EXPENDITURE BUDGET
2022 - 2023

ANNUAL MANAGEMENT PLANS FOR **PUBLIC INFRASTRUCTURE INVESTMENTS**

2022 - 2023

Votre gouvernement

Québec

EXPENDITURE
BUDGET
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2022-2023 Annual Management Plans for Public Infrastructure Investments

Legal Deposit − March 2022
Bibliothèque et Archives nationales du Québec

ISBN: 978-2-550-91428-0 (Online)

TERMS

ADDITION

Acquisition or construction of new infrastructure.

IMPROVEMENT

Increase in the service potential of existing infrastructure.

ENHANCEMENT

Increase in the government service offer through the addition of a new infrastructure or the improvement of an existing infrastructure.

ASSET MAINTENANCE DEFICIT (AMD)

Value of the work required to restore the physical condition of a specific structure to a satisfactory or better condition with the aim of protecting the health and safety of individuals, ensuring its continued use for its intended purposes, and reducing the likelihood of breakdown or counteracting physical wear and tear.

DISPOSITION

Alienation of a building, civil engineering structure or equipment by sale, transfer or disposal.

MAINTENANCE

Work of limited scope normally performed as part of an infrastructure's daily use. Asset maintenance does not include maintenance work.

SURPLUS BUILDING

Building owned by a public body for which no use, for the purpose of providing a government service, is planned.

INFRASTRUCTURE

Building, equipment or civil engineering structure that is part of the Government's service supply.

PLANNED INVESTMENT

Value of the financial contribution from the Gouvernement du Québec for a public infrastructure investment listed in the Québec Infrastructure Plan.

PROBABLE INVESTMENT

Probable cost of an investment from the Gouvernement du Québec for the government financial year that is ending.

ACTUAL INVESTMENT

Real cost of an investment from the Gouvernement du Québec for a government financial year that is closed.

ASSET MAINTENANCE

Value of the work required to keep an infrastructure in satisfactory or better condition with the aim of protecting the health and safety of individuals, ensuring its continued use for its intended purposes, and reducing the likelihood of breakdown or counteracting physical wear and tear.

INVENTORY MAINTENANCE

Ensure the sustainability of infrastructure by maintaining assets and addressing the asset maintenance deficit, as well as by replacing equipment and reconstruction of buildings or civil engineering works.

ADDRESSING THE ASSET MAINTENANCE DEFICIT

Investments (maintenance projects and envelopes) planned in QIP and specifically dedicated to reduce the AMD accounted for infrastructures included in the AMPI.

MAJOR PROJECT

Infrastructure project subjected to the Directive as its estimated cost is equals or exceeds $50.0 million dollars, or $100.0 million dollars in the case of roadway infrastructure project or public transit project. Furthermore, the Conseil du trésor may decide to consider as major any infrastructure project that it deems appropriate.

REPLACEMENT

Acquisition, construction or reconstruction of an infrastructure to replace an existing infrastructure that is usually at the end of its useful life, so as to ensure continuity in service delivery.

REPLACEMENT VALUE

Total investment required to build or acquire an infrastructure of the same dimensions and utility, with equivalent technical features, based on the construction techniques, building codes and materials or technical specifications in effect at the time of the estimate.

USEFUL LIFE

Time period during which an infrastructure or component should serve its intended purposes.

ACRONYMS

ACV	Air cushion vehicle
AMD	Asset maintenance deficit
AMPI	Annual Management Plans for Public Infrastructure Investments
ARTM	Autorité régionale de transport métropolitain
BAnQ	Bibliothèque et Archives nationales du Québec
CCI	Culvert condition indicator
CERIU	Centre d'expertise et de recherche en infrastructures urbaines
CHA	Cultural Heritage Act
CHSLD	Residential and Long-Term Care Centres
CHU	Centre hospitalier universitaire
CHUM	Centre hospitalier de l'Université de Montréal
CISSS	Integrated Health and Social Services Centres
CIUSSS	Integrated University Health and Social Services Centres
CLSC	Local Community Services Centres
CRSSS	Regional Health and Social Services Centres
CSSS	Health and Social Services Centres
CTI	Centre de traitement informatique
FAAC	Fonds d'atténuation et d'adaptation en matière de catastrophes
FCI	Facility condition index
FCCQ	Building Canada Fund – Québec
FEPTEU	Clean Water and Wastewater Fund
FIMEAU	Fonds pour l'infrastructure municipale d'eau
GHG	Greenhouse gas
GIEES	Gestion des infrastructures de l'Éducation et de l'Enseignement supérieur
HLM	Habitation à loyer modique
HSSN	Health and Social Services Network
GCI	Government condition indicator
IBA	Integrated Bilateral Agreement
IRI	International Roughness Index
MACM	Musée d'Art contemporain de Montréal
MADA	Municipalité amie des aînés
MAMH	Ministère des Affaires municipales et de l'Habitation
MAOB	Mobilier, appareillage, outillage et bibliothèque
MCC	Ministère de la Culture et des Communications
MELCC	Ministère de l'Environnement et de la Lutte contre les changements climatiques
MEQ	Ministère de l'Éducation du Québec
MERN	Ministère de l'Énergie et des Ressources naturelles
MES	Ministère de l'Enseignement supérieur
MFFP	Ministère des Forêts, de la Faune et des Parcs
MNBAQ	Musée national des beaux-arts du Québec
MSSS	Ministère de la Santé et des Services sociaux
MV	Motor Vessel
MTQ	Ministère des Transports

MUHC	McGill University Health Centre
NFCCQ	New Building Canada Fund – Québec
NPO	Non-profit organization
PAFFITC	Programme d'aide financière du Fonds pour l'infrastructure de transport en commun
PAGTCP	Programme d'aide gouvernementale au transport collectif des personnes
PAGITC	Programme d'aide gouvernementale d'infrastructures en transport collectif
PCEM	Equipment and furniture conservation plan
PCFI	Real estate conservation and functionality plan
PIQM	Programme d'infrastructures Québec-Municipalités
QIP	Quebec Infrastructure Plan
PRABAM	Programme d'aide financière pour les bâtiments municipaux
PRAFI	Programme de résilience et d'adaptation face aux inondations
PRIMADA	Programme d'infrastructures Municipalité amie des aînés
PRIMEAU	Programme d'infrastructures municipales d'eau
NPHP	Non-Profit Housing Program
RBQ	Régie du bâtiment du Québec
RÉCIM	Réfection et construction des infrastructures municipales
RRSSS	Regional board of health and social services network
RSSCE	Réseau stratégique en soutien au commerce extérieur
RTC	Réseau de transport de la Capitale
RTL	Réseau de transport de Longueuil
SHQ	Société d'habitation du Québec
SODEC	Société de développement des entreprises culturelles
SOFIL	Société de financement des infrastructures locales du Québec
SPDAM	Société de la Place des Arts de Montréal
SQI	Société québécoise des infrastructures
STL	Société de transport de Laval
STLévis	Société de transport de Lévis
STM	Société de transport de Montréal
STO	Société de transport de l'Outaouais
STQ	Société des traversiers du Québec
STTR	Société de transport de Trois-Rivières
STS (Saguenay)	Société de transport du Saguenay
STS (Sherbrooke)	Société de transport de Sherbrooke
TECQ	Programme de la taxe sur l'essence et la contribution du Québec
TIM	Techniques d'intégration multimédia
UAB	Utilisation de l'accotement par les autobus

Annual Management Plan for Public Infrastructure Investments 2022-2023

AFFAIRES MUNICIPALES ET HABITATION

INFRASTRUCTURE MANAGEMENT

MINISTÈRE DES AFFAIRES MUNICIPALES ET DE L'HABITATION

VISION

The MAMH vision is to ensure consistent and innovative public actions that favour dynamic and resilient communities.

ORIENTATIONS

The MAMH mission is to support municipal administration, housing and sustainable planning, development and occupancy of the territory in the public's best interests.

By making a significant contribution to funding the maintenance, restoration and construction of municipal infrastructure in Québec, the MAMH is helping to ensure the sustainability of this infrastructure, address important environmental and health and safety issues for communities, improve the quality of life of these communities and thereby increase their resilience, particularly in the face of climate change.

RESPONSIBILITIES

MAMH

The MAMH administers financial assistance programs and initiatives[1] to meet the priority needs of municipalities in terms of infrastructure. These focus mainly on water and sewer infrastructure, municipal buildings and resilient infrastructure. On the one hand, the MAMH must ensure that projects selected to receive financial assistance comply with the approved normative frameworks and, on the other hand, it must prepare the accountability report of expenditures related to government investments.

As part of the water and sewer infrastructure programs, the MAMH also supports smaller municipalities in developing more complex projects in order to steer them toward both plausible and cost-effective solutions to achieve the desired results.

MUNICIPALITIES

As infrastructure owners, the near 1,100 municipalities of Quebec are responsible for building, servicing, maintaining, operating and funding their infrastructure projects, including complying with the applicable laws, standards and regulations.

Accordingly, municipalities are responsible for evaluating and documenting the condition of their infrastructure, defining their needs and planning interventions and investments to ensure optimal maintenance of their infrastructure. They must therefore manage their assets appropriately based on the level of service sought, including the periodic update of data on their infrastructure portfolio and the implementation of an investment strategy.

[1] The principal infrastructure-related financial assistance programs and initiatives are listed in Appendix 1.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

Municipalities have a diverse infrastructure portfolio. While the 2022-2023 AMPI only presents the conditions of the water and sewer infrastructure as well as the roadways above the drinking water and wastewater pipes, the portfolio also includes the management of roadways, waste, administrative services, fire departments, sports and recreation, cultural and community infrastructure, in addition to resilient infrastructure.

WATER AND SEWER INFRASTRUCTURE AND ROADWAYS OVER THE PIPES

The municipal water and sewer infrastructure portfolio consists of collection facilities, drinking water and wastewater pipes, drinking water treatment plants, reservoirs, pressure control stations, retention ponds, wastewater treatment plants, pumping stations, overflow facilities and roadways above the pipes. The information available to the MAMH with regards to the condition of this infrastructure comes from the results of work carried out by the CERIU in producing the *Portrait des infrastructures en eau des municipalités du Québec*[2]. Details regarding the methods for collecting data and assessing the condition are presented in Appendix 2.

OTHER MUNICIPAL BUILDINGS

Other municipal buildings for which the MAMH also grants financial assistance to municipalities include:

- Administrative offices;
- Fire stations;
- Garages and warehouses, including abrasive shelters;
- Community centres and halls.

The MAMH does not currently have information regarding the condition of these infrastructures. However, starting in 2022, the MAMH intends to undertake a process to determine the condition of other municipal buildings in Québec municipalities. An overview should be available no later than 2025.

RESILIENT INFRASTRUCTURE

Resilient infrastructure allows municipalities to mitigate some of the risks associated with climate change impacts. For example, flood protection structures such as retention ponds and dikes can limit the probability of flooding in a sector located in a flood zone.

In particular, the MAMH *Plan de protection du territoire face aux inondations* is intended to provide a better framework for municipal practices in land use planning, risk management and maintenance of resilient infrastructure.

The MAMH currently does not have information regarding the condition of these infrastructures. However, as part of the *Plan de protection du territoire face aux inondations* deployment, a budget has been earmarked to inventory and locate flood protection structures in Québec municipalities. Ultimately, this inventory will show a picture of the infrastructure's condition and the application of standards with respect to monitoring and maintaining these structures. In addition, knowledge of their condition will help guide stakeholders in planning investments in terms of resilient infrastructure as well as direct interventions in the territory. This overview should be available in 2022.

[2] This report can be found at : Rapport annuel 2021 du Portrait des infrastructures en eau des municipalités du Québec | CERIU

Infrastructure inventory[1]
By Infrastructure Type and Category

	Average Age[2] (years)	Quantity			Measurement[3] (km)		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Real Estates							
Non-linear Infrastructures							
Drinking water supply and production facilities	42	4,012	4,213	201	N/A	N/A	N/A
Water treatment facilities	30	5,587	5,689	102	N/A	N/A	N/A
Total – Real Estates		**9,599**	**9,902**	**303**	**N/A**	**N/A**	**N/A**
Civil Engineering Works							
Linear infrastructures							
Drinking water pipes	40	N/A	N/A	N/A	44,025	44,078	53
Wastewater pipes	41	N/A	N/A	N/A	35,158	35,406	248
Storm water pipes	34	N/A	N/A	N/A	18,646	18,862	216
Roadways above pipes	N/A	N/A	N/A	N/A	40,330	40,328	(2)
Total – Civil Engineering Works		**N/A**	**N/A**	**N/A**	**138,159**	**138,674**	**515**

1 Data as at November 30, 2021. Figures are rounded and the sum of the amounts may not correspond to the total indicated.
2 The average age is that of the infrastructure of consulted municipalities, which is 865 municipalities for linear infrastructures and 884 municipalities for non-linear infrastructures.
3 The sizes provided are estimates for all Québec based on a partial report.

Variation in Inventory

The variation in inventory compared to the 2021-2022 AMPI is mainly due to the larger sample of municipalities consulted by the CERIU in preparing the *Portrait des infrastructures en eau des municipalités du Québec*, to present a more accurate overview for all of Québec. The sample was increased by 26 for linear infrastructure and 16 for non-linear water facilities for a total of 865 and 884 municipalities consulted respectively.

INFRASTRUCTURE SUSTAINABILITY

MUNICIPALITIES

Infrastructure Conditions By Infrastructure Type and Category

	Government Condition Indicator[1] (GCI) (%)					
	A	**B**	**C**	**ABC**	**D**	**E**
Real Estates						
Non-linear Infrastructures						
Drinking Water Supply and Production Facilities[2]	26	47	14	87	6	7
Water Treatment Facilities[3]	30	38	28	96	3	1
Total – Real Estates	**28**	**42**	**22**	**92**	**4**	**4**
Civil Engineering Works						
Linear Infrastructures						
Drinking Water Pipes	21	30	38	89	8	3
Wastewater Pipes	55	25	8	88	4	8
Storm Water Pipes	65	27	3	95	2	3
Roadways Above Pipes	23	18	16	57	15	28
Total – Civil Engineering Works	**39**	**25**	**17**	**81**	**8**	**11**
Total – Infrastructures	**37**	**27**	**18**	**82**	**8**	**10**

1 These percentages are weighted by infrastructure replacement value.
2 Ninety-four percent of the 4,213 drinking water supply and production facilities are estimated to be in satisfactory or better condition (GCI of ABC), which represents 87 percent of the replacement value.
3 Ninety-five percent of the 5,689 water treatment facilities are estimated to be in satisfactory or better condition (GCI of ABC), which represents 96 percent of the replacement value.

Objectives

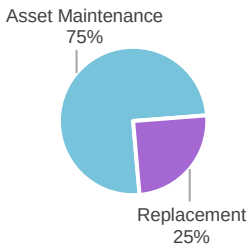
The MAMH financial assistance programs for municipalities are essentially intended to help carry out priority work to maintain, renew and build municipal infrastructure that provides quality basic services and meets the public's needs. As part of its investment programs, the MAMH has therefore set the following objectives:

- Replace or improve municipal infrastructure that is in vulnerable condition or has significant issues;
- Keep municipal infrastructure that contributes to the public's quality of life safe and operational;
- Ensure that municipal infrastructure is brought up to standard so that it complies with applicable regulations, including those related to the environment;
- Provide municipalities with infrastructure that allow them to offer basic services to their residents;
- In-built environments, make people safe and protect property from the hazards of climate change, including flood risks.

Furthermore, the MAMH has adopted an indicator in its 2019-2023 Strategic Plan to measure municipalities' completion rate of infrastructure projects under the QIP, namely achieving the 88 percent target in 2022-2023.

Infrastructure Maintenance Investments[1] in the 2022-2032 QIP
(contribution by the Gouvernement du Québec, in millions of dollars and as a percentage)

	Municipalities	%
Infrastructure Maintenance		
Asset Maintenance	4,839.9	**75**
Replacement	1,599.1	**25**
Total	**6,439.0**	**100**



1 Investments presented are for all MAMH-funded municipal infrastructure (waterworks, sewer and other municipal buildings).

Investment Strategy

The MAMH investment strategy is achieved through the development and implementation of financial assistance programs to:

- Meet municipalities' priority needs so they can maintain the basic services provided by their water and sewer infrastructure, thereby contributing to the quality of life of their citizens;
- Support the municipal community in the implementation of flood-resilient developments;
- Allow municipalities to take charge of the cumulative AMD for their infrastructure;
- Prioritize projects that ensure regulatory compliance and address important public health and safety issues;
- Ensure transparent and fair treatment of financial assistance applications from municipalities;
- Require municipalities to carry out, by their own financial means, a minimum number of interventions on their own water infrastructure, without resorting to government subsidies.

The MAMH will revise the terms and conditions and envelopes of the programs, subject to the necessary approvals, to adapt them to changing infrastructure conditions, investment needs and applicable regulations. New funding initiatives can also be developed to address new realities, such as climate change adaptation.

The MAMH financial assistance programs also provide additional financial support to smaller municipalities to help them carry out their investment projects, since they often have major needs but limited financial resources.

WATER AND SEWER INFRASTRUCTURE AND ROADWAYS OVER THE PIPES

In the process that led to the production of the *Portrait des infrastructures en eau des municipalités du Québec*, the CERIU collected data from municipalities regarding the condition of their water and water tretment infrastructure and roadways over the pipes. Once completed, this overview pinpoints the priority needs of municipalities that will require investment in the coming years. The MAMH takes these priority needs into account in its financial assistance programs and investment priorities.

The overview also indicates that 18% of the water and sewer infrastructure and roadways over the pipes in Québec municipalities are in poor or very poor condition (GCI of D or E) and will require significant investments to be restored to good condition (GCI of A, B or C). Furthermore, special attention must be paid to the significant number of ageing infrastructures with a moderate risk of breakdown (GCI of C).

In addition to the requirements for restoring the infrastructure portfolio to good condition, municipalities are required to upgrade their water and sewer infrastructure to comply with the regulation *(Regulation respecting the quality of drinking water* and *Regulation respecting municipal wastewater treatment works*).

OTHER MUNICIPAL BUILDINGS

The plan to provide an overview of the other municipal buildings over the next three years will support planning investments in this infrastructure and track how the investments impact their condition. Once completed, such an overview will also better equip municipalities to develop, maintain or enhance their investment strategy for this infrastructure.

RESILIENT INFRASTRUCTURE

Regarding flood risk prevention measures, the MAMH established, in 2021, 10 project offices covering most of the territory at risk of flooding. These will make it possible to target the most promising interventions at the watershed level. By 2023, the project offices will produce intervention plans, together with local stakeholders, departments and bodies concerned. These plans will allow project offices to prioritize and coordinate investments by watershed.

The Plan aims to consolidate and disseminate official information concerning the presence of a flood-risk area on the territory and represent it in relation to the Québec land register. Ultimately, this involves, for example, identifying and locating flood protection works. This information will be updated as flood risk maps are produced and can guide financial assistance programs and investment priorities in accordance with the intervention plans of project offices.

SITUATION

Investments[1] Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Municipalities						
2020-2021						
Actual	148.6	–	167.5	**316.1**	172.1	**488.2**
Forecast	338.1	–	85.2	**423.3**	163.7	**587.0**
Difference	(189.5)	–	82.3	**(107.2)**	8.4	**(98.8)**
2021-2022						
Probable	192.1	–	286.3	**478.4**	249.1	**727.5**
2022-2023						
Forecast	211.9	–	324.2	**536.1**	449.5	**985.6**

[1] Investments listed concern all municipal infrastructures subsidised by the MAMH (drinking and wastewater pipes and other municipal buildings).

ADDITIONAL INFORMATION

Differences Between Planned and Actual Investments

MAMH funding to support municipal infrastructure investments made in 2020-2021 amounted to $488.2 million, just slightly less than the planned investments for the corresponding period, which was $587.0 million. This difference is largely explained by the postponement of the completion of certain major asset maintenance projects, mainly due to their complexity and the multiple constraints caused by the pandemic. However, municipalities prioritized less complex projects, such as pipe replacement.

Planned and Probable Investments

The investments provided for in the QIP by the MAMH are made according to the municipalities' work planning and capacity to carry out the work. Since the MAMH does not own or manage the infrastructure projects it subsidizes, it has no control over the pace at which municipalities make investments. However, in a normal context, MAMH's investment forecasts take these factors into account and aim to be as probable as possible.

For the current year, probable investments are expected to total $727.5 million, and those planned for 2022-2023 are estimated at $985.6 million. This significant increase compared to 2020-2021 is mainly due to the increase in the 2019-2023 TECQ program envelope of $991.5 million, made up of equal shares from the governments of Québec and Canada. Announced in the summer of 2021, this allocation must be used by December 31, 2023. These investments are intended to support municipal water infrastructure projects such as projects to build, repair or upgrade drinking water and water treatment facilities to standards, or to rehabilitate water infrastructure. In addition to these water infrastructure projects, investments are also planned for the realization of certain projects for other municipal buildings, for seniors and for cultural, community, sports or recreational purposes, as well as for resilient infrastructure to deal with the impacts of climate change, in particular risks related to flooding.

MAMH investments for the current year and those planned for 2022-2023 will contribute to the completion of many major projects, including the following:

- Jean-R.-Marcotte wastewater treatment plant, disinfection unit – Montréal – Construction;
- Rockfield, Lavigne, Leduc et William wastewater retention ponds – Montréal – Construction;
- Wastewater treatment plant – Saint-Hyacinthe – Repairs;
- Renewal of a main –- Rimouski;
- Renewal of pipes– Sherbrooke.

Change in the Infrastructure Conditions By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)		
	AMPI		Variation	AMPI		Variation
	2021-2022	2022-2023		2021-2022	2022-2023	
Real Estates						
Non-linear Infrastructures						
Drinking Water Supply and Production Facilities	5	6	1	8	7	(1)
Water Treatment Facilities	6	3	(3)	1	1	0
Total – Real Estates	**5**	**4**	**(1)**	**4**	**4**	**0**
Civil Engineering Works						
Linear Infrastructures						
Drinking Water Pipes	9	8	(1)	4	3	(1)
Wastewater Pipes	5	4	(1)	7	8	1
Storm Water Pipes	2	2	0	3	3	0
Roadways Above Pipes	14	15	1	28	28	0
Total – Civil Engineering Works	**8**	**8**	**0**	**12**	**11**	**(1)**
Total – Infrastructures	**7**	**8**	**1**	**11**	**10**	**(1)**

[1] These percentages are weighted by infrastructure replacement value.

ADDITIONAL INFORMATION

Changes in Condition

The evolution of water infrastructure in poor (GCI of D) and very poor (GCI of E) condition is based on the work and data compiled by the CERIU as part of the annual update of the *Portrait des infrastructure en eau des municipalités du Québec*. The proportion of infrastructure in poor and very poor condition for the period covered by this AMPI includes a greater number of observations than the previous period (addition of pipe and roadway condition data from 26 additional municipalities) and takes into account the natural deterioration of water infrastructure, as well as more detailed data updates from several municipalities as of November 30, 2021.

Compared to the previous period, the condition indicators remained stable overall for all municipal water infrastructure assets. There has been a decrease in the proportion of water treatment facilities in poor condition (GCI of D) primarily because of an improvement in the overall condition of some major facilities.

APPENDIX 1

MAMH FINANCIAL ASSISTANCE PROGRAMS

The MAMH financial assistance programs offer financial support to Quebec municipalities to enable them to offer and maintain basic services for their residents. The investments can also help improve communities' quality of life and their environment. The MAMH uses various formal and informal mechanisms to consult municipalities, which helps to evaluate whether the programs meet their needs. Several programs are adjusted to take into account the fact that, because of their limited financial capacity and sparse, dispersed population, small municipalities often have trouble making the investments necessary to upgrade their basic infrastructure and bring it up to standard.

Rules and standards that the Conseil du trésor approves regulate the terms and conditions of the programs. These standards and other existing administrative procedures guide how the MAMH selects projects. The MAMH prioritizes projects focusing on regulatory compliance (*Regulation Respecting the Quality of Drinking Water* and *Regulation Respecting Municipal Wastewater Treatment Works*), and problems related to sanitation and public health. The assistance is also intended to keep municipal infrastructure that contributes to the quality of life of the public in operation. To that end, the MAMH prioritizes eliminating the accumulated deficits in these infrastructures.

The following MAMH-administered programs support municipal infrastructure projects.

MAMH Programs that Offer Funding Solely from Québec

Such programs change according to the needs of the municipalities and the investments authorized under the QIP:

- PRIMEAU: the purpose of this program is to help municipalities carry out projects to build, repair or expand drinking water and water treatment infrastructure, as well as other projects to renew water and sewer pipes;
- RÉCIM: this program offers assistance to municipalities with limited financial capacity, to enable them to carry out work to resolve infrastructure-related problems. This program covers administrative offices (city halls, borough offices), fire stations, municipal garages and warehouses, and community centres;
- PRIMADA: this program provides financial support for municipalities that have adopted policies for seniors and the MADA action plan to carry out small construction, repair or expansion projects on infrastructure used by seniors;
- PRABAM: this program provides municipalities with a population of 5,000 or less with financial support to enable them to quickly carry out work on their municipal buildings in the context of economic recovery. It applies to infrastructure like city halls, fire stations, municipal garages, warehouses and community centres;
- PRAFI: this program supports municipalities in implementing resilient developments to protect the public from flooding and reduce flood-related damage to buildings;
- PIQM: adapted to the needs of municipalities, this program provides funding to perform work on several categories of infrastructure.

APPENDIX 1
(continued)

In 2021, the MAMH increased the envelope of the RÉCIM program by $81.9 million (bringing the total envelope to $370.9 million), that of PRIMADA by $30.0 million (bringing the total budget of $49.0 million), in addition to implementing PRABAM, which has a budget of $90.0 million.

MAMH Programs that Offer Funding from Québec and Canada

The following programs stem from specific agreements between the Quebec and federal governments.

- TECQ: the program allows for the transfer to Quebec municipalities of part of the revenue from the federal excise tax on gasoline and the Gouvernement du Québec contribution to the realization of work related to drinking water, wastewater, local road networks and other types of infrastructure. Under the TECQ, all eligible project expenditures are fully refundable. The current funding phase is for the 2019-2023 period;
- NFCCQ, Small Communities Fund components: this program offers municipalities with fewer than 100,000 residents financial support to maintain and upgrade water infrastructure, cultural, tourism, recreational and sports infrastructure, and local and regional airports;
- FCCQ, Communities, Large Urban Centres, Major Projects components: this program seeks to provide municipalities with water infrastructure to enhance drinking water services for the public or reduce the harmful effects of wastewater on the environment and on public health. It also seeks to provide communities or regions with service infrastructure that contributes, by way of an example, to their cultural, economic, sports or tourism development;
- FEPTEU: This program supports projects involving drinking water and water treatment infrastructure in an economic recovery effort;
- FIMEAU: this program stems from the implementation of the Integrated Bilateral Agreement's Green Infrastructure component for the Investing in Canada Infrastructure Program. It funds work to build, repair, expand or add municipal drinking water and water treatment infrastructure.

In 2021, the MAMH increased the envelope of the TECQ 2019-2023 program by $991.5 million (bringing the total envelope to $4,4 billion).

For Canada-Québec programs, the MAMH manages agreements with the Government of Canada.

Other Initiatives Offering Financial Assistance from Quebec and Canada

FAAC: federal program that has been delegated to MAMH to manage selected municipal projects. The Gouvernement du Québec has set aside funds in the QIP to financially contribute to projects resulting from the 2017 and 2019 floods. It targets projects that enable municipalities to mitigate the effects of natural disasters with adaptation measures. The funding from the governments requires order in council approvals.

Closed Programs

The PIQM, NFCCQ, FCCQ, FEPTEU and FIMEAU programs are closed to new applications for subsidies but projects that have already received a confirmation of financial assistance are being maintained.

Moreover, projects financed by these programs are subject to audits by the MAMH or an external auditor. The purpose of these audits is to give the MAMH the assurance that the terms and conditions of the programs have been met by the municipalities and allow for the disbursement of the financial assistance.

APPENDIX 2

SUPPLEMENTARY INFORMATION - MUNICIPAL WATER AND SEWER INFRASTRUCTURE

The CERIU has collected data from Quebec municipalities, which enabled it to structure and consolidate its knowledge of municipal water infrastructure since 2014. The CERIU project is being carried out in collaboration with key interveners in the municipal sector.

Almost 930 Québec municipalities are served by a water system. The inventory of the linear infrastructure portfolio is based on data from 865 municipalities, which represents 99% of the total population served and 93% of the municipalities in Québec that have a linear water infrastructure. The inventory of water facilities is based on data from 884 participating municipalities, since they are representative of the water infrastructure network.

Appendix 1 of the 2021 CERIU report on the *Portrait des infrastructures en eau des municipalités du Québec* lists the participating municipalities[3].

Data will continue to be collected and processed in the coming years to maintain a current, more comprehensive and representative picture of the condition of Quebec's municipal water infrastructure, in line with government guidelines.

Methodology

Since the MAMH does not own the water infrastructure, the inventory and evaluation report is based on data available from and provided by the municipalities. In this respect, in the absence of inspections or specific diagnoses, missing data have been estimated according to the most convincing information accessible, including the number of breakdowns and the infrastructure's remaining useful life. This methodology makes it possible to determine a realistic condition indicator for the purposes of the AMPI, which can be used to plan investments and monitor the effects of investments on changes in infrastructure condition.

Data collection

The CERIU has compiled most of the data on civil engineering works from the *Plan d'intervention pour le renouvellement des conduites d'eau potable, d'égouts et des chaussées*, whose purpose is to identify priority work to be carried out by the municipalities. To obtain information about the water facilities (non-linear infrastructure), the CERIU created a special form, which the participating municipalities were asked to complete. It should be noted that all of the data (condition, replacement value, etc.) has been provided by the municipalities to the best of their knowledge and the quality of this data will improve in the years to come. The CERIU then confirmed the information it obtained, standardized the nomenclature and drew up estimates for any missing data.

Evaluation of infrastructure conditions

The CERIU evaluation of the physical condition of civil engineering works was conducted by modelling the network based on data from inspections and detailed analyses. Segments that were not inspected or that did not have breakdown or inspection logs were assessed based on their remaining theoretical useful life. In that specific instance, the evaluation reflects a theoretical condition based on a risk of age-related breakdown.

[3] This report can be found at : Rapport annuel 2021 du Portrait des infrastructures en eau des municipalités du Québec | CERIU

APPENDIX 2
(continued)

For non-linear infrastructure, such as treatment plants and pumping stations, the assessment is based on a new detailed form completed by municipalities. On this form, municipal respondents are asked to rate the condition of key components of their water facilities on a scale of 1 (very good) to 5 (very poor). This evaluation therefore represents the opinion of the municipal respondents on the overall condition of the components of these facilities, rather than a physical condition based on a list of work arising from an inspection.

The condition indicator percentages (A / B / C / D / E) are weighted according to the replacement value.

It is important to note that the condition indicators presented reflect only the current functional condition and do not take into account any modifications or upgrades required to meet new requirements under the *Regulation respecting the quality of drinking water* or the *Regulation respecting municipal wastewater treatment works*.

