



Report of the Auditor General of the Ville de Montréal to the City Council and to the Urban Agglomeration Council

For the Year Ended December 31, 2015

Comments from the Auditor General

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1. Comments from the Auditor General

This report will be my last, because my mandate will end on June 2 of this year. Under the circumstances, it seems appropriate to summarize the highlights of the value-for-money (VFM) and information technology (IT) audits that were conducted by the BVG during my seven-year term. I would also like to highlight the key measures that the municipal administration has taken or initiated as well as the measures it must keep in place in order to remedy the main deficiencies identified.

First of all, allow me to remind you briefly of the auditor general's role and mission. The auditor general assists city council in the execution of its governance duties by keeping it up to date on the diligent and optimal use of public funds by the municipal administration. By means of fully independent audits and the publication of reports that are available to the public, the auditor general plays a critical role in promoting the transparency and accountability of municipal operations.

For this purpose, the Bureau du vérificateur général's (BVG's) philosophy is to favour an audit strategy which attempts to:

- determine the major risks involved in achieving the objectives pursued and possible solutions for managing these risks;
- evaluate the performance of the city's major activities in terms of economics, efficiency and effectiveness;
- look for possible ways to improve public services or reduce their costs.

In addition to highlights of the audits conducted by the BVG during my mandate (section 1.1), I also think it is important to discuss the following matters of interest:

- 1.2 Rate of Implementation of the Recommendations Issued by the Bureau du vérificateur général;
- 1.3 Maintaining the Bureau du vérificateur général's Expertise;
- 1.4 Independence of the Auditor General;
- 1.5 Final Thoughts.



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For the Year Ended December 31, 2015

1.1

Summary of Highlights and Related Issues (2009–2015)



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Over the seven years of my term, the BVG has conducted some 72 VFM and IT audits covering a vast range of the activities of the city and the bodies reporting to it. I would like to recall the main highlights of these audits, which I have grouped under the following topics:

- 1.1.A Water Meters;
- 1.1.B Telecommunications Services Outsourcing Project;
- 1.1.C Distribution of Contracts Awarded by Authorities to Contractors;
- 1.1.D Integrated Control System of the Montréal Metro (STM);
- 1.1.E Public Self-Serve Bicycle Project (BIXI);
- 1.1.F Implementation Plan for Infrastructure Work and Quality Control of Materials;
- 1.1.G Application of the *By-Law Concerning the Sanitation, Maintenance and Safety of Dwelling Units*;
- 1.1.H Fire Safety Cover Plan and Fire Hydrants;
- 1.1.I Physical and Logical Penetration Tests;
- 1.1.J Snow Clearing Contracts and Contracts for the Collection and Transportation of Residual Materials;
- 1.1.K Compliance with Laws and By-Laws;
- 1.1.L Information Technology Governance;
- 1.1.M Management of Financial Contributions;
- 1.1.N Business Continuity Management and Information and Communications Technology Recovery Management.

1.1.A. Water Meters

When I took up my duties on June 2, 2009, the Bureau du vérificateur général had been propelled to centre stage in municipal politics: city council had just awarded it a special sweeping mandate to audit the contracting of water meters in the Industrial, Commercial and Institutional (ICI) sectors and the optimization of the network. I assembled and supervised a team of professionals that included forensic accountants, lawyers and engineers with expertise in the water sector. During the summer of 2009, the audit turned into an investigation, raising questions that were brought to the attention of the Sûreté du Québec.

At my press conference that followed the publication of my special report on water meters, in September 2009, I ended with the words: “**Too big, too fast, too expensive.**” Among the key findings, it was revealed that:

- Administrative and legal rules had not been complied with;
- Elected officials sitting on city council and the urban agglomeration council had been misinformed;
- The municipal administration no longer had the human resources in its administrative structure to counterbalance private business;
- The initial project to install water meters was misrepresented, with elected officials not having all the information, and the cost surged from \$40 million to more than \$600 million;
- The city did not have the means to fight corruption and collusion;
- The city was not monitoring the cost of its projects;
- The contract-awarding process was not audited, as was originally planned. Significant irregularities were identified in both the bids and the awarding process;
- The project costs were too high;
- Nearly half of the water meters planned would never be installed.

These findings led to the following recommendations:

- *The city’s internal expertise in developing and managing complex projects needs to be reinforced as a counterweight to approaches and solutions proposed by external firms;*
- *Project management governance practices need to be reviewed.*

Besides cancelling the water meter contract, the municipal administration overhauled its administrative structure and adopted various measures to follow up on my recommendations, which included a review of procurement practices, the creation of the Bureau du contrôleur général and the implementation of a new “Cadre de gouvernance des projets et des programmes de gestion d’actifs municipaux” [TRANSLATION: governance framework for municipal asset management projects and programs].

Concerning this last point, there is still an ongoing need for the administration to deploy resources to ensure that all business units comply with this management framework in their implementation of municipal asset management projects and programs.

1.1.B. Telecommunications Services Outsourcing Project

This \$100 million project was supposed to ensure the availability and development of high-performance networks at the lowest cost for the city. The decision-making summary of the

contracts associated with this project alludes to savings of \$50 million over a span of 10 years, mainly through the major transfer of wireline telephony to IP telephony and a reduction in projected investments.

My 2009 audit of wireline telephony and data transmission contracts revealed deficiencies in the needs definition process, inconsistencies in the outsourcing strategy, discrepancies in the understanding of specifications and a major reorganization of the staff involved in the project, both at TELUS and at the city. This resulted in several issues related to the handling and management of the contracts, financial commitments and achieving the objectives of the outsourcing strategy. For this purpose, a joint issue resolution committee was set up at that time to resolve disputes between the city and TELUS. My audit also revealed troubling facts that were relayed to police authorities.

Moreover, at the end of a related audit conducted to follow up on the recommendations published in my 2014 Annual Report, I concluded that all but two issues had been resolved. These were important issues related to project governance: accountability reporting and the financial framework.

