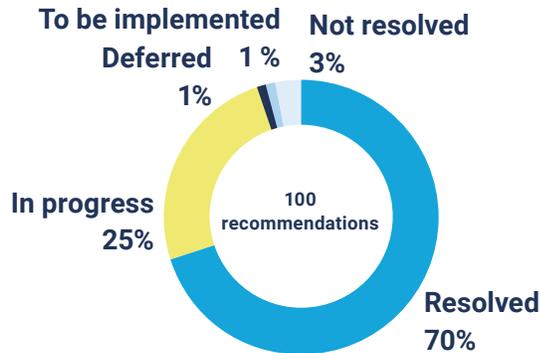
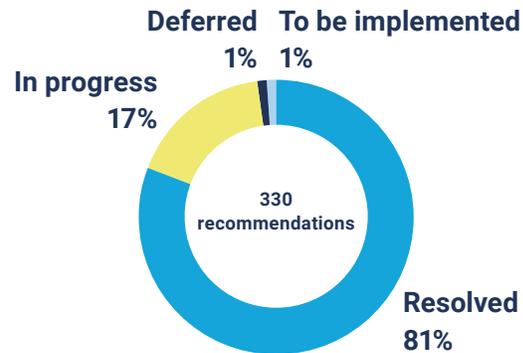


Figure 6 – 2015 Recommendations  
3rd Year of Follow-Up



### Additional Notes to the Results of Recommendations Follow-Up

The objective of our follow-up work is to ensure that business units undertake measures to implement the action plans they have provided, within the planned implementation schedule. In this context, it is expected that business units will ensure a rigorous response to the BVG's recommendations while following up on the implementation of action plans for these recommendations at the appropriate time.

According to the action plans of business units for the 2018, 2017 and 2016 recommendations, the scheduled implementation times ranged from 0 to just over 36 months. Table 2 presents the change in the percentage of recommendations over time that the BVG has confirmed to be resolved, based on the completion date initially planned by the business units in question for those recommendations.

Table 2 – **Resolution Rate of Recommendations Formulated in 2018, 2017 and 2016 as of March 23, 2020**

PERIOD OF IMPLEMENTATION OF THE RECOMMENDATIONS	RECOMMENDATIONS MADE IN 2018		RECOMMENDATIONS MADE IN 2017		RECOMMENDATIONS MADE IN 2016	
	PLANNED	ACTUAL	PLANNED	ACTUAL	PLANNED	ACTUAL
	PERCENTAGE OF RECOMMENDATIONS SETTLED BY BUSINESS UNITS	PERCENTAGE OF RECOMMENDATIONS SETTLED ACCORDING TO THE BVG	PERCENTAGE OF RECOMMENDATIONS SETTLED BY BUSINESS UNITS	PERCENTAGE OF RECOMMENDATIONS SETTLED ACCORDING TO THE BVG	PERCENTAGE OF RECOMMENDATIONS SETTLED BY BUSINESS UNITS	PERCENTAGE OF RECOMMENDATIONS SETTLED ACCORDING TO THE BVG
0–12 months	168 (80%)	56 (27%)	143 (68%)	67 (32%)	78 (78%)	41 (41%)
Cumulative 0–24 months	197 (94%)	N/A <sup>[a]</sup>	191 (91%)	116 (55%)	92 (92%)	60 (60%)
Cumulative 0–36 months	203 (97%)	N/A <sup>[a]</sup>	206 (98%)	N/A <sup>[a]</sup>	100 (100%)	70 (70%)
Cumulative >36 months	209 (100%)	N/A <sup>[a]</sup>	210 (100%)	N/A <sup>[a]</sup>	100 (100%)	N/A <sup>[a]</sup>

<sup>[a]</sup> Implementation date not yet due, as of the date of this report.

## Figures 7, 8 and 9 – Resolution Rate of Recommendations Resolved in 2018, 2017 and 2016 as of March 23, 2020

Figure 7 - Resolution Rate of Recommendations Resolved Formulated in 2018 as of March 23, 2020  
1st Year of Follow-Up

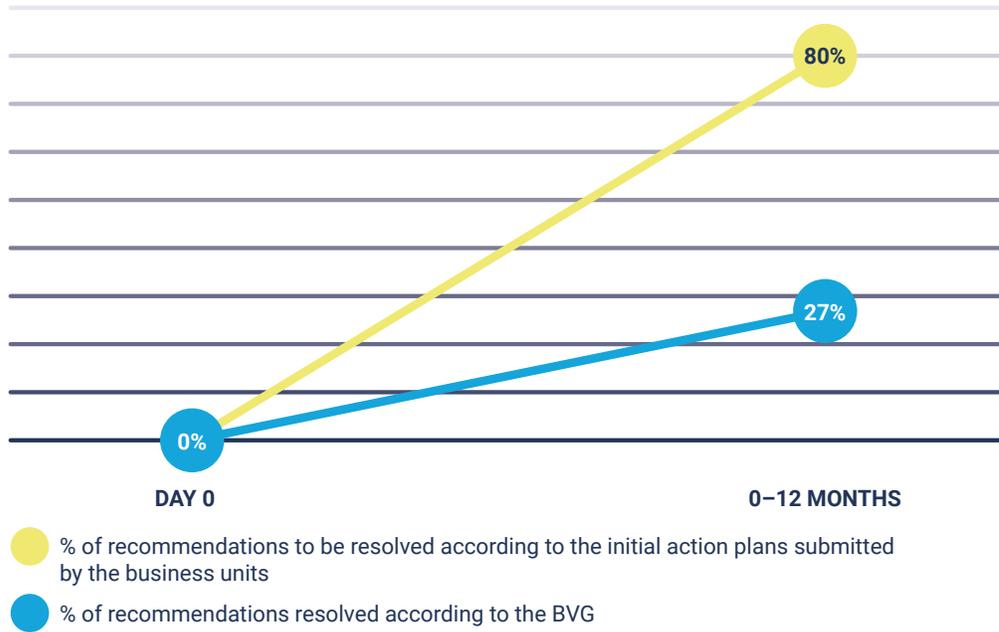


Figure 8 - Resolution Rate of Recommendations Resolved Formulated in **2017** as of March 23, 2020  
2nd Year of Follow-Up

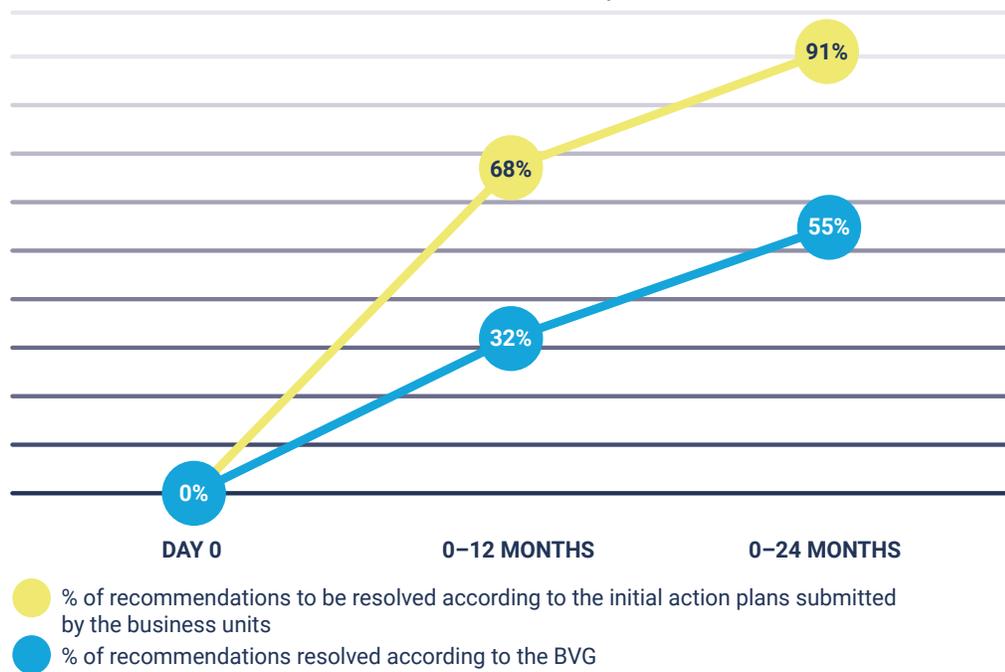
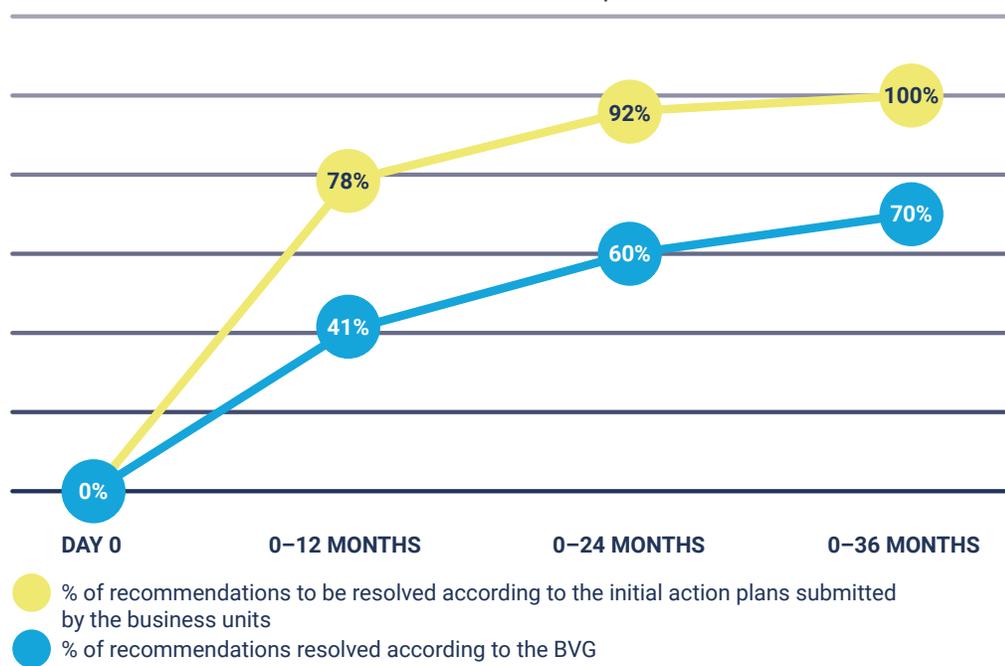


Figure 9 - Resolution Rate of Recommendations Resolved Formulated in **2016** as of March 23, 2020  
3rd Year of Follow-Up



In short, as of March 23, 2020, for the 2018 recommendations subject to their first year of follow-up, we note that 27% were resolved within 0 to 12 months compared to the anticipated rate of 80% given in the action plans provided by the business units.

As for the 2017 recommendations, which were subject to their second year of follow-up, 55% were resolved within 0 to 24 months compared to the anticipated rate of 91% for the same period.

As for 2016 recommendations, which were subject to their third year of follow-up, 70% were resolved within 0 to 36 months compared to the anticipated rate of 100% for the same period.

Furthermore, for several recommendations, our follow-up work revealed that business units have either not undertaken sufficient measures to implement the recommendations or have not been able to show their implementation status.

In fact, we note the following:

- 77 of the recommendations that were made from 2014 to 2018 that had been considered resolved by business units, of which 34 were formulated in 2018, had to be assigned an “in progress” status, either because no proof was provided of the measures undertaken or because the measures introduced did not meet the recommendations;
- 28 of the recommendations made for 2016 (1), 2017 (6) and 2018 (21), for which the initially scheduled implementation date is expired, still have the status “to be implemented,” indicating that the business units concerned have taken no action regarding their implementation.

## Results of Follow-Up To Recommendations – Audit of Financial Statements

The results of follow-up to recommendations made in the 2014 to 2018 reports on internal control weaknesses are presented in Table 3.

**Table 3 – Results of Follow-Up to Recommendations by Status  
Financial Statements Audit As of March 23, 2020**

STATUS OF RECOMMENDATIONS	NUMBER OF RECOMMENDATIONS PER YEAR					
	2014	2015	2016	2017	2018	TOTAL
Resolved	6	9	13	5	1	34
In progress	0	3	5	10	11	29
Deferred	0	0	0	0	0	0
Not resolved	0	0	2	0	0	2
To be implemented <sup>[a]</sup>	0	0	0	0	1	1
<b>TOTAL OF RECOMMENDATIONS MADE</b>	<b>6</b>	<b>12</b>	<b>20</b>	<b>15</b>	<b>13</b>	<b>66</b>

<sup>[a]</sup> These recommendations have not been followed up by the business units concerned.

We note that recommendations whose status is “resolved” in the first year of follow-up after their publication in the report on internal control weaknesses for the Ville de Montréal (the City) presented to the City’s audit committee represent 8% for those of 2018 (20% for those of 2017) – (see Figures 10 and 11).

Recommendations whose status is “resolved” in the second year of follow-up after their publication represent 33% for those of 2017 (55% for those of 2016) – (see Figures 12 and 13).

Recommendations whose status is “resolved” in the third year of follow-up represent 65% for those of 2016 (67% for those of 2016) – (see Figures 14 and 15).

