CPE

CAPITAL EXPENDITURES PROGRAM
2012 - 2013 - 2014

Approved by the
Société de transport de Montréal
Board of Directors on
November 18, 2011

Prepared by the
Budget and Expenditures Department
Executive Branch – Finance and Control

PRIORITY INVESTMENTS NEEDED IN ORDER TO MAINTAIN MONTRÉAL'S PUBLIC TRANSIT SYSTEM

The investments called for in the 2012–2014 Capital Expenditures Program (CEP) follow in the wake of the 2020 Strategic Plan adopted by the Urban Agglomeration of Montréal (hereinafter referred to as the "Agglomeration") on October 27, 2011. Our mission is to fulfill the public's mobility needs by operating North America's top public transit system and, in so doing, contribute to the Agglomeration's renown as a prosperous and environment-friendly hub of economic development. This plan seeks to increase ridership by 40%, for a total of 540 million trips a year by 2020.

The CEP presents the Société de transport de Montréal's investment spending forecasts. Over the next three years, the STM will invest nearly $1.8 billion primarily on maintaining and replacing its capital assets.

The CEP covers 71 projects, of which eight account for 92% of expenditures worth a total of over $1.6 billion. For the métro network, expenditures will go toward the acquisition of MPM-10 métro cars, the continuation of the *Réno-Systèmes* program (Phases II and III), the implementation of the *Réno-Infrastructures métro* program (Phase I) and the major renovation of Berri-UQAM métro station (Phase I). For the bus network, the main projects include the replacement of control systems (iBus), the replacement and addition of buses, the construction of new infrastructures (Phase II) and the rollout of the Transit Priority Measures (TPM) program for buses (Phases I and II).

To meet its ridership objectives, over 37% of the STM's expenditures will go toward replacing or acquiring new rolling stock (buses and métro cars), for a total of $669.7 million. Between 2012 and 2014, the STM will spend over $494.2 million on new métro cars. Over the next three years, the STM will also replace its bus fleet and expects to take delivery of 92 low-floor buses (APS), 60 of which will be hybrid drives, and 60 minibuses, for a total cost of $143.7 million.

The STM will earmark $611.8 million, representing 34% of total expenditures, for maintaining its property assets and modifying infrastructures in time for delivery of the new rolling stock. A further $145.5 million will be used to repair, renovate and upgrade architectural, structural and electromechanical métro station components.

In view of the growth of the bus fleet, the STM needs to build a new bus garage, the cost of which is estimated to be $130.6 million over the next two years. The STM plans to add three or four new reserved bus lanes a year until 2014, which will bring the total combined length of the Transit Priority Measures (TPM) network on the Island of Montréal to 360 kilometres, at a total cost of $67.2 million.

Over the next three years, the STM will invest $492.2 million, or 28% of total expenditures, on machinery, equipment and tools. More than 64% of this amount is earmarked for the *Réno-Systèmes* program, which aims to replace or restore stationary métro equipment located mainly in the original métro network. The balance will be used primarily to replace control systems (iBus).

Although a majority of the projects are eligible for a subsidy—depending on the program, the subsidization rate can range from 50% to 100%—the provincial and federal governments, as well as the Agglomeration, will fund 75% of the STM's capital expenditures, for a total of $1.4 billion. The Québec Department of Transport (MTQ) will contribute 61% of total funding, whereas the federal government will provide 14%. The STM and the Agglomeration will fund the remaining 25%, an amount of $439.8 million. The size of the expenditures will lead to an increase in net debt service, which is consuming an increasing proportion of operating expenses.

The STM remains convinced that new sources of dedicated, indexed and recurring funding need to be found for public transit. Only once such funding is secured will the STM be in a position to maintain its assets and replace its fleet of métro cars and buses—these are both priorities—as well as to develop new services and systems.

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Chairman of the Board of Directors

Yves Devin
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CONTENTS

PROJECT PORTFOLIO MANAGEMENT 1
- BACKGROUND ... 2
- OBJECTIVES OF PROJECT PORTFOLIO MANAGEMENT ... 2
- GOVERNANCE ... 3
- THE STM'S PORTFOLIO ... 4

AGGREGATED APPROACH 7
- CAPITAL EXPENDITURES OVER TIME ... 8
- CAPITAL EXPENDITURE SUMMARY TABLE ... 9
- SUMMARY OF THE 2011–2013 CEP ... 10
- ANALYSIS OF 2012–2014 SUBSIDIES ... 11
- KEY PROJECTS CONTAINED IN THE 2012–2014 CEP ... 12

FINANCIAL IMPACT 15
- CAPITAL EXPENDITURE FUNDING ... 16
- IMPACT OF CAPITAL EXPENDITURES ON INDEBTEDNESS ... 17
- IMPACT OF CAPITAL EXPENDITURES ON DEBT SERVICE ... 18

SECTORAL APPROACH 19
- ALLOCATION OF CAPITAL EXPENDITURES BY SECTOR ... 20
- CAPITAL EXPENDITURES FORECAST ... 21

BUS NETWORK 23
- BUS NETWORK SUMMARY ... 25
- MACHINERY, EQUIPMENT AND TOOLS ... 26
- ROLLING STOCK ... 26
- PROPERTY ASSETS AND INFRASTRUCTURES ... 27
- CAPITAL EXPENDITURES TABLE – BUS NETWORK ... 28
- PROJECT SHEET ... 30

MÉTRO NETWORK 67
- MÉTRO NETWORK SUMMARY ... 68
- MACHINERY, EQUIPMENT AND TOOLS ... 68
- ROLLING STOCK ... 69
- PROPERTY ASSETS AND INFRASTRUCTURES ... 69
- CAPITAL EXPENDITURES TABLE – MÉTRO NETWORK ... 70
- PROJECT SHEET ... 72

ADMINISTRATIVE 93
- ADMINISTRATIVE SECTOR SUMMARY ... 94
- MACHINERY, EQUIPMENT AND TOOLS ... 95
- COMPUTER HARDWARE ... 95
- PROPERTY ASSETS AND INFRASTRUCTURES ... 95
- CAPITAL EXPENDITURES TABLE - ADMINISTRATIVE ... 96
- PROJECT SHEET ... 97

APPENDIX 109
- PROJECTS UNDER STUDY ... 111
- PROJECTS BEING STUDIED ... 112
- SECTOR GUIDELINE DS FIN 001 ... 115
- PUBLIC TRANSIT ASSISTANCE PROGRAMS ... 122
- **INDEX OF INITIALISMS, ACRONYMS AND OTHER ABBREVIATIONS** ... 126

INTRODUCTORY NOTE

Amounts shown in the tables and texts are rounded off to the nearest thousand or million dollars. As a result, readers may note slight variances between the actual sum total of these amounts and the total presented.

The STM's approach is to fund, by means of long-term debt, only so-called capital projects. The capitalization criteria used by the STM are included in Sector Guideline DS FIN 001, which is appended to this document.

Capital expenditures include capital asset expenditures, financing costs and expenditures charged to working capital. Non-capital expenditures include those needed to carry out a project, which are charged to the STM's operating budget.

Projects completed in 2011 have been withdrawn from this document.

Subsidization rates are based on amounts authorized by the Québec Department of Transport (MTQ). If projects are not authorized by the MTQ, the rates used by the various programs are applied.

All projects described in this CEP (other than those listed in the Appendix) have been authorized by the STM's Project Portfolio Management Committee (PPM Committee).

PROJECT PORTFOLIO MANAGEMENT

BACKGROUND

Following a performance improvement exercise, the STM adopted the project portfolio management (PPM) approach in 2005. At first, the practice was applied only to selected projects. Later, to bolster the approach, a strategy was included in the “Optimize investment management” priority contained in the 2020 Strategic Plan. As a result, the PPM was extended to all STM projects, while ensuring a solid link with the 2020 Strategic Plan.

The PPM concept is in line with the priorities set out in the 2020 Strategic Plan, which are to:

- Expand services
- Improve the customer experience and marketing efforts
- Attract, develop and mobilize talent
- Optimize investment management
- Further improve performance
- Place sustainable development at the heart of all decisions

These priorities, along with the strategies to achieve them, represent the means to reach the objective of increasing public transit ridership by 40% by 2020, for a total of 540 million local and regional trips per year.

OBJECTIVES OF PROJECT PORTFOLIO MANAGEMENT

By adopting a portfolio management approach, the STM will be able to prioritize projects that generate value, while taking financial and human constraints into account. Through portfolio management, the STM is able to implement management mechanisms that are both rigorous and innovative. Managing project portfolios yields the following advantages:

- Clear indications that projects are in line with strategic orientations
- Optimized allocation of resources
- Better coordination and improved synergy between projects
- Standardization of project presentations

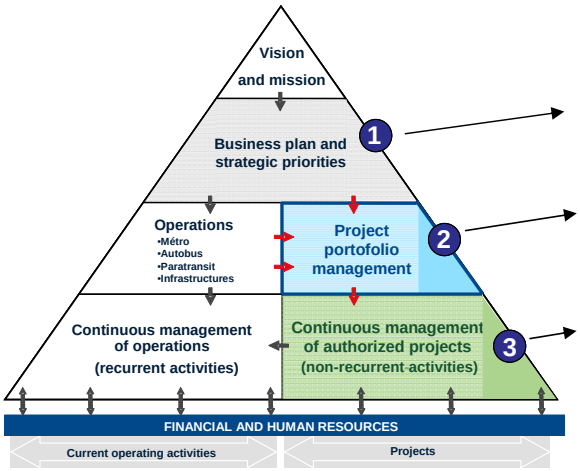
All projects are subjected to a three-step process: alignment, balanced choices and portfolio monitoring. The process was inspired by the industry’s best practices and improved over the years in order to better correspond to the STM’s particular situation. The fruit of these efforts include the Canadian Society of Value Analysis (CSVA)[1] Award of Merit for the STM’s outstanding contribution to the promotion and use of Value Methodologies in the Public Sector—Municipal category.

Hence, by bolstering its project portfolio management, the STM guarantees that its projects are prioritized and that forecast revenues are optimized.

[1] The CSVA is a national organization that champions the promotion of value analysis in Canada. One of its mandates is to recognize leaders in the area of value analysis, be they organizations or individuals.

GOVERNANCE

The following diagram describes how project portfolio management maximizes project portfolio value while optimizing resource use.



Strategic planning sets the direction for investments

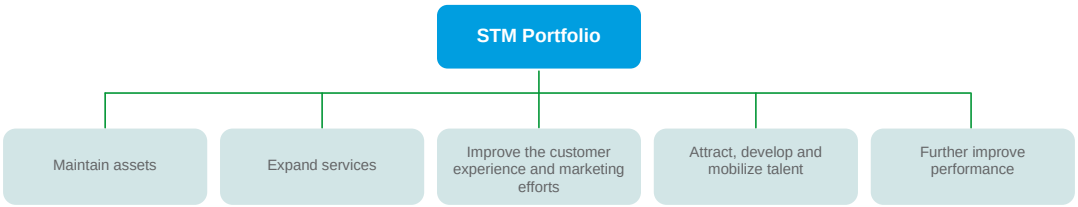
Project portfolio management helps the STM choose the best projects

Project management allows projects to be carried out according to budget, time constraints and quality objectives

The implementation of project portfolio management was greatly facilitated by the PPM Committee. Comprised of members of the STM executive, the committee meets 10 to 12 times a year to study submitted projects and choose the best ones. The involvement and support of the members of the PPM Committee allowed the STM to position the choice of projects strategically, while improving governance of project authorizations.

THE STM'S PORTFOLIO

Each project is positioned in one of the five portfolio categories according to its primary purpose:



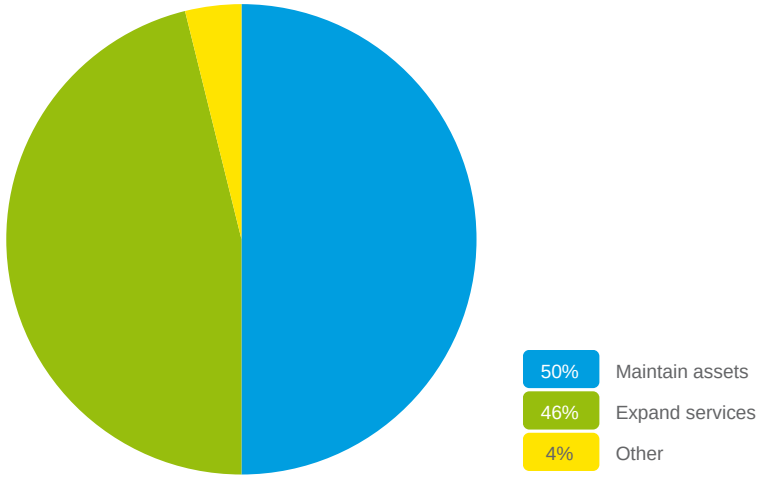
The "Maintain assets" category corresponds to the "Optimize investment management" priority contained in the 2020 Strategic Plan. This portfolio category was renamed in order to better reflect the reality of operations in accordance with portfolio management practices. Given that sustainable development is central to all decisions, it was logical that it be integrated into each of the STM's portfolio categories.

Once projects are categorized, the STM uses the principal indicators of its 2020 Strategic Plan, e.g. the service offer, overall passenger satisfaction or punctuality, to assess and position each project.

Consequently, we can balance each portfolio category while maximizing generated revenues. This balancing is required in order to better manage the two areas of need: asset maintenance versus expansion and improvement.

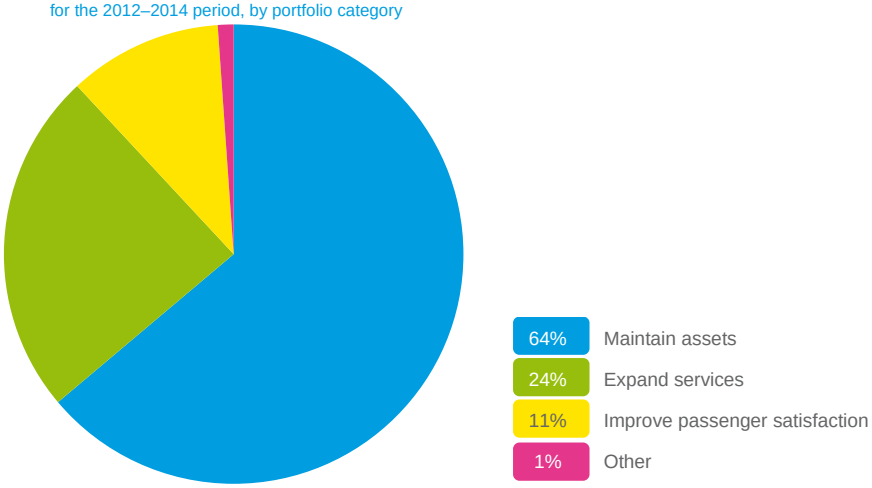
Periodically, the STM conducts a project portfolio follow-up in order to optimize the relative weighting of each portfolio category based on current and future projects. The pie chart below illustrates the distribution of expenditures in the STM's portfolio as per the 2020 Strategic Plan, for the 2011–2020 period.

Distribution of authorized projects and those under study, by portfolio category



The distribution of projects covered by the 2012–2014 Capital Expenditures Program is as follows:

Distribution of authorized projects
for the 2012–2014 period, by portfolio category



While considering financial issues, project portfolio management ensures that the right projects are carried out at the right time. These are the projects described in this document.

The following table lists the main maintenance and improvement projects, along with development projects categorized by the PPM. Only those projects authorized by the PPM are listed.

(in thousands of dollars)	Priority	2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total	%
Maintenance and improvement									
Purchase of MPM-10 métro cars	1	173,493	82,622	63,792	266,145	412,559	1,025,967	1,612,019	
Modification of infrastructures to accommodate MPM-10 métro cars	2	29,771	77,586	106,120	35,023	218,729	19,506	268,006	
Réno-Systèmes program – Phases I and II	3	899,963	64,652	0	0	64,652	0	964,616	
Réno-Systèmes program – Phase III	4	23,110	64,110	94,140	95,526	253,776	223,114	500,000	
Replacement of buses	5	146,253	208	0	12,105	12,313	229,884	388,450	
Berri-UQAM station: major repairs and renovations – Phase I	6	11,424	3,300	14,500	17,100	34,900	43,892	90,216	
Réno-Infrastructures program – Phase I	7	1,947	24,537	33,000	43,543	101,080	146,973	250,000	
Replacement of control systems (iBus)	14	7,476	26,485	62,272	60,328	149,085	44,063	200,624	
Other projects	TBD	268,279	59,108	34,502	18,717	112,327	20,529	401,135	
Subtotal		1,561,716	402,608	408,326	548,487	1,359,422	1,753,928	4,675,066	76%
Development									
Addition of métro cars (extension and ridership increase)	8	63,918	30,440	20,018	31,228	81,686	465,207	610,811	
Bus network infrastructures – Phase II	9	34,616	77,848	52,746	0	130,593	0	165,209	
Addition of buses	10	56,120	33,383	33,882	53,472	120,737	319,113	495,970	
Transit Priority Measures (TPM) program for buses – Phases I and II	11	11,205	23,929	13,876	29,414	67,219	51,174	129,598	
Other projects	TBD	11,514	18,017	9,824	3,941	31,782	4,020	47,316	
Subtotal		177,373	183,617	130,345	118,055	432,017	839,514	1,448,904	24%
TOTAL		1,739,090	586,225	538,672	666,542	1,791,439	2,593,442	6,123,971	100%

Commentaire [DRS1] : On a dit "remplacement" en français, alors que ces voitures n'ont pas encore été livrées... Donc il s'agit de l'acquisition and non du remplacement

AGGREGATED APPROACH

CAPITAL EXPENDITURES OVER TIME

During the nine-year period from 2003 to 2011, the STM invested $2.7 billion in its capital property, whereas the STM has budgeted $1.8 billion for the next three years alone. This level of expenditures is due to the fact that much of the STM's capital assets—for example, métro cars and a number of infrastructures—have reached the end of their useful lifespan, or will do so within the next few years.

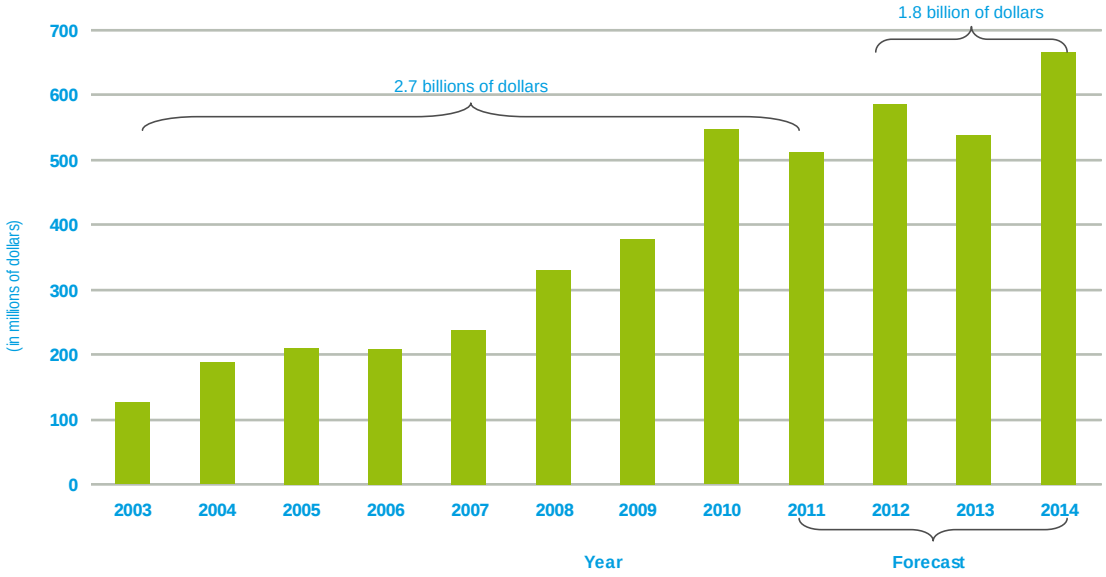
Moreover, to keep up with ridership increases, improve service and boost passenger satisfaction, the STM must have quality rolling stock and reliable equipment.

Hence, the STM will acquire and implement vehicle scheduling control and passenger information systems (SAEIV) for the bus network to better meet passenger expectations through service improvements in the areas of punctuality, regularity of service and real-time information. Over the next three years, the STM will acquire 92 new buses, 32 of which will be allocated to the mitigation measures. As a key player in fostering public mobility on the Island of Montréal, the STM will implement new express routes starting in 2012 to relieve traffic congestion due to roadwork. Similarly, in light of the increase in overall service resulting from the governmental assistance program for the improvement of public transit services (PAGASTC), the STM will build a new bus garage by 2013 to accommodate additional buses and personnel.

With respect to the métro network, the STM will proceed with its plans to acquire 468 new métro cars—342 to replace the STM's MR-63 métro cars, 63 to meet the ridership objectives outlined in the 2020 Strategic Plan, and a further 63 métro cars to meet the needs of métro line extensions. Moreover, due to the age of the STM's métro network—one portion opened in 1966, while a second was gradually put into operation between 1976 and 1988—the STM will need to invest in both installed equipment and infrastructures. To accomplish this, three major projects will be carried out: Phase III of the *Réno-Systèmes* program (Phase II will be completed in 2012), the *Réno-Infrastructures métro* program, and the renovation and refurbishment of Berri-UQAM station.

Commentaire [DRS2] : C'est bien du programme "infrastructures métro" qu'on parle, non?

Capital expenditures over time



Aggregated approach

CAPITAL EXPENDITURE SUMMARY TABLE

(in thousands of dollars)	2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Bus network							
Machinery, equipment and tools	17,579	33,699	64,301	65,041	163,042	51,708	232,328
Rolling stock	214,350	51,217	43,380	69,185	163,782	551,784	929,916
Property assets and infrastructures	186,815	126,420	80,160	38,728	245,308	65,292	497,415
	418,744	**211,337**	**187,842**	**172,954**	**572,133**	**668,783**	**1,659,660**
Métro network							
Machinery, equipment and tools	928,743	132,926	95,208	95,526	323,660	223,114	1,475,517
Computer hardware	6,312	2,189	0	0	2,189	0	8,502
Rolling stock	238,642	117,007	87,927	301,022	505,956	1,491,174	2,235,772
Property assets and infrastructures	119,234	107,338	161,249	95,666	364,254	210,371	693,858
	1,292,931	**359,461**	**344,384**	**492,215**	**1,196,059**	**1,924,659**	**4,413,649**
Administrative expenses							
Machinery, equipment and tools	2,292	3,645	1,002	857	5,503	0	7,795
Computer hardware	18,011	10,716	4,826	0	15,542	0	33,553
Property assets and infrastructures	7,111	1,066	620	516	2,202	0	9,314
	27,415	**15,427**	**6,447**	**1,373**	**23,247**	**0**	**50,662**
All sectors							
Machinery, equipment and tools	**948,614**	**170,270**	**160,511**	**161,424**	**492,205**	**274,821**	**1,715,640**
Computer hardware	**24,324**	**12,906**	**4,826**	**0**	**17,731**	**0**	**42,055**
Rolling stock	**452,992**	**168,224**	**131,307**	**370,207**	**669,738**	**2,042,958**	**3,165,688**
Property assets and infrastructures	**313,161**	**234,825**	**242,029**	**134,910**	**611,764**	**275,663**	**1,200,587**
	1,739,090	**586,225**	**538,672**	**666,542**	**1,791,439**	**2,593,442**	**6,123,971**

SUMMARY OF THE 2011–2013 CEP

The STM's 2020 Strategic Plan presents a roadmap for the development of public transit over a 10-year period for all transit modes, equipment and infrastructures. The STM plans to invest close to $1.8 billion over the next three years. Among other things, the STM is seeking to improve bus punctuality, métro reliability and the way passengers are treated and kept informed.

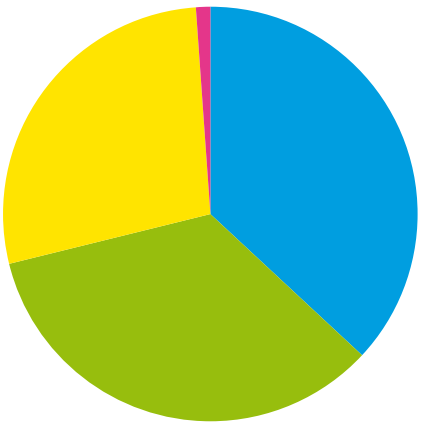
In order for the STM to meet its ridership objectives of 540 million trips per year by 2020, over 37% of the corporation's expenditures, $669.7 million in all, will go toward replacing or acquiring rolling stock (buses and métro cars). The purchase of new métro cars, at an estimated cost of $494.2 million over the next three years, represents the largest single expenditure in this category. A further $141 million will be spent on replacing and adding buses. Furthermore, to meet its goal of electrifying the entire bus network by 2030, the STM will convert one regular bus route to electric.

The STM will dedicate $611.8 million, or 34% of the corporation's total investment budget, to property assets and infrastructures. Once it takes delivery of new métro cars, the STM will make significant expenditures to modify its infrastructures in order to accommodate the new rolling stock. To accommodate the growth of the bus fleet stemming from the governmental assistance program for the improvement of public transit services (PAGASTC), the STM will build a new bus garage. Also, substantial sums will be spent over the coming three years to repair and renovate métro stations as part of Phase 1 of the *Réno-Infrastructures métro* program and to carry out major repair work on the Berri-UQAM métro station in particular. The STM also plans to create three or four reserved bus lanes each year by 2014, which will cut down on travel time while improving on-time performance on heavily used corridors.

Commentaire [DRS3] : C'est bien du programme "infrastructures métro" qu'on parle, non?

Lastly, over the next three years, the STM will invest $492.2 million, or 28% of total expenditures, on machinery, equipment and tools. Over 64% of this amount is earmarked for the *Réno-Systèmes* program, which seeks to replace or restore operations-related stationary métro equipment located mainly in the original métro network. The balance will be used primarily to replace the iBus vehicle scheduling control systems for the bus network.

Percentage of expenditures, by category



37% Rolling stock
34% Property assets and infrastructures
28% Machinery, equipment and tools
1% Computer hardware

Aggregated approach

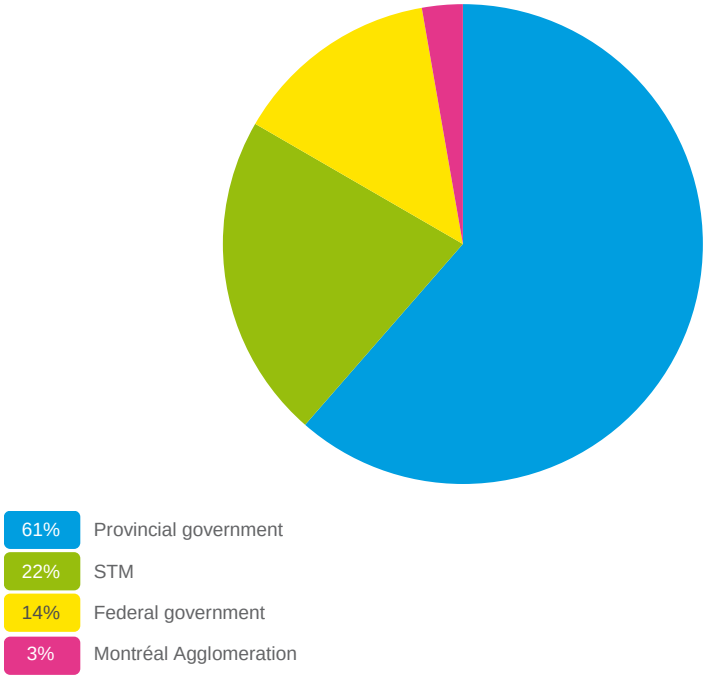
ANALYSIS OF 2012–2014 SUBSIDIES

Although a majority of the projects are eligible for a subsidy—the subsidization rate ranges from 50% to 100%—the provincial and federal governments, as well as the Agglomeration, will fund 78%, or $1.4 billion, of the STM's capital expenditures. The MTQ will contribute 61% of the total, whereas the federal government will provide 14% and the Agglomeration 3%. The STM will fund the remainder, equivalent to 22% of expenditures, or $390.9 million, for the 2012–2014 period.