On the one hand, my 2014 report noted that “although a certain amount of accountability reporting has been done with the Direction générale and the executive committee, a formal and systematic process has yet to be defined and implemented.” Indeed, elements related to the achievement of goals and the monitoring of risks were essentially being performed on an ad hoc basis and authorities were receiving little information in this regard.

On the other hand, I noted that as of 2014, the financial framework for the project had still not been submitted to the authorities. This situation was of concern to us because it had already been established and recognized by the Service des technologies de l’information (STI) that by the end of the anticipated term of the telecommunications outsourcing project, November 2018, the projected costs would surpass the authorized financial framework by close to \$32 million.

Nevertheless, based on a legal opinion, the STI informed me that the contract would end when budget funds approved by authorities at the time it was awarded were used up. The city would therefore likely need to award a new data transmission contract in the fall of 2016, roughly two years before the expiry of the initially planned deadline.

This possibility meant that the contract-awarding process would have to be undertaken no later than the fall of 2015. It also meant adopting guidelines for telecommunications; developing a contract-awarding strategy; developing specifications; drafting a contract

proposal; launching a call for tenders; allowing a reasonable deadline for bidders to submit their tenders; and providing timeframes for reviewing the bids received, for submitting the recommendation to authorities—all the way up to the urban agglomeration council—, for approval, and for ensuring a smooth transition between the two contracts.

In June 2015, the STI submitted accountability reports on the financial framework of this project to the executive committee, expressing its intention to adopt a new strategic approach to telecommunications. I believe that this outsourcing project will be a learning experience for the city. The key challenge will be to implement an aggressive strategy to mitigate the aforementioned risks.

1.1.C. Distribution of Contracts Awarded by Authorities to Contractors

In my 2009 Annual Report, I discussed the distribution of contracts awarded to contractors from 2006 to 2009. An examination of the city's databases revealed that a sizeable proportion of the contracts awarded by borough councils, the executive committee, city council or the urban agglomeration council went to 21 contracting firms.

More specifically, for this period, I had examined in detail the distribution of contracts awarded to these 21 firms by the borough council of each of the 19 boroughs. In view of the results obtained, I shared my concerns that some boroughs were awarding a large share of their contracts to the same contractors within the group of 21 firms, even though contracts were awarded to the lowest compliant bidders. I had immediately recommended that the municipal administration continue the processes it had already undertaken to improve management and monitoring of the contract-awarding process by the city's various administrative units.

As part of my 2011 Annual Report, I followed up on the implementation of these processes. I noted at that time that the municipal administration had in fact expended a great deal of effort to review its methods and tighten the necessary controls. At the same time, there came into force a variety of legislative provisions governing the contract-awarding process used by municipal bodies.

This follow-up process also led me to appreciate the extent to which all the controls introduced by the municipal administration had helped reduce the concentration of contracts awarded to the same contractors. In short, the results of this follow-up led me to believe that the series of measures proposed by the municipal administration and the provincial legislator

to improve the management and monitoring of the contract-awarding process through the city's various administrative units is tending to yield positive results.

Since then, I noted that, at the city's request, the legislator had adopted several orders-in-council. The two most recent ones lowered to \$100,000 the expenditure threshold for contracts requiring the contractor to obtain authorization from the Autorité des marchés financiers (AMF) to enter into contracts for the construction of roads, sewers and water mains. These measures should help mitigate the risk of official misconduct.

Moreover, I can only commend city council's decision to create the Bureau de l'inspecteur général (BIG) in 2014. My office has worked closely with the BIG because of our mutual interests and the complementary nature of our respective mandates.

The challenge facing the municipal administration will be to ensure monitoring of compliance with all the laws and by-laws, as well as with the new conditions that will be imposed on contractors when contracts are awarded.

1.1.D. Integrated Control System of the Montréal Metro (STM)

In the special report I submitted in June 2011, I called attention to several significant problems in the management of this project to replace the integrated control system of the Montréal metro. This project was vital to the continuing operation of the metro, because the control centre that existed at that time was obsolete and the Société de transport de Montréal (STM) faced major obstacles in procuring replacement computer components. Our audit revealed an explosion of costs and delays relative to initial estimates. The projected cost soared to \$200 million, far above the initial estimate of just \$33 million. The anticipated project completion time was 3.5 times longer than initially planned. In the explanations given for these major discrepancies, the BVG noted departures from principles of sound project management and governance. The fields of software engineering and systems engineering were neglected. We also had major concerns about tests conducted on the integrated control system to ensure a high-quality solution and compliance with timelines.

In executing highly complex projects such as this one, the STM must be sure to conduct an in-depth risk analysis of each project, taking its unique characteristics into account, so that it can select the right project management tools and ensure that the project participants have the necessary expertise and skills. Rigorous formal project governance mechanisms will need to be put in place.

1.1.E. Public Self-Serve Bicycle Project (BIXI)

In the special report tabled in June 2011, I wanted to ensure that agreements among the Société en commandite Stationnement de Montréal (SCSM), the Société de vélos en libre-service (SVLS) and the city were compliant. I also wanted to assess the financial impacts of implementing and operating BIXI for the city as well as evaluate how governance and accountability reporting mechanisms impacted on management of the project.

My report brought to light several administrative and legal problems. One of these concerned the legal framework, which prohibited the SVLS from carrying out commercial activities, i.e., selling its concept of self-serve bicycles in other cities in Canada or abroad. The SVLS's commitment to divest itself of its international activities in fact became a condition for allowing the city to provide the SVLS with financial assistance.

With respect to financial impacts, I had reached the conclusion that the city was indirectly funding the SVLS's activities through the SCSM and that the SCSM's involvement could compromise the SVLS's ability to meet its commitments to the city. I also expressed doubts concerning the future cost-effectiveness of the SVLS and about the risk of a lack of cash flow at the time of asset renewal. Lastly, I discussed the impact of the funding structure, including the risk that any potential losses may have to be permanently absorbed by the city.

In September 2013, in a letter to the chair of SVLS's board of directors, I again expressed my concerns that the SVLS may not be able to continue its operations because of a lack of cash flow, and that, as a result, I was unable to express an opinion on the 2012 financial statements.