Figures 10 and 11 – **Recommendations Rate of 2018 and 2017 by Status  
Financial Statements Audit  
1st Year of Follow-Up**

Figure 10 - 2018 Recommendations  
1st Year of Follow-Up

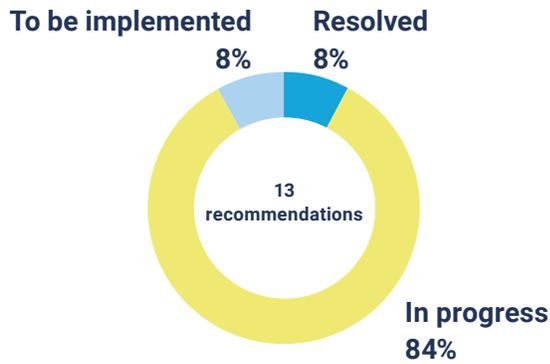
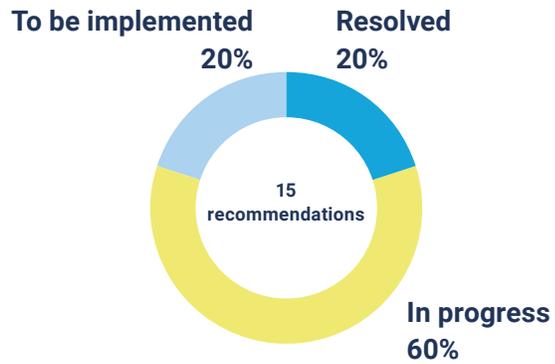


Figure 11 - 2017 Recommendations  
1st Year of Follow-Up



Figures 12 and 13 – **Recommendations Rate of 2017 and 2016 by Status  
Financial Statements Audit  
2nd Year of Follow-Up**

Figure 12 - 2017 Recommendations  
2nd Year of Follow-Up

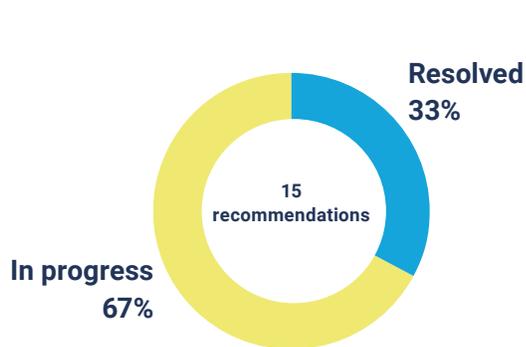
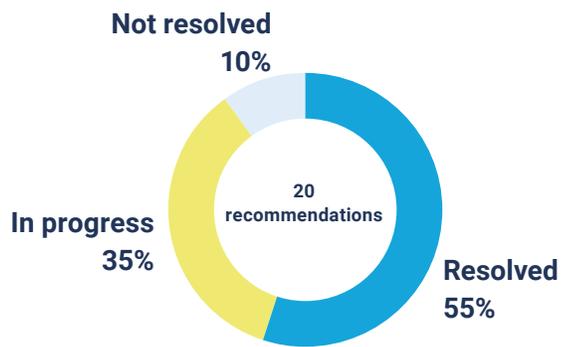


Figure 13 - 2016 Recommendations  
2nd Year of Follow-Up



## Figures 14 and 15 – Recommendations Rate of 2016 and 2015 by Status Audit of Financial Statements 3rd Year of Follow-Up

Figure 14 - 2016 Recommendations  
3rd Year of Follow-Up

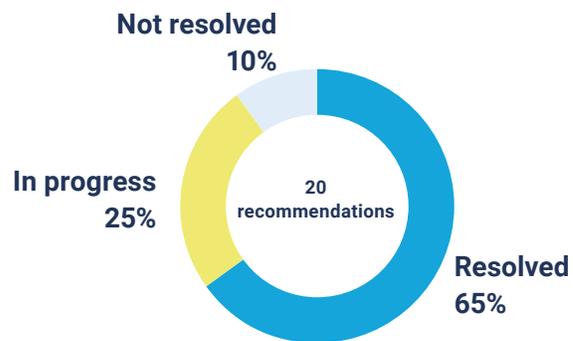


Figure 15 - 2015 Recommendations  
3rd Year of Follow-Up



## CONCLUSION

As with the financial statements audit, we note that the implementation rate of recommendations of the performance and information technology audit has not increased in the past three years.

More specifically, for the performance and information technology audit, apart from the fact that the implementation rate of recommendations was not reached within the scheduled time by business units, we note that after the first year of follow-up, the percentage of resolved recommendations has been decreasing since 2016, dropping to 41% for 2016, to 32% for 2017 and to 27% for 2018.

Moreover, we are confident that in fiscal 2020, when all the control mechanisms have been implemented by the Comptroller General, the implementation rate of recommendations should improve.

In the light of the results observed, we encourage the municipal administration to pursue its efforts to promote the implementation of recommendations by business units. We repeat our recommendation that the municipal administration establish performance indicators to measure the extent to which the recommendations included in the Auditor General's audit reports have been implemented, and to follow up on them.



# 6.

## Special Mandate for Auditing the Pre-Election Report – Follow-Up

**2019 Annual Report**

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## 6. SPECIAL MANDATE FOR AUDITING THE PRE-ELECTION REPORT – FOLLOW-UP

### 6.1. Introduction

In August 2019, we received a special request from city council to audit the pre-election report that will be produced by the municipal administration in June 2021 and to submit our report no later than September 23, 2021. The mandate is granted under section 107.12 of the *Cities and Towns Act* (CTA), which provides that:

*“The chief auditor shall, every time the council so requests, investigate and report on any matter within the competence of the chief auditor. In no case, however, may the investigation take precedence over the primary responsibilities of the chief auditor.”*

As specified in the background of the 2020 budget, the *“pre-election report will be an additional budget transparency tool to be used in the 2021–2022 budget process.”*

To audit this new budget transparency tool, which the City wants to use for the next municipal election, the Auditor General of the Ville de Montréal will need to take all the necessary precautions to ensure that this mandate does not impede the fulfilment of her main obligations, while maintaining her independence. It is also important to remember that all certification work carried out by the Bureau du vérificateur général (BVG) of the Ville de Montréal is carried out in accordance with the Canadian Standard on Assurance Engagements issued by the Auditing and Assurance Standards Board of CPA Canada.

### 6.2. History of the Issue

#### Period Preceding City Council’s Request

In early January 2018, the municipal administration publicly announced its desire to introduce a pre-election report on the state of finances of the Ville de Montréal (the City) and to mandate the City’s Auditor General to produce a certification report on this issue. We were then given a verbal request to evaluate the possibility of producing such a certification report and the impacts of such a mandate for the BVG.

We promptly began the analytical process, and on January 19, 2018, we sent the municipal administration a confidential memo explaining the potential impacts of this request and clearly stating that this would be a long-term endeavour extending over the next three and a half years and not just a project involving a few weeks of work in 2021. In this memo, we also stated that this report would not be an opinion on budget forecasts and that the actual result could differ from the anticipated result. Finally, we stated in the memo that any special request to the City's Auditor General must go through city council (section 107.12 of the CTA) and that the request must not interfere with the Auditor General's main obligations.

Over the next 17 months, a series of meetings was organized with the City's different stakeholders, and follow-up work was undertaken to confirm the City's intention to pursue this issue. Over and over again, the City reiterated to us its desire to do this, but no progress was made.

A follow-up to this possible mandate was also presented at various audit committee meetings held in 2018 and 2019, at which we explained that city council must make a request for this purpose, that this mandate was over and above the main obligations of the City's Auditor General as prescribed by the CTA, and that the model of the report that the municipal administration will produce is essential information before a proper evaluation of the ramifications of this issue for the BVG can be undertaken. Moreover, recommendations were made to this effect in the 2018 report that the audit committee submitted to the authorities. In March 2019, the audit committee also convened a meeting with about sixty participants, including members of the audit committees of para-municipal bodies, at which the Auditor General of Québec and the principal audit manager delivered a presentation on the pre-election report's mandate.

In the 2018 annual report, which was submitted on June 17, 2019, to city council, the City's Auditor General addressed this issue by pointing out that even though the City still wishes to produce such a report, city council's request to give the Auditor General a special mandate for this purpose had not been adopted, that the model for this report had still not been developed, that significant analytical work would be required to be able to complete the audit without jeopardizing her main obligations as stipulated under the CTA and that resources would need to be dedicated to it and specialists would need to be hired. In addition, the City's Auditor General had reported, at a meeting with the audit committee and the Committee on Public Finance held on June 19, 2019, that the deadline for receiving the content of the pre-election report was September 30, 2019. This date was also reiterated in the preliminary schedule that we submitted to the City on July 11, 2019.

Concurrently with all these steps, even though we have not received an official request from city council, we have undertaken an audit mandate on the major budget processes so that we can define the controls on which we can rely as well as report our findings to the municipal administration concerning what needs to be improved in order for us to be able to produce a certification report.

## City Council's Request

On August 20, 2019, city council adopted resolution CM 19 0930 (regular meeting of August 19, 2019), which reads as follows:

“Be it resolved that:

1. *the Service des finances be mandated to produce a pre-election report on the state of finances of the Ville de Montréal no later than June 30, 2021;*
2. *the Auditor General of the Ville de Montréal be mandated to audit this pre-election report and to submit this audit no later than September 23, 2021.”*

## Period Following City Council's Request

As of the September 30 deadline, we had still not received the pre-election report model. In the course of the following months, meetings were organized to discuss the draft tables of contents of the pre-election report that had been received. In anticipation of the report model, we continued our work on major processes and our analysis of the implications of this type of mandate.

On November 25, 2019, the municipal administration tabled the 2020 Budget, which was prepared by the Service des finances and contains this department's definition of the pre-election report:

*“An audited report, tabled before the elections, will enable the municipal political parties to present programs that are aligned with the City's financial situation.”*

*“This pre-election report will be an additional budget transparency tool to be used in the 2021–2022 budgetary process.”*

In February 2020, as we were still waiting to receive a pre-election report model, we considered it appropriate to submit a follow-up report to city council to inform it that, so far, we have been unable to determine whether we will be able to respond to its request, since we had not received the necessary information for our analysis (see letter submitted to city council on February 24, 2020, in Appendix A). Previous meetings with the municipal administration had already been held to make them aware of this deadlock.

In response to this letter, the president of the executive committee submitted to city council a letter addressed to the Auditor General (see Appendix B).

After our letter was submitted to city council, we were given a timeline prepared by the municipal administration as well as an improved table of contents. The municipal administration also committed to producing a draft pre-election report model on June 30, 2020.

On March 23, 2020, we submitted to city council another follow-up report on the progress made in this matter since February 24 (see Appendix C). City council also passed a resolution to allocate an additional budget of \$900,000 to the BVG for this dossier.

### 6.3. Compliance with Professional Standards

It is important to understand that all certification work done by the BVG is performed in accordance with the Canadian Standard on Assurance Engagements issued by the Auditing and Assurance Standards Board and published in the CPA Canada Handbook – Assurance. This enables us to assure the quality and credibility of our reports.

These standards establish, among other things, “preconditions for an engagement,” conditions that must be satisfied in order to be able to accept an engagement that must be conducted in accordance with these standards. These conditions require that certain factors be taken into account, including:

- **the appropriateness of the underlying subject matter of the assurance engagement**, namely, whether the underlying subject matter of the engagement is clearly identifiable and capable of consistent measurement or evaluation against applicable criteria and can be subjected to procedures for obtaining sufficient appropriate evidence to support a reasonable level of assurance, as required under the circumstances;
- **the availability of suitable criteria**, namely, whether the criteria applied in the preparation of information on the underlying subject matter are suitable for the engagement circumstances and exhibit the characteristics outlined in the standards;
- **the possibility of obtaining the evidence necessary** to support the conclusion, namely, whether plausible evidence is available and accessible.

In order to meet city council’s request, we must ensure that these minimum conditions are satisfied.

## 6.4. Conclusion

Although we have received more information about the content of the pre-election report, we are continuing our analytical work in order to determine the scale of the human resources that we will need to dedicate, internally, in terms of specialists and in monetary terms, to this special mandate which is a first in the municipal sector in Canada. Meanwhile, we are continuing the audit we began in July 2019 on the major processes. Beyond all of this, we need to be assured that we can carry out this mandate in accordance with the Canadian Standard on Assurance Engagements issued by the Auditing and Assurance Standards Board of CPA Canada with the knowledge that our timeline for doing this is now less than 18 months.



# APPENDIX A

LETTER TABLED WITH CITY COUNCIL  
ON FEBRUARY 24, 2020



Le 24 février 2020

Aux membres du conseil municipal  
de la Ville de Montréal  
Ville de Montréal  
275, rue Notre-Dame Est  
Montréal (Québec) H2Y 1C6

**Objet : Audit d'un rapport préélectoral par la vérificatrice générale  
de la Ville de Montréal**

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Aux Membres du conseil municipal,

La présente vise à vous communiquer un état de la situation concernant le mandat cité en rubrique.

Le 20 août 2019, le conseil municipal adoptait la résolution CM19 0930, lors de l'assemblée ordinaire du 19 août 2019, qui se lit comme suit :

Et résolu :

- 1) « ... de mandater le Service des finances afin de produire un rapport préélectoral sur l'état des finances de la Ville de Montréal au plus tard le 30 juin 2021 »;
- 2) « ... de mandater la Vérificatrice générale de la Ville de Montréal d'auditer ce rapport préélectoral et de présenter cet audit au plus tard le 23 septembre 2021 ».

Comme indiqué dans la mise en contexte du budget 2020, le « rapport préélectoral sera un nouvel outil de transparence budgétaire qui s'ajoutera au processus budgétaire 2021-2022. Afin d'assurer la mise en place de cet outil, des travaux préparatoires seront entrepris dès l'année 2020 ».

La réalisation d'un mandat d'audit sur cet outil de transparence budgétaire souhaitée pour le prochain exercice démocratique municipal commande toutefois certaines précautions.

#### **Fondement législatif et crédits**

Le mandat confié s'inscrit dans le cadre de l'application de l'article 107.12 de la *Loi sur les cités et villes* lequel prévoit que « ... le vérificateur doit, chaque fois que le conseil lui en fait la demande, faire enquête et rapport sur toute matière relevant de sa compétence. Toutefois, une telle requête ne peut avoir préséance sur ses obligations principales ».