Funding

(in thousands of dollars)	2012	2013	2014	Total	%
Subsidies from our partners					
Provincial government	369,409	322,684	408,175	1,100,269	61
Federal government	62,698	86,199	102,464	251,361	14
Montréal Agglomeration	10,310	16,791	21,759	48,860	3
	442,417	425,675	532,399	1,400,491	78
Funding from the STM					
Operating expenses	11,422	12,029	9,776	33,226	2
Working capital	3,750	1,086	1,000	5,836	0
Debt funding	128,635	99,883	123,367	351,885	20
	143,808	112,997	134,143	390,948	22
Grand total	586,225	538,672	666,542	1,791,439	100

Allocation of partners' contributions



KEY PROJECTS CONTAINED IN THE 2012–2014 CEP

The investments described in this CEP are allocated among 71 different projects. However, between them, eight of these projects account for 92% of expenditures, for a total of over $1.6 billion. These key projects will serve to accomplish many objectives, which include improving service reliability, on-time performance, the quality of information provided to the riding public and overall accessibility, all the while providing a safe, pleasant and user-friendly environment for passengers. The projects are as follows:

(in thousands of dollars)	2012	2013	2014	Total
Purchase of MPM-10 métro cars	190,647	189,930	332,397	712,974
Réno-Systèmes program – Phases II and III	128,762	94,140	95,526	318,428
Replacement of control systems (iBus)	26,485	62,272	60,328	149,085
Acquisition of buses	33,592	33,882	65,576	133,051
Bus network infrastructures – Phase II	77,848	52,746	0	130,593
Réno-Infrastructures métro program – Phase I	24,537	33,000	43,543	101,080
Transit Priority Measures (TPM) program for buses – Phases I and II	23,929	13,876	29,414	67,219
Berri-UQAM station: major repairs and renovations – Phase I	3,300	14,500	17,100	34,900
	509,100	**494,346**	**643,884**	**1,647,330**
Total	**586,225**	**538,672**	**666,542**	**1,791,439**
Percentage	**87%**	**92%**	**97%**	**92%**

Acquisition of MPM-10 métro cars ($713 million): This project aims to replace 342 MR-63 métro cars and acquire 63 new métro cars to meet the ridership objectives outlined in the STM's 2020 Strategic Plan, along with a further 63 métro cars to meet demand generated by métro line extensions. These expenditures also include the funds required to upgrade infrastructures and stationary equipment affected by the commissioning of the new métro cars.

***Réno-Systèmes* program – Phases II and III ($318.4 million):** This program will target the replacement or reconditioning of stationary métro equipment linked directly to operations. The objective is to improve the reliability, availability and safety of métro equipment. Moreover, certain initiatives will lead to improved communication with passengers, a heightened sense of security, faster response time in case of equipment failure, and greater accessibility for people with limited mobility.

Replacement of (iBus) operations-related systems ($149.1 million): This project involves installing a communication system and an integrated product that uses computerized tools to dispatch communications, regulate service, announce the next stop and provide passengers with real-time information. This project will enable the STM to better meet passenger expectations by making service improvements in the areas of punctuality, regularity of service and real-time information.

Acquisition of buses ($133.1 million): Nearly 91% ($120.8 million) of these expenditures will be used to add buses, while 9% ($12.3 million) will be used to replace buses. During the 2012 to 2014 period, 32 buses will be purchased and allocated to roadwork mitigation measures, such as those to be applied during the Turcot interchange project. As stipulated in the 2020 Strategic Plan, the STM places sustainable development at the heart of its priorities and decisions. Consequently, it aims to lighten its carbon footprint by purchasing 60 hybrid buses in 2013 and 2014.

Bus network infrastructures – Phase II ($130.6 million): This project consists in building a new bus garage to accommodate the additional buses and personnel called for in the governmental assistance program for the improvement of public transit services (PAGASTC) and in the STM's 2020 Strategic Plan. The new garage is set to open in fall 2013 and will accommodate a total of 300 buses, 200 conventional and 100 articulated. This additional garage will streamline the distribution of buses throughout the network, provide the overall capacity required to operate the bus fleet, and manage garages whose capacity is deemed sufficient.

***Réno-Infrastructures métro* program – Phase I ($101.1 million):** This project aims to replace, repair or renovate métro infrastructures nearing the end of their useful life in order to maintain their continued use, reliability, maintainability and availability. Work to replace or repair structural, architectural, electrical and mechanical components will be carried out both on the auxiliary structures and on the tunnels at a few stations, including McGill.

Transit Priority Measures (TPM) program for buses – Phases I and II ($67.2 million): The Network Development Plan (PDR) established by the STM clearly identifies the need to reduce passenger travel time. The effectiveness of public transit by bus depends entirely on overall traffic conditions. As such, to increase ridership and position public transit as a better option than cars, public transit must be given distinct advantages through the implementation of priority measures. Such measures include creating dedicated bus lanes, improving signage and traffic signals, installing a bus detection system and reconfiguring road geometry and surfaces. By creating such reserved lanes, trip length can be shortened by between 15% and 30%. As a result, service improves without requiring an increase in vehicle numbers.

Berri-UQAM station: Major repairs and renovations – Phase I ($34.9 million): This project will initially be aimed at keeping the station operating safely. Thereafter, permanent repair, renovation and upgrade work will be done on the station's architectural, structural and electromechanical components.

FINANCIAL IMPACT

CAPITAL EXPENDITURE FUNDING

(in thousands of dollars)	2012	2013	2014	Total
Cash funding				
Non-capitalizable expenditures				
Operating budget	11,422	12,029	9,776	33,226
Capitalizable				
Working capital	3,750	1,086	1,000	5,836
Provincial government – Cash subsidies	51,147	27,711	40,790	119,648
Federal government – Cash subsidies	56,915	67,080	84,148	208,143
Montréal Agglomeration – Cash subsidies	10,310	16,791	21,759	48,860
Subtotal	**133,544**	**124,697**	**157,473**	**415,714**
Debt funding				
Non-subsidized	128,635	99,883	123,367	351,885
Subsidized	324,046	314,092	385,702	1,023,840
Subtotal	**452,681**	**413,975**	**509,069**	**1,375,725**
Total funding	**586,225**	**538,672**	**666,542**	**1,791,439**
Funding through long-term debt	**480,000**	**430,000**	**520,000**	**1,430,000**

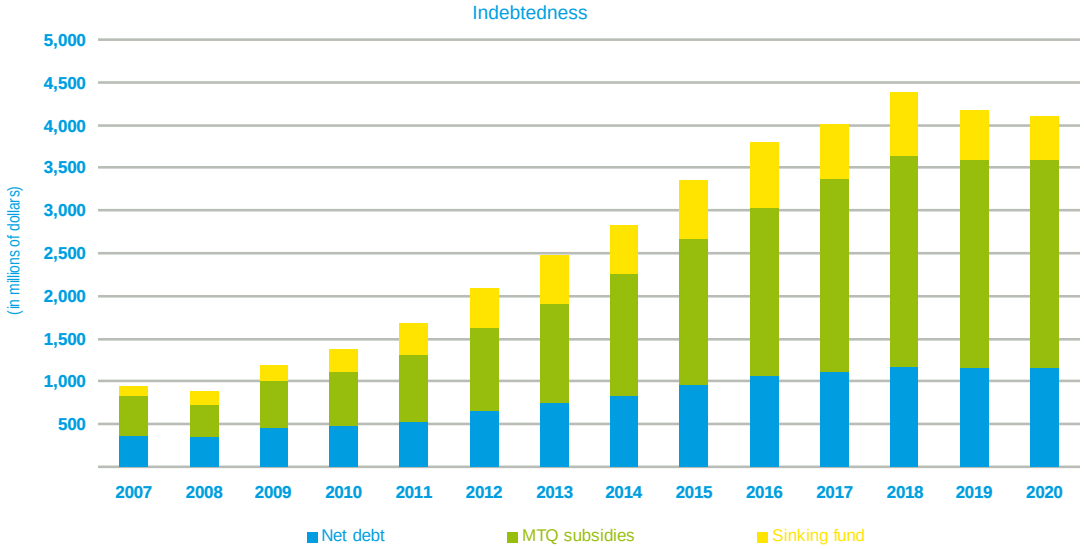
With an eye to diversifying and optimizing its funding situation, the STM determines its annual needs for funding via long-term debt by adding two thirds of the current year's expenditures for all projects combined (except for those expenditures related to the purchase of métro cars, 100% of which are included) to the balance of the previous year's unfunded expenditures.

Financial impact

IMPACT OF CAPITAL EXPENDITURES ON INDEBTEDNESS

From 2007 to 2011, the STM's gross debt burden grew at an annual average rate of 19.6%. For the 2011 to 2014 period, debt will increase to 23.5%. Cash funding through provincial and municipal subsidy programs will mitigate this increase.

According to forecasts, the gross outstanding debt will total $1.7 billion (before subsidies) as at December 31, 2011, and $2.8 billion at December 31, 2014. This growth in the debt and its allocation are illustrated in the table below.



Forecast

(in millions of dollars)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sinking fund*	117.4	158.8	169.2	261.1	378.1	447.9	574.8	560.1	685.3	765.9	640.3	751.2	580.7	490.7
MTQ subsidies	464.5	377.4	558.4	629.0	780.2	985.6	1,151.5	1,421.0	1,708.2	1,967.7	2,266.8	2,469.8	2,437.3	2,443.1
Net debt	369.3	351.1	454.3	484.4	526.1	651.2	748.7	836.3	963.1	1,069.7	1,109.1	1,173.6	1,163.2	1,161.8
Gross debt	951.2	887.3	1,181.8	1,374.5	1,684.4	2,084.7	2,475.0	2,817.4	3,356.5	3,803.3	4,016.2	4,394.7	4,181.2	4,095.6

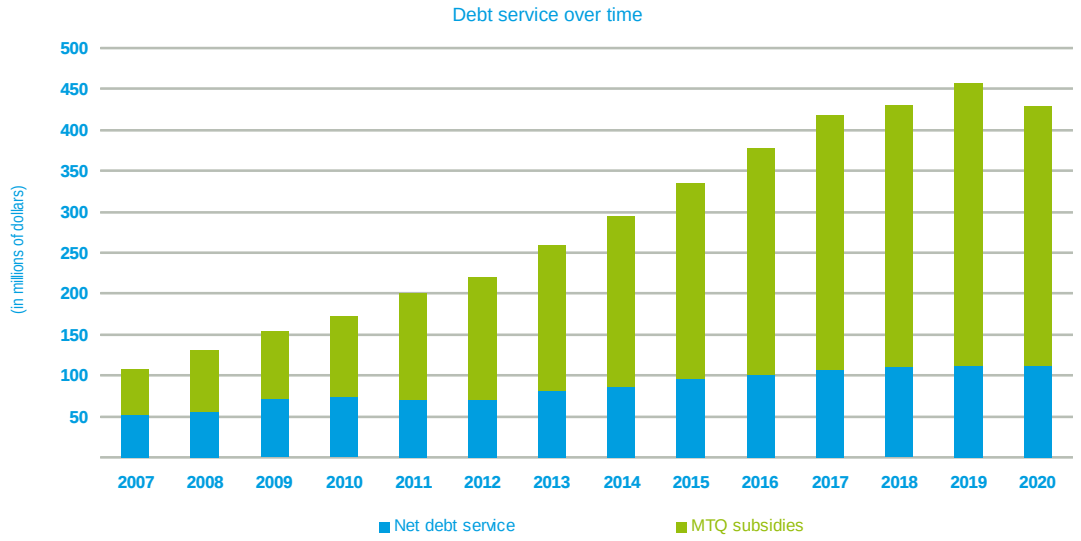
* This is where funds are accumulated for later use to reduce certain funded (long-term) debts when they come due.

IMPACT OF CAPITAL EXPENDITURES ON DEBT SERVICE

As a result of increased indebtedness, total debt service should reach $200.7 million in 2011 and $294.8 million in 2014. This represents an average annual growth rate of 15.6%, compared with 21.7% for the 2007–2010 period. However, this increase is mitigated by the continuity of cash subsidy programs, which reimburse the STM for certain eligible capital expenditures, thereby saving the STM from having to incur debt in order to fund its expenditures.

The debt service portion eligible for a subsidy will increase from 56.8% for the 2007–2011 period to 69.2% for 2012–2014.

In 2012, net debt service will reach $70.1 million, an increase of $700,000 over the 2011 forecast. Thereafter, new net debt service will be $81.2 million in 2013 and $86.5 million in 2014, a 24.6% increase over the 2011 figure. For the 2007–2010 period, net debt service increased by 33.7%. This increase stems from the sharp rise in spending required to maintain our assets.



					Forecast									
(in millions of dollars)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Gross debt service	107.6	131.2	153.7	172.4	200.7	219.8	260.2	294.8	334.4	377.3	416.7	429.7	457.0	428.6
MTQ subsidies	55.7	75.2	81.3	99.2	131.3	149.7	179.0	208.2	239.2	276.7	310.6	320.5	345.4	317.5
Net debt service	51.9	56.1	72.4	73.2	69.4	70.1	81.2	86.5	95.2	100.6	106.2	109.2	111.5	111.1

The STM ensures that it meets its debt-ratio target, through its long-term debt management policy, as represented by the portion of operating expenses earmarked for debt service. This target is set at between 6% and 10%, and the critical threshold is 16%. For 2012, the forecast ratio is 5.9%, whereas the 2020 ratio is forecast at 9.8%.

Financial impact

SECTORAL APPROACH

ALLOCATION OF CAPITAL EXPENDITURES BY SECTOR

The STM presents its investments by sector and by expense type, i.e. capital and non-capital. The STM's sectors are:

- The bus network sector, which includes purchases of conventional and articulated buses, the purchase and manufacture of the equipment and tools required for maintaining vehicles and improving service in terms of punctuality, on-time performance and real-time information, the purchase of service vehicles and maintenance of this sector's fixed asset base, in addition to expenses linked to compliance with environmental standards and the improvement of installations to maintain the health and safety of passengers and personnel. This sector also includes projects whose goal is to provide paratransit services to people with limited mobility, and to maintain property assets related to this sector.
- The métro network sector, which combines the purchase and maintenance of métro cars, the purchase and maintenance of stationary equipment used to maintain vehicles, the purchase of service vehicles and the maintenance of this sector's fixed asset base, in addition to expenses linked to compliance with environmental standards and the improvement of installations to maintain the health and safety of passengers and personnel.
- The administrative sector, which includes acquisitions, development and new IT installation projects, in addition to a variety of projects financed with working capital. This fund represents an amount earmarked for various capital expenditures to be financed directly from the operating budget and amortized over a five-year period.

CAPITAL EXPENDITURES FORECAST

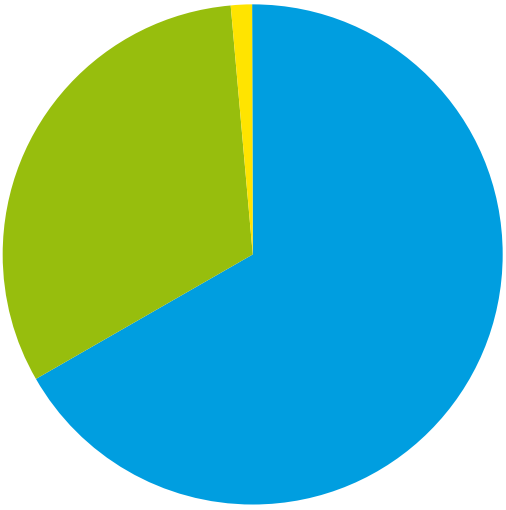
Between 2012 and 2014, the proportion of expenditures will be 67% for the métro network and 32% for the bus network. The administrative sector will account for 1% of capital expenditures.

In order to increase overall service while delivering service quality that yields higher customer satisfaction rates, the STM will spend over $572.1 million on the bus network sector in a number of areas, including replacing old buses and purchasing additional ones, building a new bus garage, implementing Transit Priority Measures (TPM) for buses and replacing control systems (iBus). Together, these four projects account for over 84% of total network expenditures.

The investments in the métro network account for $1.2 billion and are intended essentially to maintain métro reliability and improve passenger satisfaction. The main projects justifying this amount are the acquisition of métro cars, including modifications to the métro repair shops and equipment, the *Réno-Systèmes* and *Réno-Infrastructures métro* programs, and the repair and renovation of Berri-UQAM station. These four major projects combined account for over 98% of total métro network expenditures.

Administrative sector projects represent 1% of the STM's capital expenditures, or $23.2 million. Over 67% of these expenditures will go toward upgrading the STM's computer population and technology infrastructure. This program will help ensure that the company's IT assets are managed effectively, that the hardware and software are kept up-to-date, and that they continue to meet the STM's ever-changing needs, while reducing hardware and software maintenance costs.

Proportion of expenditures, by sector



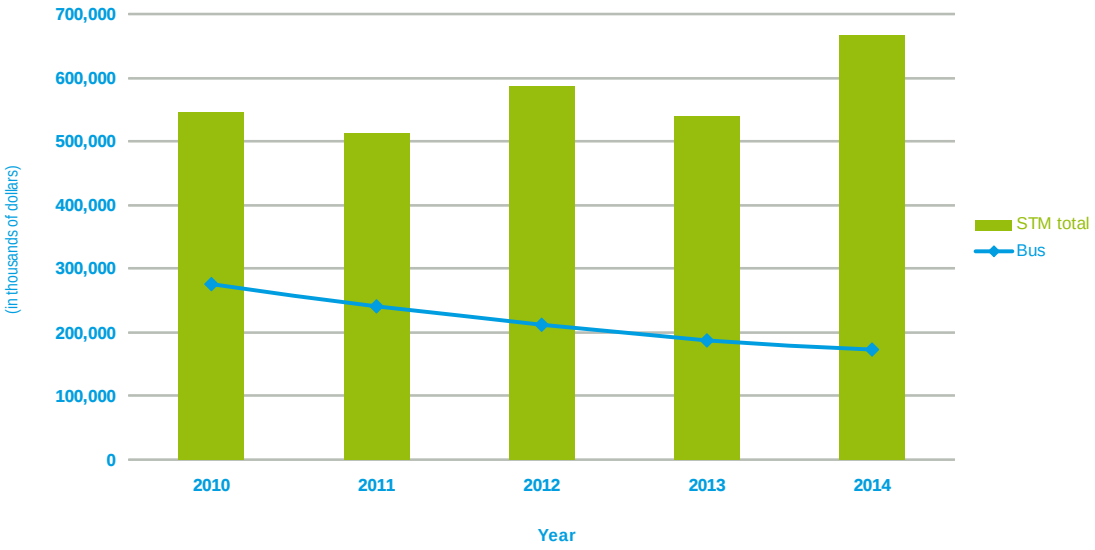
67% Métro network
32% Bus network
1% Administrative expenses

BUS NETWORK

BUS NETWORK SUMMARY

For the bus network, expenditures required over the next three years will total $572.1 million, accounting for 32% of the STM's overall capital expenditures. Over 29% of this amount ($163.8 million) will be spent on replacing old rolling stock and adding new vehicles, while 43% ($245.3 million) will be earmarked for infrastructures. Equipment and tool replacement and upgrades will account for 28% of expenditures ($163 million).

Changes in capital expenditures for the Bus network sector compared with total expenditures



Bus network

MACHINERY, EQUIPMENT AND TOOLS

To ensure that it can continue delivering safe, quality service, the STM needs to replace its operations-related systems and a variety of outdated equipment. The new equipment will cost a total of $163 million over the next three years.

For the most part, this category includes the iBus control system replacement project, which will call for an investment of $149.1 million. The aim of this project is to install a communication system and an integrated product that uses computerized tools to dispatch communications, regulate service, announce upcoming stops and provide passengers with real-time information. This project is part of the STM's business strategy, which aims to better meet passenger expectations by making service improvements in the areas of punctuality, regularity of service and real-time information.

In 2009, the STM launched a plan to replace and secure lift rigs in its bus garages. Over the next three years, the LaSalle, Mont-Royal and St-Denis bus garages will be given priority, and the cost of these projects is estimated at $9.5 million.

The ACCES (EXTRA) real-time control project at the Paratransit Centre will be launched at a cost of $3.3 million for 2012–2014. This investment will be used to upgrade the ACCES software package to the 2012 version.

Lastly, expenditures of $1.1 million will go toward repairing or replacing a variety of production tools. These projects will help improve employee health and safety while keeping buses rolling.

ROLLING STOCK

The STM will make major investments in low-floor and articulated buses. Low-floor buses are being purchased in order to facilitate access for people with limited mobility, whereas articulated buses were chosen to improve service on busy corridors. The following table shows the status of the STM's bus fleet:

Year	Number of buses	Average bus age	Number of buses 16 or more years old
2008	1,671	8.78	89
2009	1,680	8.48	86
2010	1,680	6.11	156
2011	1,680	4.34	0
2012	1,713	5.25	0
2013	1,755	6.10	29
2014	1,779	7.01	42

Between 2012 and 2014, the STM will invest $133.1 million in the purchase of 92 low-floor buses—32 conventional-drive buses to be allocated to mitigation measures, and 60 hybrid drive buses. These expenditures are in line with the MTQ's fleet management program (*Programme de gestion du parc*).

The environment is one of the STM's greatest priorities. To reduce greenhouse gas emissions, the STM will spend $7.9 million over the next three years via the a project aimed at improving the energy-efficiency of STM buses. As part of this project, the STM will modify its existing low-floor buses by changing the ventilation systems and optimizing the programming of the buses' conventional transmissions.

On the minibus front, the STM plans to purchase 60 minibuses at a total cost of $10.6 million. Of these, 48 will replace those currently based at the Paratransit Centre. Of the remaining 12 minibuses, eight will be used to expand the *Navettes Or* service and four to replace those currently in use on route 251 – Sainte-Anne, which will soon reach the end of their useful lifespan.

For the years 2012 and 2013, the STM will launch a project to create a green route served by electric midibuses. The project, which will call for an investment of $7.9 million in this period, will help bolster the brand image of both the STM and the City of Montréal.

Lastly, $4.3 million will be used to replace service vehicles and to begin studying the potential use of trolleybuses.

PROPERTY ASSETS AND INFRASTRUCTURES

The STM has eight bus garages and one major repairs workshop, as described in the following table:

Bus garage	Year of construction/ Major renovations	Year of expansion	Use
Mont-Royal	1928	1937	Bus garage
Crémazie workshop	1948	1956	Major repairs workshop
Frontenac	1948/2012	1957	Bus garage
St-Michel	1956/1993		Paratransit Centre
St-Denis	1958	1970	Bus garage
Legendre	1973	2011	Bus garage
Anjou	1982		Bus garage
St-Laurent	1984		Bus garage
LaSalle	1995		Bus garage

Between 2012 and 2014, the STM will invest $245.3 million in the bus network's property assets and infrastructures.

Two major projects account for 80% of expenditures in this category: the construction of an additional bus garage ($130.6 million) and the creation of reserved bus lanes ($67.2 million).

The STM plans to construct and commission a new bus garage to accommodate the expanded bus fleet called for in the governmental assistance program for the improvement of public transit services (PAGASTC). The new bus garage will accommodate 200 conventional buses and 100 articulated buses. This new garage is expected to improve overall bus distribution throughout the network.

The STM plans to create three or four new reserved bus lanes each year until 2014, thus increasing bus speed, fluidity and punctuality, and consequently reducing passenger travel time. In addition to these new bus lanes, the STM will install equipment that gives buses signal priority without the need for bus detectors.

To ensure the continued safety of operations at the bus garages, the STM will spend over $22.7 million to carry out repairs and renovations at its bus garages over the next three years. The work will be conducted at a number of garages and will focus on elements such as the pavement, structures, building mechanics, general mechanics and electrical systems, not to mention securing specific components and equipment.

The STM plans to install 400 new bus shelters by 2015 at a rate of around 100 shelters per year and at a total cost of $11.6 million. The new shelters will directly impact service quality by boosting passenger comfort. Also, new bicycle racks will be installed and old ones replaced to satisfy the needs of clients who get around via a combination of bicycle and métro. The bike rack installation plan aims to double the current capacity at high-traffic sites, install racks where none yet exist, and replace outdated racks.

In 2012 and 2013, three new bus terminals—Elmhurst, Newman/Lafleur and Lionel-Groulx—will be built at a total cost of $13.2 million. The Elmhurst station currently serves five bus lines; its infrastructures must be reconfigured to meet customer needs. The Newman/Lafleur terminal will need to be relocated, as the land it currently occupies is being reclaimed by the MTQ. Lastly, in 2012, $2.7 million will be allocated to adapting the Lionel-Groulx terminal to the new requirements generated by the Turcot interchange mitigation measures.

CAPITAL EXPENDITURES TABLE – BUS NETWORK

(in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Machinery, equipment and tools										
No.:	14473	Design and production of specialized equipment for low-floor	Cap.	1,570	421	0	0	421	0	1,991
Sheet:	RB-01	buses	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-093		Total	**1,570**	**421**	**0**	**0**	**421**	**0**	**1,991**
No.:	2195	LaSalle bus garage: replacement of the lift rigs	Cap.	0	146	71	240	456	5,186	5,643
Sheet:	RB-02		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-116-B		Total	**0**	**146**	**71**	**240**	**456**	**5,186**	**5,643**
No.:	2219	Mont-Royal bus garage: replacement of the lift rigs	Cap.	1,395	287	1,153	0	1,440	0	2,834
Sheet:	RB-03		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-119-B		Total	**1,395**	**287**	**1,153**	**0**	**1,440**	**0**	**2,834**
No.:	2220	St-Denis bus garage: replacement of the lift rigs	Cap.	2,014	2,076	0	0	2,076	0	4,090
Sheet:	RB-04		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-116-D		Total	**2,014**	**2,076**	**0**	**0**	**2,076**	**0**	**4,090**
No.:	520210	Replacement, repair and rebuilding of production equipment	Cap.	740	728	0	0	728	0	1,468
Sheet:	RB-05		Non-cap.	166	0	0	0	0	0	166
LB/FIN:	R-081		Total	**906**	**728**	**0**	**0**	**728**	**0**	**1,634**
No.:	562124-00	Lift replacement program	Cap.	4,008	454	584	4,459	5,497	2,458	11,963
Sheet:	RB-06		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-002		Total	**4,008**	**454**	**584**	**4,459**	**5,497**	**2,458**	**11,963**
No.:	721759	Replacement of control systems (iBus)	Cap.	5,735	25,929	58,454	54,007	138,390	41,123	185,248
Sheet:	RB-07		Non-cap.	1,741	556	3,818	6,321	10,695	2,940	15,376
LB/FIN:	R-114		Total	**7,476**	**26,485**	**62,272**	**60,328**	**149,085**	**44,063**	**200,624**
No.:	850045-1	ACCES (EXTRA) real-time operations – Delivery I – ACCES	Cap.	199	2,609	215	14	2,838	0	3,038
Sheet:	RB-08	software package migration	Non-cap.	11	494	7	0	500	0	511
LB/FIN:	R-132		Total	**210**	**3,103**	**222**	**14**	**3,339**	**0**	**3,548**
			Subtotal	**17,579**	**33,699**	**64,301**	**65,041**	**163,042**	**51,708**	**232,328**
Rolling stock										
No.:	**110426**	Trolleybus roll-out study	Cap.	0	0	0	0	0	0	0
Sheet:	**RB-09**		Non-cap.	565	3,660	0	0	3,660	0	4,225
LB/FIN:	**R-831**		Total	**565**	**3,660**	**0**	**0**	**3,660**	**0**	**4,225**
No.:	**500001**	Purchase of 40-foot buses (2007–2012)	Cap.	201,867	23,318	0	0	23,318	0	225,185
Sheet:	**RB-10**		Non-cap.	506	152	0	0	152	0	658
LB/FIN:	**R-079**		Total	**202,373**	**23,470**	**0**	**0**	**23,470**	**0**	**225,843**
No.:	**5002098**	Purchase of 40-foot buses (2012–2017)	Cap.	0	10,122	33,575	37,805	81,503	280,052	361,555
Sheet:	**RB-11**		Non-cap.	0	0	307	209	516	2,554	3,070
LB/FIN:	**R-120**		Total	**0**	**10,122**	**33,882**	**38,014**	**82,019**	**282,605**	**364,624**
No.:	**5002156**	Purchase of articulated buses (2013–2018)	Cap.	0	0	0	27,562	27,562	263,914	291,476
Sheet:	**RB-12**		Non-cap.	0	0	0	0	0	2,478	2,478
LB/FIN:	**R-914**		Total	**0**	**0**	**0**	**27,562**	**27,562**	**266,392**	**293,954**
No.:	5003137 & 503318	Replacement and addition of service vehicles (2008–2012)	Cap.	5,020	719	0	0	719	0	5,739
Sheet:	RB-13		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	**R-118 and R-107**		Total	**5,020**	**719**	**0**	**0**	**719**	**0**	**5,739**
No.:	5003436	Purchase of minibuses for paratransit, *Navettes Or* shuttle	Cap.	0	2,660	2,868	2,926	8,454	2,090	10,544
Sheet:	RB-14	service and 251 – Sainte-Anne route (2012–2015)	Non-cap.	0	809	670	683	2,162	697	2,859
LB/FIN:	R-826		Total	**0**	**3,470**	**3,538**	**3,609**	**10,616**	**2,787**	**13,403**
No.:	5152011	Creation of a clean electric midibus route	Cap.	0	1,831	5,940	0	7,771	0	7,771
Sheet:	RB-15		Non-cap.	0	95	20	0	115	0	115
LB/FIN:	R-079		Total	**0**	**1,926**	**5,960**	**0**	**7,886**	**0**	**7,886**
No.:	529950	Energy efficiency program for APS2 to APS6 buses and	Cap.	6,356	7,850	0	0	7,850	0	14,207
Sheet:	RB-16	articulated buses	Non-cap.	34	0	0	0	0	0	34
LB/FIN:	R-125		Total	**6,391**	**7,850**	**0**	**0**	**7,850**	**0**	**14,241**
			Subtotal	**214,350**	**51,217**	**43,380**	**69,185**	**163,782**	**551,784**	**929,916**
Property assets and infrastructures					Non-cap.					
No.:	1294	Mont-Royal bus garage: work to keep garage in operation	Cap.	179	500	500	500	1,500	1,500	3,179
Sheet:	RB-17		Non-cap.	665	0	0	0	0	0	665
LB/FIN:	R-805		Total	**844**	**500**	**500**	**500**	**1,500**	**1,500**	**3,844**
No.:	1368	Replacement of bus shelters and street furniture	Cap.	1,152	65	0	0	65	0	1,217
Sheet:	RB-18		Non-cap.	8	0	0	0	0	0	8
LB/FIN:	R-080		Total	**1,160**	**65**	**0**	**0**	**65**	**0**	**1,226**
No.:	1554	St-Denis bus garage: work to keep garage in operation	Cap.	844	500	500	500	1,500	650	2,994
Sheet:	RB-19		Non-cap.	1,073	0	0	0	0	0	1,073
LB/FIN:	R-807		Total	**1,917**	**500**	**500**	**500**	**1,500**	**650**	**4,067**