Inspection and Data Update

Creating a comprehensive portrait of Quebec municipalities' water infrastructure is a major project that will span several years and be continually updated. The project requires municipality cooperation, particularly with respect to data collection to ensure an accurate overview of their infrastructure over time.

Continuation of this project requires a data update. Therefore, municipalities have been invited, each year, to forward updated versions of their intervention plans to rehabilitate drinking water and sewer pipes and roadways, together with a new version of the form pertaining to their non-linear assets. The updates are sent after inspecting their infrastructure or completing work.

The CERIU also plans to include some projects subsidized by the MAMH in its report each year, as the municipalities send in their related reports. In its 2021 report, the CERIU included work to rehabilitate water pipes carried out by 472 municipalities between 2015 AND 2020 under the MAMH's 2014-2018 TECQ, FEPTEU, PRIMEAU component 2, PIQM sub-component 1.5, and NFCCQ-FPC subsidy programs, as well as updated data from 70 municipalities, including five cities with more than 100,000 residents.

The condition of linear infrastructure for all of the municipalities listed in the 2021 CERIU report entitled *Portrait des infrastructures en eau des municipalités du Québec* was evaluated between 2015 and 2021. A more accurate overview will be drawn up every five years once all municipalities have submitted updated intervention plans. Until then, the data update for large urban centres, which make up over 50% of the asset value, will continue. Non-linear infrastructure will continue to be re-evaluated on an annual basis using the various, more precise forms developed for this purpose.

The AMPI for subsequent years should provide a more accurate description of the change in condition of each infrastructure category as the data bank will be updated and knowledge of infrastructure condition will be enhanced.

INFRASTRUCTURE MANAGEMENT

SOCIÉTÉ D'HABITATION DU QUÉBEC

VISION

The SHQ vision is to be recognized as a reference on housing in Québec and for its expertise and its public services. The values that guide the SHQ in all its activities and support its delivery of public services are:

- Quality of public services;
- Innovation;
- Consistency;
- Collaboration with partners.

ORIENTATION

To fulfill its mission of meeting the housing needs of Quebecers through an integrated and sustainable approach, the SHQ adopted the following orientations for the infrastructures under its responsibility, as outlined in its 2021-2026 Strategic Plan:

- Innovate their business approach to improve the quality of service delivery to citizens.

RESPONSIBILITIES

The SHQ is under the responsibility of the MAMH and is the main government body responsible for housing in Québec. Under its constituting Act, the SHQ is responsible for:

- Make low-rent housing available to Quebecers;
- Facilitate home ownership for Quebecers;
- Promote home improvement;
- Inform the Minister on the requirements, priorities and objectives of all housing sectors.

The SHQ develops and implements various programs to support bodies such as housing bureaus, co-operatives or housing NPOs. The SHQ favours an approach that grants significant autonomy to bodies within a result and risk-based management framework. This approach principally confers the SHQ a supervisory, support and quality control role.

More specifically, the SHQ administers the NPHP, a program which aims to support low-income households selected according to their socio-economic status. As part of implementing the NPHP, the SHQ ensures that Québec's social housing complexes are kept in good condition. To ensure the quality and sustainability of the entire HLM housing network, the SHQ makes no distinction between the housing complexes it owns directly and those owned by other bodies subsidized under the NPHP.

The NPHP has four components:

- **HLM public regular**: buildings owned and managed by the SHQ or by a housing bureau;
- **HLM public — Inuit**: buildings owned by the SHQ or the Kativik Municipal Housing Bureau and managed by the latter. Added to this are two health care centres (Inuulitsivik and Tulattavik);
- **HLM private – Autochtones outside reserve :** buildings owned by Habitation Métis du Nord, except three that belong to the SHQ and are managed by Corporation Waskahegen;
- **HLM private regular:** privately owned buildings managed by co-operatives or housing NPOs.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The building portfolio belonging to the SHQ is comprised of 3,754 buildings for a total of 45,258 low-rent housing units:

- 2,445 for the public regular component;
- 1,306 for the Public Component — Inuit;
- 3 for the private component – Outside reserve.

BODIES SUBSIDIZED BY THE SHQ

RESPONSIBILITIES

Since they own their buildings, the bodies subsidized by the SHQ are responsible for construction, maintenance, asset maintenance, operation and financing, including ensuring they comply with applicable regulations.

Bodies subsidized by the SHQ are charged with evaluating and documenting the condition of their infrastructure in the "building health" report, for defining needs and for managing their assets appropriately to ensure the quality and sustainability of the HLM under their responsibility.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The building portfolio belonging to bodies subsidized by the SHQ is comprised of 3,831 buildings for a total of 27,664 low-rent housing units:

- 1,989 owned by housing bureaus for the public regular component;
- 794 owned by the Kativik Municipal Housing Bureau under the Inuit - public component;
- 1,048 owned by co-operatives, housing NPOs and housing bureaus, including:
  - 398 for the private regular component;
  - 650 for the private component – Autochtones outside reserve.

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age[2] (years)	Number of Buildings			Number of Dwellings		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings Belonging to the SHQ							
Regular Public Component	38	2,465	2,445	(20)	43,479	43,479	0
Inuit Public Component	33	1,306	1,306	0	1,776	1,776	0
Regular Private Component Outside Reserve	31	3	3	0	3	3	0
Total – Buildings		**3,774**	**3,754**	**(20)**	**45,258**	**45,258**	**0**
Buildings Belonging to Bodies Subsidized by SHQ							
Regular Public Component	48	1,989	1,989	0	19,115	19,115	0
Inuit Public Component	10	779	794	15	1,638	1,690	52
Regular Private Component	31	398	398	0	4,984	4,984	0
Regular Private Component Outside Reserve	31	650	650	0	1,875	1,875	0
Total – Buildings		**3,816**	**3,831**	**15**	**27,612**	**27,664**	**52**

1 Data as at September 1, 2021 (2022-2023 AMPI) and September 1, 2020 (2021-2022 AMPI).
2 The average age is weighted in proportion to the number of dwelling units.

Variation in Inventory

Compared to the previous period, the building portfolio owned by the SHQ increased by 20 buildings, for a new total of 3,754. This variation is due to:

- Reconstruction of part of the Val-Martin housing complex in Laval. As part of this project, 23 buildings were demolished and three were rebuilt. The number of dwellings remained the same at 124 units.

Compared to the previous period, the building portfolio owned by bodies subsidized by the SHQ increased by 15 buildings, for a new total of 3,831. This variation is due to:

- The construction, under the Inuit public component, of 15 buildings that represent 52 dwelling units in the villages of Umiujaq, Salluit, Kuujjuarapik, Kangiqsujuaq and Kangiqsualujjuaq.

INFRASTRUCTURE SUSTAINABILITY

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit[3] ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings Belonging to the SHQ									
Regular Public Component	24	21	19	64	26	10	109.7	264.6	374.3
Inuit Public Component	70	18	3	91	4	5	4.0	15.0	19.0
Regular Private Component Outside Reserve[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total – Buildings	**32**	**20**	**17**	**69**	**22**	**9**	**113.7**	**279.6**	**393.3**
Buildings Belonging to Bodies Subsidized by SHQ									
Regular Public Component	26	18	15	59	23	18			
Inuit Public Component	81	2	2	85	11	4			
Regular Private Component	39	29	12	80	14	6		n.a.	
Regular Private Component Outside Reserve	46	36	13	95	5	0			
Total – Buildings	**38**	**18**	**13**	**69**	**19**	**12**			

1 Data as at September 1, 2021.
2 Percentages are weighted according to replacement values.
3 The asset maintenance deficit of the inspected infrastructure (an inspection rate of 96.5%) was extrapolated to the entire housing network in proportion to the number of dwellings.
4 The three buildings of the Outside Reserve private component belonging to the SHQ were not inspected.

Objectives

The investments and initiatives of the SHQ are intended to:

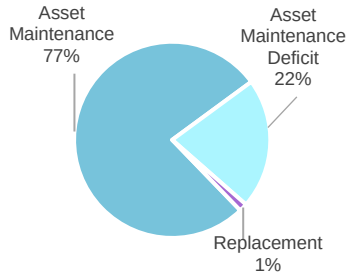
- Ensure performance on the part of bodies that deliver SHQ programs:
  - By March 31, 2026, 81% of the public HLM building inventory is in good condition based on GCI (GCI of A, B or C)[4].
- Establish conditions that ensure the quality and sustainability of the building inventory:
  - Complete at least $59.8 million of work intended to reduce the AMD by March 31, 2024.

4 Indicator under objective 2.1 (Ensure performance on the part of bodies that deliver SHQ programs) of the SHQ 2021-2026 Strategic Plan.

Inventory Maintenance Investments Listed in the 2022-2032 QIP

(contribution by the Gouvernement du Québec, in millions of dollars and as a percentage)

	Social and community housing	%
Infrastructure Maintenance		
Asset Maintenance	1,409.1	77
Asset Maintenance Deficit	393.3	22
Replacement	24.1	1
Total	**1,826.5**	**100**



Addressing the Asset Maintenance Deficit

Investment Strategy

The investment strategy for maintaining the building portfolio relies on knowledge of the state of its infrastructures and investment needs to ensure the health and safety of occupants and the sustainability of buildings. Consequently, the SHQ favours the priority interventions identified in building health reports, especially those that correct problems that could affect the health or safety of occupants and those associated with building structural integrity issues. At the same time, the SHQ emphasizes the completion of preventive work to extend the service life of infrastructure in good condition.

To respond adequately to the needs of the HLM housing network, the SHQ proceeds with an optimal allocation of the total budget available among the various NPHP components, considering especially priorities identified in the building health reports. Furthermore, the SHQ allocates a minimum budget envelope to bodies to ensure the maintenance their building assets. Based on the condition of buildings, additional investments are allocated to this envelope considering the asset maintenance needs identified during inspections and listed in the building health reports.

Furthermore, the SHQ reserves a portion of the available budget envelope for special projects. The budget devoted to special projects is the primary means of assuming the most significant asset maintenance deficits of the HLM housing portfolio. Special project requests presented are analyzed, prioritized and authorized by the SHQ. The budget for special projects for the coming year is $86.0 million.

Special Projects

A special project is a renovation project of $35,000 or more per dwelling unit affected, or that would demand drawing an excessive portion of the annual budget envelope allocated to the body for asset maintenance. Work completed as a special project must meet at least one of the following conditions:

- Be urgent considering the health and safety consequences for occupants and impossible to postpone in whole or in part;
- Be urgent considering the integrity of the building and impossible to postpone in whole or in part;
- Relate to the restoration of housing complexes with a GCI of D or E;
- Group interventions that must be completed at the same time and involve several building components;
- Arise from specific needs that involve work required for modernization, improvement or a mandatory upgrade.

SITUATION

Investments Listed in the QIP
By Type
(contribution by the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement[1]	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Société d'habitation du Québec						
2020-2021						
Actual	34.9	33.4	–	**68.3**	–	**68.3**
Forecast	63.3	19.6	–	**82.9**	–	**82.9**
Difference	(28.4)	13.8	–	**(14.6)**	–	**(14.6)**
2021-2022						
Probable	52.3	33.2	4.0	**89.5**	–	**89.5**
2022-2023						
Forecast	57.3	36.1	5.2	**98.6**	**–**	**98.6**
Bodies Subsidized by the SHQ						
2020-2021						
Actual	40.7	–	11.8	**52.5**	–	**52.5**
Forecast	53.1	–	–	**53.1**	–	**53.1**
Difference	(12.4)	–	11.8	**(0.6)**	–	**(0.6)**
2021-2022						
Probable	50.2	–	–	**50.2**	–	**50.2**
2022-2023						
Forecast	54.4	–	–	**54.4**	–	**54.4**

[1] Note that investments made under the AccèsLogis Québec program and for construction of some other private dwellings are not considered in AMPI because in those cases, the SHQ is not responsible for maintaining the infrastructure assets.

ADDITIONAL INFORMATION

The completion and follow-up of investment projects fall under the responsibility of housing bodies (housing bureaus, co-operatives or housing NPOs). Nonetheless, the SHQ imposes the inspection methodology, follows up on building health reports and performs quality control on these reports to ensure they are complete and representative of building states and needs. The SHQ can also accompany bodies to support them in completing their intervention projects.

Société d'habitation du Québec

Investments made in 2020-2021 by the SHQ for the buildings it owned totalled $68.3 million, i.e., $14.6 million more than initially planned. This difference is mainly due to the postponement of work due to constraints caused by the pandemic. In this context, the continuation of urgent and necessary work to ensure AMD management has been prioritized at higher than expected costs while several planned asset maintenance work projects had to be postponed.

Probable investments in 2021-2022 and planned in 2022-2023 for infrastructure maintenance total $89.5 million and $98.6 million, respectively. These investments will make it possible to complete the following work:

- Major repairs to the structure and envelope of three buildings in Québec City, including, among other things, stabilizing the foundations, repairs to the foundation slab, insulating the walls and replacing the lintels, balconies, doors and windows;
- Interior renovations, including renovating dwellings, enhancing the soundproofing, renovating the ventilation system and upgrading the fire alarm system and water lines of a building in Grosse-Île;
- Renovations to common areas and upgrades to fire separations in a building in Cowansville;
- Renovation of dwellings and common areas, elevator upgrades and envelope repairs on two buildings in Trois-Rivières;
- Replacement of the entire plumbing system in a building in Mont-Laurier;
- Repairs to the building envelopes, fire alarm systems, firebreak partitions and mechanical systems (plumbing and ventilation) of various buildings;
- Repairs to kitchens and bathrooms in various buildings.

Bodies Subsidized by the SHQ

Investments made in 2020-2021 concerning financial aid the SHQ granted to bodies subsidized amounted to $52.5 million, $0.6 million less than that initially planned in the 2020-2030 QIP. The deferral of planned asset maintenance work resulting from the shutdown of construction sites during the pandemic is reflected in the lower than anticipated results of $12.4 million. However, the amount of $11.8 million in investments for the reconstruction of Office municipal d'habitation warehouses that was not included in the 2020-2030 QIP contributes to reducing this gap.

Probable investments in 2021-2022 and planned investments in 2022-2023 for infrastructure maintenance total $50.2 million and $54.4 million, respectively. These investments will make it possible to complete the following work:

- Replacement of a portion of the exterior wall, including the structure, and unstable balconies on two buildings in Lachute following water damage;
- Rehabilitation of the building envelope, including roofing, windows, exterior cladding, insulation and foundation waterproofing, as well as the replacement of balconies and foundation drain of a building in Saguenay;
- Renovation of dwellings, including kitchens and bathrooms, and replacement of heating units, as well as the addition of a backflow prevention device in a building in Lac-Etchemin;
- Rehabilitation of the mechanical and electrical systems and the envelope of a building in Daveluyville;
- Refurbishment of the mechanical ventilation systems and electrical systems and upgrade of the fire alarm system of a building in L'Épiphanie;
- Repairs to the building envelopes, fire alarm systems, firebreak partitions and mechanical systems (plumbing and ventilation) of various buildings;
- Dwelling unit modernization.

Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022	2022-2023		2021-2022	2022-2023						
Buildings belonging to the SHQ											
Regular Public Component	21	26	5	6	10	4	235.1	48.4	116.7	(25.9)	374.3
Inuit Public Component	6	4	(2)	3	5	2	14.3	3.0	2.4	(0.7)	19.0
Regular Private Component Outside Reserve[2]	N/A	N/A	n.a.	N/A	N/A	n.a.	N/A	n.a.	n.a.	n.a.	N/A
Total – Buildings	**19**	**22**	**3**	**6**	**9**	**3**	**249.4**	**51.4**	**119.1**	**(26.6)**	**393.3**
Buildings Belonging to Bodies Subsidized by SHQ											
Regular Public Component	20	23	3	11	18	7					
Inuit Public Component	10	11	1	3	4	1					
Regular Private Component	14	14	0	5	6	1					
Regular Private Component Outside Reserve	5	5	0	0	0	0			n.a.		
Total – Buildings	**17**	**19**	**2**	**8**	**12**	**4**					

1 These percentages are weighted by infrastructure replacement value.
2 The three buildings of the Outside Reserve private component belonging to the SHQ were not inspected.

ADDITIONAL INFORMATION

Changes in Condition

The proportion of buildings in poor condition (GCI of D) and very poor condition (GCI of E) belonging to the SHQ and bodies subsidized by the SHQ increased in comparison of that presented in the 2021-2022 AMPI. This is primarily due to rising construction costs and pandemic-related constraints that resulted in the slowdown, postponement or revision of the scope and cost of repair work to be carried out on these buildings.

Changes in the AMD

Overall, the AMD increased by $143.9 million last year. This variation is mainly due to the following:

- The $51.4 million increase in the AMD arises from the natural deterioration caused by aging of buildings in the regular public component;
- The additional $119.1 million in new findings came from inspections of SHQ-owned buildings whose five-year cycle ended in 2021. It should be noted that 40% of buildings are generally inspected in the last year of a cycle;
- Work carried out on buildings in poor condition (GCI of D) and very poor condition (GCI of E) resulted in a $26.6 million reduction in the AMD listed. This work falls within the scope of an investment allocation strategy that targets buildings whose needs are the most urgent and for which the AMD is significant.

Appendix 1

ADDITIONAL INFORMATION

Inspection and Data Update

The SHQ plans to inspect all buildings every five years. In this regard, the fourth inspection cycle for the HLM inventory began on January 1, 2021. The current AMPI inspection rate is 96.5% (7,319 out of 7,585 buildings). Regarding the 266 uninspected buildings, 196 were built less than five years ago and were considered to be in good condition (GCI of A).

Methodology

Building inventories and inspections are completed during preparation of the building health reports. Each health report is prepared after an inspection to assess every component of the buildings and dwellings. Through this uniform and structured methodology, technical information is compiled on the components that could affect health and safety of individuals, building integrity, component operation or service availability. In addition, the condition of buildings can change between inspections following the update or addition of deficiencies that might eventually require work to be carried out. The SHQ uses the same inspection processes for its own buildings as for those belonging to the bodies it subsidizes.

The condition indicator percentages (A / B / C / D / E) are weighted according to the current replacement value. The AMD has been extrapolated based on the number of dwellings in the buildings inspected on the total number of dwellings.

CONSEIL DU TRÉSOR ET ADMINISTRATION GOUVERNEMENTALE

INFRASTRUCTURE MANAGEMENT

SOCIÉTÉ QUÉBÉCOISE DES INFRASTRUCTURES

VISION

To be Quebec's centre of expertise in managing public infrastructure, to offer innovative and sustainable solutions to all public bodies. To achieve this, the SQI has set out the following objectives:

- Plan a sustainable property portfolio through an exemplary focus on quality and the optimal use of resources;
- Build excellence by putting the best teams of infrastructure, project management and property management experts at the service of its clients;
- Develop trust by achieving its mission with rigour, integrity and transparency while applying best-governance practices.

ORIENTATION

To successfully carry out its mission, which consists of developing, maintaining and managing a building inventory that satisfies the needs of its clientele by making available buildings and premises, and also by providing construction, operation and management services, the SQI has, from the standpoint of the infrastructure under its responsibility, adopted the following orientation:

- Ensure the sustainability of public infrastructure for its clientele by establishing an appropriate balance between infrastructure maintenance investments and infrastructure enhancement investments.

RESPONSIBILITIES

The SQI is responsible for ensuring the sustainability of one of Quebec's largest building inventories. It must, therefore, maintain its properties in satisfactory condition to ensure their long-term physical and functional integrity. Moreover, it must meet the real estate needs of government departments and bodies by offering premises whose location, availability, quality and costs meet their expectations, and ensure optimum space occupation to minimize the vacancy rate and rigorously manage the government's rent bill.

To this end, the SQI prioritizes its investments according to building requirements, government policy directions and the investment capacity set by the government.

For sustainable development purposes, the SQI seeks to minimize energy consumption and climate change impacts on its buildings in a preventive manner while considering both the safety of occupants and the continuity of the government's essential missions.

As for the condition of buildings that it owns, the SQI is responsible for the regular inspection of components, maintenance and repairs, and the day-to-day operations necessary to ensure services for occupants, the safety of the premises and the sustainability of the buildings.

As part of its public infrastructure management framework, which was revised during 2021-2022, the SQI established the terms, conditions, and guidelines for planning and managing investments. This is intended to prioritize asset maintenance and improve the condition of infrastructure owned by SQI.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The SQI wholly owned real estate portfolio comprises 372 buildings and civil engineering works totalling more than 1.9 million square metres in area. It includes office buildings used for government administration, transportation centres, courthouses, detention facilities, Sûreté du Québec police stations and other specialized buildings, in particular, conservatories of music and dramatic art, laboratories, warehouses, and underground parking lots and tunnels.

Infrastructure Inventory[1, 2]
By Infrastructure Type and Category

	Average Age[3] (years)	Quantity			Measurement[4] (sq. m.)		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings							
Office Buildings	38	62	63	1	505,952	507,289	1,337
Transportation Centres	37	0	91	91	0	203,216	203,216
Courthouses	41	43	43	0	431,994	437,388	5,394
Detention Facilities	25	14	14	0	208,557	208,557	0
Sûreté du Québec Police Stations	27	74	75	1	171,442	173,309	1,867
Other Specialized Buildings	34	155	64	(91)	411,680	208,583	(203,097)
Non-rental and Surplus Buildings	58	4	4	0	3,304	3,304	0
Civil Engineering Works							
Parking Facilities and Tunnels	24	18	18	0	218,728	218,728	0
Total – Infrastructures	**34**	**370**	**372**	**2**	**1,951,657**	**1,960,374**	**8,717**

1 Data as at October 15, 2021.
2 The portfolio excludes emphyteutic leases, buildings under construction and rented buildings under capital leases, including the buildings at 3800 Rue de Marly, Québec City, and 1200 Boulevard Saint-Laurent, Montréal.
3 Average age represents the “effective” age of infrastructure assets. It refers to the age that an infrastructure shows (observed condition), taking into account such elements as the chronological age, work carried out and usefulness of the infrastructure.
4 Data pertaining to building dimension represent the leasable area, in compliance with the BOMA-96 standard. Non-rental buildings, parking lots and tunnels are measured according to gross area of the development. Variations might be caused by the update of leasable areas.

Variation in Inventory

In order to align the real estate inventory with investments planned in the QIP for government administration, the “Transportation centres” buildings category is now presented separately from “Other specialized buildings.” This approach makes it possible to, among other things, define an investment strategy that is better adapted to the condition of this category of buildings while respecting the specific needs of its clientele.

During 2021-2022, the SQI pursued the objectives of the Gouvernement du Québec’s real estate vision by acquiring one office building in Mauricie and completing a construction project for a new Sûreté du Québec police station in Saint-Georges en Beauce. The Palais de justice de Rimouski expansion project has also served to increase the surface area of the “Courthouses” category by more than 5,000 square metres to meet the functional needs of the occupying clients.

INFRASTRUCTURE SUSTAINABILITY

SOCIÉTÉ QUÉBÉCOISE DES INFRASTRUCTURES

Infrastructure Conditions and Asset Maintenance Deficit[1, 2] By Infrastructure Type and Category

	Government Condition Indicator[3] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings									
Office Buildings	11	6	29	46	41	13	34.9	163.2	198.1
Transportation Centres	10	27	26	63	21	16	11.3	48.3	59.6
Courthouses	41	10	5	56	38	6	215.6	51.2	266.8
Detention Facilities	36	40	0	76	0	24	–	147.3	147.3
Sûreté du Québec Police Stations	33	10	55	98	2	0	0.7	–	0.7
Other Specialized Buildings	65	5	10	80	19	1	21.0	1.7	22.7
Total – Rental Buildings	**32**	**15**	**18**	**65**	**25**	**10**	**283.5**	**411.7**	**695.2**
Non-rental and Surplus Buildings	2	6	0	8	0	92	–	16.8	16.8
Civil Engineering Works									
Parking Facilities and Tunnels	29	7	3	39	6	55	0.3	50.4	50.7
Total – Infrastructures	**31**	**15**	**18**	**64**	**25**	**11**	**283.8**	**478.9**	**762.7**

1 Data as at October 15, 2021.
2 The inventory excludes emphyteutic leases, buildings under construction and rented buildings under capital leases, including the buildings located at 3800 Rue de Marly, Québec City, and 1200 Boulevard Saint-Laurent, Montréal.
3 Percentages are weighted according to infrastructure replacement values.

Objectives

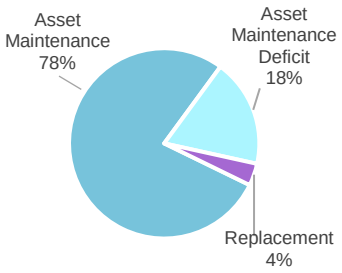
- Achieve a proportion of rental buildings in satisfactory condition (GCI of A, B or C) of 71% by March 2024;
- Carry out at least $150.0 million of work intended to reduce the AMD by March 2026[1];
- Reduce the environmental impact of the SQI's real estate portfolio by prioritizing certain maintenance work that will facilitate the optimization of energy consumption and decrease dependence on fossil fuels to meet the GHG emission reduction targets set by the 2030 Plan for a Green Economy. Across its entire building inventory, the government intends to reduce its GHG emissions 60% by 2030 compared with 1990 levels.

1 This objective does not take the natural deterioration of infrastructure into account, which will increase the cumulative AMD by March 2026.

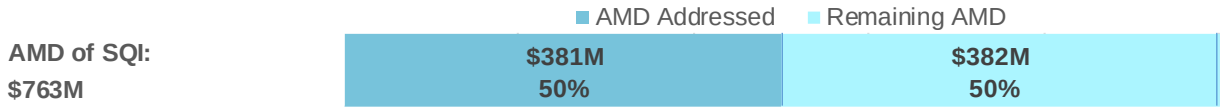
Infrastructure Maintenance Investments Listed in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	SQI	%
Infrastructure Maintenance		
Asset Maintenance	1,614.2	78
Asset Maintenance Deficit	381.1	18
Replacement	78.2	4
Total	**2,073.5**	**100**



Addressing the Asset Maintenance Deficit



Investment Strategy

The SQI investment strategy is based on best practices for building operation and workplace design, and is intended to keep the real estate portfolio under its responsibility in good condition. To this end, the SQI implemented various strategies to optimize infrastructure maintenance investments, such as grouping work on several sites into a single integrated project to optimize contractual management and thereby achieve economies of scale. In addition, building operation teams make it a priority to perform preventive maintenance in order to extend the useful life of assets and lessen the need for asset maintenance.

The current AMD assessed on SQI infrastructure amounts to $762.7 million. This AMD is high because of the advanced age of several major buildings with many components having reached the end of their useful life. To deal with this issue, the SQI first plans interventions on infrastructure in poor and very poor condition (GCI of D or E), so as to reduce their AMD and get them back to satisfactory condition (GCI of A, B or C). In the 2022-2032 QIP, planned infrastructure maintenance investments over the 10 year-period will make it possible to address $381.1 million of the AMD of $762.7 million (50%).

Investments intended to reduce the AMD will be achieved by, in particular:

- Work on building exteriors, such as curtain walls and the architectural components of certain office buildings and courthouses;
- Various upgrades, such as the replacement or addition of protection and life safety and assets systems and the replacement of cooling systems;
- Renovation work on certain detention facilities;
- Upgrades to mechanical and electrical components;
- Reconstruction of abrasive warehouses in several MTQ service centres that have reached the end of their useful life;
- Sale or demolition of surplus buildings with a significant AMD.

Since the level of annual investment made to reduce the cumulative AMD is currently below the rate of natural deterioration leading to the identification of new needs, major projects that will significantly reduce the AMD are currently being under study. Investments related to these projects should be planned progressively in future QIPs and will accelerate the objective of addressing the AMD of the SQI.

The SQI strategy also foresees using the majority of funds available in the QIP for asset maintenance investments in buildings in satisfactory or better condition so as to control their natural deterioration. These proactive and preventive interventions are generally less costly and more profitable over the long term than reactive and corrective interventions in response to findings that pose a risk to the health and safety of occupants. For example:

- Replace a roof at the end of its useful life on a building in overall good condition to reduce the risk of water penetration and deterioration of other components;
- Replace obsolete furnaces with innovative systems that reduce energy consumption and GHG emissions for a building in overall satisfactory condition.

Finally, the SQI also aims to increase its proportion of owned buildings to reduce the government's long-term rental expenses.

SITUATION

Investments Listed in the QIP

By Type

(contribution of the Gouvernement du Québec in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Société québécoise des infrastructures						
2020-2021						
Actual	69.5	20.5	5.2	**95.2**	112.4	**207.6**
Forecast	134.7	20.6	15.1	**170.4**	243.6	**414.0**
Difference	(65.2)	(0.1)	(9.9)	**(75.2)**	(131.2)	**(206.4)**
2021-2022						
Probable	87.9	21.3	19.0	**128.2**	104.3	**232.5**
2022-2023						
Forecast	114.2	32.8	24.0	**171.0**	167.8	**338.8**

ADDITIONAL INFORMATION

Investments in 2020-2021 totalled $207.6 million, which is 50% less than initially planned. This difference is primarily due to the delay and deferral of several projects in detention facilities and courthouses because of the pandemic, as well as certain specific issues:

- Major redevelopment of the Palais de justice de Saint-Hyacinthe, which cannot begin until occupants are temporarily relocated, has been postponed until the end of 2021-2022;
- Acquisition of buildings and Sûreté du Québec police stations has been delayed or cancelled;
- Repair work on the parking lot of the Marie-Guyart building in Québec City has been postponed;
- Expansion and repair of food service facilities at the Trois-Rivières detention facility is slightly behind schedule because of project approval delays;
- Work site closures at the start of the pandemic slowed the progress of projects and led to complex implementation conditions following the resumption of work.

The probable investments for 2021-2022 are slightly higher than investments made in 2020-2021, particularly for infrastructure maintenance projects. While the effects of the pandemic are still impacting the ability to carry out planned projects, efforts have been made to prioritize asset maintenance investment needs of the building portfolio.

Planned investments totalling $338.8 million in 2022-2023 will allow delayed and new projects to be carried out as to:

- Maintain existing infrastructure;
- Acquire buildings;
- Carry out major refitting of courthouses;
- Build new Sûreté du Québec police stations.

Infrastructure Maintenance

Planned investments to maintain the portfolio seek to carry out work required to ensure the long-term physical and functional integrity of the SQI real estate portfolio:

- The majority of asset maintenance investments essentially concern work related to compliance with codes, structures, building exteriors, escalators and elevators, and the integrity of mechanical and electrical systems of a building as well as its functionality;
- Investments on infrastructure in poor condition and, therefore, at high risk of failing are targeted when work is planned since they make it possible to reduce the cumulative AMD;
- Finally, investments in replacement target mainly the abrasive warehouses, transportation centres and modular buildings for detention facilities.

Most of the total infrastructure maintenance investments in 2020-2021 ($95.2 million) and probable investments in 2021-2022 ($128.2 million), pertain to specific projects, rehabilitation projects and compulsory upgrading to standards included in asset maintenance envelopes.

Among these, the following projects had a significant impact on reducing the AMD:

- Repair of the data processing centre roof at 1701 Rue Parthenais in Montréal, which reduced the AMD by more than $5.0 million;
- Repair on the garage roof at 600 Rue Fullum in Montréal, reducing the AMD by $1.5 million.