#### **L'échéancier**

Selon les informations obtenues auprès de diverses instances consultées, à qui un mandat semblable est confié, l'audit d'un rapport préélectoral requiert des efforts soutenus pendant plus de trois ans. Cette information fut communiquée à plusieurs reprises à l'administration municipale depuis le début de l'année 2018, moment où ce possible mandat fut évoqué publiquement.

En plus des nombreux autres suivis effectués depuis, j'ai signifié lors du comité de vérification et de la commission des finances publique du 19 juin 2019, ainsi que dans l'échéancier préliminaire remis au président du comité exécutif, que le contenu du rapport devait m'être communiqué au plus tard le **30 septembre 2019**. Je considérais alors que le retard pouvait potentiellement être rattrapé, moyennant des efforts et des ressources additionnels à déployer,

Or, à moins de 20 mois de la date de livraison du rapport d'audit requis par le conseil municipal, nous sommes toujours en attente du contenu du rapport préélectoral. Bien que des projets de table des matières nous aient été remis, nous ne considérons pas que ceci soit suffisant pour nous informer adéquatement du contenu de ce rapport.

Vous comprendrez que, sans cette information, nous ne pouvons pas déterminer à la fois l'ampleur des ressources nécessaires à la réalisation de ce mandat, mais plus fondamentalement encore, notre capacité même à réaliser un audit sur ce rapport préélectoral compte tenu du temps déjà écoulé.

### Respect des normes professionnelles

L'objet du rapport requis par le conseil municipal commande à ce que le niveau de certification soit clairement défini. Il en va de la neutralité de l'exercice et de son impact dans l'exercice démocratique municipal.

À ce chapitre, il est primordial de comprendre que tous les travaux de certification effectués par le Bureau du vérificateur général de la ville de Montréal sont réalisés en conformité avec les normes canadiennes pour les missions de certification énoncées par le Conseil des normes et de certification publiées dans le Manuel de CPA Canada – Certification. Ceci nous permet d'assurer la qualité et la crédibilité de nos rapports.

Ces normes établissent entre autres des « conditions préalables à la réalisation d'une mission », conditions qui doivent être remplies afin d'être en mesure d'accepter une mission devant être effectuée en accord avec ces normes. Ces conditions exigent de tenir compte de certains éléments, dont les suivants :

- **Le caractère approprié de l'objet de la mission**, à savoir si l'objet de la mission est clairement identifiable, peut faire l'objet d'une mesure ou d'une évaluation cohérente par rapport aux critères applicables et peut être soumis à des procédures en vue de l'obtention d'éléments probants suffisants et appropriés pour étayer l'expression du niveau d'assurance requis dans les circonstances;
- **La disponibilité de critères valables**, à savoir si les critères appliqués dans la préparation de l'information sur l'objet considéré sont valables au regard des conditions de la mission et présentent les caractéristiques énoncées dans les normes;
- **La possibilité d'obtenir les éléments probants nécessaires** pour étayer la conclusion, à savoir si des éléments probants fiables sont disponibles et accessibles.

Étant donné que le contenu du rapport préélectoral sur l'état des finances de la Ville de Montréal n'a pas encore été précisé par l'administration municipale, je ne suis pas en mesure de déterminer si ces « conditions préalables à la réalisation d'une mission » sont remplies ainsi que les implications pour mon Bureau.

Bien que nous ayons entrepris des travaux sur les processus budgétaires importants, puisque les différents projets de table des matières remis signifiaient la volonté de présenter une colonne budget dans ce rapport, le contenu du rapport préélectoral est une donnée essentielle à la poursuite de nos travaux.

#### **Prochaine étape**

Dans un avenir rapproché, l'administration municipale devrait donc préciser le contenu du rapport préélectoral proposé, ainsi que présenter un échéancier pour sa préparation et sa publication.

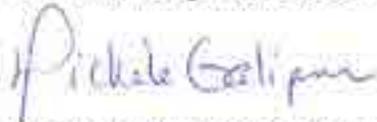
Ce n'est qu'une fois ces informations reçues que je pourrai répondre de façon précise à la demande du conseil municipal quant à ma capacité d'auditer le rapport préélectoral produit par le Service des finances et de présenter les résultats de cet audit au plus tard le 23 septembre 2021, en tenant compte de la nature et de la portée des travaux requis pour supporter ma conclusion.

Vous comprendrez que bien que j'aie l'autorité pour accomplir ce mandat, des crédits budgétaires seront nécessaires afin de ne pas compromettre mes obligations principales. À ce jour, nous n'avons pas reçu confirmation que ces crédits seraient alloués.

Si vous le jugez opportun, je me rendrai disponible pour vous présenter les démarches complètes et documentées que nous avons entreprises depuis janvier 2018.

Veillez recevoir, aux Membres du conseil municipal, l'expression de mes sentiments distingués.

La vérificatrice générale de la Ville de Montréal,



Michèle Galipeau, CPA auditrice, CA

MG/dds



# APPENDIX B

**LETTER FROM THE CHAIR OF THE  
EXECUTIVE COMMITTEE TABLED WITH  
CITY COUNCIL, IN RESPONSE TO THE  
AUDITOR GENERAL**



Cabinet du maire et du comité exécutif  
Hôtel de ville  
155, rue Notre-Dame Est  
Montréal (Québec) H2Y 1C8  
[www.ville.montreal.qc.ca](http://www.ville.montreal.qc.ca)

Le 24 février 2020

Madame Michèle Galipeau  
Vérificatrice générale  
Bureau du vérificateur  
1550, rue Metcalfe, suite 1201  
Montréal (Québec) H3A 3P1

Madame la Vérificatrice générale,

Par la présente lettre, j'accuse réception de votre lettre envoyée le 24 février 2020.

Comme vous le savez, suivant l'adoption de la résolution CM19 0930 le 19 août 2019, le Service des finances a été mandaté de produire un rapport préélectoral sur l'état des finances de la Ville de Montréal au plus tard le 30 juin 2021. Par cette même résolution, la Vérificatrice générale de la Ville de Montréal est également mandatée d'auditer ce rapport et de présenter cet audit au plus tard le 23 septembre 2021.

Le Service des finances a donc été mandaté de s'assurer de déployer tous les efforts requis pour satisfaire aux exigences de ce mandat et ce, en respect des délais prescrits par la résolution ci-dessus mentionnée.

À cet effet, et à travers le processus budgétaire de cet automne, le Service des finances a travaillé à mieux préciser le contenu du rapport préélectoral. La table des matières détaillée, qui est le résultat de ces travaux, m'a ensuite été présentée pour validation.

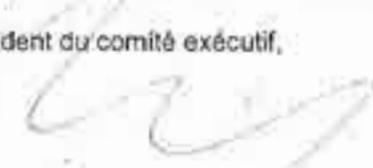
Jugeant que cette dernière permettait de répondre au mandat du Conseil, cette table des matières détaillée a été présentée au Comité de vérification pour information en présence de la Vérificatrice générale.

Votre lettre me laisse croire qu'en dépit de la table des matières détaillée présentée, il y a lieu qu'une clarification du mandat donné à la Vérificatrice générale soit faite par le Conseil municipal.

Nonobstant ceci, je tiens à préciser que le Service des finances travaille actuellement sur un plan de travail qui lui permettra de déposer, conformément au mandat qui lui a été confié, un rapport préélectoral au plus tard le 30 juin 2021.

Je vous prie de croire, Madame la Vérificatrice générale, l'expression de mes salutations distinguées.

Le président du comité exécutif,

  
Benoit Dorais



# APPENDIX C

**ANOTHER FOLLOW-UP REPORT  
ON THE FILE PROGRESS SINCE  
FEBRUARY 24, 2020 TABLED  
WITH CITY COUNCIL ON MARCH 23, 2020**



Le 18 mars 2020

Aux membres du conseil municipal  
de la Ville de Montréal  
Ville de Montréal  
275, rue Notre-Dame Est  
Montréal (Québec) H2Y 1C6

**Objet : Rapport préélectoral – suivi de la lettre déposée par la vérificatrice générale au conseil municipal du 24 février 2020**

---

Aux membres du conseil municipal,

Pour faire suite au dépôt de la lettre au conseil municipal du 24 février 2020, nous avons constaté les progrès suivants quant au dossier du rapport préélectoral :

- Le 4 mars 2020, lors d'une rencontre organisée par l'administration municipale et le président du comité exécutif, un échéancier détaillé nous a été transmis.
- Lors de la rencontre de suivi du 10 mars 2020, le Service des finances nous a remis une table des matières bonifiée avec un contenu élaboré pour chaque section de celle-ci, afin de nous permettre de mieux comprendre ce que ce rapport contiendra.
- Le 12 mars 2020, nous avons transmis au Service des finances une trentaine de questions sur cette table des matières élaborée. L'administration municipale doit nous revenir sous peu avec les réponses à ces questions.

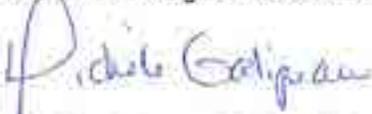
Ainsi, comme demandé dans notre lettre déposée au conseil municipal du 24 février 2020, à la fois un échéancier et un contenu plus détaillé nous ont été fournis.

Nous poursuivons nos travaux sur ce dossier.

Par ailleurs, en ce qui concerne notre demande de budget supplémentaire, étant donné les événements récents et la nécessité de présenter préalablement notre demande au Comité de vérification et à la Commission des finances, nous vous reviendrons ultérieurement.

Veillez recevoir, aux membres du conseil municipal, l'expression de mes sentiments distingués.

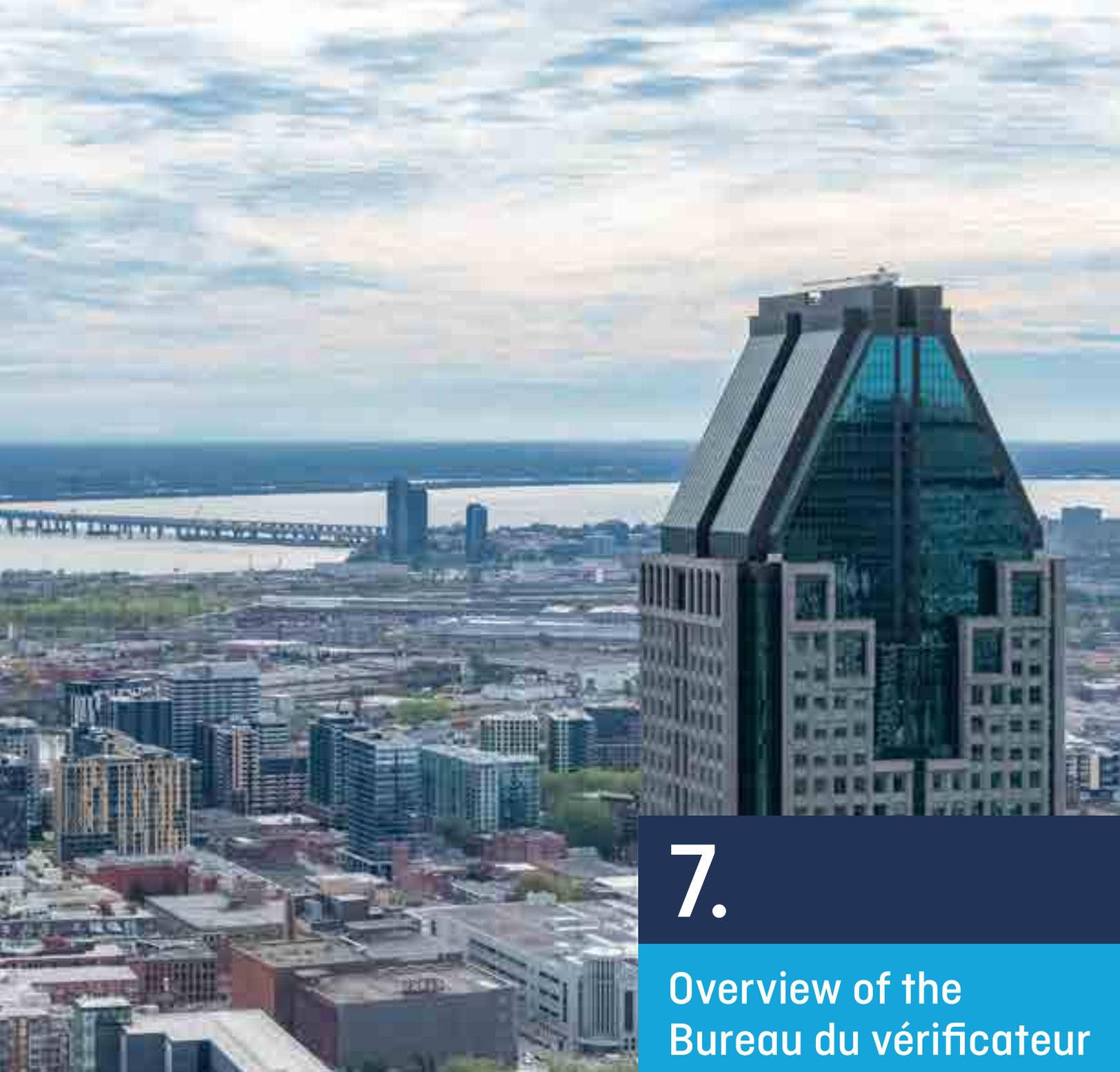
La vérificatrice générale de la Ville de Montréal,



Michèle Galipeau, CPA auditrice, CA

MG/dds





# 7.

## Overview of the Bureau du vérificateur général

**2019 Annual Report**

Auditor General of the Ville de Montréal



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## 7. OVERVIEW OF THE BUREAU DU VÉRIFICATEUR GÉNÉRAL

This chapter presents the highlights of the results obtained for the year 2019 regarding the performance of the Auditor General's mandate and the utilization of resources for this purpose. More specifically, we present different indicators so the reader can appreciate the performance of the Bureau du vérificateur général (the Bureau).