(in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Property assets and infrastructures (continued)										
No.:	1651	Mont-Royal bus garage: centralization of fire alarm systems at	Cap.	22	456	460	0	916	0	938
Sheet:	RB-20	the Bus Coordination Centre (CCA)	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-126-B		Total	**22**	**456**	**460**	**0**	**916**	**0**	**938**
No.:	1725	Legendre Centre: replacement of HID and fluorescent lighting	Cap.	10	879	0	0	879	0	889
Sheet:	RB-21	fixtures	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-126-A		Total	**10**	**879**	**0**	**0**	**879**	**0**	**889**
No.:	1726	St-Michel bus garage: bringing emergency lighting up to	Cap.	11	177	0	0	177	0	188
Sheet:	RB-22	standard	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-119-A		Total	**11**	**177**	**0**	**0**	**177**	**0**	**188**
No.:	1760	Various above-ground buildings: replacement of fire alarm	Cap.	26	837	0	0	837	0	862
Sheet:	RB-23	panels – Phase III	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-116-A		Total	**26**	**837**	**0**	**0**	**837**	**0**	**862**
No.:	201112-02	Operational integration of buses	Cap.	4,750	824	0	0	824	0	5,574
Sheet:	RB-24		Non-cap.	5,844	1,025	0	0	1,025	0	6,869
LB/FIN:	R-078-C		Total	**10,594**	**1,849**	**0**	**0**	**1,849**	**0**	**12,443**
No.:	2152	Pavement and indoor slab repair program	Cap.	55	559	1,065	4,373	5,997	7,948	14,000
Sheet:	RB-25		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-131		Total	**55**	**559**	**1,065**	**4,373**	**5,997**	**7,948**	**14,000**
No.:	2200	Mont-Royal bus garage: roof repairs	Cap.	788	1,549	0	0	1,549	0	2,338
Sheet:	RB-26		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-116-C		Total	**788**	**1,549**	**0**	**0**	**1,549**	**0**	**2,338**
No.:	2460	Various bus garages: fuelling equipment upgrades	Cap.	4,262	1,487	0	0	1,487	0	5,749
Sheet:	RB-27		Non-cap.	25	0	0	0	0	0	25
LB/FIN:	R-080-A		Total	**4,287**	**1,487**	**0**	**0**	**1,487**	**0**	**5,774**
No.:	2596	Legendre Centre: slab repairs	Cap.	181	5,489	0	0	5,489	0	5,670
Sheet:	RB-28		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-126		Total	**181**	**5,489**	**0**	**0**	**5,489**	**0**	**5,670**
No.:	301056	Frontenac bus garage: building systems and equipment repair	Cap.	26,085	299	0	0	299	0	26,384
Sheet:	RB-29	program	Non-cap.	431	0	0	0	0	0	431
LB/FIN:	R-101		Total	**26,516**	**299**	**0**	**0**	**299**	**0**	**26,815**
No.:	350001	Transit Priority Measures (TPM) program for buses – Phases I	Cap.	11,205	23,929	13,876	29,414	67,219	51,174	129,598
Sheet:	RB-30	and II	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	CA-113		Total	**11,205**	**23,929**	**13,876**	**29,414**	**67,219**	**51,174**	**129,598**
No.:	350002	Redevelopment of Elmhurst bus terminal	Cap.	156	1,596	3,116	0	4,712	0	4,869
Sheet:	RB-31		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-117		Total	**156**	**1,596**	**3,116**	**0**	**4,712**	**0**	**4,869**
No.:	350005	Lionel-Groulx terminal redesign – Phase I	Cap.	0	2,730	0	0	2,730	0	2,730
Sheet:	RB-32		Non-cap.	360	0	0	0	0	0	360
LB/FIN:	R-905		Total	**360**	**2,730**	**0**	**0**	**2,730**	**0**	**3,090**
No.:	450000	Purchase of 400 bus shelters	Cap.	342	3,495	3,565	3,636	10,696	3,709	14,746
Sheet:	RB-33		Non-cap.	25	264	299	305	868	311	1,204
LB/FIN:	R-108		Total	**367**	**3,759**	**3,864**	**3,941**	**11,563**	**4,020**	**15,950**
No.:	529997	Bus network infrastructures – Phase II	Cap.	34,191	77,692	51,023	0	128,715	0	162,906
Sheet:	RB-34		Non-cap.	425	155	1,723	0	1,878	0	2,303
LB/FIN:	R-109		Total	**34,616**	**77,848**	**52,746**	**0**	**130,593**	**0**	**165,209**
No.:	529999	Relocation of the bus body workshop and rebuilding of the	Cap.	86,903	187	0	0	187	0	87,090
Sheet:	RB-35	Legendre Centre and truck workshop	Non-cap.	614	0	0	0	0	0	614
LB/FIN:	R-055		Total	**87,517**	**187**	**0**	**0**	**187**	**0**	**87,704**
No.:	561908	Floor slab, traffic area and parking lot repair program	Cap.	5,758	50	0	0	50	0	5,807
Sheet:	RB-36		Non-cap.	169	0	0	0	0	0	169
LB/FIN:	R-005-D		Total	**5,926**	**50**	**0**	**0**	**50**	**0**	**5,976**
No.:	625009	Newman/Lafleur terminal relocation	Cap.	255	1,676	4,034	0	5,711	0	5,966
Sheet:	RB-37		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-117		Total	**255**	**1,676**	**4,034**	**0**	**5,711**	**0**	**5,966**
			Subtotal	**186,815**	**126,420**	**80,160**	**38,728**	**245,308**	**65,292**	**497,415**
			Cap.	**406,082**	**204,126**	**180,998**	**165,437**	**550,561**	**659,804**	**1,616,447**
BUS NETWORK			Non-cap.	**12 662**	**7,211**	**6,844**	**7,517**	**21,572**	**8,979**	**43,213**
			Total	**418,744**	**211,337**	**187,842**	**172,954**	**572,133**	**668,783**	**1,659,660**

PROJECT SHEET

RB-01

Design and production of specialized equipment for low-floor buses

Project no.:	14473	**Sector:**	Bus network
LB/FIN no.:	R-093	**Asset category:**	Machinery, equipment and tools

To keep the ever-growing bus population in service, and to do so both efficiently and safely, particularly in light of the often-changing list of options delivered with the new vehicles, bus maintenance crews need the right tools.

Over the past few years, the STM has taken delivery of buses on a number of occasions. Each batch of buses featured unique characteristics or improvements, which called for the development of new workshop equipment.

Moreover, the advent of new engines, transmissions and other major changes to low-floor buses will only increase the need for specialized tools, none of which are supplied by the various bus component manufacturers.

This project responds to the need to design and produce specialized bus maintenance tools and equipment.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,570	421	0	0	0	1,991
Non-capital	0	0	0	0	0	0
Total	**1,570**	**421**	**0**	**0**	**0**	**1,991**
Funding						
Provincial government	244	156	0	0	0	400
Federal government	317	202	0	0	0	519
Montréal Agglomeration	99	63	0	0	0	162
STM	910	0	0	0	0	910
Total	**1,570**	**421**	**0**	**0**	**0**	**1,991**

Percentage subsidized **54%**

Bus network

PROJECT SHEET

RB-02

LaSalle bus garage: replacement of the lift rigs

Project no.:	2195	**Sector:**	Bus network
LB/FIN no.:	R-116-B	**Asset category:**	Machinery, equipment and tools

Lift rigs are used to raise buses at the bus garage during maintenance operations. Each rig comprises two lifts, one stationary and one mobile.

The LaSalle bus garage currently has 17 lift rigs, meaning that 17 buses can be lifted at any given time. These lifts were installed in 1995, and their useful lifespan is 16 years. As such, they will have reached the end of their useful lifespan in 2011. To extend their useful lifespan, securement work was scheduled on four rigs in 2010 and on the remaining 13 in 2011. In 2013 and 2014, the lifts will be 18 and 19 years old, respectively, and will need to be replaced. Securement extends the useful lifespan of lifts by no more than three years. Beyond that time, the lifts become unsafe and therefore unusable.

This project consists in replacing the lift rigs with new in-ground lifts designed by the STM with an eye to ensuring reliability and availability at the lowest possible cost, while allowing for the maintenance of buses (including T-Drive buses) at the LaSalle bus garage.

This work will be carried out from 2013 to 2015 at a rate of seven lift rigs during the first two years and three in the final year.

This project is part of the replacement and securement plan for lift rigs in the bus garages.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	146	71	240	5,186	5,643
Non-capital	0	0	0	0	0	0
Total	**0**	**146**	**71**	**240**	**5,186**	**5,643**
Funding						
Provincial government	0	47	23	77	1,674	1,822
Federal government	0	62	30	103	2,219	2,415
Montréal Agglomeration	0	19	9	32	687	748
STM	0	17	8	28	606	659
Total	**0**	**146**	**71**	**240**	**5,186**	**5,643**
Percentage subsidized						**88%**

PROJECT SHEET

RB-03

Mont-Royal bus garage: replacement of the lift rigs

Project no.:	2219	**Sector:**	Bus network
LB/FIN no.:	R-119-B	**Asset category:**	Machinery, equipment and tools

Lift rigs are used to raise buses at the bus garage during maintenance operations. Each rig comprises two lifts, one stationary and one mobile.

The Mont-Royal bus garage currently has eight lift rigs, meaning that eight buses can be lifted at any given time. These lifts were installed in 1986, and their useful lifespan is 16 years. As such, they have reached the end of their useful life. Securement extends the useful lifespan of lifts by no more than three years. Beyond that time, the lifts become unsafe and therefore unusable. The lifts will therefore need to be replaced in 2012.

This project consists in replacing all eight lift rigs with in-ground lifts designed by the STM.

The replacement of a lift rig consists in dismantling the existing rig, removing the lifts, demolishing the slab and trenches, creating new trenches and a new slab, and installing new STM-designed lifts with a 30-year useful life. Moreover, the new lift rigs will be able to lift 30,000 pounds instead of only 20,000, and will be capable of lifting T-Drive buses.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,395	287	1,153	0	0	2,834
Non-capital	0	0	0	0	0	0
Total	**1,395**	**287**	**1,153**	**0**	**0**	**2,834**
Funding						
Provincial government	490	101	405	0	0	997
Federal government	650	134	537	0	0	1,321
Montréal Agglomeration	201	41	166	0	0	409
STM	53	11	44	0	0	108
Total	**1,395**	**287**	**1,153**	**0**	**0**	**2,834**
Percentage subsidized						**96%**

Bus network

PROJECT SHEET

RB-04

St-Denis bus garage: replacement of the lift rigs

Project no.:	2220	**Sector:**	Bus network
LB/FIN no.:	R-116-D	**Asset category:**	Machinery, equipment and tools

Lift rigs are used to raise buses at the bus garage during maintenance operations. Each rig comprises two lifts, one stationary and one mobile.

The St-Denis bus garage currently has 13 lift rigs, meaning that 13 buses can be lifted at any given time. These lifts were installed in 1989, and their useful lifespan is 16 years. As such, they have reached the end of their useful life. Securement work was conducted in 2008 to extend their lifespan. However, securement extends the useful lifespan of lifts by no more than three years. Beyond that time, the lifts become unsafe and therefore unusable. In 2011, the lifts were 22 years old and therefore need to be replaced.

This project consists in replacing the existing lift rigs with in-ground lifts designed by the STM. Note that this project does not include replacing the tire lift.

The replacement of a lift rig consists in dismantling the existing rig, removing the lifts, demolishing the slab and trenches, creating new trenches and a new slab, and installing new STM-designed lifts with a 30-year useful lifespan. Moreover, the new lift rigs will be able to lift 30,000 pounds instead of only 20,000, and will be capable of lifting T-Drive buses.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	2,014	2,076	0	0	0	4,090
Non-capital	0	0	0	0	0	0
Total	**2,014**	**2,076**	**0**	**0**	**0**	**4,090**
Funding						
Provincial government	713	735	0	0	0	1,449
Federal government	946	975	0	0	0	1,920
Montréal Agglomeration	293	302	0	0	0	595
STM	62	64	0	0	0	126
Total	**2,014**	**2,076**	**0**	**0**	**0**	**4,090**
Percentage subsidized						**97%**

PROJECT SHEET

RB-05

Replacement, repair and rebuilding of production equipment

Project no.:	520210	**Sector:**	Bus network
LB/FIN no.:	R-081	**Asset category:**	Machinery, equipment and tools

Production equipment is used to manufacture or recondition bus parts. This equipment is already being used beyond its stated useful lifespan. It is therefore becoming nearly impossible to obtain parts to keep them in service. Currently, to compensate for this lack of parts, we need to carry out frequent repairs and even decommission some equipment, which leads to production delays and additional costs.

The repair or replacement of certain production machinery will enable us to maintain and improve the equipment, while better safeguarding employee health and safety, as the new equipment will better meet the latest standards. Moreover, thanks to new technology, we can rationalize the number and type of equipment we use.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	740	728	0	0	0	1,468
Non-capital	166	0	0	0	0	166
Total	**906**	**728**	**0**	**0**	**0**	**1,634**
Funding						
Provincial government	124	211	0	0	0	335
Federal government	164	280	0	0	0	444
Montréal Agglomeration	51	87	0	0	0	137
STM	568	150	0	0	0	718
Total	**906**	**728**	**0**	**0**	**0**	**1,634**
Percentage subsidized						**56%**

Bus network

PROJECT SHEET

RB-06

Lift replacement program

Project no.:	562124-00	**Sector:**	Bus network
LB/FIN no.:	R-002	**Asset category:**	Machinery, equipment and tools

The project consists in replacing the lift rigs at various bus garages: 12 mechanical jacks at the Anjou garage, six at the St-Laurent facility, and the tire lifts at the Anjou, Legendre, LaSalle and Frontenac garages. A rig comprises two lifts, one stationary and one mobile.

Bus garages typically have around 15 lift rigs consisting of mechanical jacks, body lifts, washing lifts and a tire lift. Their useful lifespan is 16 years and will have reached the end of their utility between 2011 and 2015. To extend their useful lifespan, securement work will be carried out in the most critical maintenance bays.

However, securement extends the useful lifespan of lifts by no more than three years. Beyond that time, the lifts become unsafe and therefore unusable. We plan to replace all lift installations at the bus garages between 2009 and 2015, at a rate of around one garage per year.

The replacement of a lift rig consists in dismantling the existing rig, removing the lifts, demolishing the slab and trenches, creating new trenches and a new slab, and installing new STM-designed lifts with a 30-year useful lifespan. Moreover, the new lift rigs will be able to lift 30,000 pounds instead of only 20,000, and will be capable of lifting T-Drive buses.

The lift replacement work will be carried out and coordinated with bus maintenance operations at the various garages in order to minimize disruptions and at least provide an acceptable minimum level of lift availability for bus maintenance at all times.

The recommended lift type is an in-ground lift designed by the STM and manufactured by a qualified and certified supplier in order to meet the corporation's operational standards. These lifts are stronger, have a greater lift capacity and are less costly thanks to their 30-year useful lifespan, nearly double that of commercially available lifts, which last only 15 or 20 years.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	4,008	454	584	4,459	2,458	11,963
Non-capital	0	0	0	0	0	0
Total	**4,008**	**454**	**584**	**4,459**	**2,458**	**11,963**
Funding						
Provincial government	121	161	207	1,579	870	2,938
Federal government	160	213	274	2,093	1,154	3,893
Montréal Agglomeration	50	66	85	648	357	1,205
STM	3,677	14	18	140	77	3,926
Total	**4,008**	**454**	**584**	**4,459**	**2,458**	**11,963**
Percentage subsidized						**67%**

PROJECT SHEET

RB-07

Replacement of control systems (iBus)

Project no.:	721759	**Sector:**	Bus network
LB/FIN no.:	R-114	**Asset category:**	Machinery, equipment and tools

The STM does not currently have a vehicle scheduling system used to monitor bus schedule adherence and take corrective actions. Similarly, it has no communication system that could be used to provide passengers with real-time information about delays or changes to bus schedules or routes, or other situations on its network.

Currently, the STM uses a simple radiocommunication system involving calls placed between drivers and dispatchers, which is grossly inadequate for an organization that manages a fleet of some 1,680 buses. These buses travel within an increasingly complex network that is often disrupted by roadwork and events requiring detours.

Furthermore, the 18-year-old radiocommunication system has already exceeded its technological lifespan. Also, obtaining parts to keep the system working properly is becoming increasing difficult. To compensate for this lack of parts, the STM took the temporary measure of equipping one bus garage with a second, parallel communication system. As a result, it is no longer possible to fully integrate the coordination of communications with buses and field supervisors.

This project involves installing a communication system and an integrated product that uses computerized tools to dispatch communications, regulate service, announce the next stop and provide passengers with real-time information; this is known as a vehicle scheduling control and passenger information system (SAEIV).

Purchasing and putting such a system into service is part of the STM's business strategy which aims to better meet passenger expectations by making service improvements in the areas of punctuality, regularity of service and real-time information. For the STM, a vehicle scheduling control and passenger information system (SAEIV) will mobilize employees, lead to smoother and safer operations, and serve as a significant selling point for increasing ridership. These objectives are in line with the STM's 2020 Strategic Plan, the City of Montréal's Transportation Plan, and the MTQ's public transit policy (PQTC).

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	5,735	25,929	58,454	54,007	41,123	185,248
Non-capital	1,741	556	3,818	6,321	2,940	15,376
Total	**7,476**	**26,485**	**62,272**	**60,328**	**44,063**	**200,624**
Funding						
Provincial government	2,122	9,594	21,628	19,983	15,216	68,542
Federal government	2,753	12,446	28,058	25,924	19,739	88,919
Montréal Agglomeration	860	3,889	8,768	8,101	6,168	27,787
STM	1,741	556	3,818	6,321	2,940	15,376
Total	**7,476**	**26,485**	**62,272**	**60,328**	**44,063**	**200,624**

Percentage subsidized **92%**

Bus network

PROJECT SHEET

RB-08

ACCES (EXTRA) real-time control – Delivery I – ACCES software package migration

Project no.:	850045-1	**Sector:**	Bus network
LB/FIN no.:	R-132	**Asset category:**	Machinery, equipment and tools

The current version of the ACCES-5 Paratransit Centre planning software package is being used near the limits of its capabilities.

The number of trips it handles each year has nearly doubled since it was first used in 2004, from 1.5 million trips to 2.7 million trips. According to forecasts, this should reach 4.3 million by 2020. The software's architecture uses only one scheduler, thus limiting the number of transactions that can be processed simultaneously. Although the situation is currently tenable, certain issues encountered daily lead to the conclusion that it will soon become difficult to plan service effectively. Moreover, essential operating systems are practically obsolete. In fact, the producers of Windows 2003 and Oracle 11.1 will cease supporting these products in July 2015.

A multitude of new functions not available when the software package was designed in the early 2000s, yet which are now common in the industry—for example, vehicle scheduling control and passenger information system functions—cannot be integrated into or used in conjunction with ACCES-5, version 2004.

The objective of this project is therefore to migrate to the 2012 version of the ACCES suite. ACCES 2012's architecture differs from that of ACCES-5, version 2004, in that it uses multiple schedulers and can share real-time data with the SAEIV software packages.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	199	2,609	215	14	0	3,038
Non-capital	11	494	7	0	0	511
Total	**210**	**3,103**	**222**	**14**	**0**	**3,548**
Funding						
Provincial government	74	965	80	5	0	1,124
Federal government	96	1,252	103	7	0	1,458
Montréal Agglomeration	30	391	32	2	0	456
STM	11	494	7	0	0	511
Total	**210**	**3,103**	**222**	**14**	**0**	**3,548**
Percentage subsidized						**86%**

PROJECT SHEET

RB-09

Trolleybus roll-out study

Project no.:	110426	**Sector:**	Bus network
LB/FIN no.:	R-831	**Asset category:**	Rolling stock

The objective of the Government of Québec's 2011–2020 electric vehicles action plan is that, by 2030, 95% of all public transit trips will be powered by electricity. The STM is steadfast in its commitment to electrifying its surface transit systems, as attested to in its 2020 Strategic Plan.

To reach its objective, the STM is studying a number of possibilities, including that of establishing a network of some 100 trolleybuses by 2016–2017, and thus taking advantage of a 100% electric transit mode that is proven, reliable and used worldwide. The STM will thereby effectively fulfill its mission and will be able to share expertise through the trolleybus committee of the International Association of Public Transport (UITP), of which the STM is a member.

The study's main objectives are to:

- update the exploratory trolleybus network scenarios and design the ideal network
- establish the details of an eventual roll-out: type and number of trolleybuses, power grid and street furniture, description and planning of an eventual trolleybus garage
- evaluate the costs of proceeding with the various scenarios, as well as their economic spin-offs

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	0	0	0	0	0
Non-capital	565	3,660	0	0	0	4,225
Total	**565**	**3,660**	**0**	**0**	**0**	**4,225**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	565	3,660	0	0	0	4,225
Total	**565**	**3,660**	**0**	**0**	**0**	**4,225**

Percentage subsidized **0%**

Bus network

PROJECT SHEET

RB-10

Purchase of 40-foot buses (2007–2012)

Project no.:	500001	**Sector:**	Bus network
LB/FIN no.:	R-079	**Asset category:**	Rolling stock

The STM bases its city bus replacement policy on a 16-year useful lifespan, a condition of the subsidies provided through the MTQ's public transit assistance program.

For 2007–2012, the STM has exercised its option to extend the 2003–2007 contract as well as that of the 2007–2012 contract, for a total of 411 low-floor buses. Of this quantity, 191 will be used to increase overall service (PQTC), 32 will be allocated to roadwork mitigation measures, including the Turcot interchange project, and 188 will serve as replacements for older buses.

These purchases will enable the STM to increase service reliability, decrease the average age of the vehicle fleet, have the number of buses required to serve customers effectively, and increase the number of routes accessible to people with limited mobility. They will also enable the STM to increase overall service.

	2011 and prior	2012	Total
40-foot buses	379	32	**411**

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	201,867	23,318	0	0	0	225,185
Non-capital	506	152	0	0	0	658
Total	**202,373**	**23,470**	**0**	**0**	**0**	**225,843**
Funding						
Provincial government	89,059	23,173	0	0	0	112,232
Federal government	36,065	84	0	0	0	36,149
Montréal Agglomeration	10,942	26	0	0	0	10,968
STM	66,307	187	0	0	0	66,494
Total	**202,373**	**23,470**	**0**	**0**	**0**	**225,843**

Percentage subsidized **71%**

PROJECT SHEET

RB-11

Purchase of 40-foot buses (2012–2017)

Project no.:	5002098	**Sector:**	Bus network
LB/FIN no.:	R-120	**Asset category:**	Rolling stock

The STM's 2020 Strategic Plan calls for an annual average increase in overall service of 2.6% between 2011 and 2020. To accomplish this, the STM will:

- take delivery of new articulated and conventional hybrid buses
- construct two new transit garages

A preliminary study has demonstrated that this objective calls for the purchase of 336 40-foot hybrid buses between 2013 and 2018.

The purchase program is as follows:

	2013	2014	2015 and following	Total
40-foot buses	36	24	276	**336**

Note: The PPM Committee has authorized the purchase of 316 buses. Should the project's scope change, a request for 20 additional buses will be submitted to the committee.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	10,122	33,575	37,805	280,052	361,555
Non-capital	0	0	307	209	2,554	3,070
Total	**0**	**10,122**	**33,882**	**38,014**	**282,605**	**364,624**
Funding						
Provincial government	0	3,700	12,272	13,818	102,359	132,148
Federal government	0	4,904	16,267	18,317	135,685	175,173
Montréal Agglomeration	0	1,518	5,036	5,671	42,008	54,233
STM	0	0	307	209	2,554	3,070
Total	**0**	**10,122**	**33,882**	**38,014**	**282,605**	**364,624**
Percentage subsidized						**99%**

Bus network

PROJECT SHEET

RB-12

Purchase of articulated buses (2013–2018)

Project no.:	5002156	**Sector:**	Bus network
LB/FIN no.:	R-914	**Asset category:**	Rolling stock

As part of its mandate as a public transit authority, the STM must maintain its current service offering while increasing ridership in accordance with its 2020 Strategic Plan (to 540 million trips a year by 2020), in line with the objectives of the City of Montréal's Transportation Plan.

To reach this objective, the STM plans to:

- take delivery of new articulated and conventional hybrid-propulsion buses
- build two new transit garages

A preliminary study has demonstrated that this objective requires the purchase of 536 buses between 2013 and 2018—336 standard buses and 200 articulated buses.

The plan to purchase 200 articulated buses—154 to increase the service offer and 46 as replacements—is broken down as follows:

	2015	2016	2017 and following	Total
Articulated buses	70	30	100	**200**

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	0	0	27,562	263,914	291,476
Non-capital	0	0	0	0	2,478	2,478
Total	**0**	**0**	**0**	**27,562**	**266,392**	**293,954**
Funding						
Provincial government	0	0	0	10,074	96,461	106,535
Federal government	0	0	0	13,354	127,866	141,220
Montréal Agglomeration	0	0	0	4,134	39,587	43,721
STM	0	0	0	0	2,478	2,478
Total	**0**	**0**	**0**	**27,562**	**266,392**	**293,954**

Percentage subsidized **99%**

PROJECT SHEET

RB-13

Replacement and addition of service vehicles (2008–2012)

Project no.:	5003137 and 503318	**Sector:**	Bus network
LB/FIN no.:	R-118 and R-107	**Asset category:**	Rolling stock

The STM currently manages a fleet of 447 regular service vehicles. In 1990, the corporation began implementing a fleet maintenance program. In 2005, the STM established a planning process called the “Five-year Plan,” which paints an annual, five-year outlook of changes in the fleet.

From an economic standpoint, the addition of vehicles to the fleet is justified.

By effectively managing its service vehicle fleet, the STM is able to spread out the costs over a number of years, thereby hedging against major fluctuations in expenditures.

Lastly, by replacing vehicles annually, the STM can keep the fleet in sound working order, while minimizing operating costs.

These projects concern the replacement of service vehicles when they reach the end of their useful life, as well as the purchase of new vehicles to meet operational needs.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	5,020	719	0	0	0	5,739
Non-capital	0	0	0	0	0	0
Total	**5,020**	**719**	**0**	**0**	**0**	**5,739**
Funding						
Provincial government	1,803	258	0	0	0	2,061
Federal government	2,390	343	0	0	0	2,732
Montréal Agglomeration	740	106	0	0	0	846
STM	88	11	0	0	0	100
Total	**5,020**	**719**	**0**	**0**	**0**	**5,739**
Percentage subsidized						**98%**

Bus network

PROJECT SHEET

RB-14

Purchase of minibuses for paratransit, *Navettes Or* shuttle service and the 251 – Sainte-Anne route (2012–2015)

Project no.:	5003436	**Sector:**	Bus network
LB/FIN no.:	R-826	**Asset category:**	Rolling stock

The STM currently owns a fleet of 102 minibuses used to:

- serve clients located throughout the Island of Montréal who have major functional limitations (86 minibuses)
- provide paratransit service with an acceptable level of comfort and practicality in order to fulfill seniors' transportation needs (12 *Navettes Or* minibuses)
- provide service for the 251 – Sainte-Anne route (four minibuses) in keeping with the STM's commitments

According to technical studies, the useful lifespan of these minibuses is five years.