The SQI also completed the following significant asset maintenance projects:

- Repair of the parking lot of 10 Rue Pierre-Olivier-Chauveau in Québec City;
- Replacement of high-tension components at the Palais de justice de Montréal;
- Reconstruction of the La Tuque custody area;
- Modernization of the building automation systems at the Sureté du Québec Parthenais Street police station in Montréal;
- Construction of new abrasive shelters at the Gatineau, Latulipe-et-Gaboury, Lac-Etchemin and Sainte-Anne-des-Mont transportation centres;
- Repair of the Marie-Guyart building docking area.

Infrastructure maintenance investments planned for 2022-2023 totalling $171.0 million, will facilitate completion of several projects, including the following:

- Repair of parking lot slabs at the Palais de justice de Montréal, which will reduce the AMD by $18.2 million;
- Building exterior repairs at 1141 Route de l’Église in Québec City, reducing the AMD by $16.0 million;
- Replacement of main circuit breakers at 500 Rue de la Faune in Québec City, reducing the AMD by $4.3 million;
- Sealing the foundations of 835 Boulevard René-Lévesque Est in Québec City, which will reduce the AMD by $3.2 million;
- Repair of the building’s exterior envelope and replacement of windows at 850 Boulevard Vanier in Laval, reducing the AMD by $3.0 million;
- Restoration of the Gérard D.-Levesque building in Québec City;

- Replacement of temporary modular buildings that have reached the end of their useful life in detention facilities in Québec City, Sherbrooke and Trois-Rivières;
- Refitting of food service facilities at the detention facility in Trois-Rivières;
- Complete upgrade of the camera surveillance system at the Palais de justice de Montréal;
- Replacement of the access control system of the Parthenais building.

Infrastructure Enhancement

Portfolio enhancement investments made in 2020-2021 ($112.4 million) and probable investments in 2021-2022 ($104.3 million) facilitated the support of the Gouvernement du Québec's real estate vision, one objective of which is to increase the proportion of owned real estate compared to leased, primarily through the acquisition of the following building:

- The office building at 445 Rue Lacroix in La Tuque.

In addition, these investments contributed to broaden or improve the service potential of the infrastructure portfolio in terms of quality and functionality, such as:

- Redevelopment of sections of the Louis-Philippe-Pigeon building in Québec City;
- Development of MSSS offices at 930 Chemin Sainte-Foy in Québec City;
- Development of the CTI – Phase I at the Cyrille-Duquet building in Quebec City;
- Relocation of the RBQ head office to 255 Boulevard Crémazie Est in Montréal;
- Relocation of MAMH staff to 500 Rue Sherbrooke in Montréal;
- Consolidation of MERN staff in Chibougamau;
- Restoration and expansion of the Palais de justice de Rimouski;
- Development and increase in space of the Palais de justice de Gatineau;
- Construction of police stations in Saint-Georges en Beauce and Rimouski-Neigette.

The planned investments of $167.8 million for 2022-2023 will, on the one hand, make it possible to seize opportunities to acquire buildings to increase the proportion of owned real estate and, on the other hand, launch and carryout the following key projects:

- Redevelopment of Édifice Hector-Fabre et de l'Édifice Marie-Fitzbach in Quebec City;
- Redevelopment of the Palais de justice de Saint-Hyacinthe;
- Expansion of the custody area in Puvirnituq;
- Development of video hearing and video conferencing rooms in detention facilities and courthouses.

Change in Infrastructure Conditions and Asset Maintenance Deficit
By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022[2]	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022[2]	2022-2023		2021-2022[2]	2022-2023						
Buildings											
Office Buildings	46	41	(5)	8	13	5	166.2	9.2	55.3	(32.6)	198.1
Transportation Centres	24	21	(3)	13	16	3	37.0	7.7	20.2	(5.3)	59.6
Courthouses	42	38	(4)	5	6	1	195.3	3.4	75.8	(7.7)	266.8
Detention Facilities	4	0	(4)	20	24	4	105.7	–	41.6	–	147.3
Sûreté du Québec Police Stations	11	2	(9)	1	0	(1)	9.3	0.2	(8.0)	(0.8)	0.7
Other Specialized Buildings	20	19	(1)	1	1	0	21.3	6.3	–	(4.9)	22.7
Total – Rental Buildings	**30**	**25**	**(5)**	**8**	**10**	**2**	**534.8**	**26.8**	**184.9**	**(51.3)**	**695.2**
Non-rental and Surplus Buildings	0	0	0	91	92	1	15.7	1.1	–	–	16.8
Civil Engineering Works											
Parking Facilities and Tunnels	0	6	6	59	55	(4)	58.0	0.2	–	(7.5)	50.7
Total – Infrastructures	**29**	**25**	**(4)**	**10**	**11**	**1**	**608.5**	**28.1**	**184.9**	**(58.8)**	**762.7**

1 Percentages are weighted by infrastructure replacement value.
2 The 2021-2022 data has been amended to distinctly present transportation centre buildings and their associated AMD of $37.0 million in the "Transportation centres" category rather than the "Other specialized buildings" category.

ADDITIONAL INFORMATION

Changes in Condition and in the AMD

Office Buildings

- The proportion of office buildings in poor condition (GCI of D) and very poor condition (GCI of E) has remained stable at 54%. Nevertheless, about 5% of this proportion of the buildings went from poor to very poor condition due to new findings following annual inspections. These buildings are the root cause behind the AMD increase of $31.9 million compared with the 2021-2022 AMPI.
  - Major asset maintenance projects are planned in Québec City for the buildings at 12 Rue Saint-Louis, 1141 Route de l'Église and 1075 Chemin Sainte-Foy as well as in Montréal at 1000 Rue Fullum and 360 Rue McGill. Over time, these projects involving buildings in poor and very poor condition (GCI of D or E) will result in a $83.0 million reduction in the AMD.

Transportation Centres

- The proportion of transportation centres in poor condition (GCI of D) and very poor condition (GCI of E) has remained stable at 37%. The proportion of those in poor condition (GCI of D) decreased by 3%, with this percentage tipping into very poor condition. The increase in the AMD of $22.6 million compared with 2021-2022 AMPI is primarily due to new findings at 5353 Boulevard Pierre-Bertrand in Québec City.

— The $59.6 million cumulative AMD for buildings in poor and very poor condition (GCI of D and E) is primarily due to the aging of several abrasive warehouses and transportation centres. Projects to reduce a portion of the AMD are planned in the SQI investment plan.

Courthouses

- The proportion of courthouses in poor condition (GCI of D) and very poor condition (GCI of E) decreased slightly from 47% to 44%. The proportion of those in poor condition (GCI of D) decreased by 4%, with 1% tipping into very poor condition. The increase in the AMD of $71.5 million compared with 2021-2022 AMPI is primarily due to new findings following a reassessment of work required on the Palais de justice de Montréal.

  — The completion of major projects currently under study or in planning, particularly for the Palais de justice Montréal and Saint-Hyacinthe will reduce the AMD of buildings in poor and very poor condition (GCI of D and E) by approximately $151.0 million.

Detention Facilities

- The proportion of detention facilities in poor and very poor condition (GCI of D and E) remained stable at 24%. Nonetheless, of this proportion, 4% of buildings went from poor to very poor condition due to new findings, which represents a $41.6 million increase in AMD. This increase primarily concerns detention facilities in Québec City, Montréal (for women), and Gatineau.

  — A major rehabilitation project is currently under study for the Montréal detention facility and additional analyses are being performed, which will eventually lead to the study of other major projects in the QIP to address approximately $69.0 million of their AMD.

Sûreté du Québec Police Stations

- The proportion of Sûreté du Québec police stations in poor and very poor condition (GCI of D and E) has improved decreasing from 12% to 2%. These new findings are the result of a significant revision of the replacement values of Sûreté du Québec police stations that take into account the available data regarding recently completed new construction projects.

Other Specialized Buildings

- The proportion of other specialized buildings in poor and very poor condition (GCI of D and E) remained relatively stable, decreasing from 21% to 20%. This stability is due to the fact that work to reduce the AMD has offset the deterioration and the addition of new findings on the buildings.

Non-rental and Surplus Buildings

- While the surplus buildings category shows a very high level of deterioration. Though, they are no longer operational and pose no risks to the health and safety of individuals. No significant variation was observed for this category. The imminent disposal of the former detention facility in Saguenay will reduce the AMD by $14.9 million.

Parking Lots and Tunnels

- The proportion of parking lots and tunnels in poor condition (GCI of D) and very poor condition (GCI of E) increased slightly from 59% to 61%. The AMD decreased $7.3 million compared with the 2021-2022 AMPI. This decrease is primarily attributable to a downward revision in the need for work on the d'Youville parking lot and is based on expert reports prepared during the year.

Appendix 1

ADDITIONAL INFORMATION

Inspection and Data Update

The building inspection process is done continuously by building managers. Building operation technicians visit all buildings under their responsibility with a frequency determined according to the importance and complexity of the systems in each.

Although infrastructure component inspections are done continuously, the building management team must present a property condition assessment for each building and civil engineering structure under their responsibility according to a fixed schedule. Approximately 30% of the infrastructure is assessed each year. The assessment calendar is based on the risks associated with the use of the infrastructure and its condition. The entire infrastructure is assessed in this manner at least once every five years.

Evaluation of Infrastructure Conditions

To determine infrastructure condition, the SQI uses various qualitative and quantitative parameters. The quantitative method used to measure its condition is the FCI calculation. Expressed as a percentage, FCI qualifies the health status of the infrastructure compared with its replacement value. It is computed as follows:

FCI = (Total cost of asset maintenance work to be carried out within zero to five years / replacement value) x 100%.

The SQI has defined the acceptable thresholds for FCI based on its experience with customer satisfaction, adequate funding of work and the resources required to maintain infrastructure. These thresholds serve as a reference to qualitatively define the GCI levels, which range from very good (GCI of A) to very poor (GCI of E).

AMD Assessment of Infrastructures

The SQI categorizes asset maintenance work to be performed on buildings under its responsibility as either regular asset maintenance or AMD.

Regular asset maintenance refers to work to be carried out within zero to five years to protect the building components.

The AMD is the work that should have already been carried out because the component reached the end of its useful life.

When an infrastructure is below the satisfactory condition threshold (which represents a GCI of D or E), the work determined to be AMD is accounted for and then incorporated into the AMPI.

CULTURE ET COMMUNICATIONS

INFRASTRUCTURE MANAGEMENT

MINISTÈRE DE LA CULTURE ET DES COMMUNICATIONS

VISION

Be the catalyst for a vibrant culture and a source of pride for Québec.

ORIENTATION

As a leader in government action in the fields of culture and communication, the MCC contributes to the promotion of these fields, to individual and community development, as well as to the establishment of an environment conducive to the creation and vitality of the territories.

With respect to the infrastructure under its responsibility, the MCC aims to promote access to culture and its dissemination through quality infrastructure.

RESPONSIBILITIES

Each year, substantial financing is allocated to government bodies and state-owned enterprises who report to the Minister of Culture and Communications. These sums are used to maintain their assets, address their AMD, for the replacement of their infrastructure and for the enhancement of their portfolio. The MCC ensures that the funds allocated are used for the purposes stipulated. It also ensures that information on infrastructure assets and any required documentation on their condition is available and relevant. This information allows MCC to establish a global, objective, and complete picture of the infrastructure portfolio under its responsibility.

The MCC thus provides proper management of infrastructure by applying the highest quality standards and enforcing the constituting acts of all the state-owned bodies and enterprises in its portfolio.

GOVERNMENT BODIES AND STATE-OWNED ENTERPRISES THAT REPORT TO THE MINISTER OF CULTURE AND COMMUNICATIONS

RESPONSIBILITIES

The state-owned bodies and enterprises under the responsibility of the Minister of Culture and Communications establish a detailed plan of their needs for asset maintenance, address their AMD, infrastructure replacement as well as the enhancement of their portfolio. They are responsible for the work carried out, regular follow-up and accountability report, and evaluations of the general condition of their infrastructure. In fact, state-owned bodies and enterprises are responsible for evaluating and documenting the condition of their infrastructure so as to ensure optimal management of it, and to provide updated data periodically.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The infrastructure portfolio of government bodies and state-owned enterprises under the responsibility of the Minister is comprised of 50 buildings, 36 of which are protected under the CHA. It also includes eight buildings of heritage interest, although they are not protected under this law. Of the 36 buildings protected pursuant to the CHA, 31 belong to the SODEC. The infrastructure portfolio also includes specialized equipment that is essential to fulfill the missions of the government bodies and state-owned enterprises.

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement (sq. m.)		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings							
Museums	70	10	9	(1)	89,785	87,981	(1,804)
Venues	46	5	5	0	143,945	143,945	0
Librairies	66	3	3	0	74,836	74,836	0
Broadcasting	125	2	2	0	14,552	14,552	0
Heritage Buildings[2]	242	31	31	0	26,738	26,738	0
Total – Buildings		**51**	**50**	**(1)**	**349,856**	**348,052**	**(1,804)**
Specialized Equipments							
Museums	15	16,950	32	(16,918)	n.a.	n.a.	n.a.
Venues	18	11,406	127	(11,279)	n.a.	n.a.	n.a.
Librairies	18	32	18	(14)	n.a.	n.a.	n.a.
Broadcasting	12	10,895	269	(10,626)	n.a.	n.a.	n.a.
Academy	31	213	105	(108)	n.a.	n.a.	n.a.
Total – Specialized Equipments		**39,496**	**551**	**(38,945)**	**n.a.**	**n.a.**	**n.a.**

1 Data as at December 31, 2021.

2 This category of buildings includes only heritage buildings owned by SODEC, that is 26 buildings (housing, retail and parks) et 5 interpretation centers. The five other heritage buildings protected under the LPC mentioned in the description of the infrastructure portfolio are as follows, one event venue, one library and three museums.

Variation in Inventory

The decrease of one building in the museum's category is related to the sale of the Jean-Baptiste-Chevalier House which belonged to the Musée de la civilisation. In addition, a decrease of 38 945 specialized equipments for all infrastructure categories is observed. This decrease is related to an update of the inventory for this equipment, which occurred in March 2021, where equipment lots valued over $25,000 is no longer listed in the 2022-2023 AMPI.

INFRASTRUCTURE SUSTAINABILITY

GOVERNMENT BODIES AND STATE-OWNED ENTERPRISES REPORTING TO THE MINISTER OF CULTURE AND COMMUNICATIONS

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings									
Museums	52	0	17	69	13	18	12.7	4.9	17.6
Venues	0	0	17	17	53	30	38.1	17.4	55.5
Librairies	97	0	0	97	0	3	–	1.1	1.1
Broadcasting	95	0	0	95	5	0	0.1	–	0.1
Heritage Buildings[3]	10	22	44	76	19	5	6.3	3.0	9.3
Total – Buildings	**38**	**1**	**14**	**53**	**28**	**19**	**57.2**	**26.4**	**83.6**
Specialized Equipments									
Museums	19	16	4	39	45	16	0.5	0.4	0.9
Venues	7	21	36	64	30	6	3.4	5.6	9.0
Librairies	32	60	8	100	0	0	–	–	–
Broadcasting	24	4	8	36	54	10	14.9	–	14.9
Academy	80	0	2	82	7	11	–	–	–
Total – Specialized Equipments	**20**	**13**	**18**	**51**	**41**	**8**	**18.8**	**6.0**	**24.8**
Total – Infrastructures	**36**	**2**	**15**	**53**	**29**	**18**	**76.0**	**32.4**	**108.4**

1 Data as at December 31, 2021.
2 Percentages are weighted according to infrastructure replacement values.
3 This category of buildings includes only heritage buildings owned by SODEC.

Objectives

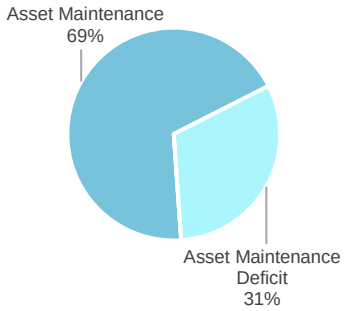
Ensure that 65% of buildings belonging to government bodies and state-owned enterprises should be in satisfactory or better condition (GCI of ABC) by March 2025.

Carry out at least $16.6 million of work intended to reduce the AMD by March 2025.

Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	MCC	%
Infrastructure Maintenance		
Asset Maintenance	237.3	69
Asset Maintenance Deficit	108.4	31
Total	**345.7**	**100**



Addressing the Asset Maintenance Deficit

Investment Strategy

The overall MCC infrastructure investment strategy is built around two priorities to ensure that the infrastructure of government bodies and state-owned enterprises is in good condition and meets standards, as wel as to maintain appropriate conditions for displaying and conserving assets and works of art:

- Asset maintenance: Continually perform asset maintenance work to prevent the deterioration of buildings and equipment of state-owned bodies and enterprises so as to avoid major repairs;
- Addressing of AMD: Prioritize interventions on venue buildings with a greater AMD, while considering other buildings with an AMD. The investments planned in the 2022-2032 QIP anticipate total management of all AMD listed.

SITUATION

Investments Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Gouvernment Bodies and State-Owned Enterprises Reporting to the Minister of Culture and Communications						
2020-2021						
Actual	15.6	5.1	0.3	**21.0**	12.4	**33.4**
Forecast	13.6	8.9	–	**22.5**	18.3	**40.8**
Difference	2.0	(3.8)	0.3	**(1.5)**	(5.9)	**(7.4)**
2021-2022						
Probable	25.0	13.7	–	**38.7**	21.9	**60.6**
2022-2023						
Forecast	23.0	14.4	–	**37.4**	161.1	**198.5**

ADDITIONAL INFORMATION

Differences Between Planned Investments and Actual Investments

There is a total difference of $7.4 million between planned investments and actual investments from the previous year. This difference is primarily attributable to less work being carried out on the MACM transformation project, which is an infrastructure enhancement project, due to a slight shift in the completion schedule. In addition, for some infrastructure maintenance projects, the construction rate slowed down compared to what was planned.

Infrastructure Maintenance

Infrastructure maintenance investments allow for the following types of work to be carried out:

- Building enclosure and structural work;
- Work dedicated to electromechanical facilities (electricity, heating, air conditioning and fire alarm systems);
- The maintenance and replacement of specialized equipment (lighting systems, audiovisual systems, shelving systems and mobile shelves).

More specifically, the 2020-2021 investments and probable 2021-2022 investments, total $21.0 million and $38.7 million respectively. These investments enabled the advancement of the following projects:

- Repair of the masonry on the Pavillon Gérard-Morisset of the MNBAQ, which will allow for the restoration of the infrastructure to good condition (GCI of B);
- Repair work on the Rosemont-La-Petite-Patrie building at the BAnQ, which restored the infrastructure to very good condition (GCI of A);

- Repair work on SPDAM buildings, which allow for a decrease in the current reported AMD;
- Work related to the installation of sprinklers in the Grand Théâtre de Québec.

The investment of $37.4 million for infrastructure maintenance in 2022-2023 will also allow to restore buildings with an AMD (GCI of D or E) to satisfactory or better condition (GCI of A, B or C).

Infrastructure Enhancement

Infrastructure enhancement investments allow for the following type of work to be carried out:

- Design improvements to or expansion of existing infrastructure;
- Acquisition and construction of new infrastructure.

More specifically, the 2020-2021 investments and possible 2021-2022 investments, total $12.4 million and $21.9 million respectively. These investments enabled the advancement of the following projects:

- Execution of the MACM redevelopment project;
- Universal access between the metro station and the corridor to the Place des Arts complex;
- Development of the Réseau des Espaces bleus projects, in particular the acquisition of buildings at the Amos site in Abitibi-Témiscamingue and the Baie-Saint-Paul site in Charlevoix.

The $161.1 million planned investments for 2022-2023 to improve the infrastructure will allow for continuing and carrying out the following projects:

- Preparatory activities intended to acquire and occupy sites as well as carry out the work required to develop new Espaces bleus in various regions of Québec;
- Redevelopment of the Espaces bleus in the Capitale-Nationale in Québec City;
- Acquisition by the MNBAQ of digital signage equipment.

Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022	2022-2023		2021-2022	2022-2023						
Buildings											
Museums	13	13	0	19	18	(1)	17.2	6.9	–	(6.5)	17.6
Venues	52	53	1	30	30	0	38.0	37.9	–	(20.4)	55.5
Librairies	0	0	0	2	3	1	7.4	–	(6.0)	(0.3)	1.1
Broadcasting	5	5	0	0	0	0	0.1	–	–	–	0.1
Heritage Buildings	19	19	0	5	5	0	8.8	1.9	–	(1.4)	9.3
Total – Buildings	**27**	**28**	**1**	**19**	**19**	**0**	**71.5**	**46.7**	**(6.0)**	**(28.6)**	**83.6**
Specialized Equipments											
Museums	6	45	39	18	16	(2)	0.5	–	0.4	–	0.9
Venues	7	30	23	40	6	(34)	2.2	–	7.7	(0.9)	9.0
Librairies	0	0	0	0	0	0	–	–	–	–	–
Broadcasting	4	54	50	0	10	10	0.4	–	16.4	(1.9)	14.9
Academy	0	7	7	0	11	11	–	–	–	–	–
Total – Specialized Equipments	**4**	**41**	**37**	**12**	**8**	**(4)**	**3.1**	**–**	**24.5**	**(2.8)**	**24.8**
Total – Infrastructures	**25**	**29**	**4**	**19**	**18**	**(1)**	**74.6**	**46.7**	**18.5**	**(31.4)**	**108.4**

[1] Percentages are weighted by infrastructure replacement value.

ADDITIONAL INFORMATION

Changes in Condition

Overall, the condition of buildings remained stable in 2021, which is mainly attributable to the preventive asset maintenance work performed on the buildings.

The condition indicators of specialized equipment in museums, venues, broadcasting stations, as well as Academy, have declined on account of a significant number of new findings following the update of health reports on certain specialized equipment over the past year, with many of these specialized equipment buildings changing from a good or satisfactory status (CGI of C), to a poor or a very poor condition (GCI of D or E respectively).

Changes in the AMD

The net increase in the AMD is $33.8 billion because of the following:

- The $46.7 million increase in the AMD is caused by the natural deterioration of museum buildings, venues, and on SODEC heritage buildings. More specifically, this amount includes, on the one hand, the indexation of costs and, on the other hand, the work listed under asset maintenance, which was not carried out during the year and which is now considered as AMD;

- The $24.5 million increase of new findings for specialized equipment after the update of health reports carried out in the last year. This increase is primarily due to costs associated with the additional need to refurbish or replace stage lighting systems, a grand piano, a camcorder and video recorder and finally, antennas and transmitters for television broadcasting;
- The decrease of $6.0 million for library buildings is due to the three-phase completion of a new health report for the Saint-Sulpice library, which resulted in an AMD write up of $1.4 million for the first phase instead of the previous $7.4 million estimate. It should be noted that the work related to the other two phases will gradually be added to the AMD listed in the next AMPIs;
- The $31.4 million reduction in the AMD is mainly due to:
  - The achievement of various repair work on certain museums, which allowed for a $1.0 million reduction, and through preparatory work of $5.5 million related to the MACM redevelopment project;
  - Repair work on the different SPDAM buildings, which resulted in a $20.4 million reduction;
  - An amount of $0.3 million in preparatory work for the repair of the Saint-Sulpice library;
  - Targeted investments in heritage buildings belonging to SODEC, which resulted in a $1.4 million reduction;
  - The replacement of equipment that has reached the end of its useful life, which resulted in a $2.8 million reduction.

Appendix 1

ADDITIONAL INFORMATION

Inspection and Data Update

All buildings and specialized equipment were inspected. In addition, in compliance with its mission, SODEC continues to implement its investment plan on an annual basis to protect and develop its building inventory.

With a view to adopt good infrastructure management practices and align with government guidelines, a continuous inspection schedule over a five-year period was established. An annual update is also performed mainly for the buildings' critical components. The objective of the update is to maintain an accurate profile of the condition of buildings and specialized equipment, thereby contributing to clearer decision-making in this respect.

Methodology

The evaluation method used to determine government condition indicators for infrastructure, with the exception of SODEC heritage buildings, is based on the FCI[5]. In contrast, the method used for SODEC buildings is weighted based on five criteria, as specified in the ministry's management framework, by taking into account the specifics associated with these buildings. This method allows to consider the specifics of heritage infrastructure.

The priority interventions supported by health reports are recorded as an AMD for buildings whose FCI is above the satisfactory threshold (15%). This data is updated annually and takes into account new investment needs, the work carried out and cost indexation. Given that the inspections for the Sept-Îles building, belonging to the Société de Télédiffusion du Québec, have not been updated in recent years, a theoretical deterioration was considered for the evaluation of the work to be carried out. The data is subsequently indexed on an annual basis.

The condition indicator percentages (A / B / C / D / E) are weighted according to the replacement value.

[5] Facility condition index: Total estimated cost of all the asset maintenance work that must be carried out over a 5-year period, divided by the replacement value of the infrastructure.

APPENDIX 2

Composition of the Groups of Bodies

Government Bodies and State-owned Enterprises that Report to the Minister of Culture and Communications

Bibliothèque et Archives nationales du Québec
Conseil des arts et des lettres du Québec
Conservatoire de musique et d'art dramatique du Québec
Musée d'art contemporain de Montréal
Musée de la civilisation
Musée national des beaux-arts du Québec
Société de développement des entreprises culturelles
Société de la Place des Arts de Montréal
Société de Télédiffusion du Québec
Société du Grand Théâtre de Québec

ÉDUCATION

INFRASTRUCTURE MANAGEMENT

ÉDUCATION

VISION

The infrastructure condition of school organizations (school service centres, school boards) impacts the quality of the education offered. Therefore, it is essential that Québec students have at their disposal stimulating and accessible learning environments that foster their educational success. Whether from the standpoint of safe infrastructure or environments that satisfy the needs of students and staff, stakeholders' efforts must focus on the attainment of a common objective, i.e., offering quality teaching that meets the highest standards.

Over the past four years, major investments in public infrastructure have been devoted to maintaining and improving the school building inventory. In fact, for the education sector, the QIP has more than doubled, from $9.0 billion for the 2018-2028 period to $21.1 billion for 2022-2032. These investments will help ensure the security of students and school staff and to meet growing space needs.

The government recognizes the importance of keeping schools in good condition. It is in this context that, over the past year, it has carried out a vast inspection operation of its school building inventory in order to rectify its condition on the basis of the investment needs required to maintain the inventory.

In addition, the MEQ benefits from the strategy for the gradual increase in investments[6], implemented by the government in the 2021-2031 QIP, which aims to gradually increase the level of investments in infrastructure maintenance in the next QIPs, particularly during the second five-year period. Combined with the adjustment of the orientations and intervention strategies that will be made by the MEQ, these investments will make it possible to improve the proportion of school buildings in good condition.

ORIENTATION

To fulfill its mission, which consists in promoting education, the MEQ has adopted the following orientation regarding the infrastructure under its responsibility:

- Maintain conditions conducive to educational success by ensuring the quantity, quality, safety and sustainability of infrastructure.

RESPONSIBILITIES

The MEQ is responsible for the following:

- Allocating funds to school organizations to maintain assets, address the AMD and add, reconstruct and improve their infrastructure;
- Ensuring that the funds allocated are used for the purposes intended;
- Prioritizing investments based on government issues.

[6] For more details, see section 3.4 of the 2022-2032 QIP.

SCHOOL ORGANIZATIONS

RESPONSIBILITIES

School organizations are responsible for the following:

- Plan investments and carry out work in accordance with the projects authorized, the funds allocated and the regulations in force;
- Inspect their infrastructure to establish an accurate picture of its condition and the work to be carried out to maintain or restore them in a good condition;
- Manage the infrastructure they own or co-own;
- Ensure that their infrastructure is functional and that it remains safe, efficient and reliable.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The infrastructure portfolio of school organizations comprises 4,086 buildings occupying an area of nearly 17.0 million square metres.

This portfolio is divided among 69 linguistic school organizations and three with special-status (Centre de services scolaire du Littoral, Cree School Board and Kativik Ilisarniliriniq school board). It groups buildings from different categories, namely preschool, elementary and high school education establishments; vocational training and liberal studies centres; buildings devoted to administration and other uses as well as surplus buildings.

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement (sq. m.)		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings							
Linguistic School organizations							
Educational Institutions							
Preschool and Primary Schools	61	2,280	2,304	24	7,472,227	7,562,646	90,419
High Schools	57	452	467	15	6,663,932	6,860,081	196,149
Vocational and Adult Education Centers	58	277	306	29	1,621,931	1,580,751	(41,180)
Administrative and other Buildings[2]	51	385	332	(53)	548,659	475,296	(73,363)
Special Status School organizations	30	550	571	21	296,507	309,157	12,650
Surplus Buildings[3]	68	145	106	(39)	283,878	191,350	(92,528)
Total – Buildings		**4,089**	**4,086**	**(3)**	**16,887,134**	**16,979,281**	**92,147**

1 Data as at February 2022.
2 The “Administrative and other uses” category includes, for example, administrative offices, residences, workshops, warehouses and garages.
3 The “Surplus buildings” category includes buildings that are no longer used by school organizations.

Variation in Inventory

In comparison with the preceding period, the inventory decreased by three buildings, for a new total of 4,086. This variation is explained by the addition of 45 buildings (e.g. construction, purchase) and the removal of 48 buildings (e.g. demolition, sale). In addition, a change in use (category) was made by school organizations for 44 buildings when the predominant school clientele changed from year to year. Finally, the transfer of data to the new GIEES information system made it possible to correct several elements such as the surface area of certain buildings to better take into account expansions and the classification of buildings according to their main use.

INFRASTRUCTURE SUSTAINABILITY

SCHOOL ORGANIZATIONS

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings									
Linguistic School organizations									
Educational Institutions									
Preschool and Primary Schools	13	14	14	41	38	21	851.5	2,052.8	2,904.3
High Schools	4	14	17	35	45	20	839.6	1,334.5	2,174.1
Vocational and Adult Education Centers	16	19	14	49	33	18	143.1	333.7	476.8
Administrative and other Buildings[3]	20	8	18	46	26	28	38.1	175.5	213.6
Special Status School organizations	69	15	12	96	3	1	2.7	6.0	8.7
Surplus Buildings[4]	19	5	2	26	8	66	2.2	87.6	89.8
Total – Buildings	**12**	**14**	**15**	**41**	**39**	**20**	**1,877.2**	**3,990.1**	**5,867.3**

1 Data as at February 2022.
2 Percentages are weighted according to replacement values.
3 The “Administrative and other uses” category includes, for example, administrative offices, residences, workshops, warehouses and garages.
4 The “Surplus buildings” category includes buildings that are no longer used by school organizations.

ADDITIONAL INFORMATION

The MEQ adopted GIESS, a new infrastructure information management system to inventory the work needed by school organizations to carry out and to support the strategic planning of their infrastructure projects. Deployment of this new tool began as planned in 2020, but was delayed due to the pandemic. The rollout of the asset maintenance module is complete, while that of the maintenance and project management modules is scheduled to be completed in 2022.