The indicators presented are:

- The financial results;
- The number of audit reports issued;
- Human resources:
  - Current and future staff portrait,
  - Use of time,
  - Staff turnover rate,
  - Absenteeism rate,
  - Average number of hours and cost of training,
  - Equal access to employment;
- Professional service contracts;
- Accountability regarding allegations;
- Accountability regarding requests for access to information.

### 7.1. Financial Results

For the year 2019, the Bureau's operating expenses amounted to \$5 million, compared to the budget of \$6.01 million. This favourable variance is explained, in particular, by staff movements: previously vacant positions were filled during the second half of 2019, one employee took maternity leave, two employees went on sick leave and two staff members departed. On the other hand, during the second half of 2019, we staffed four positions with external resources: two lead auditor positions for the Information Technology (IT) audit, two new financial audit advisor positions, as well as the lead auditor position, which was left vacant following the departure of an employee last June. In addition, two Bureau employees were promoted. Figure 1 shows the Bureau's financial results for the past three years.

Figure 1 – **Budget and Financial Results**  
(in millions of dollars)



In accordance with the provisions of section 108.2.1 of the *Cities and Towns Act* (the CTA), the Auditor General accounts for the year ended December 31, 2018, were audited by an independent auditor mandated by the Ville de Montréal (the City). The report of the independent auditor is presented in Appendix 9.2.

## 7.2. Number of Audit Reports Issued

Table 1 details the number of reports issued over the past few years for audits of the financial statements, regulatory compliance, as well as a performance audit (PA) and IT.

Table 1 – **Number of Audit Reports Issued from 2017 to 2019**

REFERENCE ANNUAL REPORT	FINANCIAL STATEMENTS	COMPLIANCE	PA AND IT	TOTAL NUMBER OF AUDIT REPORTS
2017	17	2	9	28
2018	9	1	11	21
2019	9	1	10	20

The reduction in the number of reports issued since 2017 is primarily attributable to the implementation of new procedures pursuant to the adoption of Bill 155 in April 2018. Following our analysis, we considered it appropriate to continue our financial audit for the City and for 5 of the 11 organizations in the reporting entity. This approach was maintained for 2019. As a result, our budget has been reduced by \$390,500 since 2018 to reflect this new reality.

### **7.3. Human Resources**

The Bureau is known for its high-quality work, and its extensive competencies and broad experience are a major asset for giving elected officials and citizens an objective and independent view of how well public funds are being managed. The Bureau is comprised of some thirty qualified professionals, including accountants, a forensic accountant, an engineer, a lawyer and specialists in business administration and IT. The Bureau's staff hold a variety of certifications, such as public accountant (CPA), financial auditor (CPA, auditor), internal auditor (CIA), information systems auditor (CISA), law (lawyer) and engineer (Eng.).

The Bureau's philosophy is, on the one hand, to have an internal core of experienced professionals who, collectively, have expertise in the City's various spheres of professional activities related to the financial, the performance audit and the statutory and regulatory compliance audit. On the other hand, we enlist qualified external resources to meet our specific needs for highly specialized expertise to spread the workload inherent in the peak period related to audits of the financial statements of the City and the organizations for which the Auditor General considers it appropriate to continue work and sometimes to provide temporary coverage for leaves or vacancies.

### 7.3.1. Workforce Trends and Status

Table 2 presents the workforce trends as of December 31 of the years 2017 to 2019.

Table 2 – **Workforce Trends as of December 31 of the Years 2017 to 2019**

YEAR	TOTAL EMPLOYEES
2017	29
2018	28
2019	30

There were 30 employees as of December 31, 2019. In the course of the year, two staff members left and four new staff members were hired at the Bureau: two new staff members joined the IT audit team, and two new staff members joined the financial audit team. In addition, two Bureau staff members moved up to more senior positions.

Table 3 illustrates the workforce status of the Bureau by directorate and in relation to authorized and filled positions as of December 31, 2019.

Table 3 – **Workforce Status as of December 31, 2019**

DEPARTMENT	AUTHORIZED POSITIONS	FILLED POSITIONS	POSITIONS TO BE FILLED
Bureau de la vérificatrice générale	4	3	1
Financial Audit and Administration	13	12	1
Pre-election report	1	1	
Performance and Compliance Audit	11	9	2
Information Technology Audit	7	5	2
<b>TOTAL</b>	<b>36</b>	<b>30</b>	<b>6</b>

In 2018, we began to implement a strategic plan that led us to question the Bureau's organizational structure and to review our needs in terms of staffing and succession planning. This plan was completed in early 2019, and a follow-up is presented in chapter 8.

Consequently, the Bureau's organizational structure was reviewed in 2019, and four new positions were created: one lead auditor position within the performance and compliance audit department, two advisor positions within the financial audit and administration department and one advisor position at the IT audit department. As a result of internal promotions, one advisor position at the IT audit department and one officer position within the financial audit department became vacant. We also assigned one staff member of the financial audit department to the department responsible for the pre-election report. Finally, the position of forensic accountant was abolished in the course of the year.

Table 4 shows staffing changes at the Bureau for each department as well as by position status in 2019.

**Table 4 – Staffing Changes in 2019**

DEPARTMENT	POSITIONS AS OF DECEMBER 31, 2018	POSITIONS CREATED	TRANSFER	POSITION ABOLISHED	POSITIONS AS OF DECEMBER 31, 2019
Bureau de la vérificatrice générale	5			1	4
Financial Audit and Administration	12	2	(1)		13
Pre-election report			1		1
Performance and Compliance Audit	10	1			11
Information Technology Audit	6	1			7
<b>TOTAL</b>	<b>33</b>	<b>4</b>	<b>-</b>	<b>1</b>	<b>36</b>

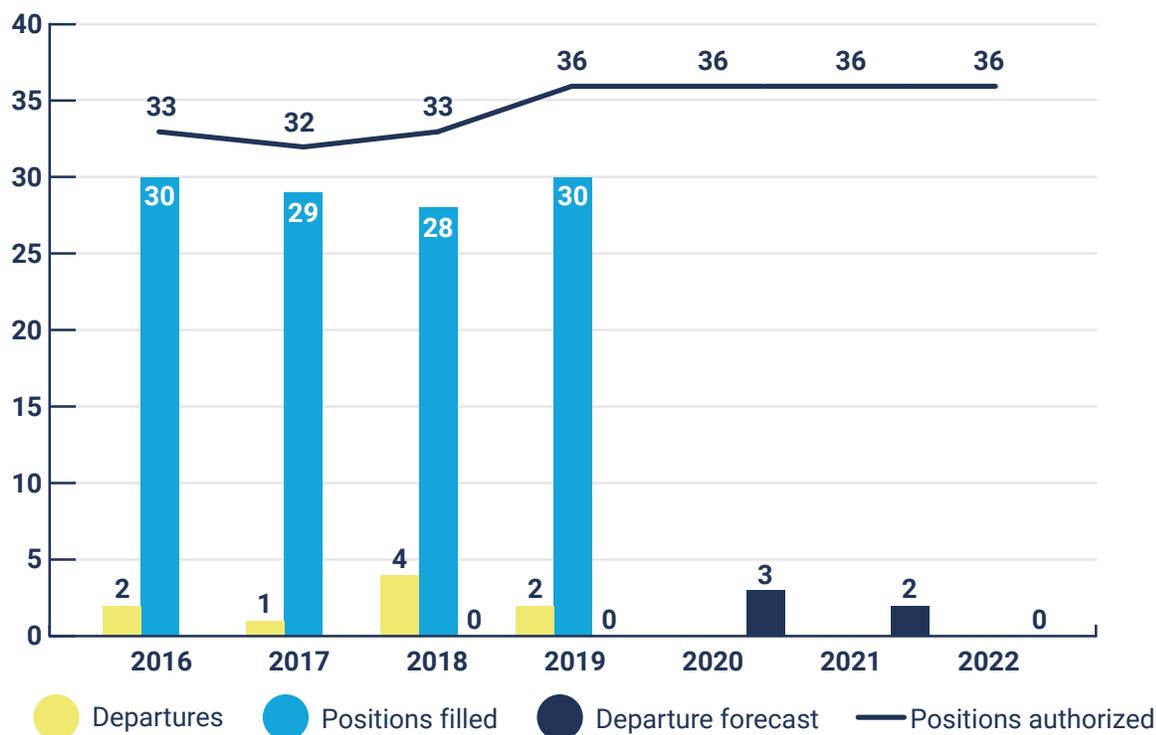
At the end of 2019, we had six vacant positions, compared to five last year. The higher number of vacant positions is essentially due to the creation of four positions, which had still not been filled as of December 31, 2019, and to internal promotions that left two positions vacant.

However, over the first few months of 2020, two lead auditors within the performance audit department took office, as well as one executive assistant of the Bureau. In addition, the two vacant positions within the IT audit department were being filled as this annual report was going to press.

We hope that these new recruits will help establish the next generation of auditors and compensate for the imminent retirement of some of the Bureau's experienced staff members.

Figure 2, Workforce Evolution and Forecasting for 2016 to 2022, reveals the importance of immediately implementing a succession plan that was prepared over the past two years to prepare workforce training and thereby ensure that the Bureau maintains its level of expertise.

Figure 2 – **Evolution and Forecasting of the Workforce from 2016 to 2022**



Recruitment efforts made in 2018 and 2019 have started to pay off, even though as of December 31, 2019, the situation remained as follows:

- As of December 31, 2019, six positions were vacant; however, as of the date of publication of this report, some positions had already been filled;
- Between now and the end of 2022, five departures are expected, including one of the four staff members of the Bureau’s management.

### 7.3.2. Use of Time

Figures 3 and 4 present the breakdown of total hours and hours worked of the Bureau's members for the past three years.

Figure 3 – **Breakdown of Total Hours**

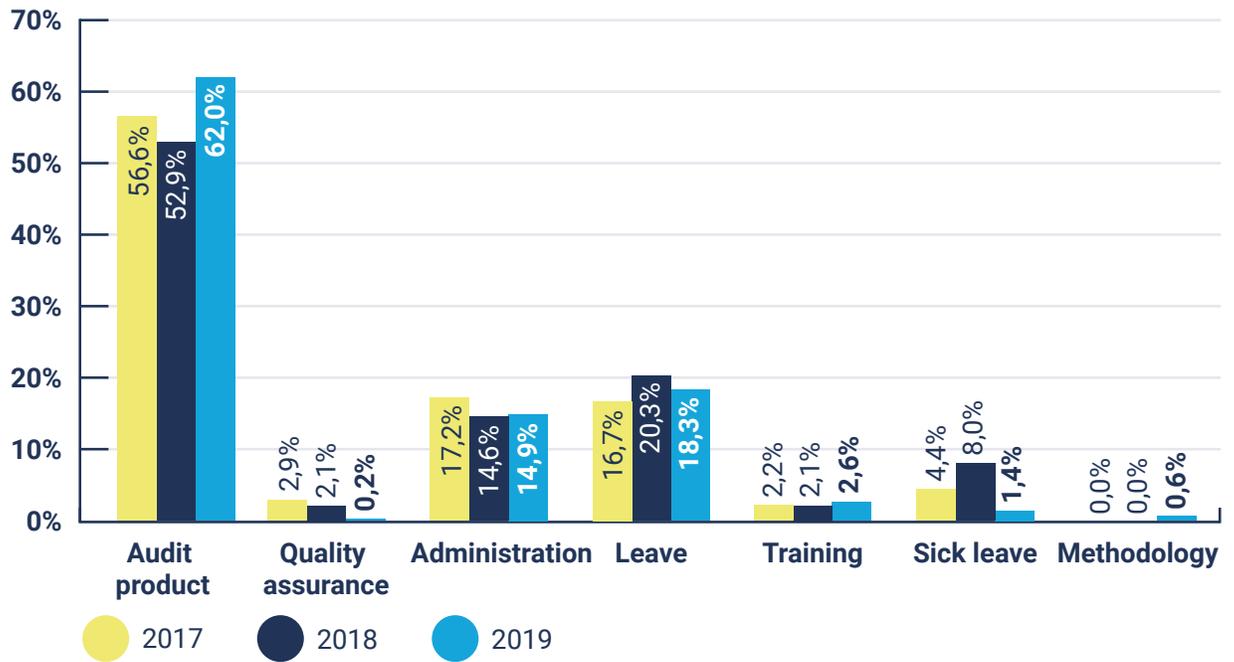
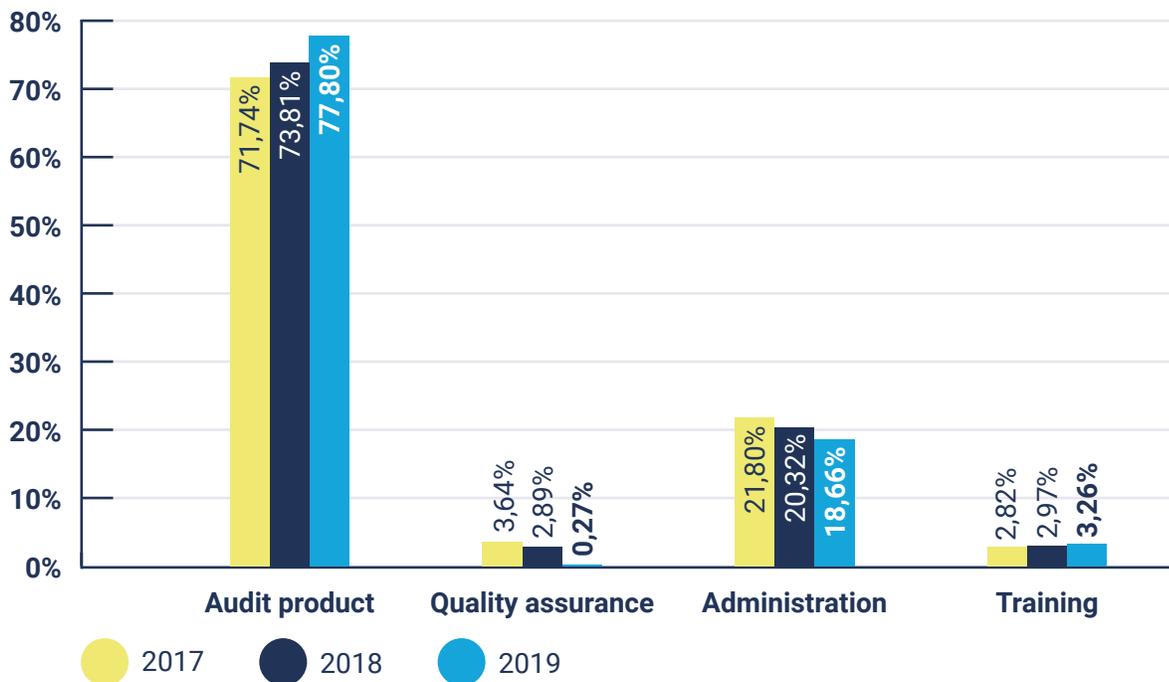


Figure 4 – Breakdown of Hours Worked, by Activity



Audit product: includes auditing the financial statements as well as compliance, value-for-money and information technology audits.