Since 1988, the STM has been providing public transit service on the 251 – Sainte-Anne route. In 2012, four minibuses serving this route will hit the seven-year-old mark, well beyond the limit of their useful lifespan. Therefore, they will need to be replaced.

In response to this need, and with estimates of future need for vehicles as well as the special needs of this passenger base in mind, the STM needs to purchase eight additional minibuses for the 2012–2013 period—basically, four minibuses per year. Failing this, the STM will be forced to slow or completely halt its expansion of the paratransit service offer for seniors.

To reach its objectives and deliver quality service, the Paratransit Centre needs to have a sufficient number of vehicles to meet demand, maintain them properly, and replace them once they reach the end of their useful life. Hence, it has been recommended that the STM purchase 16 minibuses per year between 2012 and 2015, for a total of 64 minibuses.

	2012	2013	2014	2015	Total
Replacement of minibuses - Paratransit	16	16	16	16	**64**
Expansion of the Navettes Or shuttle service	4	4			**8**
Replacement of minibuses - 251 – Sainte-Anne route	4				**4**
Total	**24**	**20**	**16**	**16**	**76**

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	2,660	2,868	2,926	2,090	10,544
Non-capital	0	809	670	683	697	2,859
Total	**0**	**3,470**	**3,538**	**3,609**	**2,787**	**13,403**
Funding						
Provincial government	0	2,222	2,323	2,369	2,090	9,004
Federal government	0	335	416	425	0	1,176
Montréal Agglomeration	0	104	129	131	0	364
STM	0	810	670	683	697	2,859
Total	**0**	**3,470**	**3,538**	**3,609**	**2,787**	**13,403**
Percentage subsidized						**79%**

PROJECT SHEET

RB-15

Creation of a “green” electric midibus route

Project no.:	5152011	**Sector:**	Bus network
LB/FIN no.:	R-079-G	**Asset category:**	Rolling stock

In its Surface Transportation Electrification Plan, the STM announced that, starting in 2025, all buses purchased will be silent, zero-emissions vehicles. The plan is in line with the Government of Québec’s 2011–2020 electric vehicles action plan, which specifies that, by 2030, 95% of all public transit trips made anywhere within the province should be powered by electricity.

To meet its electrification objective, the STM is studying the possibility of creating a green route to be served exclusively by electric midibuses. The project will convert one existing route into an electric route, which will help bolster the brand image of the both the STM and the City of Montréal.

The work to be carried out consists in:

- acquiring and putting into service seven electric 30-passenger midibuses
- purchasing and installing operations-related equipment (radio, camera, fare collection box, data acquisition and display system (SCAD))
- modifying existing infrastructures
- installing charging stations
- purchasing specialized maintenance equipment and instruments
- managing projects and training maintenance personnel and drivers

	2012	2013	Total
Midibus	1	6	**7**

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	1,831	5,940	0	0	7,771
Non-capital	0	95	20	0	0	115
Total	**0**	**1,926**	**5,960**	**0**	**0**	**7,886**
Funding						
Provincial government	0	677	2,198	0	0	2,875
Federal government	0	879	2,851	0	0	3,730
Montréal Agglomeration	0	275	891	0	0	1,166
STM	0	95	20	0	0	115
Total	**0**	**1,926**	**5,960**	**0**	**0**	**7,886**

Percentage subsidized **99%**

Bus network

PROJECT SHEET

RB-16

Energy efficiency program for APS2 to APS6 buses and articulated buses

Project no.:	529950	**Sector:**	Bus network
LB/FIN no.:	R-125	**Asset category:**	Rolling stock

Over the past few years, a number of feasibility studies were conducted to identify technological solutions that could yield substantial reductions in fuel consumption and greenhouse gas emissions.

As part of its energy efficiency program for APS2 to APS6 buses and articulated buses, the STM is seeking to increase bus performance while reducing greenhouse gas emissions.

Two modifications are currently being made to vehicles to help achieve these goals:

- Changing the engine cooling system
- Optimizing the programming of buses' ZF transmissions using Topodyn software

  The effects of the programming are:
  - smooth acceleration
  - an increase in the fuel combustion temperature and pressure, which translates into lower fuel consumption

Note: On October 6, 2011, the PPM Committee revised its approval of this project. Only modifications to the 40-foot buses will be authorized if the MTQ subsidy extends beyond 2011.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	6,356	7,850	0	0	0	14,207
Non-capital	34	0	0	0	0	34
Total	**6,391**	**7,850**	**0**	**0**	**0**	**14,241**
Funding						
Provincial government	3,178	3,925	0	0	0	7,103
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	3,213	3,925	0	0	0	7,138
Total	**6,391**	**7,850**	**0**	**0**	**0**	**14,241**
Percentage subsidized						**50%**

PROJECT SHEET

RB-17

Mont-Royal bus garage: work to keep garage in operation

Project no.:	1294	**Sector:**	Bus network
LB/FIN no.:	R-805	**Asset category:**	Property assets and infrastructures

As mentioned in the Government of Québec's assistance program for the improvement of public transit services (PAGASTC), the STM plans to increase overall service by 16% between 2007 and 2012 in order to increase public transit ridership on the Island of Montréal by 8%.

This calls for an increase in the size of the fleet of buses that need to be parked in one of the existing bus garages. The Mont-Royal bus garage is the only one capable of handling the overflow.

Repair operations will nonetheless be required in order to keep the garage operating safely. The work consists mainly in making partial repairs to: pavement, architecture (masonry and roofing), structure, building mechanics (HVAC), general mechanics (lifts) and the electrical system (cabling, mains), as well as securing certain components and equipment, if applicable.

The objective of this work is to enable the garage to remain open and continue operating safely. Work will be carried out in all of the building's engineering disciplines.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	179	500	500	500	1,500	3,179
Non-capital	665	0	0	0	0	665
Total	**844**	**500**	**500**	**500**	**1,500**	**3,844**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	844	500	500	500	1,500	3,844
Total	**844**	**500**	**500**	**500**	**1,500**	**3,844**
Percentage subsidized						**0%**

Bus network

PROJECT SHEET

RB-18

Replacement of bus shelters and street furniture

Project no.:	1368	**Sector:**	Bus network
LB/FIN no.:	R-080	**Asset category:**	Property assets and infrastructures

The renewal of the STM's bus shelters is being carried out in response to passenger requests, and because the average age of the shelters ranges between 25 and 30 years. Moreover, the STM's bus shelters are subject to annual losses due to accidents, bad weather and relocations.

Bicycle racks will be located near métro stations to satisfy the needs of clients who combine cycling and the métro for their daily travel needs. Over the past few years, we have noticed an increase in bicycle rack use.

The bicycle rack installation plan seeks to double the current capacity at high-traffic sites, meet customer needs where no racks yet exist, and replace outdated racks.

In conclusion, the project's focus is to purchase and install a limited number of bus shelters and bicycle racks each year. This will enable the STM to replace damaged or obsolete assets, and install equipment at new sites to meet passenger needs.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,152	65	0	0	0	1,217
Non-capital	8	0	0	0	0	8
Total	**1,160**	**65**	**0**	**0**	**0**	**1,226**
Funding						
Provincial government	177	10	0	0	0	187
Federal government	790	45	0	0	0	834
Montréal Agglomeration	177	10	0	0	0	187
STM	16	0	0	0	0	16
Total	**1,160**	**65**	**0**	**0**	**0**	**1,226**
Percentage subsidized						**99%**

PROJECT SHEET

RB-19

St-Denis bus garage: work to keep garage in operation

Project no.:	1554	**Sector:**	Bus network
LB/FIN no.:	R-807	**Asset category:**	Property assets and infrastructures

An assessment of the condition of the St-Denis bus garage building was conducted as part of a detailed inspection of its infrastructures and components. The assessment led to the discovery of age-related deterioration of certain structures and components, thus establishing the need for repairs to keep the garage open.

The project therefore consists in carrying out repair work that involves securing building components and production equipment according to a set schedule, and following up with periodic inspections by engineering and maintenance personnel. Work is scheduled in such a way as to minimize its impact on maintenance and operations.

The work to be carried out consists in:

- increasing the capacity of the electrical mains
- securing lifts and piping systems
- replacing critical electrical components at the end of their useful lifespans
- improving lighting
- repairing wastewater plumbing
- refurbishing the compressed air system
- partially repairing the automatic sprinkler plumbing, masonry, windows, doors, garage doors, pavement, concrete slabs, edge beams and wall cracks
- installing HVAC systems where required

This work will enable the St-Denis bus garage to remain open. Carrying out the work on a specific schedule will minimize costs while avoiding a piecemeal approach and disruptions to staff and operations.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	844	500	500	500	650	2,994
Non-capital	1,073	0	0	0	0	1,073
Total	**1,917**	**500**	**500**	**500**	**650**	**4,067**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	1,917	500	500	500	650	4,067
Total	**1,917**	**500**	**500**	**500**	**650**	**4,067**
Percentage subsidized						**0%**

Bus network

PROJECT SHEET

RB-20

Mont-Royal bus garage: centralization of fire alarm systems at the Bus Coordination Centre (CCA)

Project no.:	1651	**Sector:**	Bus network
LB/FIN no.:	R-126-B	**Asset category:**	Property assets and infrastructures

Depending on when buildings were constructed, fire alarm panels may have been installed at various times. Due to ever-changing technologies, it is impossible to link all of this equipment to a centralized network.

By locating all fire alarm panels at the Bus Coordination Centre (CCA), the STM will be better able to comply with current safety regulations and reduce response time for our prevention teams, while considerably decreasing the time needed to locate fires.

Lastly, it will enable the STM to rationalize its facilities.

The many advantages of this project would include:

- increasing notification and response time in case of fire
- pinpointing the location of fires
- lowering response costs
- standardizing response messages and procedures
- acquiring a higher-quality decision-making tool

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	22	456	460	0	0	938
Non-capital	0	0	0	0	0	0
Total	**22**	**456**	**460**	**0**	**0**	**938**
Funding						
Provincial government	16	342	345	0	0	703
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	5	114	115	0	0	234
Total	**22**	**456**	**460**	**0**	**0**	**938**
Percentage subsidized						**75%**

PROJECT SHEET

RB-21

Legendre Centre: replacement of HID and fluorescent lighting fixtures

Project no.:	1725	**Sector:**	Bus network
LB/FIN no.:	R-126-A	**Asset category:**	Property assets and infrastructures

As part of the major project carried out at the Legendre Centre in 2008, much of the garage was completely renovated and a new body shop complex was constructed. However, part of the existing centre did not benefit from a refurbishing.

The lighting of this non-refurbished part contains lighting fixtures featuring 600-volt ballasts and mercury vapour lamps. This type of lighting uses old technology and is no longer produced. Few manufacturers even keep these or equivalent fixtures in stock, and delivery times are long (three months or longer). Moreover, the equivalent equipment that is available does not match our existing equipment—a constant source of frustration for our maintenance crews. The mercury vapour lamps are 30% less effective than metal-halide or high-pressure sodium lamps, and they do not meet STM standards (design standards and criteria for STM surface buildings).

The project therefore consists in standardizing lighting levels in the non-refurbished part of the building with those in the new part by installing 374-volt lighting equipment that meets current standards and is the most readily available today. More precisely, we will replace all mercury vapour lighting fixtures, conduits and conductors with new components. The number of lighting fixtures will be approximately the same.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	10	879	0	0	0	889
Non-capital	0	0	0	0	0	0
Total	**10**	**879**	**0**	**0**	**0**	**889**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	10	879	0	0	0	889
Total	**10**	**879**	**0**	**0**	**0**	**889**

Percentage subsidized **0%**

Bus network

PROJECT SHEET

RB-22

St-Michel bus garage: bringing emergency lighting up to standard

Project no.:	1726	**Sector:**	Bus network
LB/FIN no.:	R-119-A	**Asset category:**	Property assets and infrastructures

The St-Michel bus garage does not have safe emergency exits for employees. More precisely, the emergency lighting, signage and yellow lines drawn on the floor, all of which are intended to guide personnel in case of evacuation, are partially deficient.

The project consists in correcting noted anomalies and bringing the premises in line with the National Building Code.

The main tasks to carry out consist in renewing the emergency lighting, installing new emergency signage and repainting the yellow line on the floor, all of which lead to the emergency exits. An emergency exit will also be added to one area that, for the time being, is a dead end.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	11	177	0	0	0	188
Non-capital	0	0	0	0	0	0
Total	**11**	**177**	**0**	**0**	**0**	**188**
Funding						
Provincial government	4	65	0	0	0	70
Federal government	5	85	0	0	0	90
Montréal Agglomeration	2	26	0	0	0	28
STM	0	0	0	0	0	0
Total	**11**	**177**	**0**	**0**	**0**	**188**
Percentage subsidized						**100%**

PROJECT SHEET

RB-23

Various above-ground buildings: replacement of fire alarm panels – Phase III

Project no.:	1760	**Sector:**	Bus network
LB/FIN no.:	R-116-A	**Asset category:**	Property assets and infrastructures

A 2004 inspection that was validated by the STM's building electrical engineering department highlighted the need for a plan to progressively replace the fire alarm panels, detection equipment and wiring, as all have reached the end of their useful life and replacement parts are no longer available.

This project consists in replacing the conventional fire alarm systems in the above-ground buildings with new systems over a two-year period, with an eye to maintaining optimum reliability with respect to buildings' fire protection and improving response time in case of fire. The new panels meet the standards applied in the other STM buildings. This also simplifies equipment maintenance and the training of electricians, and ensures compliance with the STM's design standards and criteria.

The project applies to the following buildings: the Anjou, St-Laurent and LaSalle bus garages, as well as the Providence power station.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	26	837	0	0	0	862
Non-capital	0	0	0	0	0	0
Total	**26**	**837**	**0**	**0**	**0**	**862**
Funding						
Provincial government	10	310	0	0	0	319
Federal government	12	402	0	0	0	414
Montréal Agglomeration	4	125	0	0	0	129
STM	0	0	0	0	0	0
Total	**26**	**837**	**0**	**0**	**0**	**862**

Percentage subsidized **100%**

Bus network

PROJECT SHEET

RB-24

Operational integration of buses

Project no.:	201112-02	**Sector:**	Bus network
LB/FIN no.:	R-078-C	**Asset category:**	Property assets and infrastructures

Following the delivery of buses with new configurations and options by the STM's main supplier, the corporation has no other choice but to restructure in order to integrate the new vehicles into its operations.

This project consists in horizontally integrating all new buses into existing operations, which calls for investments in the following activities:

- Acquiring and designing courses, and training employees
- Preparing technical documents
- Establishing maintenance methods
- Adapting some maintenance equipment
- Revising work organization
- Acquiring and designing specialized equipment and tools
- Adapting street furniture
- Installing new infrastructures (urea distribution and communication systems)
- Managing change

Commentaire [DRS4] : système de distribution à l'urée?

The project also calls for the lengthening of passenger loading zones to accommodate articulated buses, which will in turn require that sign posts indicating the end of these zones be moved.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	4,750	824	0	0	0	5,574
Non-capital	5,844	1,025	0	0	0	6,869
Total	**10,594**	**1,849**	**0**	**0**	**0**	**12,443**
Funding						
Provincial government	114	20	0	0	0	134
Federal government	504	87	0	0	0	591
Montréal Agglomeration	114	20	0	0	0	134
STM	9,863	1,722	0	0	0	11,584
Total	**10,594**	**1,849**	**0**	**0**	**0**	**12,443**
Percentage subsidized						**7%**

PROJECT SHEET

RB-25

Pavement and indoor slab repair program

Project no.:	2152	**Sector:**	Bus network
LB/FIN no.:	R-131	**Asset category:**	Property assets and infrastructures

In summer 2010, a visual inspection of 45 STM traffic area sites was conducted to determine the state of these assets; the inspection identified the type of degradation involved and assigned a severity level (minor, average, major) to each one. A subsequent analysis of the situation helped establish preventive maintenance needs (crack sealing, local repairs) and the partial or complete repair work required over the following eight years (2012 to 2019).

The program seeks to consolidate all concrete slab and pavement repair work required at the transportation centres, garages, supply points and workshops, at métro stations, bus loops and terminals, at parking lots, and at the STM's administrative buildings.

The program's strategy is to work in planned intervention mode, along with the initial implementation of transitional measuresm to minimize the impact on bus operations and on the above-mentioned sites.

The following repair objectives were set:

- Repair or rebuild the paved surface, granular sub-base, curbs, concrete sidewalks, and existing drainage systems
- Repair or rebuild the concrete floor slabs, granular sub-base, concrete sidewalks, and drainage systems (catch basins, gutters, frames and grates)
- Seal cracks and joints in these surfaces and slabs using appropriate materials

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	55	559	1,065	4,373	7,948	14,000
Non-capital	0	0	0	0	0	0
Total	**55**	**559**	**1,065**	**4,373**	**7,948**	**14,000**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	55	559	1,065	4,373	7,948	14,000
Total	**55**	**559**	**1,065**	**4,373**	**7,948**	**14,000**
Percentage subsidized						**0%**

Bus network

PROJECT SHEET

RB-26

Mont-Royal bus garage: roof repairs

Project no.:	2200	**Sector:**	Bus network
LB/FIN no.:	R-116-C	**Asset category:**	Property assets and infrastructures

This project stems from the recommendations contained in a 2006 study carried out by a building consulting firm and a 2008–2009 due diligence review. Lastly, a roof inspection was carried out in May 2009 by the architecture group in conjunction with the STM's roofers.

The projects includes the following work:

- For the depot roof, replacement of the waterproofing system, insulation and parapets
- For the roofs on garages 1 and 2, complete replacement of the waterproofing system via the installation of a new asphalt panel over the existing fibreboard
- For the roof on garage 3, complete replacement of the waterproofing system, insulation and parapets

Water infiltration can cause the roof structure to age more quickly and operating equipment inside buildings to deteriorate, thereby increasing future repair costs on all fronts.

Lastly, the roof structure on garage 3 is made of Siporex, a highly moisture-sensitive material. Should this structure weaken, it could potentially damage the Siporex panels.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	788	1,549	0	0	0	2,338
Non-capital	0	0	0	0	0	0
Total	**788**	**1,549**	**0**	**0**	**0**	**2,338**
Funding						
Provincial government	280	550	0	0	0	830
Federal government	371	729	0	0	0	1,101
Montréal Agglomeration	115	226	0	0	0	341
STM	22	44	0	0	0	66
Total	**788**	**1,549**	**0**	**0**	**0**	**2,338**
Percentage subsidized						**97%**

PROJECT SHEET

RB-27

Various bus garages: fuelling equipment upgrades

Project no.:	2460	**Sector:**	Bus network
LB/FIN no.:	R-080-A	**Asset category:**	Property assets and infrastructures

In June 2006, the Executive Branch – Construction and Infrastructures Maintenance noted a diesel fuel leak in the fuelling equipment piping at the Anjou bus garage. Following this incident, the branch conducted a due diligence review of all STM facilities with similar fuelling equipment in order to take stock of the situation and plan for any necessary corrective measures. Major upgrade work was deemed necessary and must therefore be carried out to maintain the fuelling equipment's integrity. At the same time, we will use the opportunity to upgrade the fire protection systems in all fuelling areas.

The project therefore consists in conducting a major upgrade of STM fuelling facilities to maintain the integrity of the corporation's equipment and the safety of employees working in these areas. The top priority will be repairing the diesel supply lines, rigid conduits, leak detection system cables, gauges, the detection system itself and the fuel pumps, in addition to replacing the diesel tank. Moreover, an automatic foam-type fire extinguishing system will be installed, and the existing ventilation system will be linked electrically to the fuel pumps.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	4,262	1,487	0	0	0	5,749
Non-capital	25	0	0	0	0	25
Total	**4,287**	**1,487**	**0**	**0**	**0**	**5,774**
Funding						
Provincial government	658	229	0	0	0	887
Federal government	2,928	1,022	0	0	0	3,949
Montréal Agglomeration	658	229	0	0	0	887
STM	44	7	0	0	0	50
Total	**4,287**	**1,487**	**0**	**0**	**0**	**5,774**
Percentage subsidized						**99%**

Bus network

PROJECT SHEET

RB-28

Legendre Centre: slab repairs

Project no.:	2596	**Sector:**	Bus network
LB/FIN no.:	R-126	**Asset category:**	Property assets and infrastructures

This project was created because the pavement in the bus traffic lane leading to Legendre Street, as well as the pavement in the employee parking lot delimited by the existing bus garage, Henri-Julien Park, Legendre Street and Saint-Laurent Boulevard, which were redone in 1984, have reached the end of their useful life. Furthermore, the level of lighting provided by the current fixtures does not meet STM standards and design criteria. This type of lighting, consisting of ballasts and 600 V mercury vapour lamps, uses obsolete technology no longer in production.

The needs addressed by this project are as follows:

- Repairing the surface course in the bus traffic lane, which was not carried out when the new Legendre body shop was built
- Repairing the pavement and decreasing the slopes in the employee parking lot
- Replacing and upgrading the existing rain gutter system, as per City of Montréal regulations adopted in 2007 regarding rainwater retention, as was done for the new Legendre body shop
- Partially replacing the fence along Legendre Street and Henri-Julien Park
- Repairing and adding lighting fixtures to bring outdoor lighting in the employee parking lot and along the bus traffic lane into line with the STM's standards and design criteria
- Installing buried pipes for the installation of cameras in order to increase surveillance levels in the parking lot

The adopted solution will address operations-related needs, such as paving the bus traffic lane and replacing and installing lighting, for a minimum of 10 years. Secondary needs, such as completely replacing the driving surface, as well as replacing the employee parking lot drainage system and bringing it up to standard, are also addressed and designed with a 15-to-20-year useful lifespan. This solution attends to current, medium-term and long-term needs, and its long-term viability was confirmed by the financial analysis conducted.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	181	5,489	0	0	0	5,670
Non-capital	0	0	0	0	0	0
Total	**181**	**5,489**	**0**	**0**	**0**	**5,670**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	181	5,489	0	0	0	5,670
Total	**181**	**5,489**	**0**	**0**	**0**	**5,670**
Percentage subsidized						**0%**

PROJECT SHEET

RB-29

Frontenac bus garage: building systems and equipment repair program

Project no.:	301056	**Sector:**	Bus network
LB/FIN no.:	R-101	**Asset category:**	Property assets and infrastructures

This project's objective is to keep the facilities operating for the next 10 to 20 years without the need for major work. The project will improve employee working conditions by delivering reliable systems that meet current standards, both in terms of production equipment and the workplace environment.

Over the long term, by implementing a planned maintenance schedule to avoid the need for unplanned repairs, the project will reduce the number of repair operations carried out on equipment nearing the end of its useful life, thus avoiding higher repair costs. It will also bring equipment and facilities in line with current standards, particularly those of the National Building Code and the regulations governing petroleum products.

The work will adequately preserve the premises and provide for greater systems and equipment reliability, which will in turn prevent interruptions, accidents and vehicle breakdowns. Thus, the STM will be in a position to deliver dependable service.

The work consists mainly in repaving, making repairs to the site's drainage system, architecture, structure, building mechanics and electrical system, and replacing the lifts in the mechanic bays.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	26,085	299	0	0	0	26,384
Non-capital	431	0	0	0	0	431
Total	**26,516**	**299**	**0**	**0**	**0**	**26,815**
Funding						
Provincial government	19,042	218	0	0	0	19,260
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	7,474	81	0	0	0	7,554
Total	**26,516**	**299**	**0**	**0**	**0**	**26,815**

Percentage subsidized **72%**

Bus network

PROJECT SHEET

RB-30

Transit Priority Measures (TPM) program for buses – Phases I and II

Project no.:	350001	**Sector:**	Bus network
LB/FIN no.:	CA-113	**Asset category:**	Property assets and infrastructures

The project's objective is to reduce passenger travel time by increasing bus speed, fluidity and punctuality on the STM's heavily used corridors. By substantially decreasing passenger travel time, the STM will be in a better position to compete with cars, thus increasing ridership and public transit's share of the transportation mix.

The selected solution involves creating, over the next few years, over 240 km of lanes featuring transit priority measures (TPM) for buses, thus increasing the total combined distance of such lanes from 74 to over 300 kilometres.

The TPM concept is rolled out in two phases:

- Phase I: In accelerated work mode, the STM is expected to study and create lanes on three or four corridors a year by 2014. This phase will include the creation of new reserved bus lanes and the installation of equipment enabling bus signal priority without the need for bus detectors.
- Phase II: Real-time detection will be implemented in conjunction with the iBus project starting in 2013. Thereafter, the new routes will allow for real-time bus detection. This equipment will also be installed retroactively on existing routes before 2013 and on existing reserved bus lanes, e.g. Parc, Côte-des-Neiges, etc.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	11,205	23,929	13,876	29,414	51,174	129,598
Non-capital	0	0	0	0	0	0
Total	**11,205**	**23,929**	**13,876**	**29,414**	**51,174**	**129,598**
Funding						
Provincial government	8,404	13,893	8,380	15,733	18,934	65,345
Federal government	0	5,121	2,560	7,992	24,563	40,237
Montréal Agglomeration	0	1,598	800	2,498	7,676	12,572
STM	2,801	3,316	2,136	3,191	0	11,444
Total	**11,205**	**23,929**	**13,876**	**29,414**	**51,174**	**129,598**
Percentage subsidized						**91%**

PROJECT SHEET

RB-31

Redevelopment of Elmhurst bus terminal

Project no.:	*350002*	**Sector:**	Bus network
LB/FIN no.:	R-117	**Asset category:**	Property assets and infrastructures

Elmhurst bus terminal is served by five routes, including one night route. The station's infrastructures no longer meet passenger needs. None of the loading zones have bus shelters, and at rush hour, a large number of buses remain on the street for lack of space at the station. Moreover, due to poor lighting, safety and security are an issue. Lastly, after 8 p.m., the 51 – Édouard-Montpetit bus does not stop in the terminal's loop for safety reasons. In the near future, the 51, one of the STM's busiest routes, might use articulated buses. In its current configuration, the station will not be able to operate effectively.

The goal of the project is therefore to improve conditions and safety for passengers waiting for buses, as well as increasing the bus terminal's operating capacity, while ensuring that buses and pedestrians can circulate safely. The principles of sustainable development will be integrated into the plans and specifications.

The project consists in acquiring and reconfiguring the land adjacent to the existing bus terminal and will involve:

- reconfiguring pedestrian and vehicular spaces with an accent on safety
- establishing protected and semi-protected areas for customers
- installing lighting that fosters a sense of security among customers
- acquiring static and dynamic passenger information tools
- constructing a main building to accommodate the needs of bus drivers and operations managers
- installing peripheral amenities, including bicycle racks, benches and waste bins
- setting up a remote surveillance system

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	156	1,596	3,116	0	0	4,869
Non-capital	0	0	0	0	0	0
Total	**156**	**1,596**	**3,116**	**0**	**0**	**4,869**
Funding						
Provincial government	117	1,197	2,337	0	0	3,652
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	39	399	779	0	0	1,217
Total	**156**	**1,596**	**3,116**	**0**	**0**	**4,869**
Percentage subsidized						**75%**

Bus network

PROJECT SHEET

RB-32

Lionel-Groulx terminal redesign – Phase I

Project no.:	*350005*	**Sector:**	Bus network
LB/FIN no.:	R-905	**Asset category:**	Property assets and infrastructures

In response to the construction work on the Turcot interchange, the STM has established mitigation measures to help public transit passengers living on the western part of the Island of Montréal. The STM is planning to base three new routes at the Lionel-Groulx métro station's bus terminal.

The convergence of these three new routes at Lionel-Groulx will require a major redesign of the area delimited by Atwater Avenue and Saint-Jacques, Rose-de-Lima and Delisle streets. Currently, the station is served by eight bus routes, and around 8,500 passengers a day use the buses linked to that station. The main constraints facing the current bus terminal are the distance of stops from the métro entrance building and the saturation of available spaces on adjacent streets. With the addition of new bus routes, the urban setting around the station will require major changes in order to remain functional and safe.

Back in 2003, the STM considered the matter and subsequently called for an opportunity and feasibility study of two options: designing a terminal and erecting a building complex on the station's green spaces. The project's main challenge was finding a solution that met the conditions of all regulatory levels, be they central or local, while taking into account such things as the needs and expectations of passengers, local residents, STM operations and the community at large.

The STM would like to increase the terminal's capacity only minimally by creating a new bus loop on the land adjacent to the station. The loop's design calls for an entrance on Atwater near Lionel-Groulx Street and an exit on Saint-Jacques Street via an extension of Greene Avenue. The loop would be for the exclusive use of buses.