In January 2014, the city, which was then the SVLS's main creditor, declared its intention to seize the SVLS's assets. Incapable of raising funds, the SVLS had no other choice than to turn to the protection of the *Bankruptcy and Insolvency Act*, which it did on January 20, 2014.

1.1.F. Implementation Plan for Infrastructure Work and Quality Control of Materials

In my 2010 Annual Report, I called attention to the terrible condition of several bridges and tunnels under the city's responsibility. I noted that for several years, significant underinvestment had played a part in accelerating the deterioration of these infrastructures. In the action plan of the business unit concerned, it was noted that the recommendations of the Bureau du vérificateur général would be taken into account.

Moreover, in my 2012 Annual Report, I pointed out that a major underinvestment problem plagued the maintenance and replacement of secondary water and sewer system infrastructures. The same was true of the arterial road system. In both cases, underinvestment contributed to the accelerating deterioration of infrastructures, similarly to bridges and tunnels. At that time I noted that if nothing were done to correct the situation, the city could find itself in a critical position in which the ensuing backlog would be difficult and very costly to address. Once again, action plans were drafted by the city outlining pertinent corrective measures.

In my 2013 annual report, I discussed the activities undertaken to monitor the quality of materials used to replace and maintain infrastructures, including bridges, tunnels and road, water and sewer systems. Findings in this area led me to believe that construction work on the city's infrastructures may have been done without obtaining the assurance that the quality of the materials used was adequate and consistent with the city's needs. This was particularly worrisome in the existing context, with many of the city's infrastructures already in a state of disrepair.

I added that there is an undeniable link between the deteriorating condition of the city's infrastructures and the quality of the materials used and compliance of their installation. Even though this is not the only underlying cause of the precarious state of infrastructures, it is reasonable to conclude that the lack of quality control with regard to the materials used could be driving factors behind the poor condition of the city's infrastructures. Furthermore, it is disturbing to realize that past infrastructure investments may have been made without a comprehensive quality control process in place to ensure that the materials and installation adhered to strict standards.

Considering that, in the coming years, the city will need to make substantial investments in infrastructure renewal, it was important to implement sufficient controls to ensure the quality of the materials used and avoid squandering public funds on substandard work whose durability may be compromised as a result.

The city has announced substantial infrastructure investments since these annual reports were published. To improve the situation, the city created a 10-year capital expenditures program, the Programme montréalais d'immobilisation (PMI), raising the annual amounts of the three-year capital expenditures program (TCEP) from \$1.3 billion in 2014 to \$2.1 billion in 2024. The 2015–2017 TCEP calls for total investments of \$4.562 billion, an increase of more than 20% over the previous TCEP level. In addition to this increase, the Direction générale has set a goal of increasing the implementation rate for projects under the TCEP to

25% while ensuring that projects are executed at the lowest cost for the city. It should be noted, however, that the actual increase recorded in 2015 was about 5%.

Concerning quality control for materials used, I noted that since that time, under a quality assurance program that has been set up, mandates for quality control testing of materials are now assigned to external firms to ensure that work is executed in compliance with technical specifications.

Over the next few years, the city will face the challenge of boosting the implementation rate of projects under the TCEP and ensuring that projects are implemented in accordance with the quality standards demanded by the city while also ensuring sufficient investments to bring the maintenance deficit under control.

1.1.G. Application of the *By-Law Concerning the Sanitation, Maintenance and Safety of Dwelling Units*

The purpose of this audit, which was conducted in 2011 in four boroughs and at the office of the Direction de l'habitation, was to ensure that they had implemented appropriate measures for enforcement of the *By-Law Concerning the Sanitation, Maintenance and Safety of Dwelling Units* and the action plan that was adopted to support it so that they could achieve objectives related to minimum housing conditions for all and improvement of housing quality.

In order to channel responses towards the priorities and assess the effectiveness of measures taken, I recommended that the necessary steps be taken to establish a comprehensive overview of the location of problematic housing, to keep the overview up to date and to reassess the response strategy for the purpose of implementing a preventive inspection program. In addition, in order to ensure rigorous follow-up in the implementation of the corrective measures prescribed, I recommended that the necessary steps be taken to ensure that inspectors conduct a follow-up inspection immediately following the deadlines set for offenders and, finally, that reports be submitted to managers so that they can assess and track the lengths of response times following the deadlines set for offenders.

Since that time, I have noted that tools have been developed that provided business units with up-to-date knowledge of the condition of dwellings on their territory. In addition, in 2015, a \$400,000 budget was approved to add upgrades to the computer application used to ensure follow-up of inspection activities and to enable reports to be generated to meet needs.

Nevertheless, business units must remain proactive in exercising rigorous control over operations to ensure minimum sanitation conditions of dwellings on the city's territory.

1.1.H. Fire Safety Cover Plan and Fire Hydrants

Within the scope of my 2012 Annual Report, I conducted an audit of the Fire Safety Cover Plan (SCRSI) whose objective was to ensure, for the period from 2009 to 2012, that the SCRSI was developing in line with the implementation plan adopted by the urban agglomeration council and certified by the Ministère de la Sécurité publique (MSP).

The SCRSI's implementation was based on the following three components:

- Prevention;
- Emergency Response – Strike Force;
- Water Supply.

The audit revealed that the projected timeline for the SCRSI's implementation plan had not been complied with:

- 1st component – Prevention: the audit revealed a considerable delay in the development and implementation of the integrated fire prevention activities management system (SGIAP). The planned completion date of the project was postponed until 2014 without the MSP's approval.
- 2nd component – Emergency Response – Strike Force: my findings revealed that there were delays in the construction of fire stations 32 and 59.
- 3rd component – Water Supply: I found that the Service de sécurité incendie de Montréal (SIM) had not conducted any feasibility studies or done any cost estimates for projects aimed at solving the water supply problem for the western part of the island.

Failure to meet the SCRSI's initial timelines could potentially result in legal action that could challenge the city's exemption from liability (immunity) (under an urban agglomeration power).