Data migration to the new system was primarily performed by the school organizations during 2021 and is nearly complete. On February 4, 2022, 90% of the building inventory had been inspected and the remaining 10% will be completed within the next year. This vast inspection operation was carried out according to a new standardized inspection methodology developed in partnership with an external firm, which also provided support to the network to develop a common vision of the inspection method. This provides a fair, consistent and integrated long-term view of school infrastructure maintenance needs.

For the first time in 2022, the MEQ extracted the data needed to develop the AMPI from the new GIEES information system.

Objective

The MEQ was expecting the level of infrastructure maintenance investment planned for the next year to increase the proportion of infrastructure in good condition (GCI of A, B or C) to 50% by 2022-2023 for all buildings under its responsibility.

This goal, presented in the 2019-2023 Strategic Plan developed by the MEQ, will be difficult to achieve. Indeed, it is possible to note, with the standardization of inspections in the network, that despite the significant investments made over the last few years, improving the school building inventory will take more time.

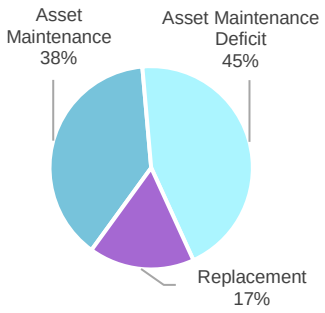
The MEQ has adopted the following orientations for its future investment choices:

- Prioritize the work required to correct air and mould problems in schools;
- Rapidly replace or repair critical components at the end of their useful life, such as roofs, windows and heating and ventilation systems;
- Prioritize asset maintenance investments in schools in satisfactory condition (GCI of C) in order to prevent them from deteriorating further and ending up with a poor condition indicator (GCI of D).

Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	School organizations	%
Infrastructure Maintenance		
Asset Maintenance	5,081.5	38
Asset Maintenance Deficit	5,867.3	45
Replacement	2,214.2	17
Total	**13,163.0**	**100**



Addressing the Asset Maintenance Deficit

Investment Strategy

The investments of nearly $5.9 billion planned in the 2022-2032 QIP for the education sector are sufficient to reduce the AMD currently assessed in the AMPI. However, the natural deterioration of the portfolio and the new findings might increase the AMD in the coming years.

The MEQ is taking the following actions to reduce the AMD:

- Confirm the annual investment budgets for the school organizations as soon as possible to allow them to accelerate the completion of the work;
- Plan for separate maintenance budgets, allocated in the school-organization operation envelopes, which must be used for this purpose;
- Allow school organizations to acquire modular buildings to free up space in schools that require priority repair work;
- Encourage school organizations to develop investment master plans in order to plan their renovation, replacement and new construction projects over the medium and long term;
- Implement the new GIESS information management system to improve the tracking of investment needs in schools, including the effect of completed work on changes in their condition and the AMD, which will allow optimal targeting of interventions.

Furthermore, the MEQ will continue to fulfill its plan to reconstruct the most obsolete schools with the following actions:

- Target the most obsolete schools and, where possible, combine their reconstruction with the creation of new student spaces to meet the most urgent space deficits;
- Consider the priorities identified by school organizations based on a cost/benefit analysis showing that it is more beneficial to rebuild the building rather than renovate it;
- Continue planning and carrying out projects authorized in recent years.

SITUATION

Investments Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Replacement	Subtotal	Addition and Improvement	
School organizations						
2020-2021						
Actual	278.9	1,005.0	89.0	**1,372.9**	835.1	**2,208.0**
Forecast	677.3	551.3	91.4	**1,320.0**	817.5	**2,137.5**
Difference	(398.4)	453.7	(2.4)	**52.9**	17.6	**70.5**
2021-2022						
Probable	776.8	424.9	185.3	**1,387.0**	1,013.0	**2,400.0**
2022-2023						
Forecast	560.6	561.9	420.9	**1,543.4**	1,062.0	**2,605.4**

ADDITIONAL INFORMATION

Differences Between Planned and Actual Investments

The difference between the planned investments for 2020-2021 and actual investments of $70.5 million in 2020-2021 is due mainly to the faster-than-anticipated completion of certain projects.

Infrastructure Maintenance

Investments made in 2020-2021 and probable investments in 2021-2022, totalling $1,372.9 million and $1,387.0 million, respectively, enabled the completion or continuation of work aimed primarily at maintaining or restoring buildings to satisfactory or better condition. Some examples of the work carried out are:

- Repair work on roofs and exterior cladding and the replacement of windows and floor coverings;
- Work to remedy problems related to mould and air quality in the schools;
- Work to adapt buildings for students with handicaps or students experiencing adjustment or learning difficulties;
- Replacement of institutional equipment;
- Functional renovations such as the conversion of offices or multipurpose rooms into classrooms;
- Rehabilitation or reconstruction of buildings damaged by disasters.

More specifically, these investments should make it possible to replace critical components in schools, such as:

- Superstructure and envelope (e.g. floors, exterior claddings and roofs);
- Interior refitting (e.g. partitions, stairs and interior finishes);
- Services (e.g. plumbing, heating, ventilation and electricity).

In addition, the planned investments will allow for the completion of projects such as:

- Replacement of the sanitary blocks at the Polyvalente Nicolas-Gatineau school, located in Gatineau;
- Replacement of the floors at Le Tremplin school, located in Malartic;
- Replacement of the heating and ventilation systems at the Envol school, located in Québec City;
- Replacement of the flat roof at the Matane secondary school, located in Matane.

To accelerate work in the schools and maximize short-term return, the process of confirming the investment budgets to the school organizations has been moved forward, and since 2019-2020, the MEQ has been making multi-year announcements. School organizations can, therefore, more quickly implement renovation project planning (most renovations occur during the summer).

Infrastructure Enhancement

By 2025-2026, excluding the impact of the opening of preschool for four-year-olds, the MEQ foresees a deficit of about 300 classrooms in primary schools. These schools are mainly in the Montérégie, Laurentides and Capitale-Nationale regions. By 2030-2031, the MEQ also forecasts a deficit of over 14,000 student spaces in high schools, mainly in the Montérégie, Laurentides, Capitale-Nationale and Lanaudière regions.

In response to these growing needs in education, the government is planning investments of nearly $8.0 billion in the 2022-2032 QIP, which will notably make it possible to:

- Continue the planning and completion of close to 300 additional space projects authorized in recent years;
- Announce many new projects to build or expand schools, which will make it possible to create additional primary school classrooms and additional high school student spaces, benefiting thousands of students by 2025-2026;
- Build the premises necessary to open 2,600 new preschool for 4-year-olds classrooms by the end of the 2025-2026 school year.

More specifically, investments of $1,062.0 million will enable the completion or continuation of certain projects in 2022-2023, such as:

- Primary school - Châteauguay - Construction (four preschool classrooms and 14 elementary classrooms);
- École primaire Saint-Rémi - Beaconsfield - Expansion (six preschool classrooms, eight primary school classrooms);
- Primary school - Longueuil - Construction (six preschool classrooms and 18 primary school classrooms);
- École secondaire Joseph-François-Perrault - Québec - Expansion (348 student spaces and a gymnasium).

Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI			AMPI							
	2021-2022	2022-2023	Variation	2021-2022	2022-2023	Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
Buildings											
Linguistic School organizations											
Educational Institutions											
Preschool and Primary Schools	36	38	2	23	21	(2)	2,608.9	332.9	650.7	(688.2)	2,904.3
High Schools	41	45	4	14	20	6	1,551.9	304.3	727.3	(409.4)	2,174.1
Vocational and Adult Education Centers	47	33	(14)	13	18	5	412.8	34.8	138.1	(108.9)	476.8
Administrative and other Buildings	28	26	(2)	28	28	0	278.2	21.4	(12.6)	(73.4)	213.6
Special Status School organizations	16	3	(13)	9	1	(8)	110.3	51.0	(123.5)	(29.1)	8.7
Surplus Buildings	23	8	(15)	44	66	22	242.2	8.2	(96.7)	(63.9)	89.8
Total – Buildings	**37**	**39**	**2**	**19**	**20**	**1**	**5,204.3**	**752.6**	**1,283.3**	**(1,372.9)**	**5,867.3**

[1] Percentages are weighted according to replacement values.

ADDITIONAL INFORMATION

Changes in Condition

Overall, school infrastructure conditions slightly deteriorated this year. This increase in buildings in poor condition is attributable to the addition of repair work needs following new inspections conducted according to a standardized and simplified process for all school organizations, including an upward revision of the cost of work. This update to the cost of work was necessary to reflect the current construction market and was done in collaboration with construction specialists.

Changes in the AMD

The overall AMD increase of $663.0 million is explained by the following elements:

- $752.6 million related to the natural deterioration of critical components of certain school buildings such as foundations, floors, walls, roofs, plumbing and heating, ventilation and electrical systems;
- $1,283.3 million explained by the improvement of the inspection process, which allowed for the identification of new asset maintenance work needs, and by the revision of the cost of work listed;
- The reduction of $1,372.9 million, which is primarily due to:
  - The replacement of components that are obsolete or at the end of their useful life, including:
    - Infrastructure (e.g. foundations);
    - Superstructure and envelope (e.g. floors, exterior claddings and roofs);
    - Interior refitting (e.g. partitions, stairs and interior finishes);
    - Services (e.g. plumbing, heating, ventilation and electricity);

- Other work;

— Work intended to eliminate problems that could affect air quality in certain buildings.

In return, accelerating the annual asset maintenance budget allocation process in the school organizations, and providing for multi-year allocations, will support better planning of contracts, and maximize the volume of interventions performed in the summer.

Furthermore, to address the anticipated increase in the AMD, the MEQ must pursue its efforts to target allocations and adopt measures to ensure the capacity to carry out the work accordingly.

Finally, implementing the new GIEES tool allows the MEQ, in collaboration with the school network, to put in place concrete and targeted means of addressing the physical wear and tear of the buildings.

APPENDIX 1

ADDITIONAL INFORMATION

Inspection and Data Update

The MEQ is continuing its efforts to improve its inspection processes and tools for managing school buildings' asset maintenance. It should be noted that a standardized and recurrent inspection process has been implemented to make it possible to present a complete and seamless picture of the condition of all buildings in the network. The MEQ has retained the services of a firm that has prepared, among other things, an inspection methodology guide for school organizations in order to provide a better framework for the activities related to the identification of problems during inspections. The support provided by the firm also included a training and support component that reflects the desire of the MEQ to standardize inspections in all school organizations to obtain comparable, standardized data on the maintenance of school infrastructure assets.

Begun in spring 2019, work with the firm was completed in summer 2021. The standardized inspection guide was distributed in the fall of 2019, and the training provided to the school organizations to conduct their inspections according to the new methodology was completed in June 2021.

Methodology

After performing the inspections, the school organizations use an asset management software program to inventory the work they must carry out on their buildings within the next five years. The assessment of the condition and AMD of all buildings is based on the list of work entered in the software program according to the inspection procedures set out in the *Cadre de gestion des infrastructures scolaires*. The procedures seek to obtain a coherent and seamless assessment of the condition of buildings that is harmonized throughout the school network.

The GCI and the AMD are assessed based on an FCI[7]. Any building with an FCI greater than 15% is considered to be in poor condition, and the estimate of its AMD is the product of the 15% excess and its replacement value.

An adjustment factor is also applied, where applicable, to the cost of work to be carried out to take into account the specificities of buildings that have a financial impact, including the presence of contaminants and heritage constraints.

The condition indicator percentages (A / B / C / D / E) are weighted according to building replacement value.

[7] The FCI of an infrastructure is the sum of the estimated cost of all asset maintenance work to be performed over a five-year horizon, divided by the replacement value of the infrastructure.

APPENDIX 2

DETAILED INVENTORY

School Organizations (school service centres, school boards)
Buildings

	Quantity	Measurement (sq. m.)	Average Age (years)	Government Condition Indicator[1] (Number)						AMD (M$)
				A	B	C	ABC	D	E	
de Montréal	266	1,593,930	71	29	21	23	73	78	77	967.0
de Laval	115	635,285	54	10	5	5	20	18	69	546.1
English-Montréal	69	477,825	67	4	0	1	5	25	25	360.9
des Patriotes	77	403,913	49	7	3	5	15	25	37	273.6
de la Capitale	86	498,693	57	7	3	13	23	37	25	270.2
des Mille-Îles	100	458,199	42	10	5	6	21	29	37	266.8
Marguerite-Bourgeoys	131	796,915	64	16	15	19	50	57	20	205.3
de l'Estuaire	32	144,946	58	3	2	0	5	4	21	180.8
Marie-Victorin	85	519,988	58	8	4	8	20	46	14	161.8
du Fer	34	140,675	49	3	0	1	4	6	18	142.9
des Samares	102	373,042	52	14	9	13	36	32	30	129.9
des Hauts-Cantons	38	143,263	68	1	0	0	1	11	26	105.9
des Affluents	80	454,878	47	10	15	12	37	28	11	101.3
des Grandes-Seigneuries	64	324,382	53	6	16	5	27	16	19	98.8
de la Rivière-du-Nord	65	313,116	51	10	7	7	24	29	12	98.4
de la Vallée-des-Tisserands	51	151,545	57	4	0	1	5	21	20	95.8
Sir-Wilfrid-Laurier	48	196,053	57	3	2	6	11	19	9	93.7
de la Côte-du-Sud	54	203,537	65	0	0	0	0	1	20	88.7
des Découvreurs	39	229,985	57	1	6	9	16	14	9	81.5
des Chênes	51	200,891	60	5	5	5	15	19	17	81.3
de Saint-Hyacinthe	52	230,424	61	6	5	8	19	17	16	80.1
de l'Énergie	60	228,581	62	4	5	9	18	23	15	78.8
Central Québec	37	88,795	71	14	2	0	16	10	8	71.9
de la Pointe-de-l'Île	69	495,530	57	9	15	14	38	18	3	62.9
des Monts-et-Marées	38	144,564	64	1	5	6	12	17	7	62.2
du Fleuve-et-des-Lacs	56	137,751	64	2	1	9	12	24	10	62.2
Lester-B.-Pearson	54	376,302	60	4	8	10	22	28	4	62.1
René-Lévesque	33	155,041	62	0	1	3	4	21	8	59.9
New Frontiers	17	89,665	65	0	0	0	0	7	7	53.9
Harricana	32	104,609	58	1	1	2	4	19	8	53.6
du Chemin-du-Roy	73	329,702	67	6	18	14	38	27	6	52.1
Eastern Townships	31	139,034	76	0	3	1	4	14	7	52.0
de la Riveraine	31	110,112	62	0	1	2	3	11	15	46.7
de Kamouraska–Rivière-du-Loup	47	178,109	63	3	6	5	14	23	9	43.1
des Hauts-Bois-de-l'Outaouais	28	76,408	71	0	0	2	2	20	6	41.9
Western Québec	31	121,054	56	1	4	5	10	15	5	41.4

APPENDIX 2
(continued)

DETAILED INVENTORY

School Organizations (school service centres, school boards)
Buildings

	Quantity	Measure-ment (sq. m.)	Average Age (years)	Government Condition Indicator[1] (Number)						AMD (M$)
				A	B	C	ABC	D	E	
du Val-des-Cerfs	47	238,641	61	2	7	11	20	20	6	39.5
des Appalaches	24	138,468	63	0	1	2	3	16	5	38.6
du Lac-Abitibi	20	72,098	61	0	2	2	4	8	7	36.1
des Laurentides	31	119,156	65	1	2	2	5	14	10	33.9
des Hautes-Rivières	56	258,796	65	6	12	12	30	23	3	29.5
des Rives-du-Saguenay	48	253,391	65	12	15	9	36	10	1	29.1
des Portages-de-l'Outaouais	49	251,794	46	6	10	10	26	15	4	28.3
des Trois-Lacs	48	202,582	50	6	9	7	22	18	6	28.3
du Lac-Saint-Jean	35	164,417	59	8	5	11	24	9	1	28.1
de la Beauce-Etchemin	82	323,485	59	8	21	15	44	30	7	28.1
Riverside	27	140,134	64	3	3	2	8	14	5	26.4
de la Région-de-Sherbrooke	58	300,125	61	7	10	23	40	15	2	22.6
des Navigateurs	78	334,241	55	17	18	11	46	20	6	22.2
des Draveurs	48	231,853	50	13	12	12	37	10	1	21.0
des Chic-Chocs	28	113,792	63	3	8	4	15	10	3	20.5
de Rouyn-Noranda	26	104,116	58	3	1	3	7	17	2	20.3
des Sommets	44	167,848	66	3	4	10	17	16	3	20.1
de la Moyenne-Côte-Nord	11	22,434	62	0	1	0	1	7	2	16.9
du Lac-Témiscamingue	20	57,709	62	0	2	6	8	5	4	15.8
de l'Or-et-des-Bois	24	110,680	63	4	2	4	10	12	2	15.4
du Pays-des-Bleuets	49	173,366	56	12	6	8	26	12	4	12.8
au Cœur-des-Vallées	26	98,320	60	6	6	2	14	6	0	8.4
de Sorel-Tracy	22	117,524	62	2	1	7	10	7	2	7.9
de la Baie-James	37	79,619	47	13	1	3	17	8	0	7.5
de Portneuf	24	117,989	67	3	5	1	9	8	0	5.9
Kativik	260	119,220	31	133	38	20	191	11	10	4.9
de Charlevoix	16	81,501	63	0	8	2	10	5	1	4.7
crie	238	155,249	24	146	22	22	190	13	4	3.8
Eastern Shores	17	31,822	63	3	2	3	8	5	0	3.6
des Îles	6	35,234	65	0	0	1	1	5	0	3.4
De La Jonquière	28	177,693	67	5	2	10	17	8	0	2.6
des Phares	41	179,195	65	1	1	1	3	1	1	2.2
des Hautes-Laurentides	31	88,848	68	7	4	9	20	10	0	2.0
des Premières-Seigneuries	77	390,853	57	28	29	15	72	3	0	1.0
des Bois-Francs	58	225,404	64	21	23	6	50	3	0	0.4
du Littoral	76	34,942	41	41	4	0	45	0	0	–
Total	**4,086**	**16,979,281**	**56**	**725**	**490**	**495**	**1,710**	**1,203**	**752**	**5,867.3**

[1] Because the condition indicators of 421 buildings are unknown, the number of buildings rated A, B, C, D and E does not equal 4,086.

ENSEIGNEMENT SUPÉRIEUR

INFRASTRUCTURE MANAGEMENT

MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR

VISION

The quality of higher education sector infrastructure affects the impact of the service offered in Québec. It is, therefore, essential that students have stimulating learning environments at their disposal that are tailored to the labour market. Whether from the standpoint of safe infrastructure, cutting-edge laboratories or environments that satisfy the needs of students and staff, interveners' efforts must focus on attaining a common objective: offering quality teaching that meets the highest standards.

ORIENTATION

To fulfill its mission, which most particularly consists of promoting higher education, the MES has adopted the orientation below with respect to the infrastructure for which it is responsible:

- Maintain conditions conducive to higher education by ensuring the quantity, quality, safety and sustainability of infrastructure.

RESPONSIBILITIES

The MES is responsible for:

- Allocating funds to colleges and universities to maintain assets, address the AMD, and add, reconstruct and improve their infrastructure;
- Ensuring that the funds allocated to establishments are used for the purposes stipulated;
- Auditing the college and university capital expenditure budgets to ensure that allocations granted for spaces recognized for funding purposes are used solely for such spaces.

CEGEPS AND UNIVERSITIES

RESPONSIBILITIES

The MES funding formula distinguishes between spaces that are recognized and not recognized for funding purposes. The distinction between the two types of space relates to their mission and the standards that the MES applies.

The MES pays allocations for asset maintenance, addressing the AMD, and adding, reconstructing and improving buildings for designated spaces. Regarding such spaces, colleges and universities are responsible for managing their infrastructure and planning work to be carried out, in accordance with the rules that the MES issues. The establishments must submit the projects that they plan to carry out based on an annual capital expenditure budget and obtain confirmation from the MES of the budgets' compliance. For each project, the establishments must provide a brief or detailed description, depending on the scope of the project, and provide funding details and building identification. The establishments must also submit information to the MES on the condition of these buildings.

In the AMPI, the MES does not report on spaces not recognized for funding purposes as it does not pay any allowances for such spaces. The establishments must rely on their own revenues to satisfy these investment needs. Each establishment is thus responsible for ensuring the quality, safety and sustainability of such spaces.

The MES provides standardized asset maintenance allocations to establishments for adding to and maintaining their MAOB furnishings. Colleges and universities are responsible for managing their equipment and planning interventions. Establishments must submit information regarding their significant equipment to the MES annually.

Starting this year, significant equipment worth $100,000 or more and equipment deemed to be strategic have been identified for both educational networks. They are divided into the following three categories: teaching equipment, mobile equipment and other equipment.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The college network infrastructure inventory encompasses 986 buildings, representing a surface area of around 2.7 million square metres, of which approximately 2.5 million square metres in 893 buildings are recognized by the MES for funding purposes. The equipment inventory in the college network consists of 1,857 pieces of equipment. It includes 1,540 pieces of specialized equipment for teaching, 39 pieces of mobile equipment and 278 pieces of other equipment. This inventory is spread among 48 CEGEPs.

The university network infrastructure inventory encompasses 1,052 buildings, representing a surface area of around 4.9 million square metres, of which approximately 3.7 million square metres in 761 buildings are recognized by the MES for funding purposes. The equipment inventory in the university network consists of 6,137 pieces of equipment. It includes 5,503 pieces of specialized equipment for teaching, 150 pieces of mobile equipment and 484 pieces of other equipment. This inventory is spread among 19 universities.

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Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement (sq. m.)		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
CEGEPs							
Buildings							
Spaces Designated for Funding	45	890	893	3	2,551,034	2,549,756	(1,278)
Equipments							
Equipment for Teaching Purposes	N/A	N/A	1,540	n.a.	n.a.	n.a.	n.a.
Rolling Stock	N/A	N/A	39	n.a.	n.a.	n.a.	n.a.
Other Equipment	N/A	N/A	278	n.a.	n.a.	n.a.	n.a.
Total – Equipments	**N/A**	**N/A**	**1,857**	**n.a.**	**n.a.**	**n.a.**	**n.a.**
Universities							
Buildings							
Spaces Designated for Funding	55	761	761	0	3,597,184	3,673,186	76,002
Equipments							
Equipment for Teaching Purposes	N/A	N/A	5,503	n.a.	n.a.	n.a.	n.a.
Rolling Stock	N/A	N/A	150	n.a.	n.a.	n.a.	n.a.
Other Equipment	N/A	N/A	484	n.a.	n.a.	n.a.	n.a.
Total – Equipments	**N/A**	**N/A**	**6,137**	**n.a.**	**n.a.**	**n.a.**	**n.a.**

[1] Data as at January 24, 2022.

Variation in Inventory

CEGEPs

In comparison with the preceding period, the inventory was increased by three spaces recognized for funding purposes, for a new total of 893. This variation is due to:

- Addition of five spaces recognized for funding purposes resulting from the:
  - Construction of the T-Block at Vanier College;
  - Construction of a building at the CEGEP de Rivière-du-Loup comprising two spaces recognized for funding purposes, one of which includes a warehouse, a mechanical room and a sports centre, and the other a warehouse for garbage;
  - Expansion of the TIM building at the Montmorency College;
  - Expansion of Pavillon A the CEGEP de Rimouski;
- Removal of two spaces recognized for funding purposes resulting from the:
  - Removal of block I at Vanier College;
  - Sale of residence 24 Ste-Marguerite to CEGEP de Saint-Jérôme.

Universities

Compared to the previous period, the inventory in number remained stable, but the number of square meters increased due to the following changes:

- Construction of three buildings for teaching and research purposes:
  - Université de Montréal: Science Complex;
  - Université de Montréal: pavillon de médecine vétérinaire (two buildings);
- Transfer of all René-Lévesque university residences from Université du Québec à Montréal to a rental property;
- Demolition of the Micheal-John-Brophy House at Laval University;
- Consolidation of two spaces recognized for funding purposes at McGill University.

INFRASTRUCTURE SUSTAINABILITY

CEGEPs

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings									
Spaces Designated for Funding	9	14	25	48	42	10	242.8	224.3	467.1
Equipments									
Equipment for Teaching Purposes	28	16	20	64	4	32	5.8	43.4	49.2
Rolling Stock	35	13	4	52	4	44	0.1	1.3	1.4
Other Equipment	37	22	10	69	5	26	1.2	5.7	6.9
Total – Equipments	29	17	18	64	4	32	7.1	50.4	57.5
Total – Infrastructures	**9**	**15**	**25**	**49**	**41**	**10**	**249.9**	**274.7**	**524.6**

1 Data as at January 24, 2022.
2 Percentages are weighted according to replacement values.

Objectives

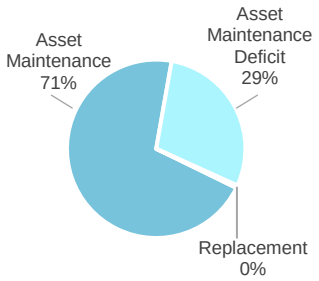
MES college infrastructure maintenance investments will make it possible to achieve the following objectives by March 31, 2026:

- Increase the proportion of buildings and equipment in good condition to 70% (GCI of A, B or C);
- Carry out at least $256.6 million of work intended to reduce the building AMD;
- Carry out at least $20.5 million of work intended to reduce the equipment AMD.

Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	CEGEPs	%
Infrastructure Maintenance		
Asset Maintenance	1,223.0	71
Asset Maintenance Deficit	502.5	29
Replacement	7.7	0
Total	**1,733.2**	**100**



Addressing the Asset Maintenance Deficit

The MES plans to use the following means to reduce the AMD of CEGEPs:

- Prioritize completing repairs or replacing critical components that have reached the end of their useful lives such as roofs, windows, and heating and ventilation systems;
- Work with the establishments to develop plans to decrease their AMD;
- Update their building inspections to prioritize work on their building inventory.

Investment Strategy

The current portrait for CEGEPs shows that 49% of their network's infrastructure portfolio is in good condition (GCI of A, B or C). Among the most deteriorated infrastructures (GCI of D or E), representing 51% of the college infrastructure portfolio, 70% are buildings built before 1980, near 50 years old. Some are heritage buildings that must be rehabilitated or rebuilt over the next decade.

MES infrastructure maintenance investments planned up to 2025-2026 will increase the proportion of buildings in good condition (GCI of A, B or C) to 70% and address $256.6 million of the AMD.

MES infrastructure maintenance investments planned up to 2025-2026 will increase the proportion of equipment in good condition (GCI of A, B or C) to 70% and address $20.5 million of the AMD.

To this end, the MES has set as a guideline for its future investment choices to prioritize projects that have a significant impact on improving the condition of buildings and equipment and reducing the AMD.

SITUATION

Investments Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Replacement	Subtotal	Addition and Improvement	
CEGEPs						
2020-2021						
Actual	189.9	31.3	15.5	**236.7**	49.1	**285.8**
Forecast	142.0	33.5	1.4	**176.9**	47.4	**224.3**
Difference	47.9	(2.2)	14.1	**59.8**	1.7	**61.5**
2021-2022						
Probable	189.6	31.0	0.6	**221.2**	48.5	**269.7**
2022-2023						
Forecast	160.1	64.3	1.4	**225.8**	91.1	**316.9**

ADDITIONAL INFORMATION

Investments made in 2020-2021 and probable in 2021-2022, totalling $285.8 million and $269.7 million, respectively, enabled the following projects to be completed or continued in infrastructure maintenance and enhancement:

Infrastructure Maintenance

The main aim of infrastructure maintenance work is to maintain or restore buildings to a satisfactory or better condition (GCI of A, B or C). Some examples of the work carried out are:

- Work on building interior finishes such as suspended ceilings, vinyl tiles, interior paint and floors;
- Replacement of mechanical and electrical systems such as compressed-air distribution systems, furnaces, refrigerated drinking fountains, air conditioners, cold water distribution systems and lighting systems;
- Work to address the AMD, such as the rehabilitation of exterior and interior staircases, doors, wall curtains, brick cladding and building roofs;
- Replacement of institutional equipment;
- Work on standard ground slabs and building foundation walls.

More specifically, such investments facilitated the following projects to be completed or continued:

- Renovation of the library at John Abbott College;
- Redesign of classrooms at CEGEP de Valleyfield;
- Refurbishment of sports locker rooms at Collège de Rosemont;
- Partial refurbishment of the roof at CEGEP de Sherbrooke;
- Replacement of gymnasium floors at CEGEP de Drummondville;
- Reconstruction of the swimming pool at CEGEP de Rivière-du-Loup;
- Design of the technological classroom at Collège d'Alma;
- Asbestos abatement from basement corridors of the central pavilion at CEGEP Marie-Victorin;
- Refurbishment of ventilation systems in C Block at CEGEP du Vieux Montréal.

For 2022-2023, planned infrastructure maintenance investments totalling $225.8 million will make it possible, among other things, to start or complete several projects, including:

- Renovation of sanitary facilities at CEGEP régional de Lanaudière's Joliette campus;
- Roof replacement and related work at CEGEP de La Pocatière;
- Replacement of furnaces at CEGEP Sainte-Foy;
- Redesign and refurbishment of administrative offices at CEGEP du Vieux Montréal.

Infrastructure Enhancement

The primary purposes of infrastructure enhancement are to increase the number of student spaces and improve the quality of services offered. Some examples of the work carried out are:

- Renewing equipment and redesigning premises to allow for upgrading of various college network programs;
- Addition of spaces in Montréal and the surrounding area;
- Expanding CEGEP Gérald-Godin.

In 2022-2023, planned investments for infrastructure enhancement totalling $91.1 million will achieve the following:

- A major expansion project being planned for Collège de Maisonneuve;
- Seven major projects to add space are currently under study for CEGEP régional de Lanaudière's Saint-Hyacinthe campus, Collège Ahuntsic, Montmorency College, CEGEP de Saint-Jérôme, Lionel Groulx College and CEGEP Édouard-Montpetit.

CEGEPs
(continued)

Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022	2022-2023		2021-2022	2022-2023						
Buildings											
Spaces Designated for Funding	35	42	7	6	10	4	326.2	17.1	154.3	(30.5)	467.1
Equipments											
Equipment for Teaching Purposes	N/A	4	n.a.	N/A	32	n.a.	N/A	–	49.2	–	49.2
Rolling Stock	N/A	4	n.a.	N/A	44	n.a.	N/A	–	1.4	–	1.4
Other Equipment	N/A	5	n.a.	N/A	26	n.a.	N/A	–	6.9	–	6.9
Total – Equipments	N/A	4	n.a.	N/A	32	n.a.	N/A	–	57.5	–	57.5
Total – Infrastructures	**35**	**41**	**6**	**6**	**10**	**4**	**326.2**	**17.1**	**211.8**	**(30.5)**	**524.6**

[1] Percentages are weighted according to replacement values.

ADDITIONAL INFORMATION

Changes in Condition

Deterioration of the condition of college buildings noted in 2021 is due primarily to the new inspection cycle, which started in 2020-2021 and had the effect of increasing the need for work within five years for certain colleges.