Quality assurance: includes the time devoted to quality control of audit engagements, both during the engagement and after the fact, which control is exercised pursuant to the standards in force.

Administration: includes general administration, meetings, financial management, human resources management, goods and services acquisition, IT support and secretarial tasks.

The results presented in Figure 4 show a slight 1.7% decrease between 2018 and 2019 in terms of hours worked on administration activities.

The decrease in the number of hours worked in quality assurance is explained by the maternity leave of one staff member in 2019. These hours were worked by external consultants, which enabled us to comply with CPA Canada auditing standards.

Other indicators related to the use of time and the staff turnover rate are presented in Tables 5 to 7.

### 7.3.3. Staff Turnover Rate

Table 5 – **Staff Turnover Rate**

	2017	2018	2019
Turnover rate	3.4%	14%	6.9%

The calculation of the staff turnover rate includes retirements, resignations and departures by transfer to another department or borough of the City. As mentioned earlier, there were four departures during 2019.

### 7.3.4. Absenteeism Rate

Table 6 – **Absenteeism Rate**

	2017	2018	2019
Absenteeism rate	3.9%	8.0%	1.4%

The absenteeism rate increased by 6.6% between 2018 and 2019 mainly due to a return to work after long-term sick leaves.

### 7.3.5. Number of Hours and Cost of Training

Table 7 – **Number of Hours and Cost of Training**

	2017	2018	2019
Average hours of training per employee	41	39	47
Training cost to payroll ratio	2.9%	2.8%	3.5%

As recommended in the strategic plan, staff training is a priority for the Bureau, and the average number of hours devoted to training therefore rose from 39 to 47. The ratio of training costs to payroll expenditures in accordance with the *Act to promote workforce skills development and recognition* rose by 0.7%. Note that the objective for all city operations is 1%.

### 7.3.6. Equal Access to Employment

Like the City, the Bureau pays special attention to questions of equal access to employment. The breakdown of the representation of target groups in the *Act respecting equal access to employment in public bodies*, as of December 31 of the past three years, is presented in Table 8.

Table 8 – Representation of Target Groups

TARGET GROUP	2017	2018	2019
Men	41.4%	39.3%	40%
Women	58.6%	60.7%	60%

TARGET GROUP	2017	2018	2019
Aboriginal peoples	0.0%	0.0%	0.0%
Visible minorities	6.9%	7.14%	3.33%
Ethnic minorities	6.9%	3.57%	3.33%
<b>TOTAL</b>	<b>13.8%</b>	<b>10.71%</b>	<b>6.66%</b>

We note that female representation on our staff improved considerably during this period. We now have 20 women on our staff of 30 employees.

### 7.4. Professional Service Contracts

Professional fees are the second-largest expense, after compensation and benefits. The Bureau hires professionals to meet temporary labour requirements during the peak financial statement period or to temporarily fill in for people on vacation or fill vacancies and to have access to highly skilled experts specialized in areas related to our audit topics or for administrative purposes. Finally, because our Bureau's administrative management operates at arm's length from the City, contracts have been awarded to support our infrastructure. Professional fees as of December 31, 2019, were \$506,584 (\$806,988 in 2018) (see the breakdown in Table 9).

The CTA (CQLR, c. C-19) authorizes the Auditor General to conclude contracts for the purpose of acquiring goods or providing services. Consequently, because of her particular role, her mission, and the nature of her duties, the Auditor General maintains independence in relation to contracting processes. However, the Auditor General has a desire to be subject to the legislative and regulatory standards applicable to the City in the area of contract management, subject to exceptions, which must nevertheless be justified, if the need arises.

**Table 9 – Professional Fees**

<b>DIRECTIONS</b>	<b>2019</b>	<b>2018</b>
Financial Audit	27.5%	44%
Performance audit and statutory and regulatory compliance	19.3%	13%
Information Technology audit	22.4%	10.4%
Administrative	30.8%	32.6%

## **7.5. Professional Inspection**

In September 2019, the Bureau was inspected by the Ordre des comptables professionnels agréés du Québec (OCPAQ) in accordance with the *Regulation respecting the professional inspection committee of the Ordre des comptables professionnels agréés du Québec* and the program for general supervision developed by the committee under section 12 of the Regulation and approved by the Board of Directors of the OCPAQ.

The inspection focused on the documentation of our quality control system, on reports of our last cyclical inspections, and on issues related to the practice of the profession in the areas of financial, compliance and performance audits. The inspection committee concluded that the Bureau fulfilled the requirements of the professional inspection program in all material aspects.

## 7.6. Accountability Regarding Allegations

Allegations can be submitted to the Bureau by email, by mail, by telephone or in person. It should be noted that the Bureau has an email box that was created specifically for this purpose; it is highly secure because it is hosted by a messaging service outside the City.

Allegations are processed according to priority criteria, such as the nature of the claim and the degree of risk involved. A well documented and highly secure file is created for every allegation.

All other allegations that we receive undergo a preliminary evaluation to determine whether an investigation should be initiated, based on the nature of the claim, the probative value of the information provided and the risks involved. However, a preliminary evaluation is not conducted if the subject of the allegation does not fall within the Auditor General's purview or if the allegation is not substantial enough to warrant further investigation. Depending on the circumstances, such matters may be transferred to another City entity or closed without any further action being taken.

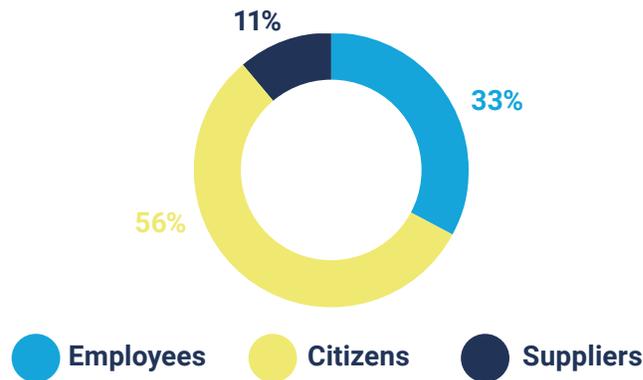
If an investigation is warranted, it will be conducted in accordance with recognized investigative and forensic accounting practices. Once the investigation is completed, a report may be produced and sent to the municipal administration. In cases where there is evidence of criminal wrongdoing, our findings are reported to the competent authorities.

In 2019, we received 9 allegations, and 89% of the allegations were addressed in the course of the year. They were closed for the following reasons:

- Investigation completed (4 allegations);
- Transfer to another body, because the allegation was outside of the Auditor General's purview (4 allegations).

Figure 5 presents the sources of the allegations received.

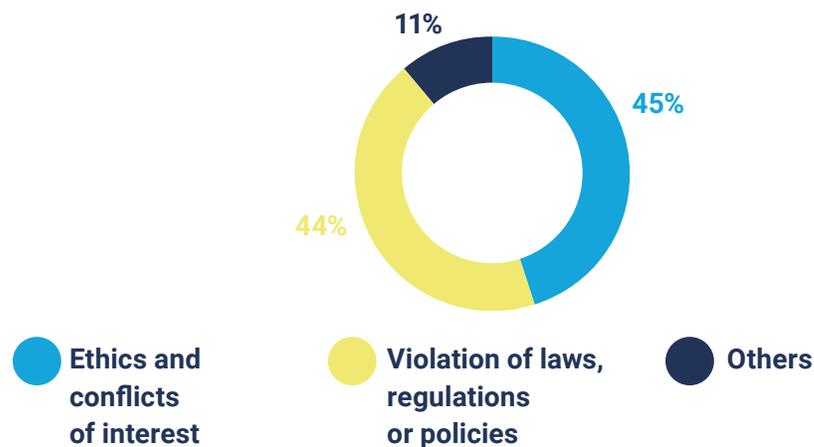
Figure 5 – **Overview of Allegations Received in 2019 By Source**



It is important to remember that we guarantee confidentiality to whistleblowers who agree to reveal their identity and that the *Public Protector Act* protects the confidentiality of whistleblowers. Furthermore, the provisions of section 107.16 of the CTA ensure that the Auditor General cannot be forced to make a statement about information she obtained in the performance of her duties or to produce a document containing such information. This Act is supplemented by the provisions of section 41 of the *Access to Information Act*.

In Figure 6 we compiled the allegations received for each category of alleged wrongdoing.

Figure 6 – **Overview of Allegations Received in 2019 By Category**



## **7.7. Accountability Regarding Requests for Access to Information**

Since the adoption of Bill 155, requests for access to information that concern the Auditor General have had to be sent to her directly. In 2019, we did not receive any requests for access to information.

## **7.8. Technological Infrastructure**

The Bureau has servers that are separate from the City's. For several years, the Bureau has had an infrastructure that enables all its employees to work remotely. In addition, we make sure every year that this network is secure. As a result, during the COVID-19 crisis, we quickly managed to implement the necessary measures to enable all of the Bureau's employees to work remotely in complete safety.

## **7.9. Promotion**

Several members of the Bureau participate in various working groups, committees and boards of directors of organizations associated with our profession. This gives them an opportunity to be key actors in the advancement of our profession and be on the lookout for changes that will impact our work in the future.

Table 10 – **Promotion Activities**

	<b>BODY</b>	<b>MEMBER</b>
Annie Cédillotte, <i>Chief Auditor – Financial Audit and Administration</i>	Ordre des CPA du Québec	<ul style="list-style-type: none"> <li>• Technical Working Group – Certification</li> </ul>
France Lessard, <i>Assistant Auditor General – Financial Audit and Administration</i>	Ordre des CPA du Québec	<ul style="list-style-type: none"> <li>• Sectoral working group – Municipal Administration</li> </ul>
Kim Tardif, <i>Officer in charge of Quality Assurance and Professional Practices</i>	Ordre des CPA du Québec	<ul style="list-style-type: none"> <li>• Technical Working Group – Certification Reports</li> <li>• Technical Working Group – Accounting in the Public Sector</li> </ul>
Michèle Galipeau, <i>Auditor General</i>	Canadian Audit and Accountability Foundation	<ul style="list-style-type: none"> <li>• Board of Directors</li> <li>• Governance Committee</li> <li>• National Capacity Building Committee</li> </ul>
	CPA Canada	<ul style="list-style-type: none"> <li>• Public Sector Accounting Board (PSAB)</li> </ul>
	Association des vérificateurs généraux municipaux du Québec	<ul style="list-style-type: none"> <li>• Board of Directors</li> </ul>

We encourage our employees to pursue these activities, which promote not only the Bureau, but also the profession of municipal legislative auditor.





# 8.

## Accountability – 2019–2023 Strategic Plan

**2019 Annual Report**

Auditor General of the Ville de Montréal



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## 8. ACCOUNTABILITY – 2019–2023 STRATEGIC PLAN

### 8.1. Introduction

The first year in the implementation of our strategic plan, 2019, is the year in which the objectives that will guide our actions over the next five years are defined.

The *2019–2023 Strategic Plan* is structured around the following three major guidelines:

OBJECTIVES	1	<b>Increase the added value of interventions</b> Over the next few years, the Bureau du vérificateur général will take various steps to reassure elected officials and citizens that public funds are being managed economically, efficiently and effectively.
	2	<b>Introduce innovative practices to produce high-quality work</b> The Bureau du vérificateur général will implement best practices to ensure audit quality and to incorporate sustainable management principles.
	3	<b>Ensure the sustainability of the teams' skills</b> In the coming years, the Bureau du vérificateur général will attract appropriate talent to meet its needs and maintain the expertise developed to date. It will also give them a stimulating work environment with opportunities to grow professionally.

For each guideline, we have set objectives accompanied by indicators and targets to be achieved.

## 8.2. Accountability

We have directed our audit and administrative work towards achieving the target objectives we set for ourselves for 2019. In addition, in order to achieve some of the objectives of the 2019–2023 Strategic Plan involving the mobilization of the various audit teams, in 2019 we set up four working committees consisting of staff members of the Bureau du vérificateur général (BVG), excluding management staff. These committees offered findings and potential solutions to enable the Senior Management Committee to make informed decisions about the best paths forward for achieving the objectives that we had established. The assistant auditor general appointed for each committee will follow-up on the solutions chosen.

Table 1 - **List of Working Committees**

GUIDELINE	COMMITTEE	OBJECTIVE
INCREASE THE ADDED VALUE OF INTERVENTIONS	A	Conduct audits for bodies covered in section 107.7, paragraph 3.
		Maintain our presence in the financial audit.
	B	Promote an increase in the implementation rate of our recommendations.
	C	Facilitate the understanding of our role by elected officials and other stakeholders.
ENSURE THE SUSTAINABILITY OF THE TEAMS' SKILLS	D	Attract and retain the best resources for fully executing the mission of the Bureau du vérificateur général and ensure the sustainability of its expertise.