As a follow-up to these findings, I recommended that the SIM:

- take the necessary steps to ensure compliance with the new timeline for delivery of SGIAP;
- take the necessary steps to ensure compliance with the timelines of construction projects for fire stations 32 and 59;
- ensure that projects aimed at solving the water supply problem are based on adequate feasibility studies and cost estimates.

In response to my recommendations, and as of the drafting of the current annual report, the SIM has implemented corrective measures that satisfy the recommendations. The SGIAP system is now operational, and fire stations 32 and 59 have been built. With respect to the water supply, fire hydrants have been added to the network.

One of the city's major challenges in this front-line public service will be to improve the efficiency of prevention activities by relying on the SGIAP system.

Along the same lines, in 2014 the BVG conducted an audit on fire hydrant maintenance. The purpose of this audit was to ensure that the Service de l'eau was able to assess the boroughs' compliance with established standards in terms of hydrant maintenance and that the SIM has accurate information on the condition of all fire hydrants and their available flow.

The key findings arising from this audit were that fire hydrant maintenance was not being carried out in accordance with good practices, that the SIM did not have a complete, accurate profile of the condition of fire hydrants on the territory of the island of Montréal, especially out-of-service fire hydrants, and that it had not defined problematic sectors, in terms of flow rates and pressures, that had an impact on fire protection on the agglomeration's territory.

In the follow-up conducted in 2015, I noted that implementation of the action plans established by business units is well under way. However, while the actions undertaken are on the right track, it is not possible to confirm that all the objectives have been achieved, especially with regard to the SIM's knowledge of the condition of fire hydrants with an impact on fire protection. It is expected that a large number of measures will be implemented along these lines in 2016.

1.1.I. Physical and Logical Penetration Tests

Throughout my seven-year term, I took to heart issues of security involving infrastructures that were critical to the city's mission and its public services. For this purpose, I conducted several physical and logical penetration tests.

The main purpose of physical penetration tests was to ensure that the monitoring mechanisms in place adequately protected physical access to the buildings housing the city's essential activities. The objective of the logical penetration tests was to test the security of critical IT environments to qualify their resistance to a certain level of cyber attacks from both outside and inside its networks.

As a result of these tests, significant weaknesses were brought to light. For example, for 74% of the sites targeted, my physical penetration tests were totally or partially successful. For obvious security reasons, I will cite no examples of the logical intrusion tests conducted. That is why I did not disclose any detailed results of the tests in my annual reports. Moreover, I want to stress that business units corrected the deficiencies identified.

The municipal administration faces the ongoing challenges of keeping security mechanisms in place and continuing to raise employee awareness.

1.1.J. Snow Clearing Contracts and Contracts for the Collection and Transportation of Residual Materials

The purpose of these audits was to identify the number and the amounts for all snow removal and residual material collection and transportation contracts awarded by the city's 19 boroughs.

The contracts in force for the period spanning from 2005 to 2013 totalled \$528 million for all snow removal operations (snow removal, transportation and disposal, and leasing of equipment) and \$504 million for the collection and transportation of waste materials (household waste and recyclable materials).

While I do not claim to have proved beyond the shadow of a doubt that bid rigging exists among contractors for the purpose of sharing these contracts, my audit brought to light a sufficient number of indicative factors to raise suspicions that such a practice may exist for snow removal operation contracts and to raise very strong suspicions that such a practice likely exists for contracts involving the collection and transportation of household waste and recyclable materials on the territories of different boroughs, to the detriment of obtaining the best prices for the services requested. There were many indications of collusion:

- Contracts were awarded constantly and continuously to a limited number of contractors;
- Throughout the nine-year audit period, some boroughs awarded contracts exclusively to a single contractor;
- Bids made by affiliated companies could promote bid-rigging.

Clearly, in a market in which there is open competition, such a situation would be improbable at the very least.

Of course, the various measures that the provincial government and the city have adopted over the past four years to tighten the contract-awarding rules are likely to eliminate these unfair practices or at least reduce their pervasiveness, but risks subsist nevertheless.

Concerned with the results of my audit, I recommended to the Direction générale that the city's various business units have a historical overview of the distribution and scope of contracts awarded not just on their own respective territories, but for all of Montréal as well.

I also recommended that the Direction générale forward these two audit reports to the Bureau de l'inspecteur général (BIG) to confirm or dispel my fears regarding the existence of cartel agreements in these two industry sectors.

In response to my recommendations, the Direction générale immediately forwarded the report to the BIG, which launched [TRANSLATION] “an extensive investigation into snow removal operations and practices in Montréal.” This investigation confirmed my apprehensions, concluding that several schemes involving collusion and market manipulation existed in the snow removal industry. The BIG proceeded to report them to both the anti-corruption commissioner and the Competition Bureau of Canada, which is responsible for criminal investigations involving conspiracies among competitors and bid-rigging.

In addition, as part of the borough financing reform, city council declared that under section 85.5 of the *Charter of Ville de Montréal*, both snow disposal activities on the local road system and residual material removal, transportation and disposal activities were within its jurisdiction.

Also, as part of the process of reviewing and upgrading the snow removal process, city council declared that snow removal on the local road system was within its jurisdiction, and adopted a snow removal policy.

The major challenge lies in containing the costs of snow removal activities and residual material collection and transportation activities and making them operationally efficient.

1.1.K. Compliance with Laws and By-Laws

The purpose of these audits, conducted from 2013 to 2015, was to examine all of the measures that the business units concerned implemented in order to ensure compliance with certain laws and by-laws governing their activities and public services.

For these three years, my investigation into compliance with laws and by-laws focused on the following areas:

- The parks contribution;
- Hours of driving and rest of heavy vehicle drivers;
- Private security;
- Temporary occupancy of the public domain;
- Protection of buildings against sewer back-ups;
- Authorization to enter into a contract granted by the Autorité des marchés financiers (AMF).