Changes in the AMD

The $198.4 million increase in AMD is explained by the following factors:

- The $17.1 million increase is attributable to the natural deterioration of all spaces recognized for funding purposes;
- An increase of $211.8 million corresponding to:
  - The $154.3 million increase corresponding to new findings explained by an update in construction costs, and by new asset maintenance needs identified during real estate audits completed in 2020-2021. These correspond to renovations or repairs to standard slabs on ground, foundation walls, exterior walls, roof covering, wall covering, filtration systems and electrical distribution systems;
  - The $57.5 million increase in AMD related to new equipment replacement needs identified in 2021;
- The $30.5 million decrease is explained by repair work on foundations, roofs and an exterior wall carried out during the year. Other factors include the replacement of windows, sanitary equipment, a corrosion-resistant extractor fan system and electrical systems, plus interior finishing work.

INFRASTRUCTURE SUSTAINABILITY

UNIVERSITIES

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings									
Spaces Designated for Funding	30	17	14	61	18	21	162.1	1,052.7	1,214.8
Equipments									
Equipment for Teaching Purposes	23	24	21	68	10	22	14.9	53.3	68.2
Rolling Stock	17	15	10	42	1	57	–	2.5	2.5
Other Equipment	20	28	16	64	1	35	0.2	19.0	19.2
Total – Equipments	23	25	20	68	9	23	15.1	74.8	89.9
Total – Infrastructures	**29**	**18**	**15**	**62**	**17**	**21**	**177.2**	**1,127.5**	**1,304.7**

1 Data as at January 24, 2022.
2 Percentages are weighted according to replacement values.

Objectives

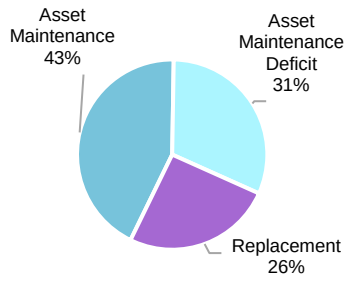
MES university infrastructure maintenance investments will make it possible to achieve the following objectives by March 31, 2026:

- Increase the proportion of buildings and equipment in good condition to 75% (GCI of A, B or C);
- Carry out at least $491.2 million of work intended to reduce the building AMD;
- Carry out at least $64.1 million of work intended to reduce the equipment AMD.

Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	Universities	%
Infrastructure Maintenance		
Asset Maintenance	1,786.1	43
Asset Maintenance Deficit	1,304.7	31
Replacement	1,059.1	26
Total	**4,149.9**	**100**



Addressing the Asset Maintenance Deficit

The MES plans to use the following means to reduce the AMD of universities:

- Prioritize completing repairs or replacing critical components that have reached the end of their useful lives such as roofs, windows, and heating and ventilation systems;
- Work with the establishments to develop plans to decrease their AMD;
- Update their building inspections to prioritize work on their building inventory.

Investment Strategy

The current portrait of university infrastructures indicates that 62% are in good condition (GCI of A, B or C). On the other hand, 17% are in poor condition (GCI of D), and 21% in very poor condition (GCI E). The majority of the most deteriorated infrastructures (GCI of D or E) are buildings that were built before 1980, over 50 years old. Several of these infrastructures are heritage buildings that will require, in the coming years, complex repair work with higher costs, due to the higher price of materials and use of specialized labour.

MES infrastructure maintenance investments planned by 2025-2026 will increase the proportion of university buildings in good condition (GCI of A, B or C) to 75% and address $491.2 million of the AMD.

MES infrastructure maintenance investments planned by 2025-2026 will increase the proportion of university equipment in good condition (GCI of A, B or C) to 75% and address $64.1 million of the AMD.

To this end, the MES has set as a guideline for its future investment choices to prioritize projects that have a significant impact on improving the condition of buildings and equipment and reducing the AMD.

SITUATION

Investments Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Universities						
2020-2021						
Actual	206.0	83.3	113.3	**402.6**	118.2	**520.8**
Forecast	212.2	108.2	123.0	**443.4**	157.7	**601.1**
Difference	(6.2)	(24.9)	(9.7)	**(40.8)**	(39.5)	**(80.3)**
2021-2022						
Probable	249.0	121.7	83.4	**454.1**	171.6	**625.7**
2022-2023						
Forecast	181.8	129.2	99.5	**410.5**	124.3	**534.8**

ADDITIONAL INFORMATION

Differences Between Planned and Actual Investments

The difference between the planned investments for 2020-2021 and actual investments is due mainly to the postponement of certain projects. Postponement was necessary because of, among other things, changes in the scope of certain projects, a lack of internal and external labour, and the interdependence of certain postponed projects.

Investments made in 2020-2021 and probable in 2021-2022, totalling $520.8 million and $625.7 million, respectively, enabled the infrastructure maintenance and enhancement projects to be completed or continued.

Infrastructure Maintenance

The main aim of infrastructure maintenance work is to maintain or restore buildings to satisfactory or better condition. Some examples of the work carried out are:

- Repair work on roofs and exterior cladding of buildings such as roof finishes, masonry and mortar joints;
- Replacement of mechanical and electrical systems such as compressed-air distribution systems, furnaces, refrigerated drinking fountains, air conditioners, cold water distribution systems and lighting systems;
- Work to address the AMD, such as the rehabilitation of doors and exterior staircases, windows, brick cladding and building roofs;
- Major reconstruction work on building facades.

More specifically, such investments facilitated the following projects to be completed or continued:

- McGill University, Raymond Pavilion – Montréal – Refurbishment;
- Concordia University, Vanier Library – Montréal – Renovation;
- Bishop's University, Divinity House – Sherbrooke – Renovation;
- Bishop's University, Pavillon Hamilton – Sherbrooke – Refurbishment;
- Université du Québec à Montréal, Pavillon Judith-Jasmin – Renovation;
- Université de Sherbrooke, Pavillon A5 – Reconstruction;
- McGill University, Pavillon Macdonald-Stewart – Montréal – Refurbishment.

For 2022-2023, planned infrastructure maintenance investments totalling $410.5 million will make it possible, among other things, to start or complete several projects, including:

- Bishop's University, Divinity House: Renovation;
- McGill University, Strathcona Music Building: Refurbishment;
- McGill University, No. 2 furnace: Refurbishment;
- Université de Montréal, Pavillon Roger-Gaudry: Refurbishment;
- Université de Montréal, Site de la Montagne: Redesign of cleared spaces;
- McGill University, Pavillon Macdonald-Stewart: Refurbishment;
- Université de Montréal, Pavillon Roger-Gaudry and Pavillon Marie-Victorin: Redesign.

Infrastructure Enhancement

The primary purposes of infrastructure enhancement are to increase the number of student spaces and improve the quality of services offered. Some examples of the projects carried out are:

- École de technologie supérieure, Pavillon F – Montréal – Construction;
- Université du Québec à Montréal, Pavillon Sanguinet – Refurbishment and expansion;
- Université du Québec à Trois-Rivières, Drummondville campus, Centre national intégré du manufacturier intelligent – Construction;
- Université de Sherbrooke, Campus de la santé – Construction of a knowledge hub;
- École de technologie supérieure, Maison des étudiants – Montréal – Design (floors 2, 4 and 5).

For 2022-2023, planned infrastructure enhancement investments totalling $124.3 million will enable a number of projects to be started or completed, including:

- Acquisition of Pavillon J.-A. Bombardier by Polytechnique Montréal;
- Construction of phase II of the Université de Montréal Science Complex;
- Université du Québec en Abitibi-Témiscamingue, Rouyn-Noranda campus – Expansion.

UNIVERSITIES
(continued)

Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI			AMPI							
	2021-2022	2022-2023	Variation	2021-2022	2022-2023	Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
Buildings											
Spaces Designated for Funding	16	18	2	19	21	2	1,094.2	35.6	199.4	(114.4)	1,214.8
Equipments											
Equipment for Teaching Purposes	N/A	10	n.a.	N/A	22	n.a.	N/A	–	68.2	–	68.2
Rolling Stock	N/A	1	n.a.	N/A	57	n.a.	N/A	–	2.5	–	2.5
Other Equipment	N/A	1	n.a.	N/A	35	n.a.	N/A	–	19.2	–	19.2
Total – Equipments	N/A	9	n.a.	N/A	23	n.a.	N/A	–	89.9	–	89.9
Total – Infrastructures	**16**	**17**	**1**	**19**	**21**	**2**	**1,094.2**	**35.6**	**289.3**	**(114.4)**	**1,304.7**

[1] Percentages are weighted according to replacement values.

ADDITIONAL INFORMATION

Changes in Condition

Overall, the condition of university network infrastructure condition deteriorated slightly in 2021. This situation is due to the work carried out during the year as well as the updating of data necessary to assess the condition of university buildings, including replacement values. As expected in the 2021-2022 AMPI, there is an increase in the AMD as the new inspection cycle of university building inventory progresses.

Changes in the AMD

The $210.5 million increase is explained by the following factors:

- A $35.6 million increase is attributable to the natural deterioration of all spaces recognized for funding purposes;
- An increase of $289.3 million corresponding to:
  - A $199.4 million increase in the AMD corresponding to new findings is due to the identification of new work to be carried out, during new inspections of facades and ventilation systems;
  - The addition of $89.9 million in AMD related to new equipment replacement requirements identified this year;
- The $114.4 million reduction is mainly due to upgrading certain buildings to meet health and safety standards, and replacing obsolete heating, ventilation and air-conditioning systems.

APPENDIX 1

ADDITIONAL INFORMATION

CEGEPS

Building Inspection and Data Updates

Spaces recognized for funding purposes in the college network were initially inspected from 2010 through 2012. Each building component was assessed during these inspections. Inspections were accompanied by a renewal forecast and a list of asset maintenance work required to maintain or restore buildings to satisfactory condition. An annual update of this list was produced for 100% of the surface area of the building inventory in the network to reflect changes in asset maintenance needs and to sustain the work to be carried out in the short term. The condition of the college network building inventory is thus representative of the current situation.

The second inspection cycle in the college network began in 2020. The new network inspections were approximately 70% complete as of December 2021 and are expected to be fully completed in 2022.

Methodology

Colleges use a software package to record the work that they must carry out within the next five years on their buildings, subsequent to inspections conducted by a specialized firm. Condition and AMD assessments for all buildings are based on this list of work recorded in the software according to the inspection parameters set out in the *Cadre de gestion pour les investissements liés aux infrastructures des réseaux d'enseignement collegial et universitaire*, which seeks to obtain a coherent and continuous assessment of building condition that is harmonized throughout the college network.

The government condition indicator and the AMD are assessed based on an FCI[8]. Any building with an FCI above 15% is considered to be in poor condition and the estimate of its AMD is the product of the 15% excess and the building's replacement value.

The condition indicator percentages (A / B / C / D / E) are weighted according to building replacement value.

UNIVERSITIES

Building Inspection and Data Updates

Buildings recognized for funding purposes in the university network were initially inspected from 2014 through the spring of 2016. The second inspection cycle in the university network began in 2019. The new network inspections will be approximately 60% complete by the end of 2021-2022 and are expected to run through 2023-2024.

[8] Facility condition index: the sum of the estimated cost of all the asset maintenance work to be performed over a five-year horizon, divided by the replacement value of the said infrastructure.

Methodology

Universities use a software package to record the work that they must carry out within the next five years on their buildings, subsequent to inspections conducted by a specialized firm. Condition and AMD assessments for all buildings are based on this list of work recorded in the software according to the inspection parameters set out in the *Cadre de gestion pour les investissements liés aux infrastructures des réseaux d'enseignement collegial et universitaire*, which seeks to obtain a coherent and continuous assessment of building condition that is harmonized throughout the university network.

The GCI and the AMD are assessed based on an FCI. Any building with an FCI above 15% is considered to be in poor condition and the estimate of its AMD is the product of the 15% excess and the building's replacement value.

The condition indicator percentages (A / B / C / D / E) are weighted according to building replacement value.

COLLEGE AND UNIVERSITY EQUIPMENT

Inventory and Data Updates

Initial data on the significant equipment for both educational networks are presented in the 2022-2023 AMPI.

The MES lists only equipment of significant value and for which replacement could have a major impact on the QIP Investments forecast. The equipment that must be declared is as follows:

- Equipment with an individual book acquisition value equal to or greater than $100,000;
- Equipment with an individual book acquisition value between $25,000 and $99,999, but that is considered strategic equipment.

The equipment must be in service, functional, and in use by the establishment as of June 30 of the current fiscal year. Information on equipment should normally be obtained from the establishments' fixed asset accounting records (except for the current replacement value), as of June 30 of the current fiscal year.

Methodology

The MES calculates the condition index for the asset by dividing the asset's accumulated depreciation by its acquisition cost. Subsequently, a condition indicator is assigned for each property, based on its condition index:

- A (very good): 0 to 30%;
- B (good): 30.1 to 60%;
- C (satisfactory): 60.1 to 90%;
- D (poor): 90.1 to 99.9%;
- E (very poor): 100%.

An asset maintenance deficit is calculated on equipment that has a condition index of D or E. This deficit corresponds to the asset's current replacement value.

APPENDIX 2

CEGEPs
Buildings

	Quantity	Measurement (sq. m.)	Average Age (years)	Condition Indicator (number)						AMD ($M)
				A	B	C	ABC	D	E	
Cégep de Rimouski	39	101,146	58	8	2	3	13	15	11	53.3
Cégep John Abbott	16	71,657	79	1	1	2	4	5	7	35.2
Collège de Maisonneuve	13	63,823	44	3	1	1	5	3	5	34.7
Collège de Bois-de-Boulogne	13	47,897	51	1	0	1	2	6	5	30.5
Cégep du Vieux Montréal	11	71,124	34	1	3	3	7	3	1	29.3
Cégep de Chicoutimi	44	67,133	48	6	5	6	17	17	10	27.8
Vanier College	15	63,613	71	1	2	3	6	6	3	18.5
Cégep de La Pocatière	15	41,763	50	1	1	0	2	10	3	17.1
Cégep de Victoriaville	20	50,690	50	2	0	2	4	10	6	16.7
Cégep de Sainte-Foy	42	77,861	37	11	8	7	26	9	7	15.4
Cégep de Sherbrooke	24	77,793	39	4	5	4	13	9	2	14.4
Cégep de Saint-Hyacinthe	18	52,816	27	3	1	2	6	10	2	13.9
Cégep Édouard Montpetit	32	105,968	36	5	3	8	16	15	1	13.7
Cégep de l'Abitibi-Témiscamingue	18	52,975	46	6	3	1	10	6	2	13.0
Cégep de Saint-Laurent	22	61,488	82	3	3	7	13	8	1	12.3
Cégep de Trois-Rivières	28	77,110	45	2	2	4	8	19	1	11.7
Collège de Rosemont	9	43,474	46	1	2	0	3	5	1	11.0
Champlain Regional College	23	52,413	39	6	0	4	10	12	1	10.6
Collège Lionel-Groulx	41	70,608	53	5	8	9	22	13	6	8.4
Cégep de Matane	13	28,669	54	2	1	1	4	9	0	8.0
Cégep Garneau	24	61,575	39	4	7	6	17	6	1	5.8
Cégep de Jonquière	26	80,091	42	4	6	8	18	8	0	5.5
Cégep de Valleyfield	8	42,558	61	2	0	4	6	2	0	5.2
Cégep Limoilou	12	76,611	42	3	1	5	9	3	0	4.8
Cégep André-Laurendeau	3	44,584	33	1	1	0	2	1	0	4.5
Cégep de Lévis	36	55,981	38	7	9	7	23	9	4	4.3
Cégep de Sept-Îles	4	16,091	17	3	0	0	3	1	0	4.2
Cégep régional de Lanaudière	28	88,980	35	6	4	9	19	9	0	4.1
Cégep de Sorel-Tracy	4	20,181	39	0	0	0	0	3	1	3.8
Cégep de la Gaspésie et des Îles	22	48,221	55	3	10	6	19	3	0	3.8
Collège Ahuntsic	17	31,734	47	5	2	6	13	4	0	3.4
Cégep de Thetford	10	88,702	31	3	2	1	6	2	2	3.4
Cégep de Saint-Félicien	14	45,907	39	1	0	3	4	10	0	2.9
Cégep Marie-Victorin	21	17,577	31	1	5	9	15	5	1	2.9
Cégep de Saint-Jérôme	24	58,662	48	5	7	5	17	6	1	2.4
Cégep Saint-Jean-sur-Richelieu	22	45,831	54	3	6	5	14	6	2	2.1
Cégep de Rivière-du-Loup	27	40,361	40	8	7	7	22	4	1	1.8

APPENDIX 2
(continued)

CEGEPs
Buildings

	Quantity	Measurement (sq. m.)	Average Age (years)	Condition Indicator (number)						AMD ($M)
				A	B	C	ABC	D	E	
Collège Montmorency	15	70,067	16	8	4	2	14	0	1	1.7
Collège Dawson	12	78,979	72	3	5	2	10	2	0	1.4
Cégep de l'Outaouais	10	64,149	32	2	3	2	7	3	0	1.3
Cégep Beauce-Appalaches	15	27,922	55	4	5	1	10	3	2	1.1
Collège d'Alma	18	25,703	45	3	0	7	10	6	2	0.9
Cégep Gérald-Godin	7	15,857	50	1	2	3	6	1	0	0.2
Cégep de Drummondville	7	23,898	23	3	1	1	5	2	0	0.1
Cégep de Baie-Comeau	15	23,164	44	6	6	1	13	0	2	–
Cégep de Shawinigan	1	31,391	47	0	0	1	1	0	0	–
Collège Héritage	5	15,720	12	3	1	1	5	0	0	–
Cégep de Granby	7	22,913	55	1	5	1	7	0	0	–
Total[1]	**870**	**2,543,431**	**45**	**165**	**150**	**171**	**486**	**289**	**95**	**467.1**

[1] The quantity and dimensions do not match those of the infrastructure inventory because information is unavailable for certain buildings that were not inspected.

APPENDIX 2
(continued)

Universities
Buildings

	Quantity	Measurement (sq. m.)	Average Age (years)	Condition Indicator (number)						AMD ($M)
				A	B	C	ABC	D	E	
Université McGill	159	629,518	84	16	17	24	57	49	53	367.6
Université de Montréal	101	545,012	54	14	16	7	37	12	52	294.4
Université Laval	81	537,044	46	44	10	6	60	11	10	212.9
Université Concordia	58	395,582	79	8	4	8	20	11	27	144.2
Université du Québec à Montréal	31	341,694	54	9	6	7	22	2	7	115.3
Université de Sherbrooke	75	249,070	36	31	17	10	58	10	7	17.8
Université du Québec à Trois-Rivières	39	124,917	30	23	8	2	33	5	1	14.4
Institut national de recherche scientifique	29	79,648	37	12	4	0	16	4	9	13.9
Université du Québec à Rimouski	27	47,035	42	9	6	2	17	6	4	13.1
Université Bishop's	25	53,195	69	6	5	1	12	8	5	11.6
Polytechnique Montréal	11	113,983	34	6	1	3	10	1	0	7.6
HEC Montréal	6	81,458	45	0	1	3	4	1	1	1.4
Université du Québec (siège social)	4	26,560	33	1	1	1	3	1	0	0.3
Université du Québec en Abitibi-Témiscamingue	13	26,668	21	10	0	2	12	1	0	0.2
Université du Québec en Outaouais	12	50,112	44	9	2	0	11	1	0	0.1
École de technologie supérieure	3	87,707	41	3	0	0	3	0	0	–
Université TÉLUQ	1	7,827	21	0	0	1	1	0	0	–
École nationale d'administration publique	1	11,734	22	1	0	0	1	0	0	–
Université du Québec à Chicoutimi	20	80,605	26	15	5	0	20	0	0	–
Total[1]	**696**	**3,489,369**	**55**	**217**	**103**	**77**	**397**	**123**	**176**	**1,214.8**

[1] The quantity and dimensions do not match those of the infrastructure inventory because information is unavailable for certain buildings that were not inspected.

ENVIRONNEMENT ET LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES

INFRASTRUCTURE MANAGEMENT

MINISTÈRE DE L'ENVIRONNEMENT ET DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES

VISION

At the centre of government action, MELCC leadership in combating climate change and protecting the environment enables social development and a green, resilient economy, benefiting current and future generations.

ORIENTATIONS

The MELCC mission is to contribute to Québec's sustainable development by playing a key role in fighting climate change, protecting the environment and conserving biodiversity, for the public's benefit.

The operation, management and oversight of the public dam inventory fall under the MELCC's purview. The MELCC must ensure the safety and functionality of these infrastructures.

More specifically, it must:

- Safely manage dams;
- Inspect and monitor dams so as to ensure their safety and operational efficiency;
- Perform the required maintenance work in keeping with the current legislation;
- Assess the safety of public dams and coordinate response to emergencies;
- For safety and environmental protection reasons, demolish dams that are not essential to the government's mission.

RESPONSIBILITIES

The management of dams is subject to legal obligations that vary according to the type of dam (high-capacity, low-capacity and small dams). In addition to its legal obligations, MELCC takes into account the risks associated with dams, along with the budget and human resources that it has been allocated for their management, and prioritizes interventions.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The MELCC operates and administers 918 dams under the Dam Safety Act (chapter S3.1.01), including 385 high-capacity, 258 low-capacity and 275 small dams.

The Dam Safety Act precisely defines the “high capacity” and “low capacity” dam categories. All dams that fall under the Dam Safety Act and that are more than one metre in height but not considered “high-capacity” or “low-capacity” are referred to as “small dams.”

High-capacity dams are subdivided into two major categories: 48 mechanised dams and 337 non-mechanised dams. Mechanised dams are equipped with electromechanical discharge equipment to manage water levels and flows. Non-mechanised dams are equipped with a fixed threshold that does not allow such management. Accordingly, the complexity of mechanised dams’ components and the need to ensure their reliability and functioning at all times requires major investments in relation to other types of dams.

The MELCC is also responsible for other infrastructure:

- Eight main buildings (service centres) containing office spaces and 22 auxiliary buildings (service buildings, warehouses, workshops, hangars and garages) acting as regional points of service to provide for the operation and maintenance of nearby dams;
- A discharge pipe carrying effluent from the Resolute Forest Products market pulp plant in Saint-Félicien. The pipe, which the MELCC built in 1978, conveys water treated by the plant to the Rivière Mistassini located nearly 15 km away. The pipe had an initial useful life of 25 years, but has been in use for 43 years;
- 25 dams not subject to the Dam Safety Act. Although not subject to the Act, these dams, including a flood protection dike at Pointe-Calumet, are part of the infrastructure inventory under MELCC jurisdiction.

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings							
Service Centers	24	15	30	15	2,560 sq. m	3,364 sq. m	804
Civil Engineering Works							
High-capacity Dams							
Mechanised	47	48	48	0	Variable	Variable	n.a.
Non-mechanised	30	299	337	38	Variable	Variable	n.a.
Low-capacity and Small Dams	52	471	533	62	Variable	Variable	n.a.
Other dams	52	25	25	0	Variable	Variable	n.a.
Effluent Discharge Pipe	46	1	1	0	15 km	15 km	0

[1] Data as at November 2021.

Variation in Inventory

The variation in inventory compared to the previous period is due to:

- The addition of 102 new dams: 99 orphan dams[9], two dams from the MFFP and one dam abandoned by a private owner;
- The removal of two dams, one that was demolished and another that was returned to a private owner;
- The addition of 15 buildings such as service buildings, warehouses, workshops, hangars and garages under MELCC jurisdiction that existed previously but had not been inventoried or inspected.

[9] Dams located on government domain that were not previously under MELCC jurisdiction.

INFRASTRUCTURE SUSTAINABILITY

MINISTÈRE DE L'ENVIRONNEMENT ET DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E[3]	GCI of D	GCI of E	Total
Buildings									
Service Centers	23	17	19	59	21	20	–	0.5	0.5
Civil Engineering Works									
High-capacity Dams									
Mechanised	14	11	11	36	64	0	53.0	–	53.0
Non-mechanised	74	5	1	80	18	2	16.9	1.0	17.9
Total – High-capacity Dams	20	11	10	41	59	0	69.9	1.0	70.9
Low-capacity and Small Dams	7	15	21	43	57	0	0.4	–	0.4
Other dams	6	21	33	60	40	0	–	–	–
Effluent Discharge Pipe	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total – Infrastructures	**19**	**11**	**11**	**41**	**59**	**0**	**70.3**	**1.5**	**71.8**

1 Data as at November 2021.
2 Percentages are weighted according to the infrastructure replacement values.
3 Condition indicator E for civil engineering works corresponds to structures that will be demolished, not structures in very poor condition.

Objectives

The revision of targets established in the 2020-2021 AMPI was required following significant changes to the baseline data, including the inclusion of over 160 dams in the inventory in 2020 and 2021, upward revisions to the replacement values of mechanised high-capacity dams, and the application of new seismic standards that caused a few dams to fall below the satisfactory condition threshold. As a result, new objectives have been established to reflect the changing inventory.

The planned investments in the 2022-2032 QIP for dams under MELCC jurisdiction are intended to achieve the following objectives:

- For mechanised high-capacity dams:
  - Globally reduce the AMD by $27.0 million to reach $26.0 million by March 31, 2025 (initial measurement: $53.0 million in the 2022-2023 AMPI);
  - Achieve a 45% proportion of mechanised high-capacity dams in good condition by March 31, 2025;

- Carry out the following priority investment projects listed in the 2022-2032 QIP:
  - Mégantic dam (Estrie) – Finalize the remedial work on the discharge equipment by March 31, 2023:
    - Take charge of all the AMD listed at $0.5 million;
    - Improve its GCI from D to A;
  - Saint-Didace dam (Lanaudière) – Finalize the remedial work on the discharge equipment by March 31, 2023, and carry out electrical repairs by March 31, 2024:
    - Take charge of all the AMD listed at $1.6 million;
    - Improve its GCI from D to B;
  - Duchesnay dam (Capitale-Nationale) – Finalize the concrete repair work by March 31, 2023, and the mechanical and electrical repair work by March 31, 2025:
    - Take charge of all the AMD listed at $1.5 million;
    - Improve its GCI from D to A;
  - Choinière dam (Estrie) – Carry out the remedial work on the discharge equipment by March 31, 2025:
    - Take charge of all the AMD listed at $2.1 million;
    - Improve its GCI from D to B;
  - Portage-des-Roches dam (Saguenay–Lac-Saint-Jean) – Finalize the remedial work on the gantry crane by March 31, 2023, and carry out remedial work on the gate control by March 31, 2025:
    - Take charge of all the AMD listed at $2.2 million;
    - Improved its GCI from D to C;

- For non-mechanised high-capacity dams:
  - Globally reduce the AMD by $3.9 million to reach $14.0 million by March 31, 2025 (initial measurement: $17.9 million in the 2022-2023 AMPI);
  - Achieve an 81% proportion of non-mechanised high-capacity dams in good condition by March 31, 2025;
  - Carry out the following priority investment projects listed in the 2022-2032 QIP:
    - Emileville Dam (Montérégie) – Finalize the spillway stabilization work by March 31, 2023:
      - Take charge of all the AMD listed at $1.5 million;
      - Improve its GCI from D to A;

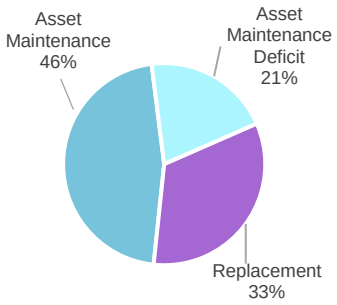
- Reconstruct the Émilie (Capitale-Nationale), Employés-Civils (Capitale-Nationale), Grandes-Pointes (Saguenay–Lac-Saint-Jean), Marsac (Abitibi-Témiscamingue), Lac-Rimouski (Bas-Saint-Laurent), Léger (Abitibi-Témiscamingue), Loutre (Côte-Nord), Pimbina (Mauricie) and Renversi (Capitale-Nationale) dams by March 31, 2025:
  - Take charge of all the AMD listed at $2.2 million;
  - Improved their GCI from D to A;
- Demolish the Mare-du-Sault (Capitale-Nationale) and Wabano (Capitale-Nationale) dams by March 31, 2025:
  - Take charge of all the AMD listed at $0.2 million;
  - Remove these dams from the inventory.

Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	Public Dams	%
Infrastructure Maintenance		
Asset Maintenance	143.6	46
Asset Maintenance Deficit	63.3	21
Replacement[1]	102.9	33
Total	**309.8**	**100**

[1] Replacement includes demolition.



Addressing the Asset Maintenance Deficit

Note: The residual AMD is managed by a private company that benefits from four dams owned by the MELCC.

Investment Strategy

The overall strategy of intervention on dams is based on an integrated asset management approach. This approach relies on better infrastructure knowledge, prioritization of actions based on risk management, and close monitoring of project progress, fostering a better completion rate for investment projects.

Infrastructure knowledge is based on an inspection system that enables continuous monitoring of dam conditions in order to detect defects in time and monitor their evolution. If necessary, safety assessment studies make it possible, by conducting hydraulic, geotechnical, structural, mechanical and electrical studies, to establish what remedial work is required to ensure dam integrity and safety.

Interventions are prioritized based on the repercussions the deficiencies have on the safety of people and property, and on the technical characteristics of the various dam categories, in the following order of priority:

- Restore dams to prevent medium or higher consequences in the event of a failure;
- Maintain the condition of mechanised high-capacity dams. These dams are generally prioritized in planning asset maintenance work because the consequences of a failure or breakdown would generally be more serious than for other categories of dams. Interventions must be planned for the discharge equipment on all these dams to ensure proper operation, particularly under flood conditions;

- Perform maintenance to prevent moderate or higher consequences on non-mechanised high-capacity dams in the event of a failure. These dams are prioritized over dams with low or very low consequences in the event of a failure. Non-mechanised dams usually require less investment in terms of human and financial resources over their useful life. Therefore, MELCC prioritizes essential repair work until conditions require complete reconstruction;
- Repair or maintain the condition of other infrastructure to ensure serviceability.

Continuous project monitoring and control over each phase in execution provides for better control of the investment process. The project management procedure allows the MELCC monitoring committee to document the various project steps and to monitor control points and project progress. The goal is to quickly spot issues that could affect project execution so as to introduce corrective action. A dashboard provides a continuous picture of the situation.

Other Elements

Some events (climatic or other) may make it necessary to take emergency action regarding a dam. Unscheduled work may be added to the plan and, where applicable, have an impact on the completion rate.

SITUATION

Investments Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Replacement	Subtotal	Addition and Improvement	
MELCC						
2020-2021						
Actual	4.8	2.9	3.4	**11.1**	–	**11.1**
Forecast	3.7	8.5	5.8	**18.0**	–	**18.0**
Difference	1.1	(5.6)	(2.4)	**(6.9)**	–	**(6.9)**
2021-2022						
Probable	10.8	4.9	2.3	**18.0**	–	**18.0**
2022-2023						
Forecast	7.3	7.6	12.5	**27.4**	0.3	**27.7**

ADDITIONAL INFORMATION

Investments Made and Planned

The investments for infrastructure maintenance are intended to perform the work required to ensure dam integrity, to protect people and property from risks associated with these works. When planning investments, work on dams that are in poor condition and deemed to be critical to the government's mission are prioritized according to the risk assessment. This work helps maintain and restore dams based on findings noted during inspections.