## 8.2.1. Policy 1 - Increase the added value of interventions

To increase the added value of our interventions, we set twelve objectives to be achieved from 2019 to 2023. Table 2 sets forth the results for each of the objectives set out in Guideline 1.

Table 2 - **Accountability – Guideline 1**

OBJECTIVE	INDICATOR	TARGET	RESULTS
Enhance the performance audit selection process.	• Introduce a new risk matrix.	2019	Completed
	• Update the risk matrix.	Annually from 2020	Will be done in the 2nd half of 2020.
	• Enhance monitoring activities.	2019	Completed
Conduct performance audits focused on issues or services that directly affect citizens and the quality of services they receive.	• Number of performance audit engagements focused on issues or services that directly affect citizens and the quality of services they receive.	At least one engagement per year	Target achieved in 2019.
Conduct sustainable development performance audits.	• Number of performance audit engagements with a focus on sustainable development.	At least one engagement per year	Target achieved in 2019.
Conduct IT performance audits.	• Number of IT performance audits.	At least two engagements per year	Target achieved in 2019.
Conduct cybersecurity audits.	• Number of cybersecurity performance audit engagements.	At least one engagement per year	Target achieved in 2019.
Conduct performance audits that focus on major legal and regulatory compliance issues.	• Number of performance audit mandates dealing with major legal and regulatory compliance issues.	At least one engagement per year	Target achieved in 2019.

OBJECTIVE	INDICATOR	TARGET	RESULTS
Perform audits for organizations referred to in section 107.7, subsection 3.	• Develop an intervention strategy.	2019	The Working Committee Report was tabled and presented in the fall of 2019.
	• Implement the strategy.	2020	
Perform audit work on organizations that have received contributions from the Ville de Montréal.	• Develop an intervention strategy.	Completed	We implemented the intervention strategy in 2019.
	• Implement the strategy.	2019	
Maintain our presence in financial audits.	• Review our financial auditing strategy.	Once a year	We maintained the same strategy as for the financial audit in 2018.
			The Working Committee Report was tabled and presented in the fall of 2019.
Help increase the rate at which our recommendations are implemented.	• Produce management tables to encourage discussions on the current approach to monitoring recommendations.	2019	Completed. Tables were produced and presented to the audit committee.
	• Assess the appropriateness of the current approach to monitoring recommendations.	2020	The Working Committee Report was tabled and presented in the fall of 2019.
	• Assess the extent to which the new approach to monitoring recommendations has been implemented.	2021 and subsequent years	

OBJECTIVE	INDICATOR	TARGET	RESULTS
Establish processes to comply with the <i>Access to information Act</i> .	• Post additional information on the website and provide additional information on the application form.	Completed	
	• Write guidelines and procedures.	2019	Completed
	• Implement monitoring to meet the deadline required by law.	2019	A tab was created on the BVG website for this purpose.
Clearly explain our role to elected officials and other stakeholders.	• Develop documents explaining the delineation between the Auditor General's engagement and the interventions of the Bureau de l'inspecteur général, the Ombudsman and the City's organizational performance group.	2019	The Working Committee Report was tabled and presented in the fall of 2019.
	• Redesign the BVG website.	2019	

### Enhance the performance audit selection process

We established a new risk matrix to guide us in planning value-added audits. This tool will be updated every year to reflect any changes in the administrative, normative and legislative environment of the Ville de Montréal (the City) as well as in any bodies that we may audit.

### Conduct performance audits focused on issues or services that directly affect citizens and the quality of services they receive

In 2019 we carried out a mandate on the *Management of Municipal Housing Programs Arising from the "Montréal Reflex" Framework Agreement*, which transfers powers and responsibilities in the area of housing to the City.

### **Conduct sustainable development performance audits.**

Two mandates were carried out for this purpose, the first one on *Protection of Natural Environments* and the second one on *Management of the Climate Change Adaptation Plan*.

### **Conduct IT performance audits**

#### **Conduct cybersecurity audits**

Three information technology audit mandates were carried out: *Logical Access Management (SIMON, PAIE, OASIS)*, *Management of the Bureau de Projets* and *Management of Shadow IT*. We also completed a mandate on *Logical Penetration Tests*.

### **Conduct performance audits that focus on major legal and regulatory compliance issues**

A mandate on the *Conformity and Safety Management of Petroleum Storage Tanks* was carried out in 2019.

### **Perform audits for organizations referred to in section 107.7, subsection 3. Maintain our presence in financial audits**

The Working Committee Report containing the findings and recommendations for these objectives was presented to the Senior Management Committee in December 2019. The action plans will be introduced in 2020. For the financial audit, we maintained our presence by implementing the same strategy that we considered appropriate after Bill 155 was adopted in 2018.

### **Perform audit work on organizations that have received contributions from the Ville de Montréal**

We established an audit program concerning bodies covered by section 107.9 of the *Cities and Towns Act*, i.e. those that have received contributions of at least \$100,000 from the City, thereby broadening the scope of our work with a view to selecting bodies based on certain criteria, such as the size of the amounts and the types of projects for which contributions were granted. We implemented this program in 2019. The results of our work can be found in chapter 3 of this annual report.

### **Help increase the rate at which our recommendations are implemented**

We presented detailed tables to the audit committee showing follow-ups to recommendations made in the fall of 2018. Since then, the municipal administration has created a position at the Bureau du contrôleur général, one of whose duties is to coordinate the follow-up on recommendations and produce management tables for this purpose.

With respect to the evaluation of the relevance of our current approach to following up on recommendations, the findings and recommendations of working committee B were presented to the Senior Management Committee in December 2019. We will evaluate the actions recommended with a view to implementing them in 2020.

### **Establish processes to comply with the *Access to information Act***

Procedures were developed and the BVG website now includes a tab for this purpose.

### **Clearly explain our role to elected officials and other stakeholders**

The Working Committee Report containing findings and recommendations for this objective was presented to the Senior Management Committee in the fall of 2019. The work of redesigning the website and developing a new brand image was undertaken. We plan to have the entire process completed in the fall of 2020.

## 8.2.2. Policy 2 – Introduce innovative practices to produce high-quality work

Four objectives had been identified to enable the BVG to introduce innovative practices to ensure the quality of our work in the strategic plan. The results for each objective in Guideline 2 are shown in Table 3.

Table 3 - **Accountability – Guideline 2**

OBJECTIVE	INDICATOR	TARGET	RESULTS
Maintain the quality of our work.	• Percentage of evaluated work that meets certification standards.	100%	Target achieved for 2019.
	• Monitor Canadian Certification Standards.	Ongoing	Ongoing in 2019.
	• Update the Quality Assurance Manual.	Once a year.	Will be completed in the 2nd half of 2020.
Include a focus on compliance with laws, regulations and guidelines in performance audit engagements.	• Percentage of performance audit engagements conducted with a focus on legal and regulatory compliance.	100%	Target achieved for 2019.
Routinely include a risk assessment of irregularities and fraud in performance audit engagements.	• Percentage of audit engagements involving a risk assessment of irregularities and fraud.	100%	Target achieved for 2019.
Provide technological tools and innovative software to maintain our effective audit practices and promote a paperless work environment.	• Review BVG processes where technology tools and software have been updated or implemented.	Once a year.	Completed for 2019.
	• Review the strategy to promote a paperless environment.	2019	Completed for 2019.
	• Introduce indicators.	2020 and subsequent years.	Will be completed in the 2nd half of 2020.

### **Maintain the quality of our work**

Throughout 2019, we maintained the quality of our work by ensuring that we met the certification standards that govern us and that we monitored them constantly. For this purpose, the BVG was inspected in September 2019 by the Ordre des comptables professionnels agréés du Québec (OCPAQ). The inspection committee concluded that the BVG fulfilled the requirements of the professional inspection program in all material aspects.

The updating of our Quality Assurance Manual will be completed in the second half of 2020.

### **Include a focus on compliance with laws, regulations and guidelines in performance audit engagements Routinely include a risk assessment of irregularities and fraud in performance audit engagements**

We ensured that these elements were integrated for each mandate that we carried out in 2019.

### **Provide technological tools and innovative software to maintain our effective audit practices and promote a paperless work environment**

In 2019, we carried out a complete renewal of our laptop fleet and reviewed the software versions that we use. All our audit files are electronic.

### 8.2.3. Policy 3 – Ensure the sustainability of the teams’ skills

To ensure the sustainability of the teams’ skills, we had established three objectives. The detailed findings for each objective of Guideline 3 are found in Table 4.

Table 4 - **Accountability – Guideline 3**

OBJECTIVE	INDICATOR	TARGET	FOLLOW-UP IN 2020
Attract and retain the best talent to fulfill the BVG’s mission and maintain its expertise.	• Develop a strategy to attract and retain talent.	2019	The Working Committee Report was tabled and presented in the fall of 2019.
	• Introduce indicators.	2020	Will be completed in the 2nd half of 2020.
Promote and support the development of staff expertise based on the needs of the BVG.	• Establish an expertise development path for each employee.	2020	Will be completed in the 2nd half of 2020.
	• Grant each employee a minimum number of training days.	6 days a year.	Target achieved for 2019.  6.7 days per employee in 2019.
Achieve and maintain a high level of staff engagement.	• Develop a skills assessment, succession management, coaching and mentoring program.	2019	Ongoing.
	• Implement a skills assessment, succession management, coaching and mentoring program.	2020	Postponed to 2021.

**Attract and retain the best talent to fulfill the BVG’s mission and maintain its expertise**

The Working Committee Report containing findings and recommendations for this objective was presented to the Senior Management Committee in December 2019. We will implement the various recommendations for updating our talent attraction and retention strategy.

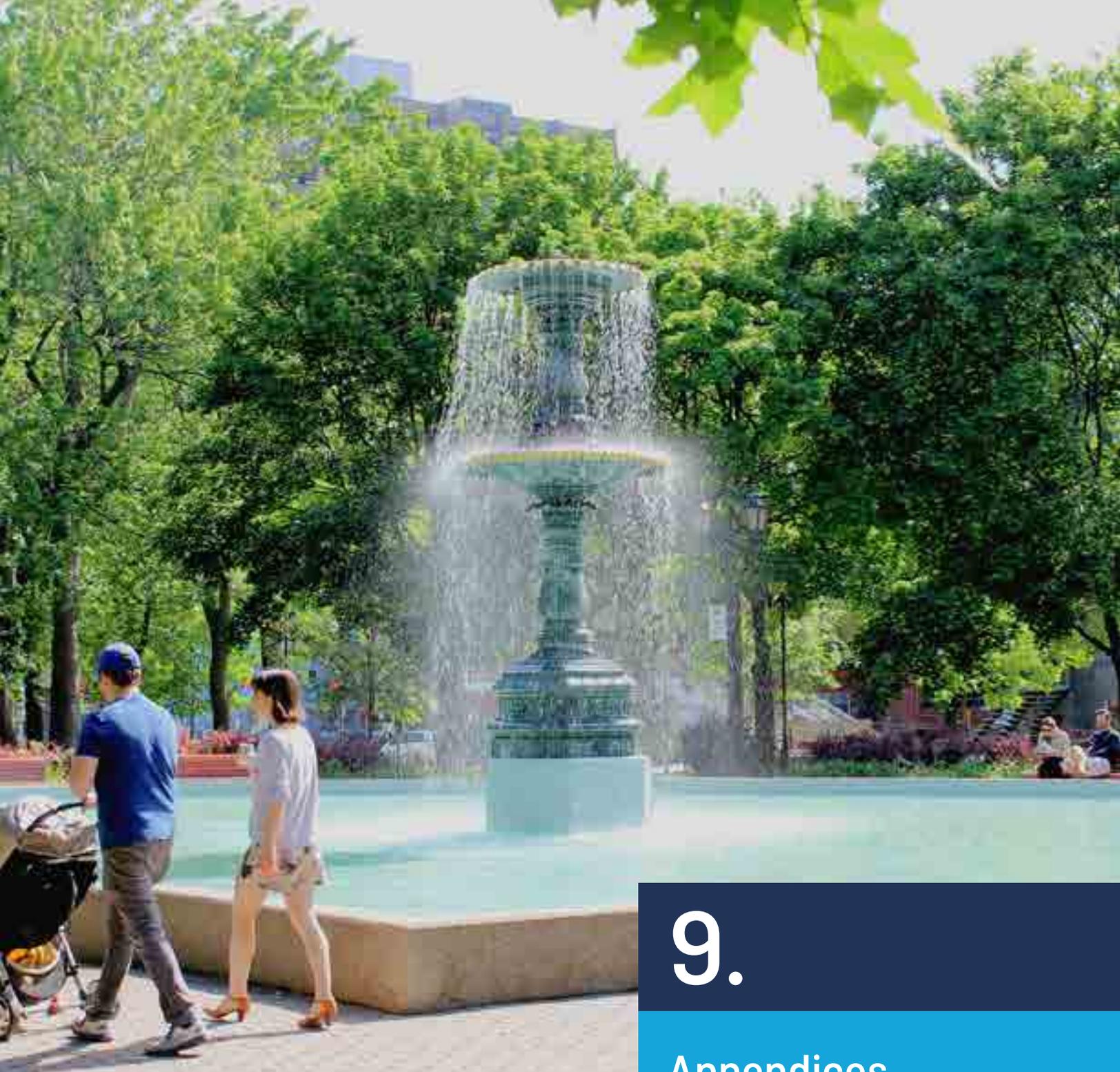
**Promote and support the development of staff expertise based on the needs of the BVG**

In 2019, 6.7 days per employee were devoted to employee training. We continue to promote the training of BVG staff. In 2019, we initiated a program to build expertise for some employees, and we will ensure that this program is extended to all employees.