Commentaire [DRS5] : À corriger en français (Greene and non Green)

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	2,730	0	0	0	2,730
Non-capital	360	0	0	0	0	360
Total	**360**	**2,730**	**0**	**0**	**0**	**3,090**
Funding						
Provincial government	0	2,730	0	0	0	2,730
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	360	0	0	0	0	360
Total	**360**	**2,730**	**0**	**0**	**0**	**3,090**
Percentage subsidized						**88%**

PROJECT SHEET

RB-33

Purchase of 400 bus shelters

Project no.:	450000	**Sector:**	Bus network
LB/FIN no.:	R-108	**Asset category:**	Property assets and infrastructures

Although the STM's bus shelters are not linked directly to ridership levels, they do impact overall quality of service. The STM's bus network development strategy will take passenger comfort at bus stops into account. Bus shelters are often the first thing passengers encounter as they use the STM's network.

Each year, the STM receives between 25 and 50 requests to install bus shelters; most come from passengers, while others come from municipalities and boroughs.

As the population ages, the need for comfort at bus stops is becoming increasingly important. Furthermore, a number of municipalities and boroughs have developed revitalization plans for their main thoroughfares, which has also sped up the process of replacing shelters.

In March 2009, the chairman of the STM launched a bus shelter design contest; the winning design would be used to create the 400 shelters to be installed over the coming years. In January 2010, the STM and the City of Montréal announced the name of the winning firm. In November 2010, a prototype of one of the three new bus shelter designs was unveiled.

The STM plans to install 100 bus shelters a year between 2012 and 2015.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	342	3,495	3,565	3,636	3,709	14,746
Non-capital	25	264	299	305	311	1,204
Total	**367**	**3,759**	**3,864**	**3,941**	**4,020**	**15,950**
Funding						
Provincial government	235	2,406	2,454	2,503	2,554	10,153
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	131	1,352	1,409	1,438	1,466	5,797
Total	**367**	**3,759**	**3,864**	**3,941**	**4,020**	**15,950**
Percentage subsidized						**64%**

Bus network

PROJECT SHEET

RB-34

Bus network infrastructures – Phase II

Project no.:	529997	**Sector:**	Bus network
LB/FIN no.:	R-109	**Asset category:**	Property assets and infrastructures

This project consists in adding a bus garage with the facilities needed to accommodate the additional buses and personnel, as called for in the governmental assistance program for the improvement of public transit services (PAGASTC) and the STM's 2020 Strategic Plan.

The first deliverable called for the acquisition of a lot on the Island of Montréal, located within an acceptable perimeter, which would allow for efficient operations. The future site needed to offer at least 70,000 square metres of space and be located in an industrial area. A site meeting these conditions was acquired in 2011.

The second deliverable involves the construction and opening, in 2013, of a new bus garage that can accommodate a total of 300 buses: 200 conventional 40-foot buses and 100 60-foot articulated buses.

This project will also allow for the construction of an efficient bus garage that complies with the sustainable development objectives described in the STM's 2020 Strategic Plan. The garage will be designed in such a way as to accommodate new propulsion systems (electricity, for example) in the near or distant future.

This additional garage will help streamline the distribution of buses throughout the network, provide the overall capacity required to operate the bus fleet, and improve the management of garages whose current capacity is deemed to be more suitable by the Executive Branch – Operations.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	34,191	77,692	51,023	0	0	162,906
Non-capital	425	155	1,723	0	0	2,303
Total	**34,616**	**77,848**	**52,746**	**0**	**0**	**165,209**
Funding						
Provincial government	25,643	58,269	38,267	0	0	122,180
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	8,973	19,578	14,479	0	0	43,030
Total	**34,616**	**77,848**	**52,746**	**0**	**0**	**165,209**
Percentage subsidized						**74%**

PROJECT SHEET

RB-35

Relocation of the bus body workshop and rebuilding of the Legendre Centre and truck workshop

Project no.:	529999	**Sector:**	Bus network
LB/FIN no.:	R-055	**Asset category:**	Property assets and infrastructures

In light of the newly acquired articulated buses, we have encountered a number of problems maintaining and repairing these vehicles at our current facilities.

The previous facilities were not able to accommodate buses longer than 40 feet. Moreover, the new bus bodies are made entirely of fibreglass and composites. We were therefore unable to handle these kinds of materials at our facilities.

The construction of a new 93,000-square-foot body shop and the expansion of the Legendre Centre to a total of 150,000 square feet enabled us to accommodate the articulated buses. In fact, the expansion enabled us to increase the centre's capacity from 244 to 418 vehicles.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	86,903	187	0	0	0	87,090
Non-capital	614	0	0	0	0	614
Total	**87,517**	**187**	**0**	**0**	**0**	**87,704**
Funding						
Provincial government	65,177	140	0	0	0	65,317
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	22,340	47	0	0	0	22,387
Total	**87,517**	**187**	**0**	**0**	**0**	**87,704**
Percentage subsidized						**74%**

Bus network

PROJECT SHEET

RB-36

Floor slab, traffic area and parking lot repair program

Project no.:	561908	**Sector:**	Bus network
LB/FIN no.:	R-005-D	**Asset category:**	Property assets and infrastructures

The condition of the concrete slabs and pavement in the traffic areas and parking lots at the various bus garages varies considerably from garage to garage depending on age and traffic.

Repair and replacement work must be conducted to keep the surfaces in good condition, while minimizing costs and disruptions to operations.

Until now, repair work has always focused on specific locations based on the needs of various users. This repair project includes a preventive dimension aimed at extending the useful lifespan of the surfaces. The program seeks to correct certain surface deterioration issues and to slow deterioration by means of preventive methods.

The main preventive work called for by the program, such as sealing cracks and joints, applying concrete sealants and improving drainage, is aimed at extending the useful life of existing surfaces.

This work will enable the STM to keep the pavement in good condition in order to reduce disruptions to operations, to consolidate repairs in order to benefit from more competitive pricing, to minimize disruptions typically caused by smaller repairs carried out in a piecemeal fashion, and reducing the number of costly repairs to concrete slab joints.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	5,758	50	0	0	0	5,807
Non-capital	169	0	0	0	0	169
Total	**5,926**	**50**	**0**	**0**	**0**	**5,976**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	5,926	50	0	0	0	5,976
Total	**5,926**	**50**	**0**	**0**	**0**	**5,976**

Percentage subsidized **0%**

PROJECT SHEET

RB-37

Newman/Lafleur terminal relocation

Project no.:	625009	**Sector:**	Bus network
LB/FIN no.:	R-117	**Asset category:**	Property assets and infrastructures

In 1992, with the MTQ's permission, the STM began operating the Monette/Lafleur bus terminal in the borough of LaSalle between the Honoré-Mercier Bridge's two traffic ramps.

In December 2008, the STM was informed that the MTQ would be reclaiming the space in August 20, 2009, so that it could carry out construction work on the bridge decks and adjacent lots, and that once the work was completed, the STM would no longer have the same space at its disposal.

The STM, in conjunction with LaSalle borough authorities, relocated all Monette/Lafleur terminal operations to another site. In summer 2009, the STM opened a temporary terminal at the corner of Newman and Lafleur. Still awaiting a permanent solution, the STM signed a three-year agreement with the lot's owner. In 2010, the decision was made to build, on the currently occupied site, a permanent bus terminal better suited to the STM's current and future needs.

Six bus lines will have their home base at the terminal. The main line is the 106 – Newman (506 – Newman reserved lane at rush hour), which serves the Newman Boulevard route, LaSalle's busiest. Most bus lines intersect at least one métro station. The bus terminal should be able to accommodate new bus routes and articulated buses. Accessibility and sustainable development are key elements of this project.

The project will involve:

- reconfiguring pedestrian and vehicular spaces with an accent on safety
- establishing protected and semi-protected areas for customers
- installing lighting that increases the sense of security
- acquiring static and dynamic passenger information tools and peripheral amenities
- constructing a main building to accommodate the needs of bus drivers and operations managers
- implementing Transit Priority Measures (TPM) for buses with access to the bus station (traffic signals, detector loops, etc.)
- installing peripheral amenities, including bike racks, benches and waste bins
- setting up a remote surveillance system

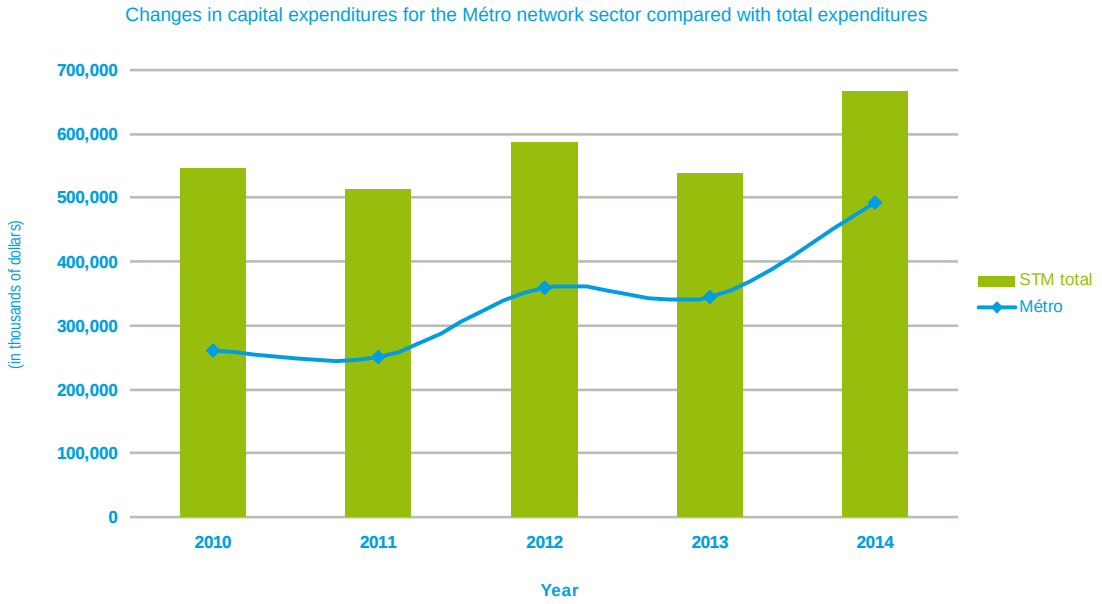
(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	255	1,676	4,034	0	0	5,966
Non-capital	0	0	0	0	0	0
Total	**255**	**1,676**	**4,034**	**0**	**0**	**5,966**
Funding						
Provincial government	192	1,257	3,026	0	0	4,475
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	64	419	1,009	0	0	1,492
Total	**255**	**1,676**	**4,034**	**0**	**0**	**5,966**
Percentage subsidized						**75%**

Bus network

MÉTRO NETWORK

MÉTRO NETWORK SUMMARY

From 2012 to 2014, the amount to be invested in métro network facilities accounts for nearly 67% of the STM's total expenditures, or $1.2 billion.



MACHINERY, EQUIPMENT AND TOOLS

This stationary métro equipment maintenance program will call for the replacement or reconditioning of stationary equipment linked directly to operations. This equipment constitutes an imposing asset base. Close to $323.7 million will be allocated to this category over the next three years.

Fully aware that the network is being rendered vulnerable by the métro's aging stationary equipment, which in turn can have negative consequences on service reliability and safety, the STM will continue carrying out its *Réno-Systèmes* renovation program. The goal of the program is to improve the reliability, flexibility, maintainability, availability and safety of the métro's stationary equipment, not to mention customer service and the STM's overall performance, while making the best possible use of technological advances. Phase I of *Réno-Systèmes*, which ended in 2008, yielded a significant drop in the number of breakdowns attributable to equipment failure. The estimated cost of Phases I and II is over $964.6 million, including $64.7 million to be spent between 2012 and 2014. A third phase is planned for 2010 to 2018, during which efforts will be dedicated to overhauling motorized equipment such as escalators, ventilation systems, and elevators for passengers with limited mobility. Track equipment, power equipment for train operations and control, and telecommunication systems will all be affected by this project. The total cost of this phase of the project will be $500 million, including $253.8 million between 2012 and 2014.

Various equipment and tools will be acquired at a cost of $5.2 million, including an automated dust-blowing system for the Beaugrand workshop, surveillance and control equipment, and an upgrade of certain ventilation stations in the métro extensions.

ROLLING STOCK

The STM will spend over $506 million on métro cars between 2012 and 2014.

The STM decided to purchase 468 métro cars to replace its fleet of MR-63 cars, as well as enough additional cars to meet future demand resulting from increased ridership and métro extensions. The total cost of the project is currently estimated at $2.2 billion. The STM plans to invest close to $494.3 million over the next three years. The new rolling stock will outperform existing vehicles in all respects thanks to increased passenger capacity, improved reliability and lower maintenance and operating costs.

Moreover, the current cars will require expenditures in the order of $11.7 million. Among other things, $10.4 million will go toward replacing certain MR-73 métro car door components. These cars, which have been in service for over 33 years, are showing major signs of fatigue and decreased reliability. This project will therefore replace door suspension mechanisms on all 423 métro cars. Two other projects totalling $1.3 million will improve existing cars by enhancing the ergonomics of the MR-73 driver's cab, and by reconfiguring the interior of MR-63 cars to increase passenger capacity.

PROPERTY ASSETS AND INFRASTRUCTURES

With its four lines, 68 stations and 71 kilometres of tunnels, the current métro network represents an asset in the order of $12.8 billion that requires considerable maintenance and modernization expenditures. Hence, with the aim of meeting current standards and replacing systems and equipment, the STM has implemented maintenance programs for its building inventory. Expenditures of $364.3 million are forecast over the next three years.

Prior to introducing the new métro cars, the STM will invest $218.7 million to modify its maintenance shops and métro equipment. Infrastructure and stationary equipment upgrades will allow the new trains to be put into service safely and efficiently.

A number of major works will be carried out on métro stations over the coming years. Expenditures on those works will amount to $137.1 million. Mainly, the *Réno-Infrastructures métro* program, which started in 2011, focuses on maintaining infrastructure integrity, improving overall accessibility and heightening passengers' sense of safety. Moreover, Phase II of the *Réno-Stations* program will come to a close in 2012, and the major renovation of the Berri-UQAM station will be extended until 2017.

Commentaire [DRS6] : On parle bien du programme "Réno-infra Métro", non? On retrouve "Réno-Infrastructures" and "Réno-Infrastructures Métro" dans ce document...

Some work related to the maintenance workshops, to be carried out at a cost of $8.5 million, will include, among other things, replacing the heating, ventilation and air conditioning (HVAC) systems.

CAPITAL EXPENDITURES TABLE – MÉTRO NETWORK

(in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Machinery, equipment and tools										
No.:	1650	Honoré-Beaugrand garage: replacement of the automated	Cap.	1,111	2,016	0	0	2,016	0	3,127
Sheet:	RM-01	dust-blowing system	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-113-A		Total	**1,111**	**2,016**	**0**	**0**	**2,016**	**0**	**3,127**
No.:	290011	*Réno-Systèmes* – Phases I and II	Cap.	898,388	64,602	0	0	64,602	0	962,990
Sheet:	RM-02		Non-cap.	1,576	50	0	0	50	0	1,626
LB/FIN:	CA-116 and R-058		Total	**899,963**	**64,652**	**0**	**0**	**64,652**	**0**	**964,616**
No.:	290013	*Réno-Systèmes* – Phase III	Cap.	23,110	64,110	94,140	95,526	253,776	223,114	500,000
Sheet:	RM-03		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-122		Total	**23,110**	**64,110**	**94,140**	**95,526**	**253,776**	**223,114**	**500,000**
No.:	438	Major repairs workshop: modification and standardization of	Cap.	519	75	0	0	75	0	595
Sheet:	RM-04	métro car lifts	Non-cap.	195	0	0	0	0	0	195
LB/FIN:	R-057		Total	**714**	**75**	**0**	**0**	**75**	**0**	**790**
No.:	695500	Purchase of surveillance and monitoring equipment	Cap.	3,206	114	0	0	114	0	3,320
Sheet:	RM-05		Non-cap.	149	0	0	0	0	0	149
LB/FIN:	R-824		Total	**3,355**	**114**	**0**	**0**	**114**	**0**	**3,468**
No.:	721709	Bringing ventilation stations in line with current standards	Cap.	489	1,959	1,068	0	3,027	0	3,517
Sheet:	RM-06		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-053		Total	**489**	**1,959**	**1,068**	**0**	**3,027**	**0**	**3,517**
			Subtotal	**928,743**	**132,926**	**95,208**	**95,526**	**323,660**	**223,114**	**1,475,517**
Computer hardware										
No.:	721866	Stationary equipment maintenance management solution -	Cap.	5,154	2,189	0	0	2,189	0	7,343
Sheet:	RM-07	MPAO	Non-cap.	1,159	0	0	0	0	0	1,159
LB/FIN:	R-087		Total	**6,312**	**2,189**	**0**	**0**	**2,189**	**0**	**8,502**
			Subtotal	**6,312**	**2,189**	**0**	**0**	**2,189**	**0**	**8,502**
Rolling stock										
No.:	230005	Purchase of MPM-10 métro cars	Cap.	228,107	111,754	80,275	296,021	488,050	1,490,271	2,206,427
Sheet:	RM-08		Non-cap.	9,304	1,308	3,536	1,352	6,196	904	16,404
LB/FIN:	R-042		Total	**237,411**	**113,062**	**83,811**	**297,373**	**494,245**	**1,491,174**	**2,222,831**
No.:	683191	Modification of driver's cab on MR-73 métro cars (Appendix J)	Cap.	1,230	818	467	0	1,285	0	2,514
Sheet:	RM-09	– Phase II	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-104		Total	**1,230**	**818**	**467**	**0**	**1,285**	**0**	**2,514**
No.:	683204	Replacement of MR-73 métro car door components	Cap.	1	3,128	3,649	3,649	10,425	0	10,427
Sheet:	RM-10		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-113-B		Total	**1**	**3,128**	**3,649**	**3,649**	**10,425**	**0**	**10,427**
			Subtotal	**238,642**	**117,007**	**87,927**	**301,022**	**505,956**	**1,491,174**	**2,235,772**

(in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Property assets and infrastructures										
No.:	1181	Berri-UQAM station: major repairs and renovations – Phase I	Cap.	11,402	3,300	14,450	17,050	34,800	43,792	89,994
Sheet:	RM-11		Non-cap.	22	0	50	50	100	100	222
LB/FIN:	R-092		Total	**11,424**	**3,300**	**14,500**	**17,100**	**34,900**	**43,892**	**90,216**
No.:	1488	HVAC systems overhaul – Phase II	Cap.	71	27	5,102	0	5,129	0	5,200
Sheet:	RM-12		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-128		Total	**71**	**27**	**5,102**	**0**	**5,129**	**0**	**5,200**
No.:	1564	Place-d'Armes station: roof repairs	Cap.	294	0	163	0	163	0	457
Sheet:	RM-13		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-094-C		Total	**294**	**0**	**163**	**0**	**163**	**0**	**457**
No.:	1839	Viau station: replacement of roof lights	Cap.	57	6	1,384	0	1,390	0	1,447
Sheet:	RM-14		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-123-A		Total	**57**	**6**	**1,384**	**0**	**1,390**	**0**	**1,447**
No.:	186	Replacement of tunnel water supply point valves	Cap.	697	290	0	0	290	0	987
Sheet:	RM-15		Non-cap.	312	0	0	0	0	0	312
LB/FIN:	R-049-A		Total	**1,009**	**290**	**0**	**0**	**290**	**0**	**1,299**
No.:	230006	Modification of métro workshops and equipment - MPM-10	Cap.	29,771	77,586	106,120	35,023	218,729	19,506	268,006
Sheet:	RM-16	métro cars	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-042		Total	**29,771**	**77,586**	**106,120**	**35,023**	**218,729**	**19,506**	**268,006**
No.:	2506	Parc station: complete replacement of skylight windows and	Cap.	25	499	0	0	499	0	524
Sheet:	RM-17	mirrors	Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-910-A		Total	**25**	**499**	**0**	**0**	**499**	**0**	**524**
No.:	2741	Champ-de-Mars station: repair or replacement of floor tiles	Cap.	5	5	918	0	923	0	928
Sheet:	RM-18		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-910-B		Total	**5**	**5**	**918**	**0**	**923**	**0**	**928**
No.:	280	Métro relay stations: overhaul of the air conditioning system	Cap.	71	0	62	0	62	0	133
Sheet:	RM-19		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-084-C		Total	**71**	**0**	**62**	**0**	**62**	**0**	**133**
No.:	634370	*Réno-Stations program* – Phase II	Cap.	74,561	1,088	0	0	1,088	0	75,649
Sheet:	RM-20		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-027		Total	**74,561**	**1,088**	**0**	**0**	**1,088**	**0**	**75,649**
No.:	634371	*Réno-Infrastructures* program – Phase I	Cap.	1,947	24,537	33,000	43,543	101,080	146,973	250,000
Sheet:	RM-21		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-121		Total	**1,947**	**24,537**	**33,000**	**43,543**	**101,080**	**146,973**	**250,000**
			Subtotal	**119,234**	**107,338**	**161,249**	**95,666**	**364,254**	**210,371**	**693,858**
			Cap.	**1,280,215**	**358,103**	**340,798**	**490,813**	**1,189,713**	**1,923,655**	**4,393,584**
Métro network			**Non-cap.**	**12 716**	**1 358**	**3,586**	**1,402**	**6,346**	**1,004**	**20,065**
			Total	**1,292,931**	**359,461**	**344,384**	**492,215**	**1,196,059**	**1,924,659**	**4,413,649**

PROJECT SHEET

RM-01

Honoré-Beaugrand garage: replacement of the automated dust-blowing system

Project no.:	1650	**Sector:**	Métro network
LB/FIN no.:	R-113-A	**Asset category:**	Machinery, equipment and tools

The automated blower is a robotic cleaning system that uses compressed air blasts to dislodge and remove accumulated dust, primarily under métro car bodies and bogies. The use of high-pressure air to remove dust from métro cars is essential to maintaining reliability and safety.

However, the automated dust-blowing system at the Honoré-Beaugrand workshop, which was installed in 1989, is no longer functional. A number of basic pieces of technical equipment must undergo major upgrades, and a number of spare parts for this equipment are no longer available for purchase.

Moreover, the RotoClone®, a piece of equipment that keeps the automated dust blower functioning properly by removing all particulate matter from the air and ejecting it outdoors, is over 30 years old and obsolete, and therefore needs to be upgraded.

The project has two components: installing a new dust-removal system with a touchscreen console that enables the operator to simultaneously monitor the entire system and various alarms that can be triggered during the cleaning process, and upgrading the RotoClone®.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,111	2,016	0	0	0	3,127
Non-capital	0	0	0	0	0	0
Total	**1,111**	**2,016**	**0**	**0**	**0**	**3,127**
Funding						
Provincial government	411	746	0	0	0	1,157
Federal government	533	968	0	0	0	1,501
Montréal Agglomeration	167	302	0	0	0	469
STM	0	0	0	0	0	0
Total	**1,111**	**2,016**	**0**	**0**	**0**	**3,127**
Percentage subsidized						**100%**

Métro network

PROJECT SHEET

RM-02

***Réno-Systèmes* program – Phases I and II**

Project no.:	290011	**Sector:**	Métro network
LB/FIN no.:	CA-116 and R-058	**Asset category:**	Machinery, equipment and tools

Nearly half of the métro network has been in service for over 40 years, while the other half consists of two extensions that have been operating for 30 and 20 years, respectively. Like the STM's rolling stock and asset base, most of the métro's stationary equipment has reached the end of its useful lifespan.

Considering the scale of the work to be carried out, all projects related to stationary equipment have been grouped within the same program. The replacements will be carried out in such a way as to minimize disruptions to and maintain the safety of métro operations.

Phases I and II of this project will focus on replacing or reconditioning stationary métro equipment linked directly to operations and located primarily within the original métro network. Specifically, the project will focus on the following categories: motorized facilities (escalators, ventilation systems and elevators for passengers with limited mobility), energy equipment for train operations and control, and systems at the control and telecommunication centre.

The work should lead to the improved reliability, availability and security of stationary métro equipment, better communication with passengers and faster response time in cases of stationary equipment breakdowns.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	898,388	64,602	0	0	0	962,990
Non-capital	1,576	50	0	0	0	1,626
Total	**899,963**	**64,652**	**0**	**0**	**0**	**964,616**
Funding						
Provincial government	607,939	43,716	0	0	0	651,655
Federal government	96,217	6,919	0	0	0	103,136
Montréal Agglomeration			0	0	0	
STM	195,807	14,017	0	0	0	209,824
Total	**899,963**	**64,652**	**0**	**0**	**0**	**964,616**
Percentage subsidized						**78%**

PROJECT SHEET

RM-03

***Réno-Systèmes* program – Phase III**

Project no.:	290013	**Sector:**	Métro network
LB/FIN no.:	R-122	**Asset category:**	Machinery, equipment and tools

Nearly half of the métro network has been in service for over 40 years, while the other half consists of two extensions that have been operating for 30 and 20 years, respectively. Like the STM's rolling stock and asset base, most of the métro's stationary equipment has reached the end of its useful lifespan.

Considering the scale of the work to be carried out, all projects related to stationary equipment have been grouped within the same program. The replacements will be carried out in such a way as to minimize disruptions to and maintain the safety of métro operations.

This phase of the program focuses on replacing or reconditioning stationary métro equipment linked directly to operations. Specifically, the project will focus on the following categories: motorized facilities (escalators, ventilation systems and elevators for passengers with limited mobility), track equipment, energy equipment for train operations and control, as well as the telecommunication systems and operating process controls that have not been replaced or reconditioned during the previous phases of the same program.

The results should include:

- improved flexibility, maintainability, availability and safety of stationary métro equipment, resulting in fewer service disruptions
- improved communication with passengers due to better sound quality
- faster response time in case of stationary equipment breakdowns

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	23,110	64,110	94,140	95,526	223,114	500,000
Non-capital	0	0	0	0	0	0
Total	**23,110**	**64,110**	**94,140**	**95,526**	**223,114**	**500,000**
Funding						
Provincial government	11,555	32,055	47,070	47,763	124,283	262,726
Federal government	7,703	21,368	31,377	31,839	57,400	149,686
Montréal Agglomeration	0	0	0	0	0	0
STM	3,852	10,687	15,693	15,924	41,431	87,588
Total	**23,110**	**64,110**	**94,140**	**95,526**	**223,114**	**500,000**
Percentage subsidized						**82%**

Métro network

PROJECT SHEET

RM-04

Major repairs workshop: modification and standardization of métro car lifts

Project no.:	438	**Sector:**	Métro network
LB/FIN no.:	R-057	**Asset category:**	Machinery, equipment and tools

Over the past few years, the STM has made a number of improvements to and standardized its métro and bus network lift facilities. Among other things, with respect to the métro, a number of functional problems, such as vibrations, were resolved. Also, many lifts used for MR-63 métro car maintenance were reconditioned; these facilities had been in operation since the métro opened in 1966.

The major repairs workshops, where MR-73 métro cars are maintained, were built in 1983. The lifts, manufactured by PH, are in good condition. However, some hydraulic and mechanical components show signs of normal wear-and-tear and will need to be replaced.

In fact, increasingly frequent hydraulic leaks due to normal component wear have been noted. ÉCO-type valves are no longer available, and replacement parts do not exist. Overall, these rigs no longer meet standards and are hard to maintain compared to those available on the market today.

The project, which is set to end in 2012, consists in replacing, on a set schedule, various hydraulic and mechanical components of the lift rigs used to maintain MR-63 and MR-73 métro cars at the major repairs workshops.

This project will allow the STM to keep carrying out its métro maintenance activities safely and reliably. The work was planned in such a way as to optimize repair operations, avoid remedial repairs and continue providing customer service.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	519	75	0	0	0	595
Non-capital	195	0	0	0	0	195
Total	**714**	**75**	**0**	**0**	**0**	**790**
Funding						
Provincial government	60	9	0	0	0	69
Federal government	266	39	0	0	0	305
Montréal Agglomeration	60	9	0	0	0	69
STM	328	19	0	0	0	347
Total	**714**	**75**	**0**	**0**	**0**	**790**
Percentage subsidized						**56%**

PROJECT SHEET

RM-05

Purchase of surveillance and monitoring equipment

Project no.:	695500	**Sector:**	Métro network
LB/FIN no.:	R-824	**Asset category:**	Machinery, equipment and tools

This project's purpose is to equip the Surveillance department with a vehicle fleet and equipment to carry out its mandate, which includes checking fares, providing backup for drivers facing aggression, securing transit fare sales equipment and guarding against fare fraud. The project meets the operational needs of the Security and Control department.

The chosen solution will equip the Security and Control department with 23 service vehicles, 41 portable computers, 25 vehicle radios, 195 portable fare scanners and 110 cameras.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	3,206	114	0	0	0	3,320
Non-capital	149	0	0	0	0	149
Total	**3,355**	**114**	**0**	**0**	**0**	**3,468**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	3,355	114	0	0	0	3,468
Total	**3,355**	**114**	**0**	**0**	**0**	**3,468**
Percentage subsidized						**0%**

Métro network

PROJECT SHEET

RM-06

Bringing ventilation stations in line with current standards

Project no.:	721709	**Sector:**	Métro network
LB/FIN no.:	R-053	**Asset category:**	Machinery, equipment and tools

Because of the high levels of noise they generate, the Casgrain, Decelles, Champlain, Bennett, Workman and Mazarin ventilation stations cannot be used at full capacity. Indeed, their use has been restricted by municipalities in response to complaints from local residents.