Government investments intended to maintain public dams allow for the following repairs:

- Heavy mechanical components such as gates, winches, gantries, generating sets or embedded parts;
- Concrete components or correct of concrete pathologies;
- Riprap spillways reshaping, riprap addition or filling of gaps;
- Dikes reshaping, heightening, sealing, stabilization or drainage addition;
- Electrical and control components such as electrical panels, heating systems, automated systems, or communications systems;
- Service buildings, garages or equipment shelters.

Differences Between Planned Investments and Actual Investments

Infrastructure maintenance investments in 2020-2021 totalled $11.1 million, $6.9 million less than the $18.0 million initially planned in the 2020-2030 QIP. This difference is primarily explained by:

- Delays due to unforeseen circumstances in certain projects, such as land management issues or administrative delays in obtaining the provincial and federal authorizations required for certain asset maintenance and demolition projects;
- Postponement of certain work in order to specify their scope, resulting from detailed inspections of certain components, in particular at the Duchesnay (Capitale-Nationale), Saint-Didace (Lanaudière), Allioux (Capitale-Nationale), des Moulins (Lanaudière), Portage-des-Roches (Saguenay–Lac-Saint-Jean), Choinière (Montérégie) dams and the Pointe-Calumet (Laurentides) dike;
- Design analysis longer than expected for the Mathieu-D'Amours dam reconstruction project (Bas-Saint-Laurent);
- More complex projects than expected, such as the work on the Jules-Allard dam (Chaudière-Appalaches) to solve the cavitation problem and the work to replace the electrical system at the Grand-Moulin dam (Laval);
- Some projects require environmental or archaeological characterizations not initially planned.

The probable investments for infrastructure maintenance in 2021-2022 total $18.0 million and will have made it possible to carry out the following work, in particular:

- Reconstruction work on the Armand dam (Mauricie);
- Repair work on the riprap of the Touradi (Bas-Saint-Laurent) and Étang-Malbaie (Capitale-Nationale) dams and stabilization of the Stukely dike (Estrie);
- Part of the concrete repair work on the Duchesnay dam (Capitale-Nationale);
- Part of the stabilization work on the Emileville dam (Montérégie);
- Remedial work on the discharge equipment at the Mégantic (Estrie), Jules-Allard (Chaudière-Appalaches), Waterloo (Montérégie) and Saint-Didace (Lanaudière) dams;
- Remedial work on the lifting devices at the Portage-des-Roches (Saguenay-Lac-Saint-Jean) and Saint-Raymond (Capitale-Nationale) dams;
- Continuation of the upgrading work to bring the Pointe-Calumet dike (Laurentides) up to standard;
- Finalization of the design studies and start of the plan and specification preparation phase for the Mathieu-D'Amours dam (Bas-Saint-Laurent) reconstruction;
- Continuation of the concrete repair work and work to enhance the load-bearing capacity of the bridge at the Sartigan dam (Chaudière-Appalaches);
- Preparatory and preliminary work for the reconstruction of the Lac-Rimouski (Bas-Saint-Laurent), À-la-Loutre (Côte-Nord) and the la Retenue (Capitale-Nationale) dams;
- Repair work on the hangar of the Mont-Laurier service centre (Laurentides);
- Levelling of the De la Montagne dam (Estrie).

Planned investments in asset maintenance and management of the AMD in 2022-2023, totalling $14.9 million, will facilitate the completion of the following projects:

- Finalization of the concrete repair work on the Duchesnay dam (Capitale-Nationale);
- Finalization of the remedial work on the discharge equipment at the Mégantic (Estrie) and Saint-Didace (Lanaudière) dams;
- Continuation of the concrete repair work and work to enhance the load-bearing capacity of the bridge at the Sartigan dam (Chaudière-Appalaches);
- Replacement of the electrical system at the Grand-Moulin dam (Laval);
- Remedial work on the discharge equipment of the Jules-Allard (Chaudière-Appalaches), Ludger (Laurentides) and des Moulins (Lanaudière) dams;
- Finalization of the upgrade of the Pointe-Calumet dike to standards (Laurentides);
- Finalization of the stabilization work on the Emileville dam (Montérégie);
- Safety work at des Quinze (Abitibi-Témiscamingue) and Théodore (Laurentides) dams;
- Remedial work on the lifting and control system at the Portage-des-Roches dam (Saguenay-Lac-Saint-Jean);
- Construction of a garage at the Pibrac service centre (Saguenay-Lac-Saint-Jean).

Planned investments for replacing and levelling the infrastructure in 2022-2023, totalling $12.5 million, will facilitate the completion of the following projects:

- Reconstruction of the Léger (Abitibi-Témiscamingue), Émilie (Capitale-Nationale), Pimbina (Mauricie) and Lac-Rimouski (Bas-Saint-Laurent) dams;
- Preparation of plans and specifications for the reconstruction of the Mathieu-D’Amours dam (Bas-Saint-Laurent);
- Levelling of the Mare-du-Sault dam (Capitale-Nationale).

Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1,2] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022	2022-2023		2021-2022	2022-2023						
Buildings											
Service Centers	20	21	1	21	20	(1)	0.7	–	0.1	(0.3)	0.5
Civil Engineering Works											
High-capacity Dams											
Mechanised	55	64	9	0	0	0	47.9	2.1	8.5	(5.5)	53.0
Non-mechanised	10	18	8	1	2	1	6.3	–	13.0	(1.4)	17.9
Total – High-capacity Dams	52	59	7	0	0	0	54.2	2.1	21.5	(6.9)	70.9
Low-capacity and Small Dams	54	57	3	0	0	0	0.4	–	–	–	0.4
Other Dams	54	40	(14)	0	0	0	–	–	–	–	–
Effluent Discharge Pipe	N/A	N/A	n.a.	N/A	N/A	n.a.	N/A	n.a.	n.a.	n.a.	N/A
Total – Infrastructures	**52**	**59**	**7**	**0**	**0**	**0**	**55.3**	**2.1**	**21.6**	**(7.2)**	**71.8**

1 Percentages are weighted by infrastructure replacement value.
2 The condition indicator E for civil engineering works corresponds to structures that will be demolished, not structures that are in very poor condition.

ADDITIONAL INFORMATION

Changes in Condition

The proportion of mechanised high-capacity dams in poor condition increased by 9% compared to the previous period. This significant change is primarily due to the upward revision of the replacement values for mechanised high-capacity dams.

The proportion of non-mechanised high-capacity dams in poor condition increased by 8% compared to the previous period. This is primarily due to the combined effect of the addition of 40 new dams, 27 of which are in poor condition, and the filing of safety assessment studies that expired during the year, which resulted in the downgrading of some dams that were previously considered to be in good condition but no longer meet the new seismic standards now in effect. As such, five dams went from condition indicator A or B to D. Furthermore, inspections carried out during the period revealed new deficiencies in three dams under MELCC's purview, as compared to previous inspections.

With the addition of 62 dams during the year, including 38 in poor condition, the proportion of low-capacity and small dams in poor condition rose slightly, by 3%.

The proportion of dams not subject to the Dam Safety Act but in poor condition increased by 14% after a revaluation of replacement value.

Changes in the AMD

The AMD assessment for the public dam portfolio focuses primarily on high-capacity dams. These dams represent nearly 90% of the overall dam portfolio value and are the only MELCC infrastructure subject to strict civil security standards. As such, and in accordance with the provisions of the Dam Safety Regulation, the MELCC's investments in public infrastructure primarily target high-capacity dams.

Overall, the AMD increased by $16.5 million from the previous period. This increase is due to:

- The effect of natural deterioration observed during annual inspections of mechanised high-capacity dams. Furthermore, the Choinière and Laniel dams will need additional major work, raising the AMD by $2.1 million;
- New findings representing a net increase of $21.6 million due to:
  - New information or clarification with regards to the scope of work to be performed in light of specialized inspections or additional studies and analyses. All of these new findings had a net increase on the AMD of $4.3 million, representing a $0.8 million increase for mechanised dams and a $3.5 million increase for non-mechanised dams;
  - New dams that have been inspected and require work within five years, i.e. an increase in AMD of $1.1 million;
  - New safety assessment studies confirming that five dams were found to be non-complaint with the seismic standards. As a result, their condition indicators fell below the satisfactory condition threshold, contributing to an $8.2 million increase in the AMD for high-capacity dams;
  - Clarification of parameters for calculating the cost of work, including cost increases or clarifications of estimates, for a net increase of $1.5 million, including $0.4 million for mechanised dams, $0.9 million for non-mechanised dams, $0.1 million for low-capacity and small dams, and $0.1 million for service centres;
  - Updating the investment needs for four public dams for which a private company that benefits from these dams is responsible for carrying out the work. As a result, the AMD for these dams rose by $6.5 million, to total $8.5 million;
- Works completed to address the AMD listed on high-capacity dams. This reduced the AMD listed by $7.2 million.

Appendix 1

ADDITIONAL INFORMATION

Inspection and Data Update

An inspection program for high-capacity dams was developed based on the risk posed by this type of dam (very low, low, moderate, and considerable dam failure consequences). This program applies equally to dams with a condition indicator of A, B or C (up to standard), D (to be renovated) or E (to be dismantled or levelled). Investment needs for dams in poor condition (GCI of D), with a “moderate” or “high” level of consequences are prioritized during work planning and in developing the QIP.

Thus, all high-capacity dams under MELCC jurisdiction are inspected at least once a year, in accordance with the Dam Safety Regulation provisions. The purpose of these inspections is to evaluate the safety of these structures and help guide planning for interventions to be carried out, based on the anomalies observed. According to the priorities established for the required interventions, investment needs are then estimated.

While there is no obligation under the Dam Safety Act, given their low impact on the safety of people and property, in 2018-2019, the MELCC began implementing a four-year visual inspection plan for low-capacity dams, small dams and dams under one metre. These inspections aim to validate the general condition of these structures and confirm their category. An assessment of the relevance of performing work will be completed at a later date, depending on the risk associated with each structure. After the initial four years of the program, 85% of the 512 dams had been inspected. While the program slowed down in 2020-2021 due to the pandemic, it will continue through 2022-2023.

With the addition of more than 160 dams under its jurisdiction over the past two years, the inspection program for all dams was extended for one year to incorporate the new dams. At present, 78 of the 943 dams still need to be inspected (including Other dams).

A mandate was given to a service provider to evaluate the condition of the Saint-Félicien effluent discharge pipe and to conduct a feasibility study for the restoration of this structure. The MELCC conducts regular monitoring to control the risks associated with the use of this pipe.

Methodology

The condition indicator percentages (A / B / C / D / E) are weighted according to the replacement value. A GCI of A, B or C indicates that the dam is in good condition. A GCI of D indicates that the dam is not up to standard or that it requires significant and sometimes urgent asset maintenance work. A GCI of E indicates that the dam is to be levelled.

Condition indicators and the AMD are not extrapolated for low-capacity and small dams, nor for dams that are not subject to requirements, with a few exceptions for dams of significant importance to the population or that pose risks to the safety of property and people.

SANTÉ ET SERVICES SOCIAUX

INFRASTRUCTURE MANAGEMENT

MINISTÈRE DE LA SANTÉ ET DES SERVICES SOCIAUX

VISION

The MSSS seeks to offer an integrated and efficient health and social services network where accessibility and well-being for all are central to its actions.

ORIENTATIONS

To fulfill its mission, which is to maintain, improve and restore the health and well-being of Quebecers by providing access to a range of quality, integrated health and social services, thereby contributing to the social and economic development of Québec, the MSSS had adopted, with respect to the infrastructures under its jurisdiction, the following orientations:

- Ensure the sound management of the HSSN infrastructure[10];
- Carry out new infrastructure investments aimed at priority needs;
- Ensure the safety of individuals and property, prevent the deterioration of buildings and monitor their conservation.

RESPONSIBILITIES

The MSSS determines priorities, objectives and orientations with respect to health and social services and ensures their application.

It evaluates and allocates the funds necessary to maintain assets, reduce the AMD and to add, replace or enhance HSSN infrastructure. In this respect, it ensures that the funds allocated to the HSSN are used for the purposes intended to.

[10] Appendix 1 presents the list of bodies encompassed by the HSSN.

HEALTH AND SOCIAL SERVICES NETWORK

RESPONSIBILITIES

The institutions of the HSSN are responsible for maintaining HSSN infrastructure in accordance with MSSS programs and orientations. They inspect and identify the asset maintenance needs of buildings. In addition, they prioritize and plan investments to be made and then approved by the MSSS as part of the annual update of the three-year fixed asset and equipment intervention plans.

In collaboration with the HSSN institutions, the MSSS updates and certifies each year the building inventory and the inventory of medical equipment.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

Building Inventory

The HSSN building inventory includes 2,734 buildings with a total surface area of 9.5 million square metres. The buildings are divided into seven main categories corresponding to their respective missions:

- Hospitals, which include short-term care centres, health care centres and psychiatric centres;
- CHSLD;
- Rehabilitation centres;
- Youth centres;
- Local community service centres;
- Other buildings, including staff and doctors' quarters, research centres, administrative spaces, warehouses, laundries and boiler rooms;
- Surplus buildings for which no use is foreseen within the next five years.

Medical Equipment

The principal medical equipment includes 16,996 devices used to support health care in specialties such as medical imaging, radiation therapy, medical biology, respiratory therapy and surgery.

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement (sq. m.)		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Real Estates							
Buildings							
Hospital Centres	51	575	577	2	4,801,984	4,804,352	2,368
CHSLD	43	462	462	0	2,135,156	2,135,156	0
Rehabilitation Centres	51	176	176	0	401,373	401,373	0
Youth Centres	52	181	181	0	331,644	331,644	0
Local Community Service Centres	37	190	190	0	367,967	367,967	0
Other[2]	40	1,103	1,105	2	1,324,548	1,325,861	1,313
Surplus Buildings	90	50	43	(7)	158,534	139,961	(18,573)
Total – Buildings		**2,737**	**2,734**	**(3)**	**9,521,206**	**9,506,314**	**(14,892)**
Equipments							
Medical Equipments							
Imaging	8	3,858	3,983	125	n.a.	n.a.	n.a.
Radiotherapy	8	129	127	(2)	n.a.	n.a.	n.a.
Medical Biology	9	1,760	2,171	411	n.a.	n.a.	n.a.
Monitoring (Number Facilities)	8	1,125	1,102	(23)	n.a.	n.a.	n.a.
Respiratory Therapy	7	3,424	3,559	135	n.a.	n.a.	n.a.
Surgery	9	818	891	73	n.a.	n.a.	n.a.
Care	7	1,284	1,412	128	n.a.	n.a.	n.a.
Other	8	3,122	3,751	629	n.a.	n.a.	n.a.
Total – Equipments		**15,520**	**16,996**	**1,476**	**n.a.**	**n.a.**	**n.a.**

1 Data as at September 30, 2021, for building inventory and as at September 15, 2021, for medical equipment.
2 Other buildings include staff and doctors' quarters, research centres, administrative spaces, warehouses, laundries and boiler rooms.

Variation in Inventory

Compared to the previous period, the total number of buildings remained stable with the exception of surplus buildings, which decreased by seven buildings following their disposal during the period.

Compared with the previous period, the total number of medical devices in the HSSN that are valued at $100,000 or more, or are of a strategic nature, regardless of their value, increased by 1,476. This variation is mainly attributable to the acquisition of new devices to meet the needs of the HSSN, particularly due to the pandemic.

INFRASTRUCTURE SUSTAINABILITY

HEALTH AND SOCIAL SERVICES NETWORK

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Real Estates									
Buildings									
Hospital Centres	62	19	11	92	7	1	226.9	104.1	331.0
CHSLD	31	29	21	81	16	3	82.1	82.1	164.2
Rehabilitation Centres	42	20	23	85	12	3	14.4	13.7	28.1
Youth Centres	33	26	10	69	22	9	12.1	42.9	55.0
Local Community Service Centres	42	30	14	86	14	0	14.2	3.8	18.0
Other[3]	53	18	9	80	13	7	43.1	151.8	194.9
Surplus Buildings[4]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total – Buildings	**55**	**21**	**12**	**88**	**10**	**2**	**392.8**	**398.4**	**791.2**
Equipments									
Medical Equipments									
Imaging	22	28	22	72	22	6	240.6	60.1	300.7
Radiotherapy	24	24	27	75	20	5	41.9	11.1	53.0
Medical Biology	14	20	30	64	27	9	52.8	18.8	71.6
Monitoring (Number Facilities)	25	34	23	82	16	2	30.5	3.9	34.4
Respiratory Therapy	40	23	20	83	15	2	27.1	4.0	31.1
Surgery	26	28	19	73	20	7	26.4	9.5	35.9
Care	24	28	30	82	16	2	22.9	3.3	26.2
Other	24	32	24	80	13	7	50.4	28.2	78.6
Total – Equipments	**16**	**29**	**24**	**69**	**23**	**8**	**492.6**	**138.9**	**631.5**
Total – Infrastructures	**53**	**21**	**13**	**87**	**10**	**3**	**885.4**	**537.3**	**1,422.7**

1 Data as at September 30, 2021, for building inventory and as at September 15, 2021, for medical equipment.
2 Percentages are weighted according to replacement values.
3 Other buildings include staff and doctors' quarters, research centres, administrative spaces, warehouses, laundries and boiler rooms.
4 Cursory inspections of surplus buildings do not make it possible to establish their GCI and AMD.

Objectives

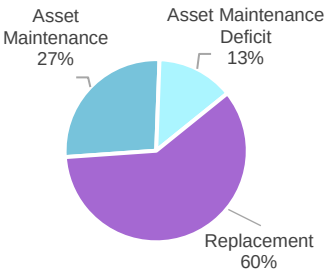
By March 31, 2023, planned investments in the 2022-2032 QIP for buildings and medical devices under MSSS responsibility will make it possible to achieve the following objectives:

- For buildings:
  - Carry out at least $271.5 million of work aimed at reducing the AMD listed on buildings;

- For medical equipment:
  - Replacement of at least $152.9 million of equipment aimed at reducing the AMD listed on medical devices.

Infrastructure Maintenance Investments in the 2022-2032 QIP
(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	HSSN	%
Infrastructure Maintenance		
Asset Maintenance	2,787.6	27
Asset Maintenance Deficit	1,422.7	13
Replacement	6,234.0	60
Total	**10,444.3**	**100**



Addressing the Asset Maintenance Deficit

Investment Strategy

Infrastructure Maintenance

The HSSN institutions' infrastructure management practices are designed to ensure their sustainability and maintain their good condition while preserving access and availability for care. To do so, the asset maintenance investments must be made at the appropriate times throughout the infrastructure's useful life cycle.

To maintain and preserve the current infrastructure portfolio in the coming years, intervention plans are foreseen to meet the following needs:

- Rebuild or renovate CHSLD in poor condition (GCI of D) and very poor condition (GCI of E);
- Upgrade to standards several pipes to control lead and copper levels in drinking water;
- Continue restoring the facades of certain buildings;
- Modernize the most obsolete operating room and emergency departments;
- Implement the recommendations of the asbestos commission regarding the removal of asbestos of the components of certain buildings, primarily those built before 1980;
- Respond to the asset maintenance needs of indoor parking lots;
- Modernize, upgrade and refit existing buildings to make these spaces more functional.

Addressing the AMD

Investments of $1.4 billion planned in the 2022-2032 QIP for the health and social service sector will make it possible to address 100% of the AMD listed for buildings and medical devices.

To ensure AMD management of the HSSN, the MSSS will rely on the following means:

- Participate with HSSN institutions in setting their AMD management targets;
- Support and oversee the HSSN institutions in order to ensure the control and monitoring of proper asset maintenance indicators;
- Promote group purchases of medical equipment, accelerate approvals for replacement projects by two years, and facilitate the hiring of new resources to hasten the acquisition processes.

SITUATION

Investments Listed in the QIP

By Type

(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Health and Social Services						
2020-2021						
Actual	631.8	143.9	605.8	**1,381.5**	770.0	**2,151.5**
Forecast	279.0	115.8	494.3	**889.1**	1,342.1	**2,231.2**
Difference	352.8	28.1	111.5	**492.4**	(572.1)	**(79.7)**
2021-2022						
Probable	313.4	143.9	674.5	**1,131.8**	1,559.9	**2,691.7**
2022-2023						
Forecast	198.6	177.4	606.2	**982.2**	1,595.4	**2,577.6**

ADDITIONAL INFORMATION

Difference Between Planned Investments and Actual Investments

Infrastructure maintenance investments in 2020-2021 totalled $1,381.5 million, which is $492.4 million more than the $889.1 million planned. This difference is mainly explained by the increase in the capacity of the HSSN to carry out infrastructure maintenance work in the building inventory. This increase in capacity is the result of sustained efforts by the MSSS, over the past few years, to support the institutions in carrying out their investment projects. Among the efforts made, we note the increase in the amounts allocated, rigorous supervision in the monitoring of expenditure and the increase in human resources dedicated to the completion of investment projects.

Infrastructure Maintenance

Infrastructure maintenance investments allow for necessary work to be performed to maintain the physical condition of HSSN buildings or to restore those that are in poor condition (reduction of the AMD). These investments are necessary and must be made throughout a building's useful life in order to maintain its service potential, ensure the health and safety of individuals, and counter the building's physical deterioration. Such work focuses on the building structure or exterior, mechanical and electrical systems, and compliance with mandatory codes and standards. Furthermore, investments are also made to replace medical devices, furniture, and other non-medical equipment across the HSSN.

The probable investments for infrastructure maintenance in 2021-2022 total $1,131.8 million and will have made it possible to carry out the following work in particular:

- Hôpital de Granby – Estrie – Elevator replacement;
- Hôpital régional de Saint-Jérôme – Laurentides – Upgrade of the emergency electrical network;

- Hôpital et Centre de réadaptation en dépendance de Val-d'Or – Abitibi – Replacement of the water tower and central air conditioning in the Saint-Sauveur pavilion;
- CHSLD de Métabetchouan–Lac-à-la-Croix – Saguenay–Lac-Saint-Jean – Addition of air conditioning in the care units;
- Centre d'hébergement du Rocher-Percé – Gaspésie – Replacement of the fire alarm panel;
- Lakeshore General Hospital – Montréal – Modification of negative pressure and resuscitation rooms in the intensive care unit and emergency room.

The planned investments of $198.6 million in asset maintenance and $177.4 million to take charge of the AMD for 2022-2023 will notably facilitate the completion of the following projects:

- Centre d'hébergement de La Pinière – Laval – Replacement of a hot water tank;
- Hôtel-Dieu de Lévis – Chaudière-Appalaches – Replacement and repair of the water towers and the operating suite's floors;
- Centre multiservices de santé et de services sociaux Saint-Joseph – Mauricie and Centre-du-Québec – Replacement of the ventilation systems on two levels;
- Institut universitaire de gériatrie de Montréal – Montréal – Replacement and upgrade of mechanical equipment;
- CHSLD de Cartierville – Montréal – Upgrade of the ventilation and air conditioning system.

The planned investments in infrastructure replacement for 2022-2023, totalling $606.2 million, will facilitate the completion of the following projects:

- Hôpital Charles-LeMoyne, Montérégie – Replacement of a linear accelerator in radiation oncology;
- MUHC, Montréal – Replacement of an angiography system in medical imaging;
- Institut de Cardiologie de Montréal – Replacement of intensive care ventilators in respiratory therapy;
- Hôtel-Dieu de Sherbrooke – Estrie – Replacement of physiological monitoring systems in nursing care;
- Centre hospitalier universitaire Sainte-Justine – Montréal – Replacement of a magnetic resonance imaging device in medical imaging.

In addition to the above-mentioned projects, the actual, probable and planned investments in major projects allow, among other things, to pursue the following:

- Hôpital régional de Saint-Jérôme, mental health – Construction;
- Planning of the Hôpital de La Malbaie, emergency and care units – Expansion and redevelopment;
- Planning of the St. Mary's Hospital Centre, care units – Montréal – Reconstruction and redevelopment;
- Planning of the Jewish General Hospital (phase IV) – Montréal – Redevelopment;
- Planning of the Hôpital régional de Saint-Jérôme, technical support centre, surgery – Construction, expansion and redevelopment;
- Planning of the Hôtel-Dieu de Lévis, endoscopic and operating suites and logistics services – Expansion and redevelopment;
- Studies on the Centre hospitalier universitaire Sainte-Justine, centre de réadaptation Marie Enfant – Montréal – Maintenance and enhancement.

Infrastructure Enhancement

Investments made to enhance the inventory in 2020-2021 ($770.0 million) notably enabled the completion or continuation of the following major projects:

- Centre hospitalier universitaire Sainte-Justine, specialized units and research – Montréal – Expansion and redevelopment;
- Institut de Cardiologie de Montréal, emergency, ambulatory services and training centre – Expansion and redevelopment;
- Hôpital du Sacré-Cœur de Montréal, trauma centre and mother-child unit – Expansion and redevelopment;
- Hôpital Fleurimont, mother-child centre and emergency department – Sherbrooke – Construction;
- Hôpital de l'Enfant-Jésus, hospital complex – Québec City – Construction and redevelopment;
- Hôpital de Verdun, care units and ambulatory services – Montréal – Expansion and redevelopment;
- Centre de réadaptation pour jeunes en difficulté d'adaptation – Saint-Jérôme – Construction.

The investments also helped to continue or plan the following projects:

- Hôpital Pierre-Le Gardeur, care unit – Terrebonne – Expansion and redevelopment;
- Centre hospitalier de Vaudreuil-Soulanges, hospital complex – Construction;
- Hôtel-Dieu d'Arthabaska, emergency and operating suites – Victoriaville – Expansion and redevelopment;
- Hôpital Maisonneuve-Rosemont – Montréal – Construction, expansion and redevelopment;
- Centre de santé régional Eeyou-Eenou – Chisasibi – Construction;
- Hôpital de Chicoutimi, operating suite – Saguenay – Maintenance and enhancement.

Finally, the investments allowed for the continuation or the study of the following projects:

- Hôpital Pierre-Boucher, emergency suite and care units – Longueuil – Maintenance and enhancement;
- Hôpital de la Cité-de-la-Santé – Laval – Maintenance and enhancement;
- Douglas Mental Health University Institute – Montréal – Maintenance;
- Hôpital Charles-LeMoyne, mental health – Longueuil – Maintenance and enhancement;
- Centre hospitalier de l'Outaouais, hospital complex – Enhancement;
- Hôpital de Saint-Eustache, emergency suite and care units – Maintenance and enhancement.

The $1,559.9 million in probable investments in 2021-2022 and the $1,595.4 million in planned investments in 2022-2023 will allow, in addition to continuing the projects underway and those in the planning stages, to begin studies of several new major projects, including:

- Hôpital du Suroît, emergency – Salaberry-de-Valleyfield – Maintenance and enhancement;
- Centre hospitalier universitaire Sainte-Justine, Marie Enfant rehabilitation centre – Montréal – Maintenance and enhancement;
- Maison des aînés (former CHSLD Georges-Phaneuf) – Saint-Jean-sur-Richelieu – Maintenance and enhancement;
- Hôpital de réadaptation Villa Medica – Montréal – Enhancement.

Change in Infrastructure Conditions and Asset Maintenance Deficit
By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022	2022-2023		2021-2022	2022-2023						
Real Estates											
Buildings											
Hospital Centres	10	7	(3)	1	1	0	340.1	99.1	–	(108.2)	331.0
CHSLD	17	16	(1)	4	3	(1)	170.3	38.1	–	(44.2)	164.2
Rehabilitation Centres	11	12	1	6	3	(3)	30.8	6.8	–	(9.5)	28.1
Youth Centres	24	22	(2)	8	9	1	59.1	9.0	–	(13.1)	55.0
Local Community Service Centres	14	14	0	1	0	(1)	18.2	5.2	–	(5.4)	18.0
Other	14	13	(1)	7	7	0	204.7	24.8	–	(34.6)	194.9
Surplus Buildings	5	N/A	n.a.	24	N/A	n.a.	59.8	n.a.	(59.8)	n.a.	N/A
Total – Buildings	**12**	**10**	**(2)**	**3**	**2**	**(1)**	**883.0**	**183.0**	**(59.8)**	**(215.0)**	**791.2**
Equipments											
Medical Equipments											
Imaging	23	22	(1)	5	6	1	315.0	65.0	–	(79.3)	300.7
Radiotherapy	17	20	3	6	5	(1)	55.2	16.2	–	(18.4)	53.0
Medical Biology	25	27	2	12	9	(3)	65.1	14.3	–	(7.8)	71.6
Monitoring (Number Facilities)	17	16	(1)	2	2	0	34.7	8.2	–	(8.5)	34.4
Respiratory Therapy	14	15	1	3	2	(1)	29.0	11.6	–	(9.5)	31.1
Surgery	13	20	7	7	7	0	27.8	8.8	–	(0.7)	35.9
Care	16	16	0	2	2	0	25.5	3.9	–	(3.2)	26.2
Other	13	13	0	6	7	1	59.9	18.7	–	–	78.6
Total – Equipments	**19**	**23**	**4**	**5**	**8**	**3**	**612.2**	**146.7**	**–**	**(127.4)**	**631.5**
Total – Infrastructures	**12**	**10**	**(2)**	**3**	**3**	**0**	**1,495.2**	**329.7**	**(59.8)**	**(342.4)**	**1,422.7**

[1] Percentages are weighted according to replacement values.

ADDITIONAL INFORMATION

Buildings

Changes in Condition

Overall, the proportion of buildings in poor condition (GCI of D) and in very poor condition (GCI of E) improved slightly compared with the previous year.

In the pandemic context that prevailed again this year, HSSN institutions were able to primarily complete some of the asset maintenance projects that were underway, thereby contributing to reducing the AMD and improving the condition of their infrastructure. The planning and execution of several asset maintenance projects will continue this year to meet increasing needs.

Changes in the AMD

The net decrease in the buildings' AMD of $91.8 million is explained by:

- Indexation of the cost of work to be done, for a value of $183.0 million;
- Completion of priority asset maintenance work, which reduced the total by $215.0 million;
- Withdrawal of the AMD listed of $59.8 million for surplus buildings. The inspections carried out of surplus buildings do not make it possible to establish their GCI and AMD. As a result, the MSSS no longer monitor GCIs and AMDs for buildings in this building category. In addition to expenditures incurred to ensure the integrity and safety of these buildings, the MSSS does not anticipate performing additional work on surplus buildings whose use has been discontinued.

Medical Devices

Changes in Condition

Overall, the proportion of medical devices with a GCI of D or E increased slightly compared with the previous year. The implementation of the continuous device replacement program made it possible to carry out a large part of the planned device replacements in HSSN institutions. However, the pandemic context slowed the replacement and completion of certain new medical equipment installation projects.

Changes in the AMD

The net increase in the AMD of medical devices for the period is $19.3 million.

The AMD increased by $146.7 million during the period due to an increase in the number of devices in the HSSN whose actual age exceeds the pre-established standardized service life. In return, the planned replacement of devices in HSSN institutions, subsidized for by investments allocations in the QIP, helped reduce the AMD by $127.4 million.

Despite an increase in the AMD of medical devices for the period, the MSSS still anticipates an important reduction in this AMD over the coming years. To do so, starting in the fall of 2019, the MSSS approves equipment replacement projects for three-year periods instead of a single year, which makes it possible to optimize the equipment replacement process. Furthermore, the MSSS will continue its efforts to accelerate the replacement and installation of new medical equipment.