Generally, my audits revealed several situations of non-compliance, about Laws and By-Laws which are mainly attributable to:

- misconceptions about the laws and by-laws;
- improper enforcement of the laws and by-laws;
- non-enforcement of the laws and by-laws;
- lack of monitoring mechanisms to ensure enforcement of the laws and by-laws;
- inconsistency in enforcing the laws and by-laws.

The situation is worrisome because such cases of non-compliance inevitably involve many risks, such as major financial losses, lawsuits, misappropriation of funds, a tarnished image of the city and even citizen dissatisfaction.

For the audits conducted in 2013 and 2014, I recommended that business units establish monitoring mechanisms to ensure that the laws and by-laws governing their areas of responsibility are enforced accordingly.

As a result of my recommendations, business units implemented corrective measures, even though some of the recommendations have yet to lead to corrective measures.

For the audit conducted in 2015, which concerned authorization to enter into a contract granted by the AMF, I noted that the cases of non-compliances observed could be attributed to practically the same causes as those cited above. Accordingly, the recommendations I made were quite similar overall.

Compliance with laws and by-laws is a major issue for the city, involving a wide range of risks. Since laws and by-laws are constantly changing in the world of municipal politics, the major challenge faced by the city in this area will be, first, to continue in its efforts to establish monitoring mechanisms aimed at ensuring compliance, and second, to ensure that it has knowledge of all laws and by-laws governing the city's activities.

1.1.L. Information Technology Governance

As part of my 2014 Annual Report, I audited the city's information technology (IT) governance for the purpose of determining whether the organizational structure and management processes in place ensured that IT efficiently and effectively supported the city's mission, strategies and objectives.

I noted at that time that the organizational structure and management processes currently in place did not ensure that information technology was contributing efficiently or effectively enough to the city's mission, strategies and objectives. At a time when authorities want to tighten the city's budget framework while relying on the strategic contribution of IT, I felt that deficiencies in this area posed major risks, including the risk that:

- available funds are not being allocated to projects that contribute the most to the city's strategic directions;
- IT operating and maintenance expenses are straining resources that could be assigned to more profitable, more proactive activities;
- IT infrastructures and applications quickly become obsolete, requiring major investments;
- the city does not make enough use of technological innovations that would help improve public services more effectively and efficiently;
- effective service levels do not meet the needs of business units, hampering them in the achievement of their own business objectives;
- IT skills are not aligned with future needs, which could create a dependence on external firms;
- authorities are not sufficiently informed of the IT risks to which the city is exposed and may be confronted with crisis situations.

I therefore made a comprehensive recommendation that the Direction générale ratify a scheduled plan outlining the timelines and responsibilities for adopting the following governance elements:

- IT strategic orientations;
- an STI master plan;
- an IT enterprise architecture;
- management frameworks and structure governing relations between the STI and business units, including the establishment of service levels and accountability and budgetary control mechanisms;
- the nature and frequency of reporting to the authorities, including setting and following up on performance targets and IT-related risks.

In response to this recommendation, I was sent a preliminary action plan outlining four priorities: 1) the appointment of a new director (CIO); 2) the adoption of a new STI structure, staffing and staff deployment in 2015; 3) the development of an IT enterprise architecture; and 4) the submission of a detailed action plan for the establishment of IT governance in January 2016.

At the time of writing the current report, I had discussions with the STI about the course of action that should be taken in order to implement this detailed plan. Naturally, the BVG will remain vigilant in this area and will possibly conduct various audits to evaluate the effectiveness of existing measures and the capacity of IT to adhere to the city's strategic orientations effectively and efficiently.

In my opinion, one of the major challenges facing the city, which launched a change initiative known as "Montréal, smart and digital city," will be to have sound IT governance that can provide it with the assurance that its IT investments are sources of added value.

1.1.M. Management of Financial Contributions

The purpose of audits completed in 2014 and 2015 was to ensure that the allocation of financial contributions to organizations was part of an objective, transparent process and to evaluate the extent to which business units monitored the contributions granted by authorities to ensure that the amounts granted were used for the intended purposes. I found that:

- Evidence intended to show that requests were reviewed and to justify financial contribution amounts was not always documented;
- Measurable objectives had not been established, making it difficult for business units to evaluate the results;
- Requirements for organizations were not always the same and sometimes failed to provide for important controls such as the mode of operation demonstrating the use of contributions, the obligation to provide audited financial statements and the recovery of amounts not used for the intended purposes;
- There are deficiencies in the follow-up work done to evaluate the achievement of results and the use of contributions for the intended purposes;
- Boroughs are unable to assess the added value of support provided to organizations.

Since boroughs manage public funds, I believe that action must be taken to establish rules for ensuring the objectivity and transparency of the process. I also believe that authorities must decide on support priorities so that measurable objectives can be set. Thereafter, only organizations that contribute to achieving these objectives must be supported.

In 2015, a task force was created by the table of culture, sports, leisure and social development managers to establish common guidelines for the boroughs and central departments concerned. The Direction générale has also started preparing a guide on the management of financial contributions.

One of the challenges in the next few years will be to evaluate the results obtained by organizations based on the objectives established by the city and whether the contributions made were used for their intended purposes. Another challenge will be to measure the added value generated by the support provided to organizations in connection with the city's priorities.

1.1.N. Business Continuity Management and Information and Communications Technology Recovery Management

As part of this annual report, I am presenting my audit of information and communications technology recovery management, which is the logical continuation of the audit I conducted last year on business continuity management. The dual purpose of these audits was to determine whether the city was taking the necessary steps to deal with the risk of a major disaster that could:

- disrupt its operations, so that it can ensure the continuity of operations considered critical;
- affect its information and telecommunications systems, so that it can ensure adequate ICT recovery.

The business continuity audit focused on the Direction générale, the Direction de l'eau potable of the Service de l'eau, the Service de sécurité incendie de Montréal (SIM), the Service des technologies de l'information (STI) and the Service de Police de la Ville de Montréal (SPVM), while the ICT recovery audit focused on the STI, the SIM, the SPVM and the Direction de l'eau potable (DEP) and the Direction de l'épuration des eaux usées (DÉEU) of the Service de l'eau.