These ventilation stations are used to evacuate smoke during incidents. They are also used to lower the air temperature in the tunnels to improve comfort for passengers and employees day and night. Also, they are used to control the smoke produced by work carried out at night, with the result of improving employee work conditions. Furthermore, tunnel ventilation is a hot topic on the health and security committee agenda.

The work will involve adding exhaust silencers, insulating the stations for sound, modifying equipment so that the motors create less noise, building chimneys above the ventilation stations and building an additional station.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	489	1,959	1,068	0	0	3,517
Non-capital	0	0	0	0	0	0
Total	**489**	**1,959**	**1,068**	**0**	**0**	**3,517**
Funding						
Provincial government	47	304	166	0	0	516
Federal government	210	1,352	737	0	0	2,299
Montréal Agglomeration	47	304	166	0	0	516
STM	185	0	0	0	0	185
Total	**489**	**1,959**	**1,068**	**0**	**0**	**3,517**

Percentage subsidized **95%**

PROJECT SHEET

RM-07

Stationary equipment maintenance management solution – MPAO

Project no.:	721866	**Sector:**	Métro network
LB/FIN no.:	R-087	**Asset category:**	Computer hardware

The extension of the métro to Laval, the *Réno-systèmes* program and the Fare Sales and Collection project all involve either adding or replacing numerous pieces of stationary equipment.

The new equipment does not have the same useful life or wear-and-tear profile as previous equipment and requires that maintenance be done differently. This includes, among other things, alarm transmission and status indicator functions, which the previous equipment lacked. The establishment of a new remote transmission network for the métro will facilitate information transfer.

To meet certain objectives—maintaining current reliability levels, reducing the cost of asset ownership and improving repair work efficiency—the métro maintenance shops must optimize the asset maintenance management process and acquire an integrated maintenance management system linked to a data historian system that can conduct predictive analyses of operating data.

The project therefore consists in launching an integrated asset management solution for the Stationary Equipment Maintenance department, with the following objectives:

- Implementing a data historian system for managing equipment operation data
- Implementing standardized asset maintenance management processes
- Implementing an enterprise SAP PM (Plant Maintenance) system to support the maintenance and asset management processes
- Implementing the SAP BI (Business Intelligence) system
- Uninstalling the software applications from the CGI mainframe

This project will generate improvements in asset inventory management involving a system with a centralized structure and documentation. By means of predictive asset maintenance, it can be used for collecting and analyzing equipment alarm notices. Lastly, it is used to optimize the management of maintenance operations by means of improved cost planning.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	5,154	2,189	0	0	0	7,343
Non-capital	1,159	0	0	0	0	1,159
Total	**6,312**	**2,189**	**0**	**0**	**0**	**8,502**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	6,312	2,189	0	0	0	8,502
Total	**6,312**	**2,189**	**0**	**0**	**0**	**8,502**
Percentage subsidized						**0%**

Métro network

PROJECT SHEET

RM-08

Purchase of MPM-10 métro cars

Project no.:	230005	**Sector:**	Métro network
LB/FIN no.:	R-042	**Asset category:**	Rolling stock

This project involves the purchase of 468 métro cars to replace the STM's current fleet of 342 MR-63 cars and to meet future demand: 63 cars to deal with increased ridership and 63 more for future métro extensions.

By purchasing new métro cars, the STM will increase métro ridership, improve reliability, increase customer satisfaction levels (information quality, comfort, user-friendliness, safety), support sustainable development, and increase employee mobilization. Moreover, the new cars will improve the STM's brand image and make métro cars accessible to people with limited mobility.

The 468 métro cars to be delivered are made up of 52 non-deformable, nine-car trains (seven motorized and two trailers with driver's cab) connected by intercar linkages enabling passengers to move freely between cars. The last car of each train set is configured in such a way as to allow two people to circulate in four-wheeled electric scooters (wheelchairs).

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	228,107	111,754	80,275	296,021	1,490,271	2,206,427
Non-capital	9,304	1,308	3,536	1,352	904	16,404
Total	**237,411**	**113,062**	**83,811**	**297,373**	**1,491,174**	**2,222,831**
Funding						
Provincial government	171,080	83,815	60,206	222,016	1,117,703	1,654,820
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	66,331	29,246	23,605	75,357	373,471	568,010
Total	**237,411**	**113,062**	**83,811**	**297,373**	**1,491,174**	**2,222,831**
Percentage subsidized						**74%**

PROJECT SHEET

RM-09

Modification of driver's cab on MR-73 métro cars (Appendix J) – Phase II

Project no.:	683191	**Sector:**	Métro network
LB/FIN no.:	R-104	**Asset category:**	Rolling stock

Originally designed for a standing driver, the control panel in the MR-73 métro car driver's cab has been modified over the years, and today, the driver is in a sitting position, a change designed to improve working conditions.

Considering the narrowness of the cab—only one seat with a cushion and small back rest can currently be used—it is difficult to make adjustments to the driver's station to allow for variations in driver size.

The number of complaints received from métro drivers over the years with respect to lack of space and the uncomfortable seat clearly indicate that the cabs' current ergonomic constraints and vibrations could negatively affect drivers' health. Moreover, a study concluded that drivers do not have enough legroom to sit comfortably.

The project therefore consists in modifying the driver's cab in all 282 MR-73 motor cars, with an eye to improving cab capacity.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,230	818	467	0	0	2,514
Non-capital	0	0	0	0	0	0
Total	**1,230**	**818**	**467**	**0**	**0**	**2,514**
Funding						
Provincial government	922	613	350	0	0	1,886
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	307	204	117	0	0	629
Total	**1,230**	**818**	**467**	**0**	**0**	**2,514**
Percentage subsidized						**75%**

Métro network

PROJECT SHEET

RM-10

Replacement of MR-73 métro car door components

Project no.:	683204	**Sector:**	Métro network
LB/FIN no.:	R-113-B	**Asset category:**	Rolling stock

The MR-73 métro cars have been in service for over 32 years and have logged over 2.5 million kilometres. The door suspension systems are original equipment. These components are not subject to any major maintenance program and are showing signs of fatigue and a substantial decline in reliability. Since 2004, reliability has decreased by 35%.

The project consists in replacing the door suspension mechanisms on 423 MR-73 métro cars (for a total of 3,384 suspension mechanisms) and their main components (door rails, runners, door operation linkages, drive yokes), which show major signs of wear.

The replacement of the door suspension mechanisms will improve service for passengers. The project will halt further deterioration of the door system and extend the useful lifespan of the cars.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1	3,128	3,649	3,649	0	10,427
Non-capital	0	0	0	0	0	0
Total	**1**	**3,128**	**3,649**	**3,649**	**0**	**10,427**
Funding						
Provincial government	0	464	542	542	0	1,548
Federal government	1	2,068	2,412	2,412	0	6,893
Montréal Agglomeration	0	464	542	542	0	1,548
STM	0	131	153	153	0	437
Total	**1**	**3,128**	**3,649**	**3,649**	**0**	**10,427**
Percentage subsidized						**96%**

PROJECT SHEET

RM-11

Berri-UQAM station: major repairs and renovations – Phase I

Project no.:	1181	**Sector:**	Métro network
LB/FIN no.:	R-092	**Asset category:**	Property assets and infrastructures

Berri-UQAM métro station, Montréal's largest and busiest, extends over five intersections. High passenger traffic, combined with the age of the station—it opened in 1966—have led to significant technical and esthetic deterioration of the facilities. Today, the station is in an advanced state of decrepitude that affects the architectural finishing, as well as certain structural, mechanical and electrical elements. As a result, substantial rehabilitation work has become imperative, and the infrastructure needs to be updated to meet current technical standards.

At first, the project will consist in carrying out securement work to allow the Berri-UQAM station to continue operating safely. Once that is completed, permanent repair, renovation and upgrading work will be done on the station's architectural, structural and electromechanical components. The work will be planned in such a way as to minimize the impact on operations, maintain passenger access to the station and keep it in operation.

The repair and renovation work will be carried out according to a specific schedule designed to avoid a piecemeal approach, thereby minimizing the costs and disruptions that such an approach would entail for staff and passengers.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	11,402	3,300	14,450	17,050	43,792	89,994
Non-capital	22	0	50	50	100	222
Total	**11,424**	**3,300**	**14,500**	**17,100**	**43,892**	**90,216**
Funding						
Provincial government	8,551	2,475	10,838	12,788	32,844	67,496
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	2,872	825	3,663	4,313	11,048	22,720
Total	**11,424**	**3,300**	**14,500**	**17,100**	**43,892**	**90,216**
Percentage subsidized						**75%**

Métro network

PROJECT SHEET

RM-12

HVAC systems overhaul – Phase II

Project no.:	1488	**Sector:**	Métro network
LB/FIN no.:	R-128	**Asset category:**	Property assets and infrastructures

The major repairs workshop is part of a vast collection of buildings that comprise the Youville Maintenance Complex: repairs workshops (major repairs, minor repairs, Villeray, track maintenance depot, Youville yard, Crémazie plant, boiler room) and an office building (*Tour Grande révision*).

The suspended HVAC facilities in the original workshop date back to 1965 and the rooftop systems to 1983; all are at the end of their useful life.

The project will involve replacing HVAC equipment on rooftop 2 of the major repairs workshop and the Infrastructures Maintenance offices in Villeray and at the Plateau Youville Maintenance Complex. This equipment, which has reached the end of its useful life, experiences frequent breakdowns and must be replaced by more efficient and more powerful equipment that can be automated and controlled from a central location.

This replacement work will yield substantial energy cost savings, eliminate the need for corrective maintenance and ensure optimal comfort levels for employees in these areas.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	71	27	5,102	0	0	5,200
Non-capital	0	0	0	0	0	0
Total	**71**	**27**	**5,102**	**0**	**0**	**5,200**
Funding						
Provincial government	53	20	3,827	0	0	3,900
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	18	7	1,276	0	0	1,300
Total	**71**	**27**	**5,102**	**0**	**0**	**5,200**
Percentage subsidized						**75%**

PROJECT SHEET

RM-13

Place-d'Armes station: repairs to one roof

Project no.:	1564	**Sector:**	Métro network
LB/FIN no.:	R-094-C	**Asset category:**	Property assets and infrastructures

The roof was redone in the early 1980s during the construction of the Montréal convention centre (*Palais des congrès*). It is made of an inverted roof waterproofing system, meaning that the waterproofing membrane is covered with a rigid insulator and then by a ballast of precast concrete pavers or tiles, depending on the basin. Considering that a new telecommunication and operating process control centre was added to the station in 2005 under the *Réno-Systèmes* program, and that this centre is housed under a part of the roof that has reached the end of its useful life and is practically unfit for inspection, it has been recommended that the roof's entire waterproofing system be redone.

Simply put, the goal of this project is to completely rebuild the waterproofing system on the roof of Place-d'Armes métro station's entrance building, as the system has reached the end of its useful life.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	294	0	163	0	0	457
Non-capital	0	0	0	0	0	0
Total	**294**	**0**	**163**	**0**	**0**	**457**
Funding						
Provincial government	45	0	25	0	0	70
Federal government	200	0	111	0	0	312
Montréal Agglomeration	45	0	25	0	0	70
STM	3	0	2	0	0	5
Total	**294**	**0**	**163**	**0**	**0**	**457**
Percentage subsidized						**99%**

PROJECT SHEET

RM-14

Viau station: replacement of roof lights

Project no.:	1839	**Sector:**	Métro network
LB/FIN no.:	R-123-A	**Asset category:**	Property assets and infrastructures

The roof of the entrance building to Viau station, which opened in 1976, features 18 transparent acrylic roof lights. Fifteen of them measure 2.9 x 2.9 metres, and three of them 1.98 x 2.75 metres. These roof lights are comprised of two layers, one inner and one outer. Because of deterioration and water infiltration problems, two of the roof lights were replaced in 2000 by new glass ones.

Their deterioration is caused by UV radiation, which breaks down certain plastics, combined with the piston effect caused by passing trains. All of the original roof lights located above public spaces have been inspected. The discovery of obvious signs of deterioration led to securement work that consisted in installing metal trellises below the roof lights to prevent them from falling in case of breakage.

This project calls for the replacement of the 16 original acrylic roof lights by glass roof lights with an expected useful life of over 25 years.

Glass was chosen as a replacement because it is not harmed by UV radiation. Lastly, the new roof light concept will allow for the replacement of individual glass panels.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	57	6	1,384	0	0	1,447
Non-capital	0	0	0	0	0	0
Total	**57**	**6**	**1,384**	**0**	**0**	**1,447**
Funding						
Provincial government	43	5	1,038	0	0	1,085
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	14	2	346	0	0	362
Total	**57**	**6**	**1,384**	**0**	**0**	**1,447**
Percentage subsidized						**75%**

PROJECT SHEET

RM-15

Replacement of tunnel water supply point valves

Project no.:	186	**Sector:**	Métro network
LB/FIN no.:	R-049-A	**Asset category:**	Property assets and infrastructures

Several valves that supply water to the tunnels for the fire protection system were installed in 1966 and 1967 when the original network was built. These valves have reached the end of their useful life.

In order for the valves located at the 960 water points in the métro tunnels to work properly, the STM needs to replace 1,920 valves that are already over 40 years old.

The impact of this work will be to improve métro safety.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	697	290	0	0	0	987
Non-capital	312	0	0	0	0	312
Total	**1,009**	**290**	**0**	**0**	**0**	**1,299**
Funding						
Provincial government	58	32	0	0	0	91
Federal government	259	145	0	0	0	403
Montréal Agglomeration	58	32	0	0	0	91
STM	634	81	0	0	0	715
Total	**1,009**	**290**	**0**	**0**	**0**	**1,299**

Percentage subsidized **45%**

PROJECT SHEET

RM-16

Modification of métro network workshops and equipment – MPM-10 métro cars

Project no.:	230006	**Sector:**	Métro network
LB/FIN no.:	R-042	**Asset category:**	Property assets and infrastructures

As a result of the novel design of the new MPM-10 métro cars, the STM will be required to modify its existing infrastructures and stationary equipment and install new equipment so that the new métro trains can be integrated into the métro network, put into operation and maintained.

These infrastructure and stationary equipment improvements will lead to the safe and efficient introduction of the new trains, improvements in métro reliability and increased employee mobilization.

In terms of métro workshop and equipment upgrades, the MPM-10 project calls for:

- modifications to the Youville minor repairs workshop
- the purchase and installation of a broadband radio system
- the purchase and installation of a métro train driving simulator
- the development of teaching materials
- modifications to certain platforms to render them fully accessible
- modifications to specific stationary equipment and infrastructures
- modifications to the Youville major repairs workshop
- the conducting of modification studies of other workshops and garages

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	29,771	77,586	106,120	35,023	19,506	268,006
Non-capital	0	0	0	0	0	0
Total	**29,771**	**77,586**	**106,120**	**35,023**	**19,506**	**268,006**
Funding						
Provincial government	22,328	58,189	79,590	26,268	14,629	201,004
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	7,443	19,396	26,530	8,756	4,876	67,001
Total	**29,771**	**77,586**	**106,120**	**35,023**	**19,506**	**268,006**
Percentage subsidized						**75%**

PROJECT SHEET

RM-17

Parc station: complete replacement of skylight windows and mirrors

Project no.:	2506	**Sector:**	Métro network
LB/FIN no.:	R-910-A	**Asset category:**	Property assets and infrastructures

The purpose of this project is to ensure the structural soundness and longevity of the Parc station entrance building. The windows here heighten the sense of safety among passengers.

The needs addressed by this project are as follows:

- The replacement of skylights that light a portion of the mezzanine and showcase the artwork
- The repair of this area's waterproofing in order to protect the mirrors installed lower down
- The installation of new mirrors and wall anchors to replace those removed during the securement work
- Protection of the artwork during the repair work

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	25	499	0	0	0	524
Non-capital	0	0	0	0	0	0
Total	**25**	**499**	**0**	**0**	**0**	**524**
Funding						
Provincial government	9	181	0	0	0	190
Federal government	12	240	0	0	0	251
Montréal Agglomeration	4	74	0	0	0	78
STM	0	4	0	0	0	5
Total	**25**	**499**	**0**	**0**	**0**	**524**
Percentage subsidized						**99%**

Métro network

PROJECT SHEET

RM-18

Champ-de-Mars station: repair or replacement of floor tiles

Project no.:	2741	**Sector:**	Métro network
LB/FIN no.:	R-910-B	**Asset category:**	Property assets and infrastructures

The gateway to Old Montréal, Champ-de-Mars station was inaugurated in 1966. A regal example of modern architecture adorned with a remarkable work of art, this station is highly appreciated by visitors to the city and those who work near Montréal City Hall.

Currently, the ceramic tiles are in poor condition and have been patched repeatedly over the past 44 years.

The project consists in replacing the original ceramic flooring on both the mezzanine level and part of the platform level.

The portion on the platforms to be replaced corresponds to the central segment of each platform. Approximately 50% of the platforms' floor space will be affected by this work.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	5	5	918	0	0	928
Non-capital	0	0	0	0	0	0
Total	**5**	**5**	**918**	**0**	**0**	**928**
Funding						
Provincial government	2	2	336	0	0	339
Federal government	2	2	445	0	0	450
Montréal Agglomeration	1	1	138	0	0	139
STM	0	0	0	0	0	0
Total	**5**	**5**	**918**	**0**	**0**	**928**

Percentage subsidized **100%**

PROJECT SHEET

RM-19

Métro relay stations: overhaul of the air conditioning system

Project no.:	280	**Sector:**	Métro network
LB/FIN no.:	R-084-C	**Asset category:**	Property assets and infrastructures

The air conditioning equipment in a number of relay rooms is outdated. It works poorly, has a poor output and requires frequent maintenance. The Ambient Air department has requested that outdated equipment be replaced.

The age of the equipment to be replaced ranges from 15 to 20 years. The state of corrosion and inadequate air exchange rates make changing the ventilation and air conditioning systems in the métro's relay rooms imperative. Verifications with the Operations and Maintenance departments determined that seven systems need to be replaced:

- Lionel-Groulx
- Côte-Vertu
- Henri-Bourassa
- Jean-Talon
- Snowdon
- Longueuil
- Parc

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	71	0	62	0	0	133
Non-capital	0	0	0	0	0	0
Total	**71**	**0**	**62**	**0**	**0**	**133**
Funding						
Provincial government	5	0	4	0	0	9
Federal government	22	0	19	0	0	41
Montréal Agglomeration	5	0	4	0	0	9
STM	39	0	34	0	0	73
Total	**71**	**0**	**62**	**0**	**0**	**133**

Percentage subsidized **45%**

Métro network

PROJECT SHEET

RM-20

***Réno-Stations* program – Phase II**

Project no.:	634370	**Sector:**	Métro network
LB/FIN no.:	R-027	**Asset category:**	Property assets and infrastructures

Phase I was carried out between 1996 and 1999 and affected the stations of the original network. For Phase II, a major expenditure of $75.6 million is required in order to renovate the first batch of 28 priority stations in the extended network on lines 1 and 2, which went into operation in 1976 and 1986, to carry out accessibility work and replace fire alarm panels. Phase II also involves repairing and renovating auxiliary structures, portions of certain tunnels, repairing station vault drains and restoring a first batch of artworks. Other phases will follow as part of the *Réno-Infrastructures métro* program.

Considering the sheer scale of the work to be done, all projects related to the extended network on lines 1 and 2, as well as to the auxiliary structures and other priority work in the métro stations, have been consolidated into a single program. All renovation work will be carried out in such a way as to minimize disruptions to métro operations and maintain their safety.

This program includes, among other things:

- Renovating the auxiliary structures connected to the métro, which are in an advanced state of deterioration; the work consists in repairing concrete sections that are deteriorating, cracked or crumbling, caulking water infiltrations, replacing outdated electrical equipment, replacing piping and carrying out site design work
- Renovating stations that are part of the extended network of métro lines 1 and 2, which show signs of advanced deterioration caused by the infiltration of groundwater and de-icing salt into structures, flooring and stairs
- Renovating vault drainage pipes in the stations to unclog drains drilled right up to the rock face and install new pipes where necessary for a first batch of stations on the network
- Installing warning tiles on the platforms and caution tape near staircases to facilitate access for people with visual impairments in the stations of the extended network on lines 1 and 2
- Repairing and improving lighting in the stations of the extended network on lines 1 and 2
- Repairing and upgrading the fire alarm panels in the extended network on lines 1 and 2
- Restoring a first batch of artworks located in the network

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	74,561	1,088	0	0	0	75,649
Non-capital	0	0	0	0	0	0
Total	**74,561**	**1,088**	**0**	**0**	**0**	**75,649**
Funding						
Provincial government	55,921	816	0	0	0	56,737
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	18,640	272	0	0	0	18,912
Total	**74,561**	**1,088**	**0**	**0**	**0**	**75,649**
Percentage subsidized						**75%**

PROJECT SHEET

RM-21

***Réno-Infrastructures métro* program – Phase I**

Project no.:	634371	**Sector:**	Métro network
LB/FIN no.:	R-121	**Asset category:**	Property assets and infrastructures

The *Réno-Infrastructures métro* program focuses on replacing or repairing métro infrastructures that are nearing the end of their useful life, while optimizing expenditures by leveraging them to improve customer service and the financial and operational performance of the STM.

More specifically, the program's objectives are to maintain infrastructure integrity, improve universal accessibility and the riding public's sense of safety, and optimizing expenditures over time. The infrastructure work will be carried out in such a way as to minimize its impact on customers.

The first phase focuses on expenditures deemed to be of the highest priority, and on the completion of accessibility objectives (tactile warning tiles and warning strips). Mostly, this consists in improving accessibility and making major repairs to:

- McGill station
- the 600 V electrical supply in the stations
- a number of stations, including replacing the roofing structures at Angrignon and Préfontaine stations
- a number of auxiliary structures (electrical, mechanical and structural components)
- tunnels (vault, walls, apron and drain under the apron)
- the fire alarm system on line 5
- tunnels and stations, to control water infiltration (injection of polyurethane)
- artworks

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,947	24,537	33,000	43,543	146,973	250,000
Non-capital	0	0	0	0	0	0
Total	**1,947**	**24,537**	**33,000**	**43,543**	**146,973**	**250,000**
Funding						
Provincial government	1,460	18,403	24,750	32,657	110,230	187,500
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	487	6,134	8,250	10,886	36,743	62,500
Total	**1,947**	**24,537**	**33,000**	**43,543**	**146,973**	**250,000**
Percentage subsidized						**75%**

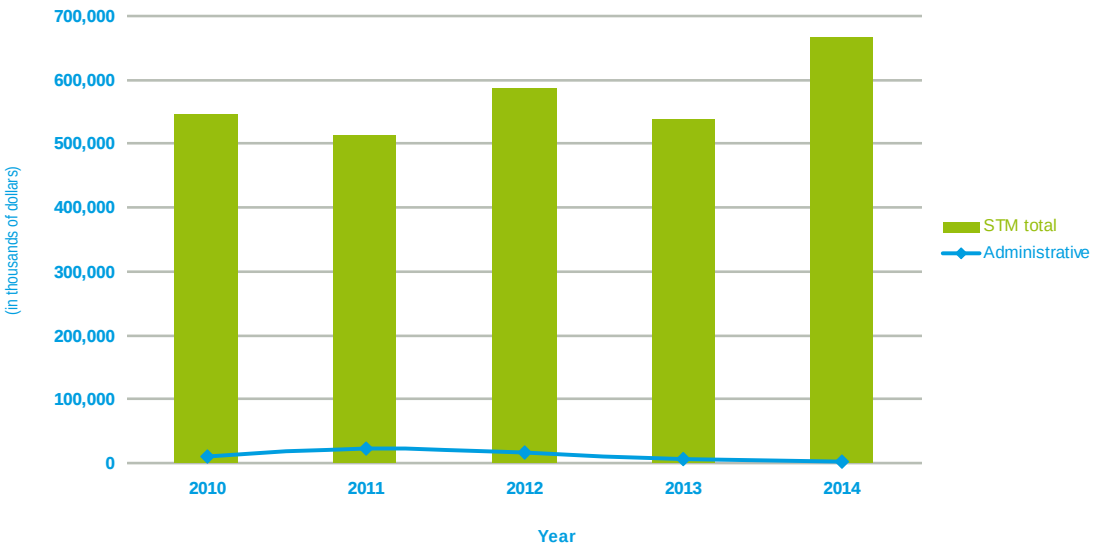
Métro network

ADMINISTRATIVE

ADMINISTRATIVE SECTOR SUMMARY

The Administrative sector includes projects dealing with machinery, equipment and tools, and computer equipment, as well as property assets and infrastructure projects that cannot be considered part of the bus or métro network sectors. An amount of $23.2 million will be invested in this sector for the 2012 to 2014 period, which equals 1% of total expenditures for this period.

Changes in capital expenditures for the Administrative sector compared with total expenditures



Administrative

MACHINERY, EQUIPMENT AND TOOLS

Over the next three years, the STM will spend $5.5 million, or 24% of total expenditures in this sector, on machinery, equipment and tools.

Following the 2008 introduction of the OPUS card, the STM must now continue to invest in equipment upgrades and system security to preserve system integrity and provide customers with an appropriate level of service. In 2012, the STM will finish replacing the keypads on automatic fare dispensers (EMV).

With an eye to preventing workplace accidents, the STM will continue running, until 2014, its risk-reduction project for promoting machine safety.

COMPUTER HARDWARE

Over the next three years, the STM will spend $15.5 million, or 67% of total expenditures in this sector, on computer equipment. The main projects are as follows:

- The periodic IT maintenance program, which calls for the replacement of computers, software, peripherals and outdated technology infrastructure components over the next three years. The project's objective is to ensure the availability and reliability of the STM's systems. An amount of $7.8 million has been allocated to this project.
- The STM will launch a variety of IT projects worth a total of $6.1 million. They include implementing a project- and investment-management system, completely redesigning the STM's Web site, optimizing time management and replacing the Security and Control department's data management system.
- Lastly, the STM plans to invest $1.4 million in reorganizing the IT room and $200,000 in acquiring a revenue and fare sales management system.

PROPERTY ASSETS AND INFRASTRUCTURES

Over the next three years, the STM will spend $2.2 million in this category, representing 9% of total expenditures in this sector.

These expenditures are directly linked to office space maintenance, and to bringing rental space in line with current standards.