Appendix 1

ADDITIONAL INFORMATION

Five-year Inspection and Building Inventory Data

The second inspection cycle was completed at the end of 2021. This new data now needs to be analyzed and will go into effect next year. Unlike the previous cycle (2015-2020), the inspections were performed by the technical personnel of each institution rather than by private firms, except for the inspection of the most complex components (facades, seismic reinforcement and asbestos decontamination).

The updated data of the inventory will make it possible to calculate the new AMD for the building inventory by the end of 2022.

Data Update Regarding Asset Maintenance Projects

The update of data regarding asset maintenance projects is completed by HSSN institutions during the annual update of real estate preservation and functionality plans (PCFI) and equipment and furniture preservation plans (PCEM) in the MSSS asset management system (Actifs + Réseau).

Methodology

The GCI and the AMD only estimate the physical deterioration of a building and do not take into account the functional obsolescence of buildings, that is, an outmoded development concept, inadequate configuration or non-optimal space layout, excluding the mandatory upgrades which are considered in the GCI and AMD. Thus, the evaluation of the physical deterioration of a building does not account for its functional obsolescence.

The condition of a device is determined according to its actual age in relation to its pre-established standardized useful life. Medical devices are usually replaced at the end of their useful life. The AMD of medical devices equals to the investment needs for the replacement of medical devices whose age exceeds the pre-established standardized service life.

The condition indicator percentages (A / B / C / D / E) are determined based on the replacement value of buildings or medical devices. For additional information, Appendix 3 presents the condition indicator of buildings according to their age group.

APPENDIX 2

COMPOSITION OF THE GROUPS OF BODIES

Health and Social Services Network

CISSS du Bas-Saint-Laurent
CIUSSS du Saguenay – Lac-Saint-Jean
CHU de Québec – Université Laval
CIUSSS de la Capitale-Nationale
Institut universitaire de cardiologie et de pneumologie de Québec – Université Laval
CIUSSS de la Mauricie-et-du-Centre-du-Québec
CIUSSS de l'Estrie – CHUS
CIUSSS de l'Ouest-de-l'Île-de-Montréal
CIUSSS du Centre-Ouest-de-l'Île-de-Montréal
CIUSSS du Centre-Sud-de-l'Île-de-Montréal
CIUSSS du Nord-de-l'Île-de-Montréal
CIUSSS de l'Est-de-l'Île-de-Montréal
CHUM
CHU Sainte-Justine
CUSM
Institut de Cardiologie de Montréal
Institut national de psychiatrie légale Philippe-Pinel
CISSS de l'Outaouais
CISSS de l'Abitibi-Témiscamingue
CISSS de la Côte-Nord
CLSC Naskapi
CRSSS de la Baie-James
CISSS de la Gaspésie
CISSS des Îles
CISSS de Chaudière-Appalaches
CISSS de Laval
CISSS de Lanaudière
CISSS des Laurentides
CISSS de la Montérégie-Centre
CISSS de la Montérégie-Est
CISSS de la Montérégie-Ouest
RRSSS du Nunavik
Cree Board of Health and Social Services of James Bay

APPENDIX 3

DETAILED INVENTORY

The Health and Social Services Network

Buildings[1]

	Quantity	Measurement (sq. m.)	Government Condition Indicator (%)					
			A	B	C	ABC	D	E
0-10 years								
Hospital centres	50	753,387	100	0	0	100	0	0
CHSLD	34	103,189	100	0	0	100	0	0
Rehabilitation centres	10	25,614	100	0	0	100	0	0
Youth centres	17	17,045	100	0	0	100	0	0
Local community service centres	19	37,388	100	0	0	100	0	0
Other	194	244,277	100	0	0	100	0	0
11-20 years								
Hospital centres	59	324,303	100	0	0	100	0	0
CHSLD	42	184,642	95	5	0	100	0	0
Rehabilitation centres	14	38,348	98	0	2	100	0	0
Youth centres	13	9,721	63	0	37	100	0	0
Local community service centres	38	65,146	72	26	0	98	2	0
Other	179	71,251	89	1	5	95	4	1
21-30 years								
Hospital centres	57	256,906	89	5	6	100	0	0
CHSLD	85	304,208	39	41	15	95	5	0
Rehabilitation centres	10	4,119	70	14	0	84	16	0
Youth centres	12	31,832	79	14	7	100	0	0
Local community service centres	31	27,680	29	22	30	81	19	0
Other	145	113,307	46	30	12	88	6	6
31-40 years								
Hospital centres	40	255,503	48	34	9	91	8	1
CHSLD	66	299,981	20	33	31	84	11	5
Rehabilitation centres	22	12,768	54	12	16	82	18	0
Youth centres	11	7,425	27	33	34	94	6	0
Local community service centres	34	66,617	9	45	21	75	25	0
Other	84	68,731	66	13	11	90	6	4
41-50 years								
Hospital centres	70	490,444	58	23	12	93	5	2
CHSLD	83	373,018	13	32	28	73	24	3
Rehabilitation centres	31	62,419	44	19	10	73	27	0
Youth centres	34	48,387	8	48	4	60	26	14
Local community service centres	20	32,916	16	61	16	93	1	6
Other	115	97,072	31	30	8	69	21	10

APPENDIX 3
(continued)

The Health and Social Services Network
Buildings[1]

	Quantity	Measurement (sq. m.)	Government Condition Indicator (%)					
			A	B	C	ABC	D	E
51-60 years								
Hospital centres	80	665,530	34	39	22	95	3	2
CHSLD	79	389,212	17	29	22	68	25	7
Rehabilitation centres	38	150,726	16	20	45	81	13	6
Youth centres	39	87,391	29	24	1	54	29	17
Local community service centres	15	43,402	35	14	11	60	40	0
Other	128	216,924	39	22	11	72	19	9
61-70 years								
Hospital centres	89	918,481	35	27	17	79	20	1
CHSLD	31	148,792	15	28	17	60	39	1
Rehabilitation centres	23	34,529	10	56	9	75	10	15
Youth centres	19	36,086	35	41	13	89	11	0
Local community service centres	16	48,191	17	52	26	95	5	0
Other	116	211,854	32	22	12	66	15	19
70 years and more								
Hospital centres	132	1,139,798	61	18	10	89	10	1
CHSLD	42	332,114	20	35	27	82	15	3
Rehabilitation centres	28	72,850	54	23	16	93	7	0
Youth centres	36	93,757	15	22	20	57	36	7
Local community service centres	17	46,628	47	20	14	81	19	0
Other	144	302,445	29	25	16	70	24	6
Total	**2,691**	**9,366,353**	**55**	**21**	**12**	**88**	**10**	**2**

[1] Inspected buildings. Surplus buildings are not considered in this appendix.

TOURISME

INFRASTRUCTURE MANAGEMENT

OLYMPIC PARK

VISION

The Olympic Park's vision for infrastructure management is to safely operate its facilities to their fullest potential, in keeping with their heritage value.

ORIENTATION

Since its new constituting Act came into effect on November 1, 2020, the Olympic Park's mission is "to develop, manage, promote and operate Olympic Park facilities and to enhance its Olympic heritage and legacy." To successfully carry out this mission, it has adopted the following orientation with respect to the infrastructure and systems for which it is responsible:

- Securing, upgrading, renovating and modernizing facilities, systems and equipment.

It carries out its mission in accordance with the principles set out in the *Sustainable Development Act*. The Olympic Park intends to fully assume its role in this regard by maintaining, repairing, modernizing, optimizing, upgrading and restoring the value in use of its infrastructure so it retains its socio-economic and community value.

RESPONSIBILITIES

The Olympic Park, which is under the legal responsibility of the Minister of Tourism, must manage its infrastructure and plan any actions that need to be taken.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The Olympic Park infrastructure portfolio consists of numerous buildings and systems that are unique in the world and grouped as follows: the Olympic Stadium and adjoining buildings (Tower, Sports Centre, administrative offices and leased spaces), the roof, the Esplanade, all outdoor spaces around the Olympic Stadium, and parking lots.

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)[2]	Quantity			Measurement (sq. m.)		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings							
Olympic Stadium and Other Buildings	29	12	12	0	295,912	295,912	0
Roof	23	1	1	0	23,266	23,266	0
Esplanade and Outdoor Spaces Around the Olympic Stadium	28	3	3	0	150,533	150,533	0
Civil Engineering Works							
Parking Lots	16	8	8	0	163,043	163,043	0

1 Data as at December 1, 2021.

2 Average age represents the “effective” age of infrastructure assets. It refers to the age that an infrastructure shows (observed condition), taking into account such elements as the chronological age, work carried out and usefulness of the infrastructure.

INFRASTRUCTURE SUSTAINABILITY

OLYMPIC PARK

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings									
Olympic Stadium and Other Buildings	11	14	0	25	65	10	371.3	87.3	458.6
Roof	0	0	0	0	0	100	–	N/A	N/A
Esplanade and Outdoor Spaces Around the Olympic Stadium	22	2	15	39	42	19	42.3	56.0	98.3
Total – Buildings	11	12	1	24	60	16	413.6	143.3	556.9
Civil Engineering Works									
Parking Lots	33	31	17	81	19	0	13.5	–	13.5
Total – Infrastructures	**13**	**14**	**3**	**30**	**56**	**14**	**427.1**	**143.3**	**570.4**

1 Data as at December 1, 2021.
2 Percentages are weighted according to replacement values.

Objectives

The goals presented in the 2021-2022 AMPI were revised in 2022 to reflect available investment levels, the interdependence of several projects, and the organization's strategic priorities. As a result, there is a significant increase in investments dedicated to address the AMD infrastructure in the Olympic Stadium and Other Buildings category.

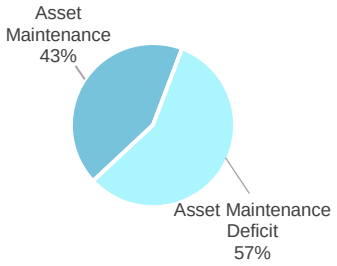
By March 31, 2027, planned investments for the Olympic Park should allow to:

- Achieve or maintain the following proportions with a GCI of satisfactory or better (GCI of A, B or C) in the following categories:
  - Olympic Stadium and Other Buildings: 44%;
  - Roof: 100%;
  - Esplanade and outdoor spaces around the Olympic Stadium: 39%;
  - Parking lots: 81%;
- Reduce the AMD to a total of:
  - $253.7 million for the Olympic Stadium and Other Buildings, i.e., a decrease of $204.9 million;
  - $97.1 million for the esplanade and outdoor spaces around the Olympic Stadium, i.e., a decrease of $1.2 million.

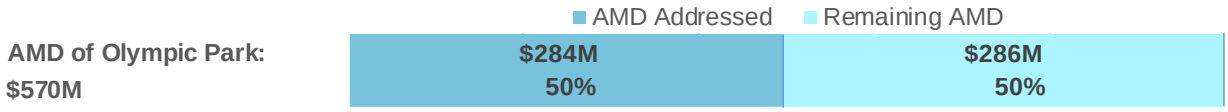
Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	Olympic Park	%
Infrastructure Maintenance		
Asset Maintenance	211.5	43
Asset Maintenance Deficit	283.6	57
Total	**495.1**	**100**



Addressing the Asset Maintenance Deficit



Investment Strategy

The Olympic Park's infrastructure management practices and the investments made in recent years have maintained 30% of the overall infrastructure in good condition. However, the Olympic Park is ageing and must continue to be modernized. In line with its new mission adopted in 2020 to develop and enhance the Olympic heritage and legacy, the organization has adjusted its investment strategy in order to achieve its objectives. Thus, the targeted projects, specifically the rehabilitation of leased spaces and the development of the Tower's tourist areas and East Hall will make it possible to address part of the AMD while substantially increasing the potential for own-source revenues.

The $495.1 million total infrastructure maintenance investments will allow asset maintenance work to proceed with a view to achieving the organization's business objectives and enhancing the client experience for visitors, partners and promoters, including $283.6 million to allow for addressing 50% of the AMD.

SITUATION

Investments Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Olympic Park						
2020-2021						
Actual	20.4	19.0	–	**39.4**	0.6	**40.0**
Forecast	21.7	41.6	5.5	**68.8**	–	**68.8**
Difference	(1.3)	(22.6)	(5.5)	**(29.4)**	0.6	**(28.8)**
2021-2022						
Probable	16.2	21.1	–	**37.3**	0.4	**37.7**
2022-2023						
Forecast	12.2	75.1	–	**87.3**	6.3	**93.6**

ADDITIONAL INFORMATION

Investments in 2020-2021 and probable investments in 2021-2022, totalling $40.0 million and $37.7 million, respectively, enabled the following main projects to be continued or completed:

- Rehabilitation of the fire alarm system (work);
- Repairs to a section of the parking lots (work);
- Repairs to Sector 900 of the Esplanade – Skatepark and pools (work);
- Montréal Tower upgrading and renovation program (work);
- Renovation of the Montréal Tower tourist areas (plans and specifications);
- Replacement of the funicular (plans and specifications);
- Development of the base building on floors 8 to 14 of the Montréal Tower (work);
- Maintenance of structural components (plans and specifications and work);
- Redevelopment of the site’s eastern access (Vert-Viau project) (plans and specifications);
- Repairs to administrative offices (plans and specifications);
- Replacement of the Olympic Stadium roof (continued business case development);
- Stadium modernization program (plans and specifications).

The difference of $28.8 million between planned investments and investments made in 2020-2021 is primarily attributable to the health crisis, which resulted in work stoppages and slowdowns as well as delays in international procurement processes. Investment delays for this period were necessary due to, among other things, the need for additional studies, a lack of internal resources, interdependencies with partner work taking place in the Olympic Park quadrangle, and adjustments to procurement strategies.

Planned investments in 2022-2023 amounting to $93.6 million will mainly make it possible to complete the following strategic projects:

- Renovation of the tourist areas of the Montréal Tower (plans and specifications and work);
- Replacement of the funicular (plans and specifications and work);
- Restoration of the Tower's roof exterior (plans and specifications and work);
- Replacement of the Olympic Stadium roof (continued business case development and call for proposals);
- East Hall restoration (plans and specifications);
- Part of the Stadium modernization program, including interrelated roof projects:
  - Stadium modernization – main stadium lighting (plans and specifications);
  - Stadium modernization – soundproofing equipment (plans and specifications);
  - Stadium modernization – electric generators (plans and specifications);
  - Stadium modernization – stadium's electrical and mechanical systems (plans and specifications);
  - Stadium modernization – IT and telecommunications infrastructure (plans and specifications).

These investments will also facilitate the continuation of the following projects for 2022-2023:

- Development of the base building on floors 8 to 14 of the Montréal Tower (work);
- Maintenance of structural components (plans and specifications and work);
- Redevelopment of the site's eastern access (Vert-Viau Project) (plans and specifications and work).

Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022	2022-2023		2021-2022	2022-2023						
Buildings											
Olympic Stadium and Other Buildings	65	65	0	10	10	0	378.5	–	95.5	(15.4)	458.6
Roof	0	0	0	100	100	0	N/A	n.a.	n.a.	na.	N/A
Esplanade and Outdoor Spaces Around the Olympic Stadium	23	42	19	38	19	(19)	98.5	–	(0.1)	(0.1)	98.3
Total – Buildings	**59**	**60**	**1**	**17**	**16**	**(1)**	**477.0**	**–**	**95.4**	**(15.5)**	**556.9**
Civil Engineering Works											
Parking Lots	19	19	0	0	0	0	14.0	–	–	(0.5)	13.5
Total – Infrastructures	**55**	**56**	**1**	**15**	**14**	**(1)**	**491.0**	**–**	**95.4**	**(16.0)**	**570.4**

[1] Percentages are weighted according to replacement values.

ADDITIONAL INFORMATION

Changes in Condition

The proportion of infrastructure in poor and very poor condition (GCI of D or E) has improved slightly. However, surveys and inspections have identified new repair needs, for which work is planned, resulting in an increase in the AMD. In addition, 19% of the infrastructure in the “Esplanade and Outdoor Spaces Around the Olympic Stadium” category changed from very poor to poor condition due to corrections to the distribution of work required on certain sections of the outdoor spaces.

Changes in the AMD

The $79.4 million increase in the AMD in the 2022-2023 AMPI compared to the 2021-2022 AMPI is mainly due to:

- The addition of new findings valued at $95.4 million, consisting of:
  - The addition of new needs under the “Olympic Stadium and Other Buildings” category, amounting to $103.1 million, mainly related to the replacement of some systems and equipment of the Stadium enclosure, the renovation of tourist areas, and the exterior renovation of the Montréal Tower roof;
  - An estimated reduction of $7.6 million in the estimate for replacing the main stadium’s lighting in the “Olympic Stadium and Other Buildings” category;
  - A downward adjustment of $0.1 million in the cost of work to be completed on infrastructure in the “Esplanade and Outdoor Spaces Around the Olympic Stadium” category;

- Reduction of the AMD evaluated at $16.0 million, consisting of:
  - An amount of $15.4 million attributable to upgrading structural components and systems as well as the completion of work on the fire alarm system for infrastructure in the “Olympic Stadium and Other Buildings” category;
  - An amount of $0.1 million for the replacement of the Sherbrooke Street stairs, which is included in the “Esplanade and Outdoor Spaces Around the Olympic Stadium” category;
  - An amount of $0.5 million for repair work in the “Parking lots”.

APPENDIX 1

ADDITIONAL INFORMATION

Inspection and Data Update

Annual follow-up and ongoing updates to the work to be performed on the overall site are carried out in order to maintain a representative state of the Olympic Park's condition. Assessment of the park's infrastructure as part of a five-year monitoring program of Olympic Park structures are also conducted on an ongoing basis.

Methodology

Based on the expertise obtained, the Olympic Stadium roof has reached the end of its useful life and can no longer be repaired. Consequently, it must be replaced and it is not therefore necessary to evaluate the AMD. The project to replace the Olympic Stadium roof is included in the "planning stage" category of the 2022-2032 QIP. In the meantime, to guarantee the absolute safety of anyone occupying the space, the Olympic Park has applied an occupancy management protocol for the main enclosure. The Régie du bâtiment du Québec reviews and approves the protocol annually.

The condition indicator percentages (A / B / C / D / E) are weighted according to replacement values.

APPENDIX 2

DETAILED INVENTORY

	Quantity	Measurement (sq. m.)	Average Age (years)	Condition Indicator	Asset Maintenance Deficit ($M)
Olympic Stadium and Other Buildings					
Montréal Tower, Tourist Spaces and Observatory	3	27,503	23	B	74.8
Stadium (Tiers, Access Balconies, Play Area and Technical Services)	4	187,428	45	D	341.9
Sports Center	1	32,572	7	B	–
Thermal Power Plant	1	8,306	10	B	–
Administrative Offices and leased spaces	2	27,681	38	E	41.9
Institut national du sport du Québec (INSQ)	1	12,422	7	A	–
Total	**12**	**295,912**	**29**	**D**	**458.6**
Roof	**1**	**23,266**	**23**	**E**	**ND**
Esplanade and Outdoor Spaces Around the Olympic Stadium					
Soccer Practice Pitch (P5-2 Roof)	1	17,489	9	A	–
Walkway Around the Stadium and Access Points	1	84,666	31	D	36.0
Esplanade (Sectors 100 to 900) and Access Points	1	48,378	44	D	62.3
Total	**3**	**150,533**	**28**	**D**	**98.3**
Parking lots					
Indoor parking (P1)	1	32,315	7	A	–
Indoor parking (P2 et P3)	2	58,889	13	D	13.5
Indoor parking (P4)	1	21,552	15	A	–
Indoor parking (P5 Level 1)	1	22,582	7	B	–
Indoor parking (P5 Level 2)	1	17,708	5	B	–
Outdoor parking (P7 - StarCité Cinema)	1	5,010	21	B	–
Outdoor parking (P8)	1	4,987	45	B	–
Total	**8**	**163,043**	**16**	**B**	**13.5**

TRANSPORTS

INFRASTRUCTURE MANAGEMENT

MINISTÈRE DES TRANSPORTS

VISION

As a major player in the organization of Transport systems, the MTQ exercises innovative leadership in managing the transport networks, equipment, services and programs for which it is responsible. The main focus of its activities is to ensure rigorous, innovative and competent management of the major road network[11], essential for economic exchange and for linking regions of Québec.

ORIENTATIONS

The MTQ mission is to ensure, across Québec, the sustainable mobility of individuals and goods by means of efficient, safe transport systems that contribute to Québec's development. Maintaining road infrastructure in good condition, especially roads and structures, is central to its initiatives and devotes a substantial portion of its budgets to it.

In accordance with its mission, the MTQ must ensure that major projects, asset maintenance work and new infrastructure construction are carried out. It must also ensure the replacement of infrastructure that is required because of the age or condition of the infrastructure. The work of the MTQ aims to expand and adapt the road network to meet the needs of citizens and ensure Québec's economic development. In its 2019-2023 Strategic Plan, the MTQ adopted the following orientations:

- Invest in the maintenance of the transport system infrastructure;
- Ensure an efficient and safe transport system that has a smaller carbon footprint and supports a strong economy.

RESPONSIBILITIES

The MTQ is responsible for carrying out all construction, repair and maintenance work required for the infrastructure under its jurisdiction. The acquisition and disposition of building components are also governed by laws and regulations that define the department's initiatives. The Minister of Transport is also responsible for the STQ.

Furthermore, the MTQ administers financial assistance programs[12] to meet the priority needs of public transit corporations. It must ensure that applications from transit corporations comply with the rules established and oversee accountability for spending from the standpoint of government investments.

[11] Major road network: network that includes autoroutes, national, regional and collector roads, as well as resource access roads.
[12] The financial assistance programs are presented in Appendix 1.

The Act respecting the ministère des transports and the Act respecting roads stipulate the powers and obligations of the Minister, and more particularly those relating to road network management under their responsibility. In this respect, the Act specifies that the MTQ can carry out on the network all acts and exercise all of the rights of an owner, although it stipulates that the local municipalities own roads that the government builds or rebuilds, except for autoroutes, which the government owns, or those declared by government decree to be autoroutes.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The MTQ manages major road network totalling 31,091 kilometres and 5,495 structures, (overpasses, bridges over watercourses, tunnels and retaining walls). Since 2007, the MTQ has also been responsible for 4,264 bridges located in the municipal network whose management was ceded back to municipalities in 1993.

The MTQ assets also include a portfolio of culverts less than three metres wide. This portfolio consists of 62,035 culverts distributed on the road network managed by the MTQ, 12,775 of which are part of the RSSCE.

Other infrastructure also falls under MTQ responsibility. Inspections conducted on this infrastructure are geared and documented to ensure compliance with the safety standards in force. The infrastructure consists of:

- Buildings: wayside parks (roadside rest areas and service areas) and airport terminal buildings;
- Civil engineering works: overhead and roadside sign structures;
- Electrotechnical equipment (lighting systems and light signals);
- Air, rail and marine transport infrastructure: airports, heliports, the Société de chemin de fer de la Gaspésie and the Chemin de fer de Québec Central, ferry terminals and wharves.

MINISTÈRE DES TRANSPORTS

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Civil Engineering Works							
Highway System Roadways	N/A	n.a.	n.a.	n.a.	31,039 km	31,091 km	52 km
Structures							
Highway System	40	5,475	5,495	20	5,020,736 sq. m	5,030,925 sq. m	10,189 sq. m
Municipal Bridges	48	4,265	4,264	(1)	754,548 sq. m	755,581 sq. m	1,033 sq. m
Culverts Under 3 m	N/A	61,814	62,035	221	1,446,859 m	1,454,297 m	7,438 m

[1] Results based on data from 2020 reports for the 2022-2023 AMPI.

Variation in Inventory

Highway System Roadways

The inventory of roadway kilometres has varied slightly over the years. This variance can be justified by the construction of new roadway segments, the addition of divided roadways, the extension of an existing road, or the acquisition or transfer of kilometres to municipalities. Compared to the 2021-2022 AMPI, an increase of 52 kilometres was noted.

Highway System Structures and Municipal Bridges

The number of highway system structures has increased by 20 overall as a result of road redesign, system development, replacement of some culverts with structures larger than 4.5 metres and the demolition of some structures. For the municipal network inventory, only one structure was demolished without being replaced.

Culverts Less than Three Metres Wide

The inventory consigned to AMPI varies slightly each year. Compared to the 2021-2022 AMPI, the number of culverts has increased from 61,814 to 62,035. New culverts are inventoried each year, particularly due to the fact that culverts are not always accounted for following their construction, especially culverts built before 2000. Furthermore, changes in culvert characteristics following reconstruction and the addition of new culverts directly affects the inventory. Note that the number of culverts can also drop when, for example, a culvert is eliminated or is replaced by a structure.

INFRASTRUCTURE SUSTAINABILITY

MINISTÈRE DES TRANSPORTS

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Civil Engineering Works									
	By Length								
Highway System Roadways	17	22	11	50	21	29			
	By Value						2,101.0	7,214.0	9,315.0
	16	24	12	52	21	27			
Structures	By Number								
	20	28	29	77	7	16			
Highway System	By Value						–	8,393.6	8,393.6
	9	18	27	54	8	38			
	By Number								
	16	12	33	61	7	32			
Municipal Bridges	By Value						–	614.0	614.0
	12	13	36	61	8	31			
	By Number								
	49	23	11	83	9	8			
Culverts Under 3 m	By Value						531.1	563.2	1,094.3
	50	22	11	83	9	8			
Total by Value[2]	**16**	**21**	**19**	**56**	**14**	**30**	**2,632.1**	**16,784.8**	**19,416.9**

1 Results based on data from 2020 reports.
2 The overall GCI percentage of MTQ assets, weighted by value, is presented here for government accountability purposes. These indicators are not used by the MTQ to monitor its Strategic Plan.

Objectives

The strategies put forward by the expert units are updated annually in order to slow the AMD growth and improve the proportion of infrastructure in good condition. In this respect, the MTQ 2019-2023 Strategic Plan intends to achieve the following objectives by 2022-2023:

- 53% of roadways (based on length) on the major road network in good condition according to the GCI;
- 79% of major road network structures (based on number) in good condition according to the GCI;
- 61% of municipal bridges (based on number) managed by the MTQ in good condition according to the GCI.

The MTQ estimates that current planned investments in the QIP and deployed strategies will reduce the AMD on its assets by $1.8 billion by the 2024-2025 AMPI[13].

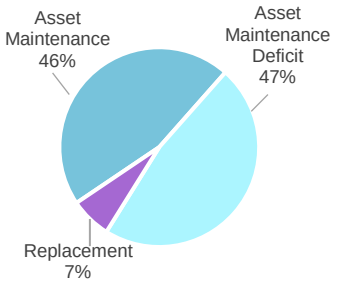
The AMD of $19.4 billion is the result of underinvestment in road infrastructure maintenance, particularly between 1980 and 2000. Furthermore, since a large proportion of road network structures have been built between 1960 and 1970, many are at the end of their useful life which means their reconstruction will require significant investments in the coming years.

[13] This target does not take into account natural deterioration and new findings on the road asset portfolio that would be identified in the coming years.

Infrastructure Maintenance Investments in the 2022-2032 QIP

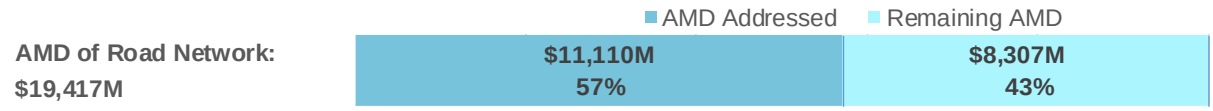
(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	Road Network	%
Infrastructure Maintenance		
Asset Maintenance	10,786.4	46
Asset Maintenance Deficit	11,110.5	47
Replacement	1,565.4	7
Total	**23,462.3**	**100**



Note: Figures are rounded and the sum of the amounts may not correspond to the total indicated.

Addressing the Asset Maintenance Deficit[1, 2]



1 Level of planned investments in the 2022-2032 QIP to perform interventions on assets in AMD status.

2 Residual AMD includes AMD on which investments were made prior to the 2022-2032 QIP, but for which the reduction of the AMD will be fully recognized when the infrastructure is put into service.

Investment Strategies

In the 2022-2032 QIP, investments of $11.1 billion to manage AMD are planned in order to carry out interventions on assets, which could ultimately reduce up to 57% of all the AMD listed to date. However, the natural degradation of road infrastructure will influence the variation of the AMD in the coming years.

In addition, it should be noted that investments made will allow for a reduction of the AMD only after the infrastructure has been put into service.

Although they are not included in their physical obsolescence, carrying out work related to functional development on existing infrastructure, essential in particular for increasing road safety, traffic management and adaptation to climate change, require the use of an increasingly significant portion of the investment envelopes available in infrastructure maintenance. The MTQ will continue to clarify the effect of these interventions on the rate of the AMD management in the coming years.

Highway System Roadways

The MTQ has adopted a planning strategy for roadway conservation interventions to ensure that road network users enjoy a high level of service, and to maximize the long-term benefits of investments. The challenge is to invest in the right roadway at the right time by using the proper techniques, through optimum planning of interventions, and by avoiding the “worst is first” reflex.

Therefore, the MTQ intends to allocate most available investments to perform rehabilitation interventions that offer superior benefits and returns in relation to cost intended to restore roadways to good condition and take control of their AMD. The short-term goal will be to carry out an optimal number of interventions that will extend the end of their useful life and improve ride comfort on as many kilometres of roadways as possible, thereby contributing to improving the condition of the road network.

The evolving strategy will be adapted to each MTQ territory based on conditions and required interventions on their networks, financial parameters as well as the targets set in the MTQ strategic planning.

To that end, and to achieve the 53% target of roadways in good condition (GCI of A, B or C according to length) by 2023, the MTQ will plan interventions based on modern principles of sound road asset management. This relies on five complementary components:

- Initiate immediate work on roadways where the pavement condition could compromise safety;
- Perform preventive work to keep roadways in good condition and extend their useful life by means of economic interventions;
- Carry out minor rehabilitation interventions offering superior benefits and returns in relation to cost based on the residual useful life of the roadways;
- Carry out major rehabilitation interventions offering superior benefits and returns in relation to cost based on the residual useful life of the roadways;
- Limit work that addresses other considerations and uncertainties through interventions that do not fall within other components.

In addition to following the above parameters, the MTQ aims to strike a balance between investments in complex interventions (that remedy major deficiencies) and investments in basic interventions (that remedy minor deficiencies). Furthermore, special attention should be paid to heavily used road segments that display rutting.

Highway System Structures and Municipal Bridges

The intervention strategy devoted to structures prioritizes measures that ensure public safety. The MTQ initiatives also seek to maintain assets to ensure the portfolio's sustainability. Finally, because of the necessary investments, the strategic importance of structures and multi-year planning of initiatives, major structures are handled separately.