Business Continuity Management

While the city has emergency management measures in place enabling it to react to a major event with a direct impact on its residents, I concluded that it did not have the necessary measures in place to deal with the risk of a disaster disrupting its operations, especially essential activities. In fact, our audit did not reveal evidence of business continuity programs within either the Direction générale or some of the most critical business units: the DEP, the

STI and the SIM. However, the SIM's communications centre has an operational recovery plan that was covered in our audit of ICT recovery management.

I concluded that the SPVM did not have the necessary measures in place to address the risk of a disaster for all its business functions categorized as having their "services covered" in the event of a disaster. Indeed, the SPVM has business continuity plans only for the 9-1-1 Emergency Centre, the Centre de commandement et de traitement de l'information and its operational centres. Each of the SPVM's PDQs (neighbourhood police stations) can be relieved by the others as a result of their numbers and proximity.

If a disaster were to affect essential operations, there is no doubt that the city would resort to improvising its responses. As a result, it is unlikely that critical activities could be recovered in a timely manner. Essential public services would be difficult to maintain.

Based on my findings, I recommended that the Direction générale develop specific business continuity management frameworks as well as a business continuity structure for the city. In response, the Direction générale mandated the Centre de sécurité civile to handle the business continuity management program for the entire city. The Centre will deal first with the SPVM, the SIM, the Service de l'eau and the STI, and then with the city's other departments. As part of the follow-up work for preparing the current report, a three-year plan for 2016 to 2018 was developed by the Centre de sécurité civile, and the staffing process, which involved the hiring of a professional certified in business continuity, was in the process of being finalized.

ICT Recovery Management

Overall, the city does not have an ICT recovery program for dealing with the risk of a major disaster affecting the information and telecommunications systems that support the city's critical activities.

However, adequate ICT recovery measures are in place for the SIM's RAO (computer-assisted dispatch) system and the SPVM's 9-1-1 Emergency Centre systems, while the DEP and the DÉEU of the Service de l'eau have embarked on a procedure for their in-plant activities.

The city entrusted the STI with the mission of maintaining and supporting the modernization of the city's key technological services. The recovery program is an essential component of sound ICT management.

Based on the results of my audit, I believe that the STI is not performing its ICT recovery function. The STI has not:

- adopted a structured, common approach to ICT recovery management;
- integrated ICT recovery into its major incident management process;
- conducted risk and impact analyses for all of its activities;
- adequately documented ICT recovery strategies and plans;
- systematically performed ICT recovery exercises, with the exception of the centralized IBM environment. In this case, the exercises performed are too limited to permit effective validation of recovery processes.

If a disaster were to affect essential operations, there is no doubt that the city would resort to improvising its responses. Further, many ICT systems and infrastructures on which the city's critical activities depend could likely not be recovered in a timely manner.

Based on my findings, I made the key recommendation that the STI develop corporate frameworks, establish the management structure and place at business units' disposal municipal ICT recovery tools so that it can assist the various departments in their ICT recovery operations. The STI and the other business units audited responded favourably to our recommendations.

Given the complexity of the specific activities of the city's business units (industrial operations for the Service de l'eau, policing for the SPVM), the city will be faced with the challenge of introducing a business continuity and ICT recovery program that provides business units with a standardized problem solving procedure in the event of a disaster that reduces the time for resuming critical operations.



**Report of the Auditor General
of the Ville de Montréal**
to the City Council and to the
Urban Agglomeration Council

For the Year Ended December 31, 2015

1.2

**Rate of
Implementation
of the
Recommendations
Issued by the
Bureau du
vérificateur général
(BVG)**



1.2. Rate of Implementation of the Recommendations Issued by the Bureau du vérificateur général (BVG)

The BVG’s policy is to follow up on the recommendations during the year that follows their publication in the annual report. For a given year, the cycle of following up on recommendations normally extends at most over a three-year horizon. Indeed, the BVG considers it reasonable for 100% of the recommendations issued to be implemented within this three-year period, except under very special circumstances where certain recommendations are followed up over an additional year or two.

In 2013, the city’s Direction générale set new performance targets for implementing the BVG’s recommendations. The targets for 2012 and the years thereafter are as follows:

- 70% of the recommendations issued must have been implemented by the end of the first year after they were issued;
- 90% of the recommendations issued must have been implemented by the end of the second year after they were issued.

The table below presents the results of the follow-up to our recommendations for the first three years of our follow-up work.

**Table 1 – Percentage of Recommendations Resolved
at the End of Our Follow-Up Work**

Recommendations for the year	1st year of follow-up (target 70%)	2nd year of follow-up (target 90%)	3rd year of follow-up
2012	43%	65%	79%
2013	44%	67%	N/A
2014	35%	N/A	N/A

In my annual reports for both 2013 and 2014, I indicated that the proportion of recommendations considered “completed” by the end of the first year after they were issued was well below the 70% target set by the Direction générale—43% for the recommendations issued in 2012 and 44% for those issued in 2013.

In light of this finding, I recommended in my 2013 annual report that the Direction générale make business units aware of the importance of implementing the BVG’s recommendations within one year, in most cases, and that this be reflected in the action plans submitted. In my

2014 annual report, I reiterated how important it was for the Direction générale to take the necessary steps to ensure that business units honour the commitments they made regarding action plans that were adopted in order to ensure implementation of the auditor general's recommendations.

However, after the follow-up audit conducted in April 2016, I noted that the situation had not improved. First, only a small percentage (35%) of the recommendations made in 2014, which were in their first year of follow-up following their publication, had the status of "completed." Furthermore, the recommendations made in 2013, which were in their second year of follow-up, and the recommendations that were made in 2012, which were in their third year of follow-up, fell short of the expected implementation target ("completed" status) of 90%, at 67% and 79% respectively. Clearly the situation is deteriorating.

However, at the city council meeting held on December 15, 2014, the president of the executive committee declared that the ultimate goal was to respond to 100% of the issues raised by the auditor general and to attempt to do so by order of priority. Furthermore, he mentioned that he would submit a work plan in response to the priorities.