CAPITAL EXPENDITURES TABLE - ADMINISTRATIVE

(in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Machinery, equipment and tools										
No.:	18505	Replacement of keypads on automatic fare dispensers (EMV)	Cap.	1,792	2,206	0	0	2,206	0	3,999
Sheet:	AD-01		Non-cap.	8	456	0	0	456	0	465
LB/FIN:	R-010-B		Total	**1,800**	**2,663**	**0**	**0**	**2,663**	**0**	**4,463**
No.:	370002	Risk-reduction measures for machine safety – Phase II	Cap.	0	0	0	0	0	0	0
Sheet:	AD-02		Non-cap.	492	982	1,002	857	2,840	0	3,332
LB/FIN:	R-827		Total	**492**	**982**	**1,002**	**857**	**2,840**	**0**	**3,332**
			Subtotal	**2,292**	**3,645**	**1,002**	**857**	**5,503**	**0**	**7,795**
Computer hardware										
No.:	111	Continuity of critical STM IT systems	Cap.	2,273	0	0	0	0	0	2,273
Sheet:	AD-03		Non-cap.	472	39	0	0	39	0	511
LB/FIN:	R-111-A		Total	**2,745**	**39**	**0**	**0**	**39**	**0**	**2,785**
No.:	300113	PEPTI 2009–2012 (periodic IT maintenance program)	Cap.	5,379	2,631	3,967	0	6,598	0	11,978
Sheet:	AD-04		Non-cap.	602	628	546	0	1,174	0	1,776
LB/FIN:	R-110		Total	**5,981**	**3,259**	**4,513**	**0**	**7,772**	**0**	**13,753**
No.:	350010	Web site redesign	Cap.	632	1,479	0	0	1,479	0	2,111
Sheet:	AD-05		Non-cap.	149	347	0	0	347	0	495
LB/FIN:	R-127-A		Total	**781**	**1,825**	**0**	**0**	**1,825**	**0**	**2,606**
No.:	530871-4	Performance improvement – Revenue and fare sales	Cap.	926	210	0	0	210	0	1,136
Sheet:	AD-06	management	Non-cap.	1,246	0	0	0	0	0	1,246
LB/FIN:	R-077		Total	**2,172**	**210**	**0**	**0**	**210**	**0**	**2,382**
No.:	695600	Replacement of the Security and Control department's data	Cap.	751	467	0	0	467	0	1,218
Sheet:	AD-07	management system	Non-cap.	86	241	0	0	241	0	326
LB/FIN:	R-127-D		Total	**837**	**707**	**0**	**0**	**707**	**0**	**1,544**
No.:	850035	Reorganization of the IT room	Cap.	1,622	1,344	0	0	1,344	0	2,966
Sheet:	AD-08		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-127-B		Total	**1,622**	**1,344**	**0**	**0**	**1,344**	**0**	**2,966**
No.:	850041	Project management (SAP PS) and Investment management	Cap.	1,318	2,087	86	0	2,172	0	3,490
Sheet:	AD-09	(SAP IM)	Non-cap.	66	34	0	0	34	0	100
LB/FIN:	R-833		Total	**1,384**	**2,120**	**86**	**0**	**2,206**	**0**	**3,590**
No.:	850042	Time management optimization	Cap.	2,468	1,084	175	0	1,260	0	3,728
Sheet:	AD-10		Non-cap.	20	127	52	0	179	0	199
LB/FIN:	R-127-C		Total	**2,488**	**1,211**	**227**	**0**	**1,438**	**0**	**3,927**
			Subtotal	**18,011**	**10,716**	**4,826**	**0**	**15,542**	**0**	**33,553**
Property assets and infrastructures										
No.:	100002	Office space maintenance program – Phase II	Cap.	4,033	550	0	0	550	0	4,583
Sheet:	AD-11		Non-cap.	15	0	0	0	0	0	15
LB/FIN:	R-810		Total	**4,048**	**550**	**0**	**0**	**550**	**0**	**4,598**
No.:	822000	Retail space: bringing it in line with current standards	Cap.	3,063	516	620	516	1,652	0	4,715
Sheet:	AD-12		Non-cap.	0	0	0	0	0	0	0
LB/FIN:	R-086		Total	**3,063**	**516**	**620**	**516**	**1,652**	**0**	**4,715**
			Subtotal	**7,111**	**1,066**	**620**	**516**	**2,202**	**0**	**9,314**
			Cap.	**24,259**	**12,574**	**4,848**	**516**	**17,938**	**0**	**42,197**
Administrative			**Non-cap.**	**3 156**	**2,853**	**1,599**	**857**	**5,309**	**0**	**8,466**
			Total	**27,415**	**15,427**	**6,447**	**1,373**	**23,247**	**0**	**50,662**

PROJECT SHEET

AD-01

Replacement of keypads on automatic fare dispensers (EMV)

Project no.:	18505	**Sector:**	Administrative
LB/FIN no.:	R-010-B	**Asset category:**	Machinery, equipment and tools

Although the OPUS card and the fare sales and collection equipment have been well received by passengers since their introduction in April 2008, the STM must still continue to invest in equipment upgrades and system security to preserve the integrity of the system and provide customers with an appropriate level of service. A second phase of the Fare Sales and Collection project will therefore become vital to the STM, as both technology and security standards continue to evolve.

As part of a needs analysis, the STM's various business units, supported by the Fare Sales and Collection department, identified, prioritized and grouped a series of activities, those with the highest priority being:

- Upgrading the credit/card readers in the STM automatic ticket machines to make them compatible with chip-based technologies and EMV standards
- Changing the keypad to meet EMV standards
- Updating the payment software package (software integrating the keypad and credit/debit card reader to bring it in line with EMV standards)

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,792	2,206	0	0	0	3,999
Non-capital	8	456	0	0	0	465
Total	**1,800**	**2,663**	**0**	**0**	**0**	**4,463**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	1,800	2,663	0	0	0	4,463
Total	**1,800**	**2,663**	**0**	**0**	**0**	**4,463**
Percentage subsidized						**0%**

PROJECT SHEET

AD-02

Risk-reduction measures for machine safety – Phase II

Project no.:	370002	**Sector:**	Administrative
LB/FIN no.:	R-827	**Asset category:**	Machinery, equipment and tools

To put a stop to workplace accidents, a prevention program was established with the goal of upgrading the machinery used at the STM. The corporation thus contracted the services of a consulting firm to assess the state of the STM's 570 machines.

In 2009, in accordance with the firm's recommendations and in response to the program launched by Québec's workplace health and safety board (CSST) to bring machines into conformity with current recommendations, the STM approved Phase I of the "Risk-reduction measures for machine safety" project. The focus of the first phase was high-risk machines requiring rapid and immediate intervention.

Phase II of the project consists in rendering safe the 361 machines that were subjected to a risk analysis but not corrected during Phase I. This project also includes transferring the responsibility of keeping the machines safe to Operations.

The project's main deliverables are to:

- modify or repair the 361 machines
- obtain signed attestations as to the conformity of each of the modified or repaired machines
- establish safe work methods for residual risks
- produce a catalogue featuring a list of corrective measures applied, allowing the local manager to follow up on these corrective measures
- provide training for operators and maintenance staff (including training materials)

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	0	0	0	0	0	0
Non-capital	492	982	1,002	857	0	3,332
Total	**492**	**982**	**1,002**	**857**	**0**	**3,332**
Funding						
Federal government	0	0	0	0	0	0
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
STM	492	982	1,002	857	0	3,332
Total	**492**	**982**	**1,002**	**857**	**0**	**3,332**
Percentage subsidized						**0%**

Administrative

PROJECT SHEET

AD-03

Continuity of critical STM IT systems

Project no.:	111	**Sector:**	Administrative
LB/FIN no.:	R-111-A	**Asset category:**	Computer hardware

The computer security and information protection policy adopted by the STM's board of directors stipulates that the necessary resources and IT backup plan must be in place to ensure the continuity and/or resumption of critical operations when disruptive events occur. The STM currently has no backup plan.

This project aims to fill this void in the policy and to follow up on the recommendations of the STM's external auditors.

The project therefore consists in implementing the technological solutions required to keep the STM's critical computer systems up and running in cases of major interruptions, and in establishing a return-to-service plan for all STM activities. This will entail purchasing and rolling out technological solutions, conducting tests, planning emergency measures, and drafting and implementing procedures associated with critical IT systems backups and continuity.

The following IT systems were deemed critical:

- SAP R/3 and Portail (time management, pay, HR and PM modules)
- LOGIC (servicing reporting and defect slips)
- Gesmat and Adjudicateurs (inventory and purchasing management)
- IPCC-RVI (paratransit phone reservation system)
- ACCES-5 (paratransit passenger travel management)
- HASTUS – Bus, métro, driver and operator schedules (DDAM, BID, CO-Route, Véhicule and API Hast-Info modules)
- Backup solution (TSM and Control-M)
- Fare Sales and Collection (OPUS card)
- Office automation (file and e-mail servers)

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	2,273	0	0	0	0	2,273
Non-capital	472	39	0	0	0	511
Total	**2,745**	**39**	**0**	**0**	**0**	**2,785**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	2,745	39	0	0	0	2,785
Total	**2,745**	**39**	**0**	**0**	**0**	**2,785**

Percentage subsidized **0%**

PROJECT SHEET

AD-04

PEPTI 2009–2012 (periodic IT maintenance program)

Project no.:	300113	**Sector:**	Administrative
LB/FIN no.:	R-110	**Asset category:**	Computer hardware

Together, the computer population and technology infrastructure include microcomputer workstations, printing devices and office automation, as well as LAN routers, servers, storage area network (SAN) and many other peripherals (backup units, power units, battery backups, etc.). All of the STM's administrative and operational software and applications depend fully on these technologies in order to function.

All hardware and (office automation) software has a limited lifespan beyond which technical failures become increasingly frequent and irreparable breakdowns inevitable. Technical support and replacement parts are often difficult to obtain once manufacturers' warranties expire. Also, as the use of such systems continues to increase, outdated equipment no longer has the capacity to handle the growing needs of users and the company. As technology evolves very rapidly, outdated components are often incompatible and hard to integrate with new solutions developed to meet the company's emerging needs.

The replacement program is based on a life cycle that varies by computer component type. These standards are those accepted by the STM. They are very reasonable, as the useful life of the hardware generally recognized by the computer market is shorter than that accepted by the STM.

These standards also help to establish replacement scenarios for the various hardware and software component lifespans, and to plan ahead for the expenditures that will be required over a number of years. By tracking components as they age, the STM is able to develop a replacement plan that becomes increasingly precise year after year; the outdated components most likely to cause the STM's operational applications to crash are therefore replaced before they fail. Also, the update strategy allows the STM to optimize, consolidate and integrate components according to the corporation's needs and new replacement solutions that become available. This also enables the STM to optimize the activities associated with the mass replacement of certain hardware, such as computers.

This hardware and software replacement program will help ensure that the company's IT assets are managed effectively, that hardware and software are kept up-to-date and continue to meet the STM's ever-changing needs, all the while reducing hardware and software maintenance costs, and minimizing the breakdowns and failures caused by these components.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	5,379	2,631	3,967	0	0	11,978
Non-capital	602	628	546	0	0	1,776
Total	**5,981**	**3,259**	**4,513**	**0**	**0**	**13,753**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	5,981	3,259	4,513	0	0	13,753
Total	**5,981**	**3,259**	**4,513**	**0**	**0**	**13,753**

Percentage subsidized **0%**

Administrative

PROJECT SHEET

AD-05

Web site redesign

Project no.:	350010	**Sector:**	Administrative
LB/FIN no.:	R-127-A	**Asset category:**	Computer hardware

In 1997, the STM launched a new Web site that receives an average of 1.2 million visitors a month, making it one of the busiest and most successful sites around, and visitor traffic is only climbing. However, the site's technology has never been upgraded and is therefore obsolete. The possibilities for simply improving the existing site are limited, and so far, the STM has only been able to change the look of its homepage.

The goal of this project is to completely replace the site to meet the following business objectives:

- Improve customer service
- Improve performance
- Improve the STM's brand image

The project's benefits include:

- Technological catch-up
- Site management flexibility and optimization
- Resource productivity optimization
- Ability to meet accessibility standards

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	632	1,479	0	0	0	2,111
Non-capital	149	347	0	0	0	495
Total	**781**	**1,825**	**0**	**0**	**0**	**2,606**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	781	1,825	0	0	0	2,606
Total	**781**	**1,825**	**0**	**0**	**0**	**2,606**

Percentage subsidized **0%**

PROJECT SHEET

AD-06

Performance improvement – Revenue and fare sales management

Project no.:	530871-4	**Sector:**	Administrative
LB/FIN no.:	R-077	**Asset category:**	Computer hardware

As part of the process of preparing and distributing transit fares and passes, the passenger-generated revenue management division uses a number of software applications. These applications were developed several years ago using Foxpro, a programming language no longer in use. The IT system can no longer support these applications, which play a critical role in the preparation of transit fares and passes and their distribution to STM distribution sites, at a rate of about 135,000 deliveries per year.

The STM and its main subsidiary, Transgesco s.e.c., generate around $20 million in commercial revenues each year. These revenues are derived from a multitude of sources and involve many clients. The STM has used *Luc Bouchard and associés* software since 1995 for invoicing clients and for monitoring and processing accounts receivable. This outdated software, which is not integrated with the primary accounting software used by the STM and its subsidiary, requires a great deal of data handling in order to factor this kind of revenue into the monthly closing process. The software's obsolescence prevents us from handling the growth in volume generated by this activity; for instance, the software cannot manage more than one company, whereas the STM is made up of three entities.

Since the Fare Sales and Collection project was launched, much of the vending and collection equipment has been sending data to the central system on a daily basis. Although no volume data is currently available, we are speaking of millions of pieces of data. The project will involve sending, from the mainframe to the STM's accounting system via an interface, all data needed to account for the STM's passenger revenues. We plan to use the SAP SD (Sales and Distribution) module to post these transactions.

The project therefore consists in implementing new functionality by means of the SAP R/3 FI (Finance) module. Because of its many benefits, this solution will allow the STM to meet its objectives. By leveraging these new functions, the STM will be able to collect and compile the massive volume of financial data generated by the new centralized Fare Sales and Collection system.

The revenue management project includes revenue accounting—budgeting, accounting and reporting of passenger-generated and commercial revenues—and monitoring equipment and equipment acquisitions processes. The project's objective is to reduce the length of the passenger revenue accounting cycle, thus reducing the cost of funds. The Fare Sales management project calls for the replacement of outdated cash management applications in order to reduce the time required to calculate passenger revenues (estimated at between 2 and 7 days) and to lower the business risk involved in using obsolete computer systems.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	926	210	0	0	0	1,136
Non-capital	1,246	0	0	0	0	1,246
Total	**2,172**	**210**	**0**	**0**	**0**	**2,382**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	2,172	210	0	0	0	2,382
Total	**2,172**	**210**	**0**	**0**	**0**	**2,382**

Percentage subsidized **0%**

Administrative

PROJECT SHEET

AD-07

Replacement of the Security and Control department's data management system

Project no.:	695600	**Sector:**	Administrative
LB/FIN no.:	R-127-D	**Asset category:**	Computer hardware

As part of its mandate, the Security and Control department manages and assigns inspectors, drafts event reports, manages violation reports, follows up on payments and prepares and establishes roll-out plans. Lastly, one of the department's main tasks is to monitor fare collection.

To support the department's activities, two computer systems are currently being used: SIP (police information system) and Kolombo.

SIP was installed in 1994. It is no longer possible to install the basic updates needed to keep the application in sync with the workplace environment. This system is obsolete and no longer supported by its supplier.

The Kolombo system is used to manage inspector assignments, availability and distribution. The system lacks functions that are essential to smooth operations: creating a calling list and detecting shifts that lack the required minimum number of employees.

In short, this project consists in replacing the existing computer systems with a single one that is capable of managing data and includes violation report functions.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	751	467	0	0	0	1,218
Non-capital	86	241	0	0	0	326
Total	**837**	**707**	**0**	**0**	**0**	**1,544**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	837	707	0	0	0	1,544
Total	**837**	**707**	**0**	**0**	**0**	**1,544**

Percentage subsidized **0%**

PROJECT SHEET

AD-08

Reorganization of the IT room

Project no.:	850035	**Sector:**	Administrative
LB/FIN no.:	R-127-B	**Asset category:**	Computer hardware

One of the STM's IT rooms, which was built in 1994, has reached the end of its useful life and no longer meets basic IT room standards. The room is home to all 170 of the STM's computer systems, 15 of which are deemed mission-critical. Also, the room no longer meets current construction standards. The main failings are as follows:

- The electrical capacity on emergency circuits is insufficient
- The room's primary air conditioning system is not connected to a generator
- The electrical installations do not meet National Building Code standards
- The electromechanical equipment (air conditioning, uninterruptible power supply (UPS)) is obsolete or no longer meets current needs
- The remote surveillance systems (temperature, humidity, water) are inadequate
- The room is too large and therefore not very energy-efficient

The project's purpose is to correct the failings of the current room by completely upgrading it, which will involve the following:

- Changing the layout of all spaces and entryways
- Installing a new generator
- Installing a new air conditioning system
- Installing a new UPS
- Completely redoing the electrical system
- Completely redoing the network cabling
- Installing a new remote surveillance system

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,622	1,344	0	0	0	2,966
Non-capital	0	0	0	0	0	0
Total	**1,622**	**1,344**	**0**	**0**	**0**	**2,966**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	1,622	1,344	0	0	0	2,966
Total	**1,622**	**1,344**	**0**	**0**	**0**	**2,966**
Percentage subsidized						**0%**

Administrative

PROJECT SHEET

AD-09

Project management (SAP PS) and Investment management (SAP IM)

Project no.:	850041	**Sector:**	Administrative
LB/FIN no.:	R-833	**Asset category:**	Computer hardware

As the number of projects grows, the limitations of the current system are becoming evident, as it no longer allows the Budget and Investments department to monitor project budgets effectively or efficiently.

In 2005, the Engineering and Infrastructures group, in conjunction with the Infrastructures Maintenance group, chose the SIGEP application as their project management system to plan, monitor the costs of and manage planned works as they progress. However, SIGEP does come with its own limitations, as it does not provide a master plan for all projects combined, nor does it provide scheduling or schedule implementation functions.

After analyzing the various available options, and in order to make up for these limitations, SAP's PS (Project System) and IM (Investment Management) modules were chosen as the solution to meet the growing needs of the Budget and Investments department and the Engineering – Infrastructures group. This solution has the added benefit of being fully integrated with existing business systems, thereby fostering data integrity and consistency across the STM's systems.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	1,318	2,087	86	0	0	3,490
Non-capital	66	34	0	0	0	100
Total	**1,384**	**2,120**	**86**	**0**	**0**	**3,590**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	1,384	2,120	86	0	0	3,590
Total	**1,384**	**2,120**	**86**	**0**	**0**	**3,590**

Percentage subsidized **0%**

PROJECT SHEET

AD-10

Time management optimization

Project no.:	850042	**Sector:**	Administrative
LB/FIN no.:	R-127-C	**Asset category:**	Computer hardware

The purpose of this project is to optimize the processes and tools that support interdisciplinary activities of the Salary Management section in conjunction with STM employees and managers, and consists in:

- implementing integrated tools for managing and controlling hours worked, which are adapted to the STM's operational realities and control requirements, in order to generate a single, high-quality report within a prescribed timeframe
- giving employees the ability to view their pay stub electronically, thereby reducing paper use and eliminating a burdensome and risk-laden process

The projects contains the following deliverables:

- Creating a self-service option for employees and managers; self-service is deemed to improve payroll and human resources efficiency, while reducing costs in a context of sustainability; it allows all employees to refer to their pay information and manage their personal and banking information online
- Establishing an electronic pay stub that all employees can access securely in order to eliminate a burdensome process that has no added value, while reducing paper use
- Creating an electronic time sheet that is integrated into SAP: this eliminates double entry, improves controls and makes data available to SAP's auxiliary systems (or other project monitoring systems)
- Establishing an electronic time sheet approval process that ensures a more efficient process, makes controls easier to carry out and confirms hours paid

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	2,468	1,084	175	0	0	3,728
Non-capital	20	127	52	0	0	199
Total	**2,488**	**1,211**	**227**	**0**	**0**	**3,927**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	2,488	1,211	227	0	0	3,927
Total	**2,488**	**1,211**	**227**	**0**	**0**	**3,927**

Percentage subsidized **0%**

Administrative

PROJECT SHEET

AD-11

Office space maintenance program – Phase II

Project no.:	100002	**Sector:**	Administrative
LB/FIN no.:	R-810	**Asset category:**	Property assets and infrastructures

This project (Phase II) is the continuation of Phase I, which involved reconfiguring some office space to meet new needs, and reconfiguring other office space to meet the standard approved by the board of directors in 2006.

This phase seeks to support ongoing office space replacement and upgrading activities, and secure the authorization of new needs that have been identified for the years 2010 to 2012. The following office space has not, for the most part, been upgraded in over 20 years:

- Place Bonaventure
- Anjou garage
- Frontenac bus garage
- St-Laurent bus garage
- LaSalle bus garage
- Paratransit Centre
- Plateau Youville Maintenance Complex

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	4,033	550	0	0	0	4,583
Non-capital	15	0	0	0	0	15
Total	**4,048**	**550**	**0**	**0**	**0**	**4,598**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	4,048	550	0	0	0	4,598
Total	**4,048**	**550**	**0**	**0**	**0**	**4,598**
Percentage subsidized						**0%**

PROJECT SHEET

AD-12

Retail space: bringing it in line with current standards

Project no.:	822000	**Sector:**	Administrative
LB/FIN no.:	R-086	**Asset category:**	Property assets and infrastructures

The advent of Transgesco s.e.c. allowed for the creation of the subsidiary Métrocom s.e.c., whose mandate is to develop new commercial spaces in the métro network and oversee the renovation of existing spaces. The agreement linking the STM to Transgesco s.e.c. stipulates that the STM is responsible for all costs related to basic services, including water supply and wastewater evacuation, fire protection systems (sprinklers and fire alarm) and electricity.

This project therefore consists in developing new retail space and upgrading existing space.

The agreement that links the STM and Transgesco/Métrocom s.e.c. stipulates that the STM is responsible for upgrades (electrical supply, sprinkler systems, etc.) when and if Métrocom s.e.c. assents to the construction of new retail space or the renovation of existing space.

The development of new retail space is a way for the STM to increase its commercial revenues. Moreover, creating new space and renovating existing space improves the atmosphere at the stations, making the passenger experience more pleasant and increasing passengers' sense of security.

(in thousands of dollars)	2011 and prior	2012	2013	2014	2015 and following	Project total
Expenditure						
Capital	3,063	516	620	516	0	4,715
Non-capital	0	0	0	0	0	0
Total	**3,063**	**516**	**620**	**516**	**0**	**4,715**
Funding						
Provincial government	0	0	0	0	0	0
Federal government	0	0	0	0	0	0
Montréal Agglomeration	0	0	0	0	0	0
STM	3,063	516	620	516	0	4,715
Total	**3,063**	**516**	**620**	**516**	**0**	**4,715**

Percentage subsidized **0%**

Administrative

APPENDIX

PROJECTS UNDER STUDY

Since 2008, the STM has used a portfolio management approach in order to more easily prioritize projects, while taking financial and human constraints into account. Thanks to this process, the STM is able to implement management mechanisms that are both rigorous and innovative. Portfolio management has the following advantages:

- Standardization of project presentation
- Clear indications that projects remain in line with the strategic orientations
- Optimized allocation of resources
- Better coordination and improved synergy between projects

Projects described in this section are under study, meaning that they have not yet been assigned a priority according to the PPM approach. These projects will be prioritized using the PMM approach over the coming three years.

The STM plans to invest $548.4 million over the next three years. The main projects are:

Rebuilding of the St-Denis bus garage	$186.6 M
Rebuilding of the Crémazie building	$67.6 M
Henri-Bourassa reserved bus lane	$36.8 M
Expansion of Vendôme station	$34.0 M
Modification of the MR-73 workshops	$28.4 M
New bus garage	$28.3 M
Fairview Terminal and Transit Priority Measures (TPM) for buses	$22.4 M
Other	$144.3 M
	$548.4 M

PROJECTS BEING STUDIED

Administrative sector (in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Machinery, equipment and tools										
No.:	162051	Fare Sales & Collection: data warehousing	Cap.	0	1,311	122	0	1,433	0	1,433
			Non-cap.	0	12	78	0	90	0	90
			Total	**0**	**1,322**	**200**	**0**	**1,522**	**0**	**1,522**
No.:	18504	Fare Sales & Collection: remote reloading	Cap.	241	3,584	930	0	4,514	0	4,755
			Non-cap.	740	293	479	0	772	0	1,512
			Total	**981**	**3,878**	**1,408**	**0**	**5,286**	**0**	**6,267**
No.:	450001	Customer Service booth	Cap.	0	1,469	375	0	1,844	0	1,844
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**1,469**	**375**	**0**	**1,844**	**0**	**1,844**
No.:	850004	Fare Sales & Collection: meeting current standards	Cap.	0	0	5,045	5,045	10,090	30,270	40,360
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**5,045**	**5,045**	**10,090**	**30,270**	**40,360**
			Subtotal	**981**	**6,670**	**7,028**	**5,045**	**18,742**	**30,270**	**49,993**
Computer hardware										
No.:	350008	HASTUS software package upgrade	Cap.	325	1,252	3,390	1,440	6,081	0	6,407
			Non-cap.	78	373	499	84	956	0	1,033
			Total	**403**	**1,624**	**3,889**	**1,524**	**7,037**	**0**	**7,440**
No.:	850019	PEPTI 2009–2012 (periodic IT maintenance program): meeting current standards	Cap.	0	0	0	3,027	3,027	18,162	21,189
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**3,027**	**3,027**	**18,162**	**21,189**
No.:	850036	IP telephony or Bell Centrex replacement	Cap.	0	500	500	0	1,000	0	1,000
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**500**	**500**	**0**	**1,000**	**0**	**1,000**
No.:	850039	Electronic management of documents	Cap.	0	300	300	300	900	0	900
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**300**	**300**	**300**	**900**	**0**	**900**
No.:	850044	Materials and purchase management (SAP MM)	Cap.	0	0	1,750	1,500	3,250	950	4,200
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**1,750**	**1,500**	**3,250**	**950**	**4,200**
No.:	850046	Police information system – Phases I and II	Cap.	0	0	150	150	300	100	400
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**150**	**150**	**300**	**100**	**400**
No.:	850054	Redesign of the geomatics system	Cap.	0	400	600	0	1,000	0	1,000
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**400**	**600**	**0**	**1,000**	**0**	**1,000**
No.:	850055	Supply chain: supplier relations	Cap.	0	0	0	1,000	1,000	3,500	4,500
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**1,000**	**1,000**	**3,500**	**4,500**
No.:	850056	Supply chain: warehouse management	Cap.	0	0	0	1,000	1,000	3,000	4,000
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**1,000**	**1,000**	**3,000**	**4,000**
No.:	850057	Improvement: labour management – Phase II	Cap.	0	500	1,000	500	2,000	0	2,000
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**500**	**1,000**	**500**	**2,000**	**0**	**2,000**
			Subtotal	**403**	**3,324**	**8,189**	**9,001**	**20,514**	**25,712**	**46,629**
Property assets and infrastructures										
No.:	100003	Office space maintenance – Berri	Cap.	1,426	2,366	1,481	511	4,357	478	6,261
			Non-cap.	0	0	0	0	0	0	0
			Total	**1,426**	**2,366**	**1,481**	**511**	**4,357**	**478**	**6,261**
No.:	100004	Office space optimization and maintenance program – Phase III	Cap.	0	5,945	4,249	0	10,195	0	10,195
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**5,945**	**4,249**	**0**	**10,195**	**0**	**10,195**
No.:	2140	Replacement of windows and waterproofing at 2000 Berri	Cap.	0	359	210	4,605	5,174	4,680	9,855
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**359**	**210**	**4,605**	**5,174**	**4,680**	**9,855**
No.:	850003	Administrative offices: repair of the building envelope	Cap.	0	0	505	505	1,010	3,030	4,040
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**505**	**505**	**1,010**	**3,030**	**4,040**

(in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Property assets and infrastructures (continued)										
No.:	850006	Major repairs building: replacement of HVAC systems overhaul	Cap.	0	0	505	505	1,010	3,030	4,040
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**505**	**505**	**1,010**	**3,030**	**4,040**
			Subtotal	**1,426**	**8,670**	**6,950**	**6,126**	**21,746**	**11,218**	**34,391**
			Cap.	**1,992**	**17,987**	**21,111**	**20,088**	**59,185**	**67,200**	**128,378**
Administrative			**Non-cap.**	**818**	**678**	**1,056**	**84**	**1,817**	**0**	**2,635**
			Total	**2,810**	**18,664**	**22,167**	**20,172**	**61,002**	**67,200**	**131,013**
Bus network sector										
Machinery, equipment and tools										
No.:	850007	Design and production of specialized equipment for low-floor buses	Cap.	0	0	1,000	1,000	2,000	6,000	8,000
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**1,000**	**1,000**	**2,000**	**6,000**	**8,000**
No.:	850010	Various bus garages: bringing refuelling stations in line with current standards	Cap.	0	0	1,009	1,009	2,018	6,054	8,072
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**1,009**	**1,009**	**2,018**	**6,054**	**8,072**
No.:	850021	Various bus garages: lift rigs	Cap.	0	0	3,027	3,027	6,054	18,162	24,216
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**3,027**	**3,027**	**6,054**	**18,162**	**24,216**
No.:	850022	iBus system maintenance	Cap.	0	0	0	1,500	1,500	29,725	31,225
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**1,500**	**1,500**	**29,725**	**31,225**
No.:	850045-2	ACCES (EXTRA) real-time operations – Phase II	Cap.	0	3,241	5,207	2,656	11,104	0	11,104
			Non-cap.	0	344	702	358	1,404	0	1,404
			Total	**0**	**3,585**	**5,909**	**3,014**	**12,508**	**0**	**12,508**
No.:	850053	Bus tire management	Cap.	0	0	800	400	1,200	0	1,200
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**800**	**400**	**1,200**	**0**	**1,200**
			Subtotal	**0**	**3,585**	**11,745**	**9,950**	**25,280**	**59,941**	**85,221**
Rolling stock										
No.:	5002163	Replacement and addition of service vehicles (2012–2016)	Cap.	0	1,770	6,931	6,560	15,261	13,439	28,700
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**1,770**	**6,931**	**6,560**	**15,261**	**13,439**	**28,700**
			Subtotal	**0**	**1,770**	**6,931**	**6,560**	**15,261**	**13,439**	**28,700**
Property assets and infrastructures										
No.:	1935	Crémazie building: program to maintain operations	Cap	0	500	500	500	1,500	1,500	3,000
			Non cap	0	0	0	0	0	0	0
			Total	**0**	**500**	**500**	**500**	**1,500**	**1,500**	**3,000**
No :	350003	Redesign of Dorval Terminal	Cap.	0	0	6,805	3,190	9,995	3,190	13,185
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**6,805**	**3,190**	**9,995**	**3,190**	**13,185**
No.:	350004	Redesign of Radisson Terminal	Cap.	0	321	866	0	1,187	0	1,187
			Non-cap.	86	59	60	0	118	0	205
			Total	**86**	**380**	**926**	**0**	**1,306**	**0**	**1,392**
No.:	350006	Henri-Bourassa reserved bus lane	Cap.	0	0	0	36,841	36,841	270,227	307,068
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**36,841**	**36,841**	**270,227**	**307,068**
No.:	529994	Rebuilding of the St-Denis bus garage	Cap.	0	16,994	68,701	100,730	186,424	0	186,424
			Non-cap.	455	0	0	2,197	2,197	0	2,652
			Total	**455**	**16,994**	**68,701**	**102,926**	**188,621**	**0**	**189,076**
No.:	529995	Rebuilding of the Crémazie building	Cap.	69	8,201	16,495	36,749	61,444	70,014	131,528
			Non-cap.	679	2,795	1,824	1,542	6,161	6,161	13,001
			Total	**748**	**10,997**	**18,318**	**38,290**	**67,605**	**76,175**	**144,529**
No.:	625007	Fairview Terminal: implementation of Transit Priority Measures (TPM) for buses	Cap.	139	186	2,931	19,306	22,424	0	22,563
			Non-cap.	28	0	0	0	0	0	28
			Total	**167**	**186**	**2,931**	**19,306**	**22,424**	**0**	**22,591**
No.:	625010	Signage project	Cap.	0	1,276	1,312	1,200	3,788	3,746	7,534
			Non-cap.	508	0	0	0	0	0	508
			Total	**508**	**1,276**	**1,312**	**1,200**	**3,788**	**3,746**	**8,042**