**Achieve and maintain a high level of staff engagement**

We began developing a program to evaluate employees’ skills, to manage the succession, and to coach and mentor employees, and we will have this program completed in 2020, so that it will be fully in place in 2021.





# 9.

## Appendices

**2019 Annual Report**

Auditor General of the Ville de Montréal



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## 9. APPENDICES

### 9.1. Appendix 1 – Excerpts from the *Cities and Towns Act*

CQLR, chapter C-19

Updated to December 31, 2019

#### **IV.1. – Chief auditor**

2001, c. 25, s. 15.

#### **A. – Appointment**

2018, c. 8, s. 33.

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#### **CHIEF AUDITOR**

**107.1.** The council of every municipality having 100,000 inhabitants or more shall have an officer called the chief auditor who is a member of the Ordre des comptables professionnels agréés du Québec.

2001, c. 25, s. 15; 2018, c. 8, s. 34.

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#### **TERM**

**107.2.** The chief auditor shall, by a resolution approved by a two-thirds majority of the votes of the members of the council, be appointed for a single term of seven years.

2001, c. 25, s. 15; 2018, c. 8, s. 35.

**107.2.1.** The chief auditor shall perform his duties of office exclusively and on a full-time basis. However, he may participate in educational activities, in particular as an instructor, or professional activities within associations of auditors, educational or research institutions, committees within his professional order, or the Association des vérificateurs généraux municipaux du Québec.

2018, c. 8, s. 36.

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## INELIGIBILITY

**107.3.** In no case may the following persons act as chief auditor:

- (1) a member of the council of the municipality and, where applicable, of a borough council;
- (2) the associate of a member mentioned in subparagraph 1;
- (3) a person who, personally or through an associate, has any direct or indirect interest in a contract with the municipality, a legal person referred to in subparagraph 2 of the first paragraph of section 107.7 or a body referred to in subparagraph 3 of that paragraph;
- (4) a person who, in the four years preceding his appointment, was a member of a council, or an employee or officer, of the municipality, unless the person was an employee under the direction of the chief auditor during all or part of those years.

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## DISCLOSURE OF INTEREST

The chief auditor shall disclose in every report produced any situation that could cause a conflict between the chief auditor's personal interest and duties of office.

2001, c. 25, s. 15; 2018, c. 8, s. 37.

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## INABILITY OR VACANCY

**107.4.** If the chief auditor is unable to act, or if the office of chief auditor is vacant, the council shall:

- (1) not later than at the sitting following the inability to act or the vacancy, designate a person qualified to replace the chief auditor, for a period of not more than 180 days;
- (2) not later than at the sitting following the inability or the vacancy, or not later than at the sitting following the expiry of the period fixed under paragraph 1, appoint a new chief auditor in accordance with section 107.2.

2001, c. 25, s. 15.

## **B. — Operating expenses**

2018, c. 8, s. 38.

### **EXPENSES**

**107.5.** The budget of the municipality shall include an appropriation to provide for payment of a sum to the chief auditor to cover the expenses relating to the exercise of the chief auditor's duties.

### **AMOUNT OF APPROPRIATION**

Subject to the third paragraph, the appropriation must be equal to or greater than the sum of A + B + C where:

- (1) A is \$500,000;
- (2) B is the product obtained by multiplying 0.13% by the portion of the appropriations provided for in the budget for operating expenses that is equal to or greater than \$345,000,000 but less than \$510,000,000; and
- (3) C is the product obtained by multiplying 0.11% by the portion of the appropriations provided for in the budget for operating expenses that is equal to or greater than \$510,000,000.

### **SYSTEM OF ELECTRIC POWER**

Where the budget of the municipality provides for appropriations for operating expenses related to the operation of a system of production, transmission or distribution of electric power, 50% only of those appropriations shall be taken into account in establishing the total of the appropriations referred to in the second paragraph.

2001, c. 25, s. 15; 2001, c. 68, s. 5; 2018, c. 8, s. 39.

## **C. — Mandate**

2018, c. 8, a. 40.

### **APPLICATION OF POLICIES AND STANDARDS**

**107.6.** The chief auditor is responsible for the application of the municipality's policies and standards relating to the management of the human, material and financial resources assigned to auditing.

2001, c. 25, s. 15.

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**ACCESS  
TO INFORMATION**

**107.6.1.** Despite section 8 of the Act respecting Access to documents held by public bodies and the Protection of personal information ([chapter A-2.1](#)), the chief auditor shall perform the duties conferred by that Act on the person in charge of access to documents or the protection of personal information with regard to the documents the chief auditor prepares in performing his duties or with regard to the documents he keeps for the purposes of his mandate, provided the latter documents are not also kept by a body subject to that Act.

The chief auditor shall transmit without delay to the person in charge of access to documents or the protection of personal information within a concerned body any application he receives concerning documents that are also kept by the body.

2018, c. 8, s. 41.

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**LEGAL PERSON  
TO AUDIT**

**107.7.** The chief auditor shall audit the accounts and affairs:

- (1) of the municipality;
- (2) of every legal person;
  - a) that is part of the reporting entity defined in the municipality's financial statements;
  - b) of which the municipality or a mandatory of the municipality appoints more than 50% of the members of the board of directors; or
  - c) of which the municipality or a mandatory of the municipality holds more than 50% of the outstanding voting shares or units;
- (3) of any body referred to in the first paragraph of section 573.3.5, provided;
  - a) in the case of a body referred to in subparagraph 1 of the first paragraph of that section, it is the mandatory or agent of the municipality;

- b) under subparagraph 2 of the first paragraph of that section, the majority of the members of its board of directors are members of the council of, or are appointed by, the municipality;
- c) its budget is adopted or approved by the municipality;
- d) in the case of a body referred to in subparagraph 4 of the first paragraph of that section, it receives part or all of its financing from the municipality; or
- e) *or* in the case of a body designated under subparagraph 5 of the first paragraph of that section, it has its principal place of business in the territory of the municipality.

If, under this section, section 108.2.0.1, article 966.2.1 of the Municipal Code of Québec ([chapter C-27.1](#)) or section 86 of the Act respecting the Commission municipale ([chapter C-35](#)), a mandate to audit certain aspects of the accounts and affairs of a body referred to in section 573.3.5 is entrusted to more than one auditor, the audit of those aspects must be conducted exclusively by the following designated auditor:

- (1) the chief auditor of the municipality with the largest population;
- (2) if no chief auditor of a municipality is concerned, the Commission municipale du Québec;
- (3) if neither a chief auditor of a municipality nor the Commission is concerned, the external auditor of the municipality with the largest population.

2001, c. 25, s. 15; 2010, c. 18, s. 20; 2018, c. 8, s. 42.

## AUDIT OF THE AFFAIRS AND ACCOUNTS

**107.8.** The audit of the affairs and accounts of the municipality and of any legal person or body referred to in subparagraph 2 or 3 of the first paragraph of section 107.7 includes, to the extent considered appropriate by the chief auditor, financial auditing, auditing for compliance of their operations with the Acts, regulations, policies and directives, and auditing for value-for-money.

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**POLICIES  
AND OBJECTIVES**

The audit must not call into question the merits of the policies and objectives of the municipality or legal persons or bodies referred to in subparagraph 2 or 3 of the first paragraph of section 107.7.

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**AUTHORITY**

The chief auditor in the performance of his duties is authorized:

- (1) to examine any document concerning the affairs and accounts relating to the objects of the audit;
- (2) to require from any employee of the municipality or any legal person or body referred to in subparagraph 2 or 3 of the first paragraph of section 107.7 all information, reports and explanations the chief auditor considers necessary.

2001, c. 25, s. 15; 2001, c. 68, s. 6; 2018, c. 8, s. 43.

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**SUBSIDIED LEGAL  
PERSON**

**107.9.** Any legal person receiving an annual subsidy from the municipality of at least \$100,000 is required to have its financial statements audited.

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**COPY TO THE CHIEF  
AUDITOR**

The auditor of a legal person not referred to in paragraph 2 of section 107.7 that receives an annual subsidy from the municipality of at least \$100,000 shall transmit to the chief auditor a copy of:

- (1) the annual financial statements of the legal person;
- (2) the auditor's report on the statements;
- (3) any other report summarizing the auditor's findings and recommendations to the board of directors or the officers of the legal person.

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**DOCUMENTS AND  
INFORMATIONS**

That auditor shall also, on the request of the chief auditor:

- (1) place at the disposal of the chief auditor any document relating to the auditor's audit and its results;
- (2) provide all information and explanations the chief auditor considers necessary concerning the auditor's audit and its results.

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**ADDITIONAL AUDIT**

Where the chief auditor considers that the information, explanations and documents provided by an auditor under the second paragraph are insufficient, the chief auditor may conduct such additional audit as he considers necessary.

2001, c. 25, s. 15.

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**ASSISTANCE  
BENEFICIARY**

**107.10.** The chief auditor may conduct an audit of the accounts or documents of any person or body having received financial assistance from the municipality or from a legal person or body referred to in subparagraph 2 or 3 of the first paragraph of section 107.7 to verify the use made of such assistance.

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**ACCOUNTS AND  
DOCUMENTS**

The municipality and the person or body having received the financial assistance are required to furnish to or place at the disposal of the chief auditor any accounts and documents that the chief auditor considers relevant to the performance of the chief auditor's duties.

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**INFORMATIONS**

The chief auditor is authorized to require from any officer or employee of the municipality or from any person or body having received financial assistance any information, reports and explanations the chief auditor considers necessary to the performance of the chief auditor's duties.

2001, c. 25, s. 15; 2018, c. 8, s. 44.

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**PENSION PLAN  
OR FUND**

**107.11.** The chief auditor may conduct an audit of the pension plan or pension fund of a pension committee of a municipality or a legal person referred to in paragraph 2 of section 107.7 where the committee requests the chief auditor to do so with the approval of the council.

2001, c. 25, s. 15.

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**INVESTIGATION  
ON DEMAND**

**107.12.** The chief auditor shall, every time the council so requests, investigate and report on any matter within the competence of the chief auditor. In no case, however, may the investigation take precedence over the primary responsibilities of the chief auditor.

2001, c. 25, s. 15.

## **D. – Reporting**

2018, c. 8, s. 45.

### **ANNUAL REPORT**

**107.13.** Not later than August 31 each year, the chief auditor shall transmit a report presenting the results of the audit for the fiscal year ended on December 31 to the mayor of the municipality, or to the legal person or body, that was audited.

A report on the audit of a legal person or body shall also be transmitted to the mayor of a municipality related to the legal person or body under subparagraph 2 or 3 of the first paragraph of section 107.7, subparagraph 4 or 5 of the first paragraph of section 85 of the Act respecting the Commission municipale (chapter C-35), or subparagraph 2 or 3 of the first paragraph of article 966.2 of the Municipal Code of Québec (chapter C-27.1).

Where applicable, the report must also indicate any fact or irregularity concerning, in particular:

- (1) control of revenue including assessment and collection;
- (2) control of expenditure, including authorization, and compliance with appropriations;
- (3) control of assets and liabilities including related authorizations;
- (4) accounting for operations and related statements;
- (5) control and safeguard of property owned or administered;
- (6) acquisition and utilization of resources without sufficient regard to economy or efficiency;
- (7) implementation of satisfactory procedures to measure and report effectiveness in cases where it is reasonable to do so.

The chief auditor may also, at any time, transmit to the mayor of a municipality or to a legal person or body a report presenting his findings and recommendations. Such a report concerning a person or body must also be transmitted to the mayor of a municipality related to the person or body under the provisions mentioned in the second paragraph.

The mayor of a municipality shall file any report he receives under this section at the first regular sitting of the council following receipt of the report.

2001, c. 25, s. 15; 2010, c.18, s. 21; 2018, c. 8, s. 46.

**107.14. (Repealed).**

2001, c. 25, s. 15; 2006, c. 31, s. 16; 2010, c. 18, s. 22; 2017, c. 13, s. 50; 2018, c. 8, s. 47.

**107.15. (Repealed).**

2001, c. 25, s. 15; 2018, c. 8, s. 47.

**E. – Immunity**

2018, c. 8, s. 48.

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**NON-  
COMPELLABILITY**

**107.16.** Notwithstanding any general law or special Act, neither the chief auditor nor the employees under the chief auditor’s direction or the professionals under contract may be compelled to give testimony relating to any information obtained in the performance of their duties or to produce any document containing such information.

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**IMMUNITY**

Neither the chief auditor nor the employees under the chief auditor’s direction may be prosecuted by reason of any act they have done or failed to do in good faith in the performance of their duties.

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**PROHIBITED  
CIVIL ACTION**

No civil action may be instituted by reason of the publication of a report of the chief auditor prepared under this Act or of the publication in good faith of an extract or summary of such a report.

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**PROHIBITED  
RECOURSE**

Except on a question of jurisdiction, no application for judicial review under the Code of Civil Procedure ([chapter C-25.01](#)) may be exercised nor any injunction granted against the chief auditor, the employees under the chief auditor's direction or the professionals under contract acting in their official capacity.

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**CANCELLATION**

A judge of the Court of Appeal, on an application, may summarily annul any proceeding instituted or decision rendered contrary to the provisions of the first paragraph.

2001, c. 25, s. 15; I.N. 2016-01-01 (NCCP).

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**AUDIT COMMITTEE**

**107.17.** The council may establish an audit committee and determine its composition and powers.

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**AUDIT COMMITTEE  
OF THE URBAN  
AGGLOMERATION OF  
MONTRÉAL**

Despite the first paragraph, in the case of the urban agglomeration of Montréal, the council must establish an audit committee composed of not more than 10 members appointed on the proposal of the mayor of the central municipality. Two of the committee members must be council members representing the reconstituted municipalities. Those two members shall take part in deliberations and votes of the committee on any matter related to an urban agglomeration power.