That being said, the results obtained show that some business units are becoming slack about promptly implementing the recommendations addressed to them. In this context, I maintain that the aforementioned targets of 70% and 90% remain valid interim indicators for the purpose of assessing the overall extent to which the municipal administration is progressing towards the implementation of 100% of the recommendations within a three-year horizon. Indeed, indicators can help the administration more easily identify cases of non-compliance so that it can obtain explanations and ultimately channel decision-making towards necessary corrective action. While we are aware that various other priorities can influence the order in which business units fulfil their commitments, the situation nevertheless reveals a high risk that many of our recommendations will not be implemented during our three-year tracking cycle, unless aggressive remedial action is taken.

As with previous years, I believe that remedial action must be taken as promptly as possible and that business units must be made aware of the importance of implementing the auditor general's recommendations in accordance with the commitments they made in the action plans to ensure the implementation of the recommendations that were addressed to them.



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of the Ville de Montréal**
to the City Council and to the
Urban Agglomeration Council

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1.3

**Maintaining
the Bureau
du vérificateur
général's
Expertise**



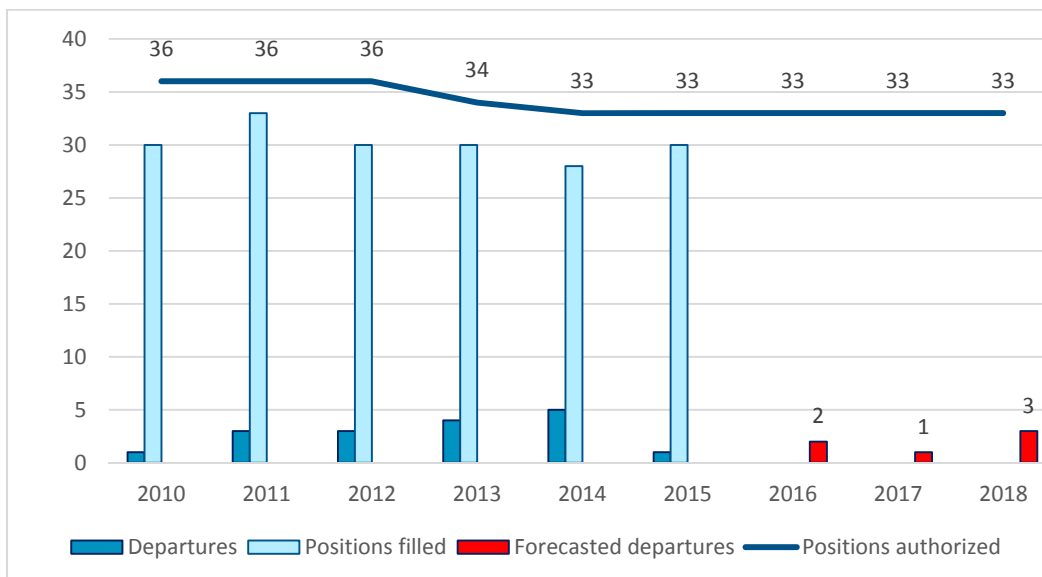
1.3. Maintaining the Bureau du vérificateur général's Expertise

The BVG's credibility and power of influence undoubtedly depend first and foremost on the expertise of its human resources. Given the scope of my mandate and the fact that my report is made public, my staff must have not only an extensive knowledge of various fields but also exceptional auditing skills.

For this purpose, the BVG's philosophy is, first, to have at its disposal internally, insofar as possible, a core of experienced professionals who collectively possess expertise on the city's different spheres of professional activities in the areas covered by my mandate: the financial audit, the value-for-money audit and regulatory compliance. Second, the BVG's philosophy is to hire external resources to meet its ad hoc needs in terms of highly specialized expertise or to even out the workload during the peak period during which it audits financial statements of the city and its reporting entities.

As I have mentioned repeatedly in previous annual reports, attracting and retaining competent resources is an ongoing challenge for the BVG. In fact, the evolution and forecasting of the BVG's workforce from 2010 to 2018 (Figure 1) eloquently illustrate that maintaining our expertise on an ongoing basis is no easy task.

Figure 1 – Evolution and Forecasting of BVG Workforce from 2010 to 2018



Indeed, we note that positions were vacant at the end of every year from 2010 to 2015. Furthermore, as I pointed out in my annual report last year, there is reason for serious concern regarding the situation over the next three years, given that:

- Three positions were vacant as of December 31, 2015;
- Six departures are planned, including three of the four members of the BVG's management team, by the end of 2018;
- The most recent hiring campaigns produced disappointing results, and in the case of the value-for-money field, even disastrous.

Although I successfully obtained the creation of senior professional positions in 2009, and even though the BVG, together with the Service des ressources humaines, examined different possibilities to mitigate the risk of losing expertise, it has become obvious that these measures did not yield the expected results.

In fact, the qualified staff that the BVG requires is difficult to find and in high demand in the private sector and with other public entities. The hiring campaigns conducted in 2015 drew a very limited number of applicants who satisfied the requirements for the position and almost none in the case of the value-for-money field.

This situation seriously threatens our ability to play our role as watchdog of the city's public finances on behalf of the elected officials and citizens of Montréal. Nonetheless, we must continue our efforts to hire qualified employees who are in line with our very high expectations.

I therefore intend to once again ask for the support of the Service des ressources humaines to help the BVG find solutions to the complex issue of maintaining its expertise. As a result of our discussions on the eve of the publication of this report, the Service des ressources humaines committed to examining a variety of possible solutions and clearing the way for my successor to pursue the mission.



Report of the Auditor General of the Ville de Montréal to the City Council and to the Urban Agglomeration Council

For the Year Ended December 31, 2015

1.4

Independence of the Auditor General



1.4. Independence of the Auditor General

The auditor general's ability to fulfil the duties of the position depends largely on the provision of sufficient financial resources and appropriate expertise in terms of human resources as well as the ability to enjoy the autonomy required to ensure her or his independence. These notions are governed by section 107 of the *Cities and Towns Act (CTA)*.