(in thousands of dollars)				2011 and prior	2012	2013	2014	Total 2012-2014	2015 and following	Total
Property assets and infrastructures (continued)										
No.:	625011	Lionel-Groulx Terminal redesign – Phase II	Cap.	0	0	4,075	1,530	5,605	28,647	34,252
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**4,075**	**1,530**	**5,605**	**28,647**	**34,252**
No.:	850029	New bus garage – Phase III	Cap.	0	0	26,012	1,944	27,956	119,966	147,921
			Non-cap.	0	0	349	11	360	525	884
			Total	**0**	**0**	**26,361**	**1,955**	**28,315**	**120,490**	**148,806**
No.:	850031	Transit Priority Measures (TPM) program for buses – Phase III	Cap.	0	0	0	1,781	1,781	34,957	36,737
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**1,781**	**1,781**	**34,957**	**36,737**
			Subtotal	**1,965**	**30,332**	**129,930**	**207,519**	**367,780**	**538,933**	**908,678**
			Cap.	**208**	**32,489**	**145,672**	**219,920**	**398,081**	**605,627**	**1,003,916**
Bus network			**Non-cap.**	**1 757**	**3,198**	**2,934**	**4,108**	**10,240**	**6,686**	**18,683**
			Total	**1,965**	**35,687**	**148,606**	**224,028**	**408,321**	**612,313**	**1,022,599**
Métro network sector										
Machinery, equipment and tools										
No.:	221897	Replacement of incandescent lamps	Cap.	0	295	591	591	1,477	273	1,750
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**295**	**591**	**591**	**1,477**	**273**	**1,750**
No.:	721883	Métro network: replacement of the apron cleaning platform	Cap.	64	1,437	0	0	1,437	0	1,500
			Non-cap.	0	0	0	0	0	0	0
			Total	**64**	**1,437**	**0**	**0**	**1,437**	**0**	**1,500**
No.:	850016	Métro extension ventilation stations: bringing up to standard	Cap.	0	0	0	1,009	1,009	6,054	7,063
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**1,009**	**1,009**	**6,054**	**7,063**
No.:	850058	Addition of handrails in the tunnels	Cap.	0	523	0	0	523	0	523
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**523**	**0**	**0**	**523**	**0**	**523**
			Subtotal	**64**	**2,254**	**591**	**1,600**	**4,445**	**6,327**	**10,836**
Computer hardware										
No.:	850015	Stationary equipment maintenance management solution - MPAO	Cap.	0	0	505	0	505	0	505
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**505**	**0**	**505**	**0**	**505**
			Subtotal	**0**	**0**	**505**	**0**	**505**	**0**	**505**
Rolling stock										
No.:	7731815	Replacement of service vehicles	Cap.	28	207	9,445	71	9,722	0	9,750
			Non-cap.	0	0	0	0	0	0	0
			Total	**28**	**207**	**9,445**	**71**	**9,722**	**0**	**9,750**
			Subtotal	**28**	**207**	**9,445**	**71**	**9,722**	**0**	**9,750**
Property assets and infrastructures										
No.:	100731	Expansion of Vendôme station	Cap.	0	4,000	15,000	15,000	34,000	11,000	45,000
			Non-cap.	136	0	0	0	0	0	136
			Total	**136**	**4,000**	**15,000**	**15,000**	**34,000**	**11,000**	**45,136**
No.:	230008	Modification of métro workshops and equipment - MPM-10 métro cars	Cap.	0	0	7,580	20,781	28,362	608,670	637,032
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**7,580**	**20,781**	**28,362**	**608,670**	**637,032**
No.:	850017	Plateau Youville Maintenance Complex: building securement work	Cap.	0	0	0	2,018	2,018	12,108	14,126
			Non-cap.	0	0	0	0	0	0	0
			Total	**0**	**0**	**0**	**2,018**	**2,018**	**12,108**	**14,126**
			Subtotal	**136**	**4,000**	**22,580**	**37,799**	**64,380**	**631,778**	**696,294**
			Cap.	**92**	**6,461**	**33,121**	**39,470**	**79,052**	**638,105**	**717,249**
Métro network			**Non-cap.**	**136**	**0**	**0**	**0**	**0**	**0**	**136**
			Total	**227**	**6,461**	**33,121**	**39,470**	**79,052**	**638,105**	**717,384**
			Cap.	**2,292**	**56,937**	**199,903**	**279,478**	**536,318**	**1,310,932**	**1,849,543**
GRAND TOTAL – STM			**Non-cap.**	**2 711**	**3 875**	**3,990**	**4,191**	**12,057**	**6,686**	**21,453**
			Total	**5,003**	**60,813**	**203,893**	**283,669**	**548,375**	**1,317,618**	**1,870,996**

SECTOR GUIDELINE DS FIN 001

1.0 Objectives

This sector guideline defines and specifies the capitalization criteria needed to ensure that the STM's capital assets are properly accounted for. The guideline's main objectives are to:

- guide the STM in identifying and properly accounting for its fixed assets
- standardize the STM's capital asset capitalization approach by means of clear rules
- identify the fixed asset categories and useful life for depreciation purposes

2.0 Reference standards

This sector guideline is inspired by the standards of "good accounting practices" and, more specifically, the Generally Accepted Accounting Principles (GAAP) as they apply to municipal accounting in Québec, which are described in the municipal financial reporting handbook published by the department of municipal affairs and of the Montréal metropolitan area (*Ministère des Affaires municipales and de la Métropole*).

Definitions of the accounting terminology used in this document are listed in Appendix 1.

3.0 Principles

3.1 Capitalization criteria

The STM considers as capital assets those that meet all of the following criteria:

- They were purchased, constructed, developed or redeveloped with an eye to being used in a sustainable manner and as such, have a useful life of greater than three (3) years, AND
- They provide future economic benefits, are intended for use in the production of goods, for dispensing services or for the STM's administrative operations; they effectively lengthen the original period of use or increase the service capacity of an existing asset; they must not be intended for sale as part of the normal course of the STM's activities; AND
- Their **purchase cost** or the **cost of improving them** is greater than $50,000.

In most cases, the fixed asset is included in the STM's Three-year Capital Expenditures Program (CEP).

3.2 Improvements

For accounting purposes, the STM also considers as capital assets all **improvements** made to its capital assets.

3.3 Consolidation of assets

The STM considers that the capitalization criteria apply to the asset group resulting from the consolidation of similar assets and not to each of the individual assets comprising that group. Hence, the decision to capitalize or not will depend on whether these criteria have been met and on the monetary value of the consolidated asset group.

3.4 Exclusion

Any expense that does not meet the criteria described above, as well as all expenses related to maintenance and repairs, are considered to be operating expenses and must therefore be excluded from the STM's balance sheet.

The funding option used to fund the asset or the expenditure was not taken into account in the capital asset identification process. Only the criteria listed above are taken into account.

3.5 Disposal

When a capital asset is assigned or disposed of, the acquisition cost and the accumulated depreciation of the asset must be written off from the STM's accounts.

Appendix

3.6 Presentation

The STM presents its capital assets in its balance sheet, as well as in the form of major categories, by means of notes to the financial statements, as shown in Appendix 2.

3.7 Depreciation

Capital assets are presented in the balance sheet at their depreciated cost.

Unless the capital asset's expected use indicates otherwise, the depreciation method used by the STM is the straight-line method, based on the asset's useful life.

The useful life is established by asset category, as defined in Appendix 2.

Current assets are not depreciated. Depreciation begins from the time the assets are activated, i.e. the date on which the current asset is transferred to the appropriate final asset category.

3.8 Land

For municipal purposes, the cost of land is part of the capital asset used to provide municipal services. Consequently, the land linked to a capital asset is depreciated at the same rate as that applied to the capital asset in question.

3.9 Leasing – Acquisition

An asset financed by a capital lease can be capitalized as long as:

- the benefits and risks associated with the property are, under the terms of the lease, transferred to the STM
- the lease calls for the property to be transferred to the STM on expiry
- the lease contains a clause giving the STM the option to purchase the asset at a favourable price.

4.0 Interpretation and terms of application

The interpretation of this sector guideline and the terms of its application are determined by the STM's treasurer.

5.0 Reference

Municipal financial reporting handbook

APPROVED BY:

Francine Gauthier
Treasurer and Executive Director, Finance and Procurement

History:
- Adopted: 2002-06-07
- Revised: 2003-04-07
- Revised: 2003-10-20

Appendix

SECTOR GUIDELINE DS FIN 001 (APPENDIX 1)

Accounting terminology

Asset

Assets are economic resources the STM controls as a result of past operations or circumstances, and which are likely to provide it with future economic benefits.

Improvements

The improvements to be capitalized are those that increase a capital asset's service potential.

Service potential is considered to have increased when it results in a measurable:

- increase in production capacity
- increase in useful life
- decrease in associated operating costs
- improvement in the economic value of output

Depreciation

Depreciation is the allocation of the cost of an asset over the periods in which the asset is used by the company.

Accumulated depreciation

Accumulated depreciation is the sum of an asset's annual depreciation over its useful life.

Disposal

The sale, destruction, theft, loss, retirement or expropriation of a capital asset.

Acquisition cost of a capital asset

The acquisition cost of a capital asset is the total of all costs incurred to purchase, construct, develop, redevelop or improve the value of a capital asset, in particular the asset's price, the cost of internal labour and the costs incurred to keep the asset operational.

The cost of the capital asset is determined by taking into account, as the case may be:

- the invoice price or the contractual price due (including the applicable taxes and dividends)
- the price set by the expropriation panel in the case of an acquisition by expropriation
- the current value of the capital portion included in the lease price, excluding incidental expenses, in the case of an acquisition by lease

The cost of internal labour includes all eligible costs incurred in carrying out the project, as described in Appendix 4 of this guideline.

Non-exhaustive list of costs necessary in order for the asset to be usable for operations:

- Transportation costs
- Provincial and federal sales taxes
- Customs duties
- Foreign currency exchange fees
- Installation fees
- Baseline studies
- Legal fees
- Engineering fees
- Cost of permits
- Bridge financing expenses
- Insurance premiums paid during construction
- Professional fees
- Fees for training dispensed by the supplier on the acquisition of a piece of equipment, software, etc.

Maintenance and repairs

These are costs incurred to **maintain** the service potential of a capital asset.

Putting a current asset into service

The current asset is transferred to the appropriate asset category once the STM begins to reap the economic benefits associated with the capital asset, or when the capital asset is substantially completed or put into use for its intended or ultimate purpose.

Three-year Capital Expenditures Program (CEP)

The CEP is a plan divided into three annual phases, which details for each phase the purpose, amount and method of funding the capital expenditures that the STM plans to incur or carry out.

Consolidation of assets

Asset consolidation is used when a number of assets are needed to render an asset, system or service operational, or when these assets are part of an acquisition or replacement plan relating to an asset population or fleet.

Useful life

The useful life is the total estimated period, starting from the acquisition date, during which the asset is expected to serve the STM. According to the municipal financial reporting handbook, the maximum useful life is set at 40 years. However, the STM may, in certain cases such as a métro tunnel, determine that the expected useful life is longer (Appendix 2).

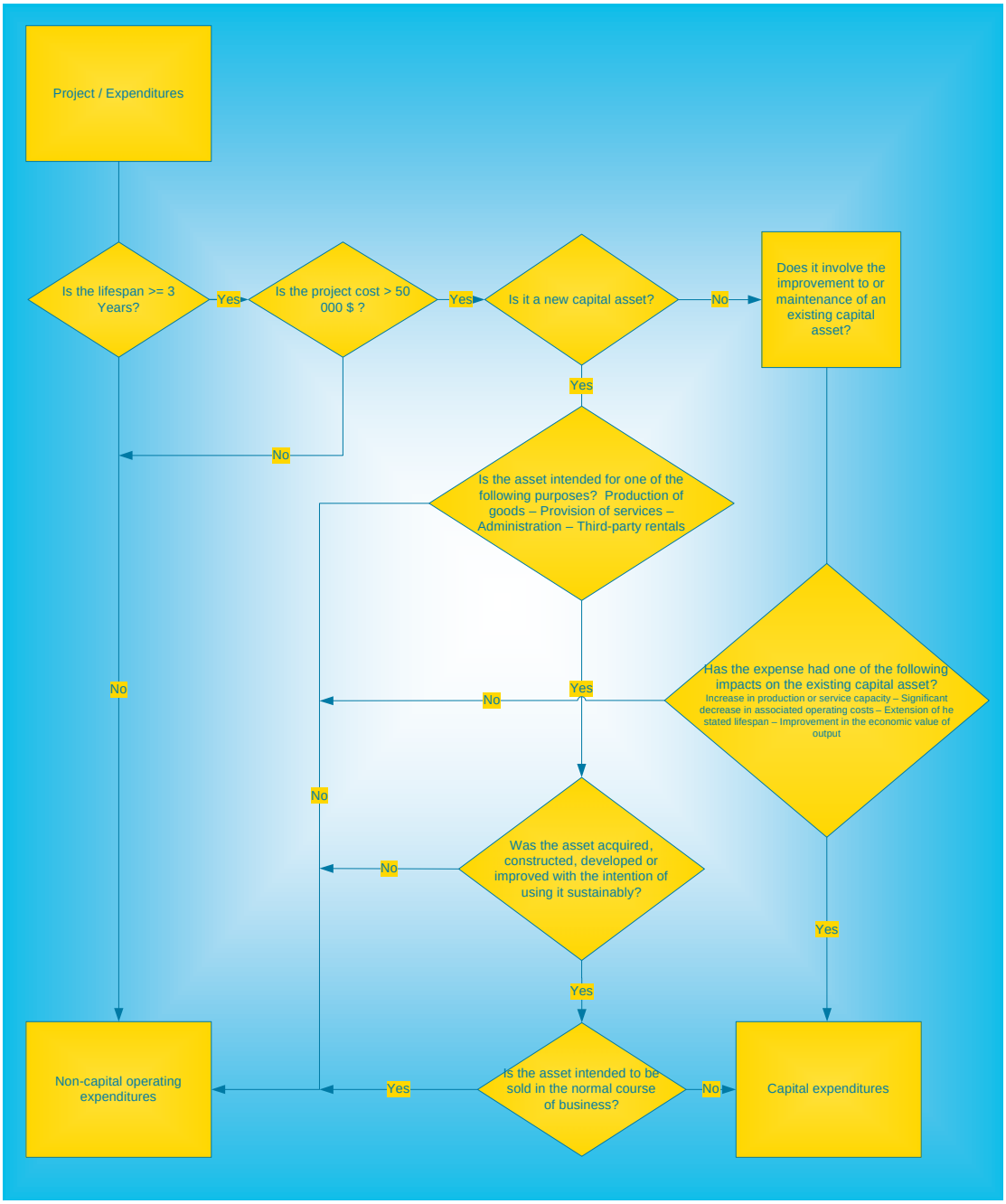
Appendix

SECTOR GUIDELINE DS FIN 001 (APPENDIX 2)

Capital asset categories and useful life

CATEGORIES	GENERAL DESCRIPTION	Useful life
Land	Other than that which is an integral part of the infrastructures	40 years
Buildings	Administrative buildings and supply depot	40 years
	Underground garages	40 years
	Workshops, garages and warehouses	40 years
Initial métro network and extensions	Stationary equipment	40 years
	Tunnels	100 years
	Métro stations	40 years
	Métro cars	40 years
Métro infrastructure improvements	Stationary equipment (traction power, rectifier station, signalling and control equipment, air conditioning systems, escalators, temporary building entrances, etc.)	40 years
	Stationary equipment (plumbing, fire protection piping system, communication systems, switching gear and third rails, carrying and insulator cables, permanent building entrances, steel rails, etc.)	25 years
	Vault resurfacing	25 years
	Tunnels	100 years
	Métro stations	40 years
	Métro cars	40 years
Local infrastructures	Reserved bus lanes	20 years
	Bus terminals	40 years
	Park-and-ride lots	20 years
	Bus shelters	20 years
Leasehold improvements	Leasehold improvements (Place Bonaventure)	Remaining duration of the lease
Rolling stock – Buses	Buses	16 years
Rolling stock – Minibuses	Minibuses	5 years
Rolling stock – Other	Specialized rolling stock with a unit value under $50,000	5 years
	Specialized rolling stock with a unit value over $50,000	10 years
Metropolitan infrastructures	Reserved bus lanes	20 years
	Bus terminals	40 years
	Park-and-ride lots	20 years
Office furniture and equipment	Furniture and equipment	10 years
	Computers (hardware, software licences)	5 years
	System software	10 years
Machinery, equipment and tools	Machinery, equipment and tools	15 years
	Equipment – Lifts	15 years

SECTOR GUIDELINE DS FIN 001 (APPENDIX 3)



Appendix

SECTOR GUIDELINE DS FIN 001 (APPENDIX 4)

Internal labour capitalization conditions

In order for internal labour costs to be considered capital expenditures:

1) The work carried out by this internal labour must in itself be considered a capital expenditure, i.e. it **must constitute part of the acquisition cost** for an asset meeting the criteria described in paragraph 3.1 of this guideline.

2) All hours incurred in carrying out the work are considered capital expenditures.

3) Only indirect time put in by the internal labour force assigned to the work in question is considered a capital expenditure:

   - Time spent travelling to and from the work site
   - Time spent on handling and cleaning activities related to the project
   - Time spent supporting the foreperson in carrying out administrative work related to the project
   - Time spent at meetings relating to project execution
   - Technical research time related to the project

4) Engineering costs (other than those related to research), project management costs and work surveillance costs can be considered capital expenditures if they are directly related to the design and commissioning of the capital asset, up to a certain maximum amount, as defined in the terms of the governmental assistance program for the improvement of public service.

5) The cost of pilot projects and problem-solving research (including feasibility studies for testing potential solutions) cannot be considered as a capital expenditure.

6) Internal labour costs must be assessed and accounted for in detail: nature of the work, functions required to carry out the work, and time spent on the work, by activity and by function.

7) Capital time is accounted for at the STM's average hourly invoiced rate for the year in which the work was carried out, by employment field and wage level (if applicable), according to the invoicing table issued by the Budget, Management Information and Control division.

8) Capitalized time must be backed by supporting documents duly authorized by the person in charge of the project, as described in the project's control plan.

APPROVED BY:

Francine Gauthier
Treasurer and Executive Director, Finance and Procurement

History: - Adopted: 2002-06-07
- Revised: 2003-04-07
- Revised: 2003-04-20

PUBLIC TRANSIT ASSISTANCE PROGRAMS

Governmental public transit assistance program (PAGTCP)

Order in Council 148-2007 deals with the modifications made to the PAGTCP. This program, which already existed, was improved by the addition of eligible expense categories; also, grants will always be used to service debt. On October 8, 2008, the Government of Québec published, in the *Gazette officielle du Québec*, Order in Council 982-2008 modifying Order in Council 148-2007, thus making vehicle rentals eligible.

Program specifications:

Financial partner	Québec Department of Transportation (*Ministère des Transports du Québec*)
Program description	This program covers a governmental contribution based on the following priority investments: ➢ Maintaining assets ➢ Improving equipment and infrastructures ➢ Expanding the network
Reimbursement type	Debt service payment
Program period	Not defined

Eligibility and % subsidized

Eligible assets	Rate
➢ Purchase or rental of new city buses or minibuses	50%
➢ Service vehicles used for bus network operations	50%
➢ New technology – Vehicle location, information to customers, prioritizing of vehicles, vehicle energy source, systems software, sales and collection of fares	75%
➢ Land	75%
➢ Garage, bus station and administrative centre	75%
➢ Park-and-ride lot	75%
➢ Reserved bus lane	75%
➢ Equipment and devices used to operate a bus garage or station, stationary equipment used for infrastructure operations and information for customers (when a bus garage or station is less than 20 years old), or for upgrades to meet current standards, whether for safety or environmental standards	75%
➢ Reroofing a bus garage, station or administrative centre after 20 years of operation	75%
➢ Bus shelters	75%
➢ Bicycle rack	75%
➢ Development of the métro network – Cars, equipment and infrastructures	100%
➢ Development of the train network – Cars, equipment and infrastructures	100%
➢ Maintenance and service improvements – Train network	75%
➢ Maintenance and service improvements – Métro network	75%
➢ Service vehicles for métro network operations	75%
➢ Improvement of access for people with limited mobility	75%
➢ Extension of useful life – Minibuses, buses or métro cars	50%

Québec local infrastructure financing corporation (Société de financement des infrastructures locales du Québec) (SOFIL 1)

Order in Council 115-2007 concerns the establishment of conditions for financial aid payments from SOFIL. This program, which was established by two levels of government, derives from the transfer of part of the revenues from the fuel excise tax. Under the terms of an agreement signed by the two governments, $411 million from the federal government and $93 million from the provincial government will be earmarked for the funding of public transit. The resulting grants will be paid out between 2006 and 2014, based on the average annual ridership of the previous four years. The STM's share is set at $365.7 million, in the form of a cash payment. The order also specifies that the Montréal Agglomeration must increase its contribution to public transit beyond its 2005 contribution. The portion paid by the governments will be 84.5%, whereas the Montréal Agglomeration's portion will be 15.5%, or $67.1 million.

Program specifications:

Financial partners	➢ Federal government (69%) ➢ Provincial government (15.5%) ➢ Montréal Agglomeration (15.5%)	
Program description	The goal of this program is to provide financial assistance to municipal organizations in order to help carry out public transit infrastructure programs.	
Reimbursement type	Cash payment	
Program period	From 2006 to 2012	
Eligibility and % subsidized	**Eligible assets**	**Rate**
	➢ New city buses and minibuses	84.5%
	➢ Service vehicles used for bus network operations	84.5%
	➢ New technology – Vehicle location, information to customers, prioritizing of vehicles, vehicle energy source, systems software, sales and collection of fares	84.5%
	➢ Land	
	➢ Garage, bus station and administrative centre	84.5%
	➢ Park-and-ride lot	84.5%
	➢ Reserved bus lane	84.5%
	➢ Equipment and devices used to operate a bus garage or station, stationary equipment used for infrastructure operations and information for customers (when a bus garage or station is less than 20 years old), or for upgrades to meet current standards, whether for safety or environmental standards	84.5%
	➢ Reroofing a bus garage, station or administrative centre after 20 years of operation	84.5%
	➢ Bus shelters	84.5%
	➢ Bicycle rack	84.5%
	➢ Maintenance and service improvements – Métro network	84.5%
	➢ Service vehicles for métro network operations	84.5%
	➢ Improvement of access for people with limited mobility	84.5%
	➢ Extension of useful life – Minibuses, buses or métro cars	84.5%
	➢ Operating subsidies – Capital costs included in the cost of contracts	84.5%

Governmental assistance program for the improvement of energy efficiency in public transportation by road (PAGAAEE)

The program seeks to promote the introduction of new technologies and improve energy efficiency in the transportation of people by road.

Program specifications:

Financial partner	Québec Department of Transportation (*Ministère des Transports du Québec*)
Program description	The program has an annual budget of $5 million and is divided into three parts: - All-electric or hybrid automobiles used as taxis or for ride-sharing - All-electric or hybrid buses - Improvement of energy efficiency in vehicles used for public transit
Reimbursement type	Cash payment
Program period	Not defined

Eligibility and % subsidized	**Eligible assets**	**Rate**
	All-electric or hybrid buses	50%
	Improvements in energy efficiency	50%

Québec local infrastructure financing corporation (Société de financement des infrastructures locales du Québec) 2011–2014 capital expenditures assistance program for public transit (SOFIL 2)

This program, which was established by two levels of government, derives from the transfer of part of the revenues from the fuel excise tax. Under the terms of an agreement signed by the two governments, $400.3 million from the federal government and $299.7 million from the provincial government will be earmarked for the funding of public transit. The resulting grants will be paid out between 2011 and 2014, based on the average annual ridership of 2006, 2007 and 2008. The STM's share is established at $498.8 million, including $287.3 million in cash and $211.5 million in the form of debt service.

Program specifications:

Financial partners	➢ Federal government (48%) ➢ Provincial government (37%)	
Program description	The goal of this program is to provide financial assistance to municipal organizations in order to help carry out public transit infrastructure programs.	
Reimbursement types	Cash payment and debt service payment	
Program period	From 2011 to 2014	
Eligibility and % subsidized	**Eligible assets**	**Rate**
	➢ New buses and minibuses	85%
	➢ Service vehicles	85%
	➢ New technology – Vehicle location, information to customers, prioritizing of vehicles, vehicle energy source, systems software, sales and collection of fares	85%
	➢ Garage, bus station and administrative centre	85%
	➢ Park-and-ride lot	85%
	➢ Reserved bus lane	85%
	➢ Equipment and devices used to operate a bus garage or station, stationary equipment used for infrastructure operations and information for customers (when a bus garage or station is less than 20 years old), or for upgrades to meet current standards, whether for safety or environmental reasons	85%
	➢ Reroofing a bus garage, station or administrative centre after 20 years of operation	85%
	➢ Bus shelters	85%
	➢ Bicycle rack	85%
	➢ Maintenance and service improvements – Métro network	85%
	➢ Service vehicles for métro network operations	85%
	➢ Improvement of access for people with limited mobility	85%
	➢ Extension of useful life – Minibuses, buses or métro cars	75%
	➢ Vehicle scheduling control and passenger information system (VSCPIS)	85%
	➢ Issuance costs and short-term financial costs – Debt service	85%

INDEX OF INITIALISMS, ACRONYMS AND OTHER ABBREVIATIONS

APS	Low-floor bus
CSST	Workplace health and safety board (*Commission de la santé and de la sécurité au travail*)
CSVA	Canadian Society of Value Analysis
DAT	Automatic fare dispenser
EMV	Europay, MasterCard and Visa
GPP	Project portfolio management
HASTUS	City transport scheduling and assignment system
HID	High intensity discharge
HVAC	Heating, ventilation and air conditioning
LB/FIN	Loan by-law or Finance number
MPM-10	Montréal's 2010 rubber-wheeled métro cars (*Matériel pneumatique Montréal 2010*)
MR-63	1963 bus model (*Matériel roulant*)
MR-73	1973 bus model (*Matériel roulant*)
MTQ	Québec Department of Transportation (*Ministère des Transports du Québec*)
OPALE	Maintenance process and activity optimization
PAGAAEE	Governmental assistance program for the improvement of energy efficiency in the transportation of people by road
PAGASTC	Governmental program for the improvement of public transit services (*Programme d'aide gouvernementale à l'amélioration des services de transport en commun*)
PAGTCP	Governmental public transit assistance program (*Programme d'aide gouvernement au transport collectif des personnes*)
PPM Committee	Project Portfolio Management Committee
PQTC	Québec public transit policy
SAEIV	Vehicle scheduling control and passenger information system
SAP	*Systems, Applications, and Products for data processing*
SAP BI	SAP Business Intelligence module
SAP IM	SAP Investment Management module
SAP PM	SAP Plant Maintenance module
SAP PS	SAP Project System module
SCAD	Automatic data collection system
SIGEP	Integrated project management system
SIP	Police information system
SOFIL	Québec local infrastructure financing corporation *(Société de financement des infrastructures locales du Québec)*
STM	*Société de transport de Montréal*, Montréal's public transit corporation
UITP	International Association of Public Transport
UPSS	Universal Power Supply system

Appendix