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## **OPINIONS AND INFORMATIONS OF THE COMMITTEE**

In addition to the other powers that may be entrusted to it, the committee established in the case of the urban agglomeration of Montréal shall submit opinions to the urban agglomeration council on the requests, findings and recommendations of the chief auditor concerning the urban agglomeration. It shall also inform the chief auditor of the interests and concerns of the urban agglomeration council with respect to the audit of the accounts and affairs of the central municipality. On an invitation by the committee, the chief auditor or a person designated by the chief auditor may attend a sitting and take part in deliberations.

2001, c. 25, s. 15; 2008, c. 19, s. 11; 2009, c. 26, s. 19.

### ***V. — External auditor***

2001, c. 25, s. 16.

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## **APPOINTMENT OF AN EXTERNAL AUDITORS**

**108.** The council shall appoint an external auditor for not less than three nor more than five fiscal years. At the end of the term, the external auditor shall remain in office until replaced or reappointed.

In the case of a municipality with a population of at least 10,000 but less than 100,000 inhabitants, the council may appoint two external auditors. In such a case, the council shall entrust one auditor with the audit mandates under section 108.2 and the other with the audit mandate under section 108.2.0.1.

Every external auditor must be a member of the Ordre des comptables professionnels agréés du Québec.

When carrying out their value-for-money audit mandate and despite any general law or special Act, neither an external auditor nor the employees under the external auditor's direction or the professionals under contract may be compelled to give testimony relating to any information obtained in the performance of their duties or to produce any document containing such information. A judge of the Court of Appeal may, on an application, summarily annul any proceeding instituted or decision rendered contrary to this paragraph.

Neither an external auditor nor the employees under the external auditor's direction may be prosecuted for any act they have done or failed to do in good faith in the performance of the duties related to their value-for-money audit mandate.

No civil action may be instituted for the publication of a report of an external auditor prepared under this Act in connection with a value-for-money audit mandate or the publication in good faith of an extract or summary of such a report.

Except on a question of jurisdiction, no application for judicial review under the Code of Civil Procedure ([chapter C-25.01](#)) may be exercised nor any injunction granted against an external auditor, the employees under the external auditor's direction or the professionals under contract when the external auditor, employees or professionals are acting in their official capacity in connection with their value-for-money audit mandate.

R. S. 1964, c. 193, s. 104; 1975, c. 66, s. 11; 1984, c. 38, s. 11; 1995, c. 34, s. 12; 1996, c. 27, s. 12; 1999, c. 43, s. 13; 2001, c. 25, s. 17; 2003, c. 19, s. 110, s. 250; 2005, c. 28, s. 196; 2009, c. 26, s. 109; 2016, c. 17, s. 8; 2018, c. 8, s. 49.

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## VACANCY

**108.1.** If the office of the external auditor becomes vacant before the expiry of his term, the council shall fill the vacancy as soon as possible.  
1984, c. 38, s. 11; 2001, c. 25, s. 18; 2003, c. 19, s. 111.

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## DUTIES

**108.2.** The external auditor of a municipality having less than 100,000 inhabitants, or the external auditor designated by the council where two external auditors have been appointed, shall audit, for the fiscal year for which he was appointed.

- (1) the financial statements of the municipality and of any legal person referred to in subparagraph 4 of the first paragraph of section 85 of the Act respecting the Commission municipale (chapter C-35) that is related to the municipality in the manner provided for in that subparagraph;
- (2) the effective aggregate taxation rate to verify its compliance with Division III of Chapter XVIII.1 of the Act respecting municipal taxation (chapter F-2.1);
- (3) any document determined by the Minister of Municipal Affairs, Regions and Land Occupancy by a regulation published in *the Gazette officielle du Québec*.

1984, c. 38, s. 11; 1996, c. 2, s. 209; 1999, c. 43, s. 13; 2001, c. 25, s. 19; 2003, c. 19, s. 250; 2005, c. 28, s. 196; 2006, c. 31, s. 17; 2009, c. 26, s. 109; 2017, c. 13, s. 51; 2018, c. 8, s. 50.

**108.2.0.1.** In addition to his mandate under section 108.2, the external auditor of a municipality having at least 10,000 but less than 100,000 inhabitants, or the designated auditor, as applicable, shall conduct, to the extent he considers appropriate, a value-for-money audit of the municipality and of any legal person or any body referred to in subparagraph 4 or 5 of the first paragraph of section 85 of the Act respecting the Commission municipale (chapter C-35) that is related to the municipality in the manner provided for in that subparagraph.

Such an audit must be completed once every two years.

The auditor shall report to the council on his audit.

If, under this section, section 107.7, article 966.2.1 of the Municipal Code of Québec ([chapter C-27.1](#)) or section 86 of the Act respecting the Commission municipale, a mandate to audit certain aspects of the accounts and affairs of a body referred to in the first paragraph of section 573.3.5 is entrusted to more than one auditor, the audit of those aspects must be conducted exclusively by the following designated auditor:

- (1) the chief auditor of the municipality with the largest population;
- (2) if no chief auditor of a municipality is concerned, the Commission municipale du Québec; or
- (3) if neither a chief auditor of a municipality nor the Commission is concerned, the external auditor of the municipality with the largest population.

2018, c. 8, s. 51.

**108.2.0.2.** A municipality referred to in section 108.2.0.1 may, by by-law, entrust to the Commission municipale du Québec the audit mandate provided for in that section. An authenticated copy of the by-law must be transmitted to the Commission without delay.

A by-law made under the first paragraph applies from the fiscal year following that of its coming into force, provided it comes into force before 1 September; if it does not, the by-law applies from the second fiscal year following that of its coming into force. Section 108.2.0.1 ceases to apply to the municipality's external auditor as of that fiscal year.

Despite the third paragraph of section 86 of the Act respecting the Commission municipale ([chapter C-35](#)), the audit mandate entrusted to the Commission by a by-law adopted under this section must be carried out once every two years.

The by-law may not be repealed.

2018, c. 8, s. 51.

**108.2.1.** The external auditor of a municipality having 100,000 inhabitants or more shall audit, for the fiscal year for which he was appointed,

- (1) the accounts and affairs of the chief auditor;
- (2) the financial statements of the municipality and of any legal person referred to in subparagraph 2 of the first paragraph of section 107.7;
- (3) the effective aggregate taxation rate to verify its compliance with Division III of Chapter XVIII.1 of the Act respecting municipal taxation (chapter F-2.1); and;
- (4) any document determined by the Minister of Municipal Affairs, Regions and Land Occupancy by a regulation published in the *Gazette officielle du Québec*.

2001, c. 25, s. 20; 2001, c. 68, s. 7; 2003, c. 19, s. 250; 2005, c. 28, s. 196; 2009, c. 26, s. 109; 2017, c. 13, s. 52; 2018, c. 8, s. 52.

**108.2.2.** An audit conducted by an external auditor must not call into question the merits of the policies and objectives of the municipality or of a person or body whose accounts and affairs are being audited.

2018, c. 8, s. 53.

**108.3.** Each year, not later than on the date determined by the municipal council, the external auditor shall transmit any report for the preceding fiscal year that was made under section 108.2, 108.2.0.1 or 108.2.1 to the treasurer of the municipality concerned or to the legal person or body concerned.

Any report on the audit of a legal person or a body must also be transmitted to the mayor of a municipality related to the legal person or body under subparagraph 2 or 3 of the first paragraph of section 107.7 or under subparagraph 4 or 5 of the first paragraph of section 85 of the Act respecting the Commission municipale (chapter C-35).

Any report made under section 108.2.0.1 on the value-for-money audit of a municipality having at least 10,000 but less than 100,000 inhabitants must also be transmitted to the Commission municipale du Québec not later than 30 September following the last fiscal year to which the report pertains. The Commission shall publish the report on its website.

The treasurer of a municipality shall file any report he receives under this section at the first regular sitting of the council following receipt of the report.

1984, c. 38, s. 11; 2001, c. 25, s. 21; 2010, c. 18, s. 23; 2017, c. 13, s. 53; 2018, c. 8, s. 54.

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## **COUNCIL'S REQUIREMENT**

**108.4.** The council may require any other audit it considers necessary, and require a report.

However, a council may not ask the external auditor for audits that fall under the mandate assigned to the Commission municipale du Québec under the Act respecting the Commission municipale (chapter C-35).

1984, c. 38, s. 11; 2018, c. 8, s. 55.

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## **DOCUMENTS AND INFORMATIONS**

**108.4.1.** The external auditor shall have access to the books, accounts, securities, documents and vouchers and may require the employees of the municipality to furnish any information and explanations necessary for the performance of the external auditor's mandate.

2001, c. 25, s. 22.

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## DOCUMENTS

**108.4.2.** The chief auditor shall place at the disposal of the external auditor all books, statements and other documents prepared or used by the chief auditor during the audit conducted under section 107.7 and that the external auditor considers necessary to carry out his mandate.

2001, c. 25, s. 22; 2005, c. 28, s. 49.

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## INELIGIBILITY

**108.5.** In no case may the following persons act as external auditor of the municipality;

- (1) a member of the council of the municipality and, where applicable, of a borough council;
- (2) an officer or an employee of the municipality;
- (3) the associate of a person mentioned in paragraph 1 or 2;
- (4) a person who, during the fiscal year for which the audit is carried out, has, directly or indirectly, personally or through his associate, any participation, interest or commission in or under a contract with the municipality or in respect of such a contract, or who derives any benefit from the contract, unless his connection with the contract arises from the practice of his profession.

1984, c. 38, s. 11; 1996, c. 2, s. 209; 1999, c. 40, s. 51; 2001, c. 25, s. 23.

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## RESPONSIBILITY

**108.6.** The external auditor may be an individual or a partnership. The external auditor may entrust his employees with his work but his responsibility is then the same as if he had performed all the work personally.

1984, c. 38, s. 11; 1999, c. 40, s. 51; 2001, c. 25, s. 24.

## **VII. – *Director general***

### **CHIEF OFFICER**

**113.** The director general is the chief officer of the municipality.

### **AUHORITY**

The director general has authority over all the other officers and employees of the municipality, except the chief auditor, who reports directly to the council. With respect to an officer or employee whose duties are prescribed by law, the authority of the director general is exercised only within the framework of his duties as the administrator of human, material and financial resources of the municipality and may in no case hinder the carrying out of duties that are prescribed by law.

### **POWER OF SUSPENSION**

The director general may suspend an officer or employee from his duties. He shall immediately make a report of the suspension to the council. The council shall decide the case of the suspended officer or employee, after inquiry.

R. S. 1964, c. 193, s. 109; 1968, c. 55, s. 5; 1983, c. 57, s. 50; 2001, c. 25, s. 27.

## **9.2. Appendix 2 - Report of the Independent Auditor**

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# Accounts statement of the Bureau du vérificateur général of the Ville de Montréal

Year ended December 31, 2019

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## Independent Auditor's Report

To the Mayor,  
the Chairman and Members of the Executive Committee,  
the Members of the Municipal Council of the Ville de Montréal, and  
the Members of the Agglomeration Council of the Ville de Montréal

### Opinion

We have audited the accounts statement of the Bureau du vérificateur général of the Ville de Montréal (the "Bureau du vérificateur général") for the year ended December 31, 2019, and the note to the statement, including a summary of significant accounting policies (collectively referred to as the "statement").

In our opinion, the accompanying statement for the year ended December 31, 2019, is prepared, in all material respects, in accordance with the basis of accounting described in Note 1 to the statement.

### Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Statement* section of our report. We are independent of the Ville de Montréal in accordance with the ethical requirements that are relevant to our audit of the statement in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Emphasis of Matter – Basis of Accounting

We draw attention to Note 1 to the statement, which describes the basis of accounting. The statement is prepared to assist the Bureau du vérificateur général to meet the requirements of the section 108.2.1 of the *Cities and Towns Act*. As a result, the statement may not be suitable for another purpose. Our opinion is not modified in respect of this matter.

### Responsibilities of Management for the Statement

Management of the Bureau du vérificateur général is responsible for the preparation of the statement in accordance with the basis of accounting described in Note 1, and for such internal control as management determines is necessary to enable the preparation of a statement that is free from material misstatement, whether due to fraud or error.

### Auditor's Responsibilities for the Audit of the Statement

Our objectives are to obtain reasonable assurance about whether the statement is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this statement.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the statement, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bureau du vérificateur général's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates, if any, and related disclosures made by management.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

A handwritten signature in dark ink that reads "Deloitte LLP". The signature is written in a cursive, flowing style.

May 14, 2020

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<sup>1</sup> CPA auditor, CA, public accountancy permit No. A116207

## Bureau du vérificateur général of the Ville de Montréal

### Accounts statement

Year ended December 31, 2019

(In thousands of dollars)

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	<b>2019<sup>(1)</sup></b>	<b>2019</b>	2018
	<b>Budget</b>	<b>Actual</b>	Actual
	\$	\$	\$
Compensation of personnel	<b>4,322</b>	<b>4,241</b>	4,188
Professional, technical and administrative services	<b>1,572</b>	<b>588</b>	879
Other operating expenses	<b>156</b>	<b>147</b>	234
<b>Total</b>	<b>6,050</b>	<b>4,976</b>	5,301

<sup>(1)</sup> Approved budget, as modified, presented in the accounting system of the Ville de Montréal for the Bureau du vérificateur général and adopted by the municipal council and the agglomeration council of the Ville de Montréal.

**1. Accounting policy**

This accounts statement of the Bureau du vérificateur général was prepared in accordance with the recognition and measurement principles of Canadian public sector accounting standards, according to the same accounting policies described in Note 2 to the consolidated financial statements of the Ville de Montréal for the year ended December 31, 2019, with the exception that fixed assets are not capitalized and amortization that would result from them is not considered.