Section 107.5 of the *CTA* deals with the matter of budget appropriations that the municipality must grant to the auditor general ("chief auditor" in the *CTA*) to cover expenses relating to the exercise of the her or his duties. As a result of arguments that were first advanced by my predecessor and which I continued to make to authorities within the scope of my 2009, 2010 and 2011 annual reports, in favour of having the city change the basis for calculating the appropriations allocated to me so that I would have the necessary financial resources to carry out my duties, I won the case in 2012. Since that time, I have considered the budget appropriations allocated to me and the basis for calculating them to be appropriate.

Under the previous heading, I mentioned that attracting and retaining qualified and experienced resources remains a major challenge for the BVG.

Concerning the matter of the autonomy that must be granted to the auditor general, section 107.6 of the *CTA* provides as follows:

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.

In a notice to the auditor general concerning the management of the human resources of that office, in June 2004, the Director of Legal Affairs reaffirmed her position:

[TRANSLATION] The independence granted to the auditor general under the Act is incompatible with a discretionary review of decisions made by that person. The auditor general therefore has the authority to make all decisions concerning management of the human resources assigned to the audit.

This interpretation confirms those that I obtained to the effect that, in concrete terms, this means that, unofficially, through the effect of section 107.6 of the *CTA*, the exercise of powers or prerogatives bestowed upon a business unit falling under the jurisdiction of the municipal executive power, with regard to the resources of the Bureau du vérificateur général, will fall under the responsibility of the auditor general.

I believe that the principles of autonomy and independence now have a relatively solid base in the BVG's relations with the Service des ressources humaines, the Service des finances and the Direction de l'approvisionnement.

Moreover, I believe that files that I want to submit to city council for decisions cannot be subject to prior discretionary review by the Direction générale, a situation that occurred a few years ago years under the previous administration. Otherwise, the autonomy enjoyed by the auditor general under the provisions of the *CTA* would be seriously hampered.

The auditor general's ability to fulfil the duties of that office remains precarious and in some respects depends on the good faith of the municipal administration for its interpretation and the application of legislative provisions pertaining to the auditor general.

This threat to the autonomy and independence of the auditor general are at the source of claims made by the Association des vérificateurs généraux municipaux du Québec (the AVGMQ), which for many years has been demanding that the legislative framework governing the position of municipal auditor general be reviewed. The AVGMQ therefore applauded the government's desire to review the normative framework of the position of auditor general by introducing *Bill 83* in December of last year.

As the AVGMQ explained in the brief it submitted to the parliamentary commission last February, it is concerned about the consequences that some of the legislative proposals of *Bill 83* will have for the autonomy and independence of the municipal auditor general. It also wants the government to take advantage of the opportunity provided by *Bill 83* to update certain provisions of the existing Act by giving the person occupying this position all the tools needed to fully accomplish his or her mission. Indeed, the legislator must take action in order to ratify the importance, autonomy and independence of the municipal auditor general.

When the present report was published, it appears that the provisions of the Bill pertaining to the auditor general will be removed as a result of representations made to the parliamentary commission by the Union des municipalités du Québec (UMQ) and certain municipalities, including Montréal. In short, the UMQ would be in favour of setting up a committee to study these provisions in greater detail and ultimately make recommendations to the Minister of Municipal Affairs, Regions and Land Occupancy.

If this is the case, I seek the support of city council so that this committee will take into account the recommendations set forth in the AVGMQ's brief.



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1.5

Final Thoughts



1.5. Final Thoughts

From the outset, my seven years as auditor general have brought me tremendous satisfaction. There is no doubt in my mind that the audits conducted by the BVG have brought about positive changes and that the municipal administration has improved during this period. However, I leave the BVG with serious concerns over the governance of the city.

First, the legislative framework governing the city introduces an element of complexity and unwieldiness in the management of municipal affairs and is a major roadblock to delivering a better performance. Furthermore, there are serious deficiencies in the accountability reporting process, especially with respect to elected officials, who receive little information on results and the performance of the city's various activities.

One of the fundamental principles governing public administration is that managers must use public funds wisely and prudently while accounting for the extent to which they effectively fulfilled the duties entrusted to them. For this purpose, the city must establish strategic directions, decide on desired levels of service, set annual performance objectives, decide on pertinent performance indicators, have appropriate information systems in place to measure performance, determine the frequency of accountability reporting, ensure that the planned accountability reporting takes place, review the reporting and take whatever necessary steps are required under the circumstances. But even though the municipal administration has taken steps in this direction, it is clear from the results of audits conducted by the BVG that a great deal of progress still remains to be made.

Also, the city must improve the integrated management of its business risks, which is an essential component of the optimal allocation of resources and prudent management of public funds.

Lastly, I would like to say goodbye to all the people with whom I have worked during the past seven years. I would like to thank my colleagues at the BVG, highly qualified individuals with an extremely strong sense of duty. More specifically, I would like to thank two of my assistants who have been with me right from the start, Robert Duquette and Serge Vaillancourt, who have devoted themselves body and soul to the cause of the BVG and have been sources of unswerving loyalty and support throughout my mandate. Lastly, I am thrilled to have had this unique opportunity to assist city council in the fulfilment of its governance duties and to serve the citizens of Montréal.

In closing, I want to share with you the following remarks, which were addressed to me while I was adding the final touches to my last annual report:

[TRANSLATION] When your mandate ends on June 2 of this year, you can leave us with your head held high because you will have fulfilled two of the auditor general's main functions with verve and flare. In performing this thankless job as the city's public funds watchdog, you have demonstrated an ability to ask the right questions and—more importantly—the courage to answer them. We are indebted to you for the mettle you have shown, often against all odds, in striving to elevate the status and tirelessly defend the independence and autonomy of the institution known as the Bureau du vérificateur général. We can only hope that your successor will be able to fill your shoes. Our office's very ability to fulfil its duties effectively is at stake.