Indeed, based on the 2021-2023 integrated intervention strategy, the preservation of structures hinges on four key principles:

- Slowing the pace at which structures deteriorate through targeted preventive maintenance interventions and low-cost repairs likely to postpone investments in major interventions by between five and 10 years;
- Reducing the number of structures to be repaired on the RSSCE;
- Focusing efforts to repair structures on interventions limited to correcting structural deficiencies or other safety issues, while avoiding "non-priority" interventions;
- Making medium- and long-term changes to how structure intervention needs are addressed, with an eye to increasing the time available for planning and undertaking major repair work.

In its strategic planning for the work to be carried out in the coming years, the MTQ has planned several major reconstruction and restoration projects on main highway system structures that are in poor condition. These investments will help reduce the current AMD on these structures by more than 85%. These projects include:

- Major repair work on the Ville-Marie and Viger tunnels, as well as the Louis-Hippolyte-La Fontaine tunnel;
- Reconstruction of the Honoré-Mercier, Île-d'Orléans and Île-aux-Tourtes bridges;
- Major repair of the eastern section of the Autoroute 40 (Autoroute Métropolitaine), east sector.

Culverts Less than Three Metres Wide

The intervention strategy for culverts with an opening of less than three metres aims to respond to the following four objectives:

- Undertaking interventions on culverts posing a risk to user safety or that are necessary to maintain the level of road network service;
- Undertaking interventions on culverts located underneath roadway projects;
- Undertaking preventive interventions on culverts in good condition;
- Undertaking interventions on culverts in poor condition, in cases where only minor work is required to restore them to good condition.

This prioritization makes it possible to ensure user safety, optimal use of resources and the sustainability of culverts. Furthermore, it avoids the “worst is first” reflex.

SITUATION

MINISTÈRE DES TRANSPORTS

Investments Listed in the QIP
By Type

(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Replacement	Subtotal	Addition and Improvement	
Ministère des Transports						
2020-2021						
Actual	919.9	667.9	308.6	**1,896.4**	518.1	**2,414.5**
Forecast	725.9	1,056.2	278.3	**2,060.4**	481.0	**2,541.4**
Difference	194.0	(388.3)	30.3	**(164.0)**	37.1	**(126.9)**
2021-2022						
Probable	1,086.5	1,066.0	194.8	**2,347.3**	553.2	**2,900.5**
2022-2023						
Forecast	1,035.4	991.7	86.3	**2,113.4**	668.3	**2,781.7**

ADDITIONAL INFORMATION

Differences Between Planned and Actual Investments

Investments made in 2020-2021 for infrastructure maintenance totalled $1,896.4 million, which is $164.0 million less than initially planned. This difference is explained primarily by the slower completion of certain projects, such as:

- Ville-Marie and Viger tunnels – Montréal – Repair;
- Gouin bridge between Saint-Jean-sur-Richelieu and Iberville – Reconstruction.

Investments made in in 2020-2021 for inventory enhancement totalled $518.1 million, which is $37.1 million more than initially planned. This difference is explained primarily by the completion of certain projects faster than anticipated, such as:

- Autoroute 85 (Claude Béchard) between Saint-Antonin and Saint-Louis-du-Ha! Ha! (phase III) – Construction;
- Route 169, bypass around the Isle-Maligne and Delisle districts – Alma – Construction.

Infrastructure Maintenance

Investments made in 2020-2021 and probable in 2021-2022 to infrastructure maintenance totalled $1,896.4 million and $2,347.3 million respectively. It made possible to carry out or continue the following work:

- Quatre-Bourgeois overpass above Autoroute 73 – Québec – Reconstruction;
- Route 138, Côte Arsène Gagnon — Les Bergeronnes — Reconstruction;
- Turcot interchange — Montréal — Reconstruction;
- Autoroute 40 (Félix-Leclerc) east, between Kirkland and Baie-d'Urfé — Reconstruction;
- Pierre-Laporte Bridge between Québec City and Lévis – Repair;
- Pont Pie-IX (route 125) between Montréal and Laval – Repair.

Furthermore, for the year 2022-2023, planned investments for infrastructure maintenance total 2,113.4 million and will be allocated to the following projects, among others:

- Louis-Hippolyte-La Fontaine tunnel between Montréal and Longueuil – Repair;
- Ville-Marie and Viger tunnels – Montréal – Repair;
- Tunnel Dorval (autoroute 13) between Montréal and Dorval – Repair.

Infrastructure Enhancement

Investments made in 2020-2021 and probable in 2021-2022 planned for inventory enhancement totalled $518.1 million and $553.2 million, respectively, and made it possible to carry out or continue the following work:

- Autoroute 73 (Henri-IV) between autoroute 40 and autoroute 440 — Québec — Expansion;
- Autoroute 85 (Claude Béchard) between Saint-Antonin and Saint-Louis-du-Ha! Ha! (phase III) – Construction;
- Autoroute 30 between Brossard and Boucherville, roadway and UBS – Repair and development;
- Autoroute 35 between Saint-Sébastien and Saint-Armand (Phase III) – Construction;
- Promenade Samuel-De Champlain — phase III — Québec — Construction.

For 2022-2023, investments of $668.3 million are planned for inventory enhancement and carry out the following work:

- Route 139 – Granby – Repair et construction;
- Highway 19 between Laval and Bois-des-Filion – Construction;
- Autoroute 15 north, between Boisbriand and Mirabel, reserved lane – Development.

MINISTÈRE DES TRANSPORTS

Change in Infrastructure Condition and Asset Maintenance Deficit[1]

	GCI of D (%)			GCI of E (%)			Asset Maintenance Deficit ($M)				
	AMPI			AMPI							
	2021-2022	2022-2023	Variation	2021-2022	2022-2023	Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
Civil Engineering Works											
	By Length										
Highway System Roadways	22	21	(1)	29	29	0					
	By Value						7,914.0	1,653.0	434.0	(686.0)	9,315.0
	22	21	(1)	28	27	(1)					
Structures	By Number										
	8	7	(1)	15	16	1					
Highway System	By Value						8,444.8	8.8	394.4	(454.4)	8,393.6
	9	8	(1)	38	38	0					
	By Number										
	9	7	(2)	32	32	0					
Municipal Bridges	By Value						613.2	10.0	54.9	(64.1)	614.0
	9	8	(1)	33	31	(2)					
	By Number										
	9	9	0	8	8	0					
Culverts Under 3 m	By Value						951.5	114.6	182.5	(154.3)	1,094.3
	8	9	1	8	8	0					
Total by Value[2]	**15**	**14**	**(1)**	**31**	**30**	**(1)**	**17,923.5**	**1,786.4**	**1,065.8**	**(1,358.8)**	**19,416.9**

1 Results based on data from the 2019 reports for the 2021-2022 AMPI and the 2020 reports for the 2022-2023 AMPI.
2 The overall GCI percentage of MTQ assets, weighted by value, is presented here for government accountability purposes. These indicators are not used by the MTQ to monitor its Strategic Plan.

ADDITIONAL INFORMATION

Changes in Condition

Overall, the condition of the road network infrastructure continued to improve this year. This improvement can be explained by the repair work and reconstruction work carried out on all MTQ road assets.

Changes in the AMD

The overall $1,493.4 million increase in AMD reflects the natural deterioration in the portfolio, updated cost of work, as well as progress status on certain projects.

Natural deterioration

An increase of $1,786.4 million is the result of natural deterioration found during routine inspections or assessment, which breaks down as follows:

- An amount of $1,653.0 million for roadways with a null residual useful life[14] or less than three years:
  - An amount of $1,119.0 million for the natural aging of 1,176 kilometres of roadways that passed the major deficiency threshold this year, resulting in greater and more expensive intervention needs;
  - An amount of $534.0 million for the natural aging of 1,058 kilometres of roadways that reached a residual useful life of less than three years this year, i.e., the threshold for a segment of roadway to be considered an AMD;
- An amount of $114.6 million for culverts;
- An amount of $10.0 million for municipal bridges and $8.8 million for highway system structures.

New findings

An increase of $1,065.8 million resulted primarily from the following:

- Overall increase of $434.0 million due to the updated need for intervention and the upward revision of costs of roadway repair work;
- An amount of $394.4 million for highway system structures and $54.9 million for municipal bridges following the update of work plans and new deficient structures over the past five years;
- An amount of $182.5 million for culverts related to the upward revision of costs of work and the addition of some new inspection requirements.

Reduction

The reduction of $1,358.8 million is the result of work on deficient infrastructure:

- $686.0 million devoted to repair work on roadways, intended to remedy their deficiencies;
- $454.4 million for highway system structures and $64.1 million for municipal bridges as a result of interventions to rehabilitate, reconstruct and correct deficiencies;
- $154.3 million in culvert interventions.

[14] The residual useful life of a roadway indicates the number of years remaining before it reaches the major deficiency threshold according to one of the four indicators used in the assessment. These indicators are described in Appendix 1.

APPENDIX 1

ADDITIONAL INFORMATION

MINISTÈRE DES TRANSPORTS

Inspection and Data Update

Due to data collection processing and analysis delays regarding inspections and work carried out on road infrastructure under the responsibility of the MTQ, the 2022-2023 AMPI was prepared using information from 2020 reports. This report enables the MTQ to present a report on the AMD condition aligned with the latest certified data from inspections and with intervention strategies implemented during the same period.

Highway System Roadways

The MTQ monitors 83% of main paved roadways, which is 25,819 km out of the 31,091 km of Québec's highway system. The unmonitored portion of roadways mainly comprises gravel roads and onramps.

Structures (highway system and municipal bridges)

The inspection program provides a comprehensive picture of the condition of all structures under the responsibility of the MTQ. Follow-up is carried out by means of different types of inspections at frequencies that vary depending on the age and the level of deterioration of the structure.

Culverts Less than Three Metres Wide

Culverts are inspected according to the methodology found in the culvert inspection program. These inspections make it possible to learn the condition of culverts located under the roads making up the road network under the MTQ management. The frequency with which a culvert is inspected is determined by its condition, characteristics and the importance of the road link.

Methodology

Highway System Roadways

The evaluation of the AMD and the GCI hinges on data from inspections conducted in 2020. The extrapolation for the AMD and the GCI is performed taking into account representativeness and relative scope of the unmonitored portions of the network.

Condition Indicator

For more than 15 years, the MTQ has been inspecting the main paved roadways, monitoring changes in their condition and publishing an annual report based on various road condition indicators.

Until 2019, the IRI was the only indicator used to describe roadway condition. This indicator was used by a very large number of road administrations around the world. Its definition and calculation are subject to international standards. This was the indicator used by the MTQ to evaluate its performance on the strategic plan.

APPENDIX 1
(continued)

Since 2019, four indicators have been combined to create a new indicator integrated for the purposes of the GCI: the IRI, the rutting index, the cracking index and vulnerability to freezing. A road segment can offer good ride quality although it displays a fairly high-cracking rate. The combination of the four indicators means that the assessment presented based on the GCI can differ from that relying solely on the IRI. As a result, using this combination of indices better links the condition of infrastructure to the investments necessary to attain what is deemed satisfactory or better condition.

This new indicator is used by the MTQ to set performance targets based on the percentage of the road network in good condition. The MTQ reports them in its annual report, and publishes the results of its monitoring in its annual report on the condition of the road network. A roadway in good condition is defined as a road segment whose four-indicator value is below the threshold between what is deemed good condition and a condition that requires intervention.

Asset Maintenance Deficit

The AMD value of roadways represents the cost of work to repair roadways in poor and very poor condition for which the intervention has not been carried out. As a result, these roadways have reached a severely deficient state where, for some, the residual useful life is three years or less.

Structures (Highway System and Municipal Bridges)

Condition Indicator

For several years the MTQ has used different indicators to monitor the safety, functionality and general condition of structures. The key indicator that most road authorities use is the “proportion of the number of structures in good condition,” which, for GCI purposes, corresponds to all condition indicators above the threshold, which are: very good (A), good (B) and satisfactory (C), while structures “to be repaired” are allocated based on condition indices of: poor (D) and very poor (E).

At the MTQ, this indicator is based on the inspection data, targeting the main elements whose condition will require work within the next five years. Other complementary indicators are also used, such as:

- The functionality index of a structure, which determines whether the structure satisfies users’ needs;
- The behaviour index of a structure, which reflects its stability and safety.

Combining the results of these indicators makes it possible to select most worthwhile and advantageous interventions.

The “proportion of structures in good condition” indicator is expressed as a number, facilitating its interpretation. However, this approach has the drawback of attributing the same weight to each structure, regardless of size. Another way of presenting the information, which appears in the previous table, is in a percentage of the value of structures. This approach has the advantage of making the connection between investment needs from the viewpoint of the relative importance of structures. Consequently, high-value structures influence the comprehensive overview of the GCI of structures.

APPENDIX 1
(continued)

Asset Maintenance Deficit

The AMD of structures in the major road network and municipal bridges is the total work required for more than five years to restore the condition of structures. This value is largely influenced by a few key structures requiring work and for which the MTQ has planned major work, such as the Louis-Hippolyte-La Fontaine tunnel, and Ville-Marie and Viger tunnels, as well as the Île-aux-Tourtes, Île-d'Orléans and Honoré-Mercier bridges. The MTQ will continue to foster initiatives that ensure public safety while being committed to a replacement and maintenance cycle of aging assets for many years.

Finally, the MTQ has also developed other indicators in response to specific needs:

- The general condition indicator provides a cursory picture of the condition of structures for the general public classifying them into four main categories:
  - Those requiring replacement;
  - Those requiring major work;
  - Those requiring repairs;
  - Those requiring no intervention;
- The index of investments to be made for restoration, developed at the request of the Auditor General of Québec.

The *Bilan de l'état des structures* presents information on the highway system structures and municipal bridges under the responsibility of the MTQ. The *Rapport annuel de gestion du ministère des Transports* includes accountability based on targets established under the 2019-2023 Strategic Plan. The MTQ presents the general inspection reports on its structures on its website.

Culverts Less than Three Metres Wide

Condition Indicator

The MTQ inspects culverts based on 18 criteria divided into four categories: structural capacity, hydraulic capacity, condition of the embankment and the roadway, as well as the condition of other components such as the headwall.

These inspections attribute a CCI to each culvert. The CCI determines the GCI linked to the infrastructure.

Culverts that are classified as A, B or C are deemed to be in good condition and do not require any major intervention in the short term. Some of them may require minor repairs or maintenance to ensure their proper operation and to prolong their useful life. Culverts that are in poor condition, in condition class D and E, require repairs, rehabilitation or reconstruction.

Asset Maintenance Deficit

The AMD for culverts less than three metres wide represents the cost of asset maintenance interventions required to restore culverts considered in poor and very poor condition (GCI of D and E) to good condition.

INFRASTRUCTURE MANAGEMENT

PUBLIC TRANSIT CORPORATIONS

RESPONSIBILITIES

Since they own their infrastructure, public transit corporations are responsible for the construction, maintenance, operation and funding of such infrastructure, including compliance with the related regulations.

Consequently, each public transit corporation is responsible for evaluating documenting and updating data related to the condition of infrastructure to support optimum management focused on their priorities.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The infrastructure portfolio of public transit corporations comprises buildings such as terminals and bus shelters, garages for mechanical maintenance of equipment, stations, and administrative and service buildings.

Civil engineering works include the infrastructure related to operating the Métro, i.e., stations and tunnels, auxiliary structures, reserved bus lanes and parking lots, and sites required to adequately manage the fleet of vehicles. Such structures also include infrastructure related to the operation of the train network, i.e., railroads, bridges, culverts, tunnels and walls.

Finally, equipment comprises Métro cars, including the new state-of-the-art AZUR cars that combine better reliability, higher capacity and greater comfort. Equipment related to the operation of the train network, i.e., locomotives and passenger cars, are also under the responsibility of the public transit corporations. The public transit equipment inventory also includes a fleet of buses that provides quality public transit, intervention vehicles and all other equipment essential to ensure service continuity.

PUBLIC TRANSIT CORPORATIONS

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings							
Stations	22	51	50	(1)	1,222,073 sq. m	1,220,253 sq. m	(1,820) sq. m
Garages and Workshops	34	42	44	2	1,386,945 sq. m	1,447,027 sq. m	60,082 sq. m
Terminus	17	61	61	0	390,506 sq. m	411,604 sq. m	21,098 sq. m
Administration and Services	45	136	17	(119)	125,637 sq. m	125,779 sq. m	142 sq. m
Bus Shelters, Shelters and Temperature-controlled Stations	14	4,943	5,001	58	48,341 sq. m	53,584 sq. m	5,243 sq. m
Civil Engineering Works							
Métro							
Stations	45	68	68	0	249,701 sq. m	249,701 sq. m	0 sq. m
Tunnels	43	92	92	0	67 km	67 km	0 km
Auxiliary Structures[2]	43	N/A	119	n.a.	N/A	N/A	n.a.
Trains							
Railroad Tracks	9	n.a.	n.a.	n.a.	44 km	55 km	11 km
Bridges, Culverts, Tunnels and Walls	29	215	214	(1)	n.a.	n.a.	n.a.
Reserved Lanes	13	n.a.	n.a.	n.a.	438 km	428 km	(10) km
Park-and-ride Lots	14	46	47	1	625,096 sq. m	625,096 sq. m	0 sq. m
Equipments							
Métro Cars							
MR-73	45	423	360	(63)	n.a.	n.a.	n.a.
AZUR	4	513	612	99	n.a.	n.a.	n.a.
Buses							
Standard	8	3,572	3,701	129	n.a.	n.a.	n.a.
Articulated	10	468	465	(3)	n.a.	n.a.	n.a.
Minibus	6	136	137	1	n.a.	n.a.	n.a.
Trains							
Locomotives	17	41	41	0	n.a.	n.a.	n.a.
Passenger Rail Cars	14	206	206	0	n.a.	n.a.	n.a.
Electric Rail Cars	n.a.	58	0	(58)	n.a.	n.a.	n.a.
Emergency Response Vehicules	6	750	754	4	n.a.	n.a.	n.a.
Other[3]	12	465	79	(386)	n.a.	n.a.	n.a.

1 Results based on data as at December 31, 2021.
2 The auxiliary structures correspond to the infrastructure that contains the métro's electrical and mechanical equipment.
3 The "Other" category includes the following elements: elevating platforms, mechanical and washing sweepers, lift trucks, floor cleaners, electric vehicles and platforms.

Variation in Inventory

The increase in the number of infrastructures in the “bus shelters, protective shelters and heated stations” category results from the update of the inventory of bus shelters that are under the exo’s responsibility.

The decrease in the number of infrastructures in the “administrative and services” category is explained by the reclassification of the 119 auxiliary structures with the métro’s civil engineering works.

The “electric railcars” category has been removed from the 2022-2023 AMPI inventory as this type of vehicles were used to operate exo’s Deux-Montagnes line, which is now closed.

The decrease in the number of equipment in the “other” category is the result of the removal of fixed equipment presented in the 2021-2022 AMPI as it is not included in the present inventory. It is mainly lifting and maintenance equipment for the garages and workshops.

INFRASTRUCTURE SUSTAINABILITY

PUBLIC TRANSIT CORPORATIONS

Change in Infrastructure Conditions[1] By Infrastructure Type and Category

	Government Condition Indicator (GCI) (%)					
	A	B	C	ABC	D	E
Buildings						
Stations	2	26	42	70	30	0
Garages and Workshops	16	19	23	58	23	19
Terminus	27	27	29	83	11	6
Administration and Services	31	25	19	75	0	25
Bus Shelters, Shelters and Temperature-controlled Stations	28	33	29	90	8	2
Civil Engineering Works						
Métro						
Stations	20	37	22	79	12	9
Tunnels	95	4	1	100	0	0
Auxiliary Structures	5	5	29	39	32	29
Trains						
Railroad Tracks	23	77	0	100	0	0
Bridges, Culverts, Tunnels and Walls	38	24	19	81	16	3
Reserved Lanes	24	56	19	99	1	0
Park-and-ride Lots	29	49	22	100	0	0
Equipments						
Métro Cars						
MR-73	0	0	0	0	100	0
AZUR	100	0	0	100	0	0
Buses						
Standard	39	29	26	94	3	3
Articulated	0	24	19	43	55	2
Minibus	39	23	28	90	8	2
Trains						
Locomotives	44	7	49	100	0	0
Passenger Rail Cars	78	0	22	100	0	0
Emergency Response Vehicules	9	13	22	44	55	1
Other	22	20	11	53	33	14
Total – Infrastructures[2]	**42**	**21**	**17**	**80**	**14**	**6**

1 Results mainly based on data as at December 31, 2021.
2 Percentages are weighted according to replacement values.

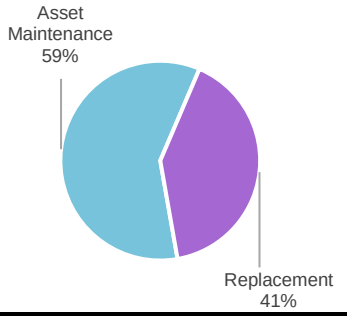
Objectives

- Offer a safe, high-quality and safe service offer that adheres to current standards;
- Maintain infrastructure in good condition (GCI of A, B or C) by means of continuous replacement and refurbishment of equipment, rolling stock and infrastructure that has reached the end of its useful life.

Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	Public Transit	%
Infrastructure Maintenance		
Asset Maintenance	1,521.7	59
Replacement	1,048.3	41
Total	**2,570.0**	**100**



Investment Strategy

The majority of the public transit corporations' infrastructure portfolio is in good condition (GCI of A, B or C). This situation illustrates the efforts made by these corporations, while supported by the MTQ assistance programs, to maintain and develop infrastructures that delivers efficient, quality services and meets the needs of Quebecers.

Therefore, to provide safe, dependable and fast services and to counter the deterioration of the infrastructure portfolio, investments of nearly $2.6 billion are planned to maintain and replace infrastructure at the end of its useful life.

In concrete terms, the key investment projects planned for infrastructure maintenance aim to:

- Replace fixed métro equipment, including escalators, ventilation, elevators and train control equipment;
- Perform general repairs to critical métro civil engineering works, such as electrical, mechanical and structural systems;
- Reconstruct and upgrade buildings, such as the STM's Crémazie complex, the RTL operations centre in Saint-Hubert and exo's Île-Perrot stations;
- Replace rolling stock, including passenger cars and locomotives from the train network, Métro cars and buses.

Finally, considering the relative importance of the replacement value of the métro's infrastructure, it will be necessary to carry out major asset maintenance work in order to counter their deterioration and maintain or restore them to a satisfactory or better condition (GCI of A, B or C).

SITUATION

PUBLIC TRANSIT CORPORATIONS

Investments Listed in the QIP
By Type of Investment
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Replacement	Subtotal	Addition and Improvement	
Public Transit Authorities						
2020-2021						
Actual	146.9	–	235.4	**382.3**	680.3	**1,062.6**
Forecast	93.9	–	174.1	**268.0**	1,428.3	**1,696.3**
Difference	53.0	–	61.3	**114.3**	(748.0)	**(633.7)**
2021-2022						
Probable[1]	666.3	–	248.9	**915.2**	1,744.9	**2,660.1**
2022-2023						
Forecast	274.1	–	116.4	**390.5**	627.7	**1,018.2**

[1] The year 2021-2022 includes the advance payment of $1,120.0 million in financial assistance for programs to maintain and enhance the infrastructure as well as for preparatory works for a major project under STM's responsibility.

ADDITIONAL INFORMATION

Differences Between Planned and Actual Investments

Investments in infrastructure maintenance in 2020-2021 totalled $382.3 million, which is $114.3 million more than initially planned. This difference is primarily due to the following projects:

- The STM's Complexe Crémazie – Montréal – Reconstruction;
- Montréal Métro, AZUR Métro cars – Replacement.

Investments in 2020-2021 to enhance the portfolio totalled $680.3 million, which is $748.0 million less than initially planned. This discrepancy is mainly due to the facts that the investments announced in May 2020 as part of the economic recovery did not achieve much in 2020-2021 and to the slower-than-expected completion of projects such as the "Integrated bus rapid transit service on Boulevard Pie-IX between Montréal and Laval – Development and construction". However, other projects were faster-than-expected like the "exo's commuter train network, passenger cars (type 2000) – Greater Montréal area – Acquisition".

Infrastructure Maintenance

As for the funds allocated by the MTQ to support the public transit corporations, the probable investments in 2021-2022 and the planned investments in 2022-2023, totalling $915.2 million and $390.5 million, respectively, enabled the following key projects to be continued or carried out:

- Montréal métro, AZUR Métro cars — Replacement;
- The continuation of the Montréal Métro renovation programs:
  - Réno-Infrastructures program (repair of stations, auxiliary structures, tunnels, garages and workshops);
  - Réno-Systèmes program (replacement or upgrading of operations-related equipment, including, for example, ventilation, elevators and track equipment such as rail supports and guide bars).

Probable investments in 2021-2022 include financial assistance paid in advance to the STM of $1,120.0 million, including $543.0 million for asset maintenance.

Infrastructure Enhancement

Probable investments in 2021-2022 and planned investments in 2022-2023, totalling $1,744.9 million and $627.7 million, respectively, enabled the following key projects to be continued or carried out:

- Integrated bus rapid transit service on Boulevard Pie-IX between Montréal and Laval – Development and construction;
- Structuring public transit network in Québec City – Construction;
- Montréal Métro, station accessibility program (phase I) — Enhancement;
- STM’s garage in Côte-Vertu — Montréal — Construction;
- Montréal Métro, blue line from the Saint-Michel station to Anjou – Extension;
- STM’s Bellechasse transportation centre — Montréal — Construction.

Probable investments in 2021-2022 include financial assistance paid in advance to the STM of $1,120.0 million, including $577.0 million for infrastructure enhancement.

PUBLIC TRANSIT CORPORATIONS

Change in Infrastructure Condition
By Infrastructure Type and Category

	GCI of D (%)			GCI of E (%)		
	AMPI		Variation	AMPI		Variation
	2021-2022	2022-2023		2021-2022	2022-2023	
Buildings						
Stations	31	30	(1)	2	0	(2)
Garages and Workshops	22	23	1	24	19	(5)
Terminus	10	11	1	7	6	(1)
Administration and Services	29	0	(29)	28	25	(3)
Bus Shelters, Shelters and Temperature-controlled Stations	3	8	5	0	2	2
Civil Engineering Works						
Métro						
Stations	21	12	(9)	22	9	(13)
Tunnels	0	0	0	0	0	0
Auxiliary Structures	N/A	32	n.a.	N/A	29	n.a.
Trains						
Railroad Tracks	0	0	0	0	0	0
Bridges, Culverts, Tunnels and Walls	16	16	0	9	3	(6)
Reserved Lanes	3	1	(2)	0	0	0
Park-and-ride Lots	2	0	(2)	0	0	0
Equipments						
Métro Cars						
MR-73	100	100	0	0	0	0
AZUR	0	0	0	0	0	0
Buses						
Standard	4	3	(1)	3	3	0
Articulated	55	55	0	2	2	0
Minibus	2	8	6	2	2	0
Trains						
Locomotives	0	0	0	0	0	0
Passenger Rail Cars	0	0	0	0	0	0
Electric Rail Cars	100	n.a.	n.a.	0	n.a.	n.a.
Emergency Response Vehicules	55	55	0	1	1	0
Other	6	33	27	2	14	12
Total – Infrastructures[1]	**18**	**14**	**(4)**	**11**	**6**	**(5)**

1 Percentages are weighted according to replacement values.

ADDITIONAL INFORMATION

Changes in Condition

The main infrastructure for which an improvement in condition is noted includes the administrative and service buildings and the Métro stations:

- The improvement in the condition of administrative and service buildings is due to the transfer of auxiliary structures, the majority of which are in poor or very poor condition (GCI of D or E), to the civil engineering works inventory;
- The evaluation method for the condition of the Métro stations, which is based on the theoretical life of the components, is gradually being replaced by a method based on the new inspections performed. The majority of the infrastructure inspected was found to be in good condition (GCI of A, B or C), which contributed to improving the overall condition of the Métro stations.

The deterioration in the condition of equipment in the “other” category is due to the removal of fixed equipment that was mostly in good condition (GCI of A, B or C).

APPENDIX 1

Additional Information

MINISTÈRE DES TRANSPORTS

MTQ Financial Assistance Programs Meeting the Needs of Public Transit Corporations

The MTQ administers financial assistance programs to meet the priority needs of public transit corporations. It must ensure that applications from such corporations comply with the rules established and oversee accountability for spending from the standpoint of government investments.

The financial assistance programs seek primarily to support transportation authorities to carry out the capital projects necessary to organize and operate services. The programs are intended to foster the maintenance, enhancement and development of public transit equipment and infrastructure.

Public transit corporations benefit, in particular, from the following subsidy programs:

- PAGTCP – Capital component: the objectives targeted by this program are to maintain existing assets in good condition, to improve the quality of the services offered to the clientele, and to develop new services;
- Programme d'aide aux immobilisations en transport en commun of the SOFIL: this program, which came into effect on January 1, 2006, targets capital projects in the realm of public transit. Funding sources include a portion of the revenue from the federal excise tax on gasoline, revenue from registrations of automobiles with high-displacement engines, and revenue from the Land Transportation Network Fund;
- PAFFITC: this program stems from the Canada-Québec Agreement on the Public Transit Infrastructure Fund, reached on June 29, 2016. The program seeks to support investments to restore and improve existing mass transit networks and those targeting the elaboration of studies to support longer-term network expansion projects;
- PAGITC: this program stems from the signing of the IBA with the Government of Canada and is designed to support new public transit infrastructure construction, expansion, improvement and restoration projects, and active transportation projects.

APPENDIX 1
(continued)

Additional Information

PUBLIC TRANSIT CORPORATIONS

Inspection and Data Update

The inventory of public transit infrastructure incorporates the majority of the infrastructure owned by public transit corporations, i.e., the ARTM, exo, STM, RTC, RTL, STL, STO, STLévis, STTR, STS (Saguenay) and STS (Sherbrooke).

The MTQ does not own public transit infrastructure and the inventory hinges on the available data provided by the public transit corporations. From the standpoint of government guidelines, the MTQ collects and processes, in collaboration with all of the public transit corporations, data to establish and update a complete, representative picture of the condition of infrastructure owned by these corporations. This approach seeks to plan the Gouvernement du Québec investments to support public transit corporations over the next ten years, bearing in mind the responsibilities linked to the ownership of the related infrastructure.

Methodology

The condition indicator percentages (A / B / C / D / E) are weighted based on infrastructure for all categories, other than reserved lanes and railroad lines, which are weighted based on the number of kilometres.

INFRASTRUCTURE MANAGEMENT

SOCIÉTÉ DES TRAVERSIERS DU QUÉBEC

VISION

A successful and innovative state-owned enterprise, a leader in maritime transportation.

ORIENTATION

Offer reliable services through an efficient and safe fleet and land infrastructure portfolio.

RESPONSIBILITIES

The STQ, which falls under the responsibility of the Minister of Transport, must ensure that the infrastructure it owns enables it to attain the objectives hereunder. To succeed in doing so, the STQ must allocate the resources required to:

- Guarantee the infrastructure's integrity;
- Ensure compliance with the applicable regulatory requirements;
- Carry out work that extend their useful life;
- Undertake improvements to satisfy new requirements;
- Replace infrastructures at the end of their useful life.

DESCRIPTION OF THE INFRASTRUCTURE PORTFOLIO

The STQ is responsible for the maintenance of services for two connections and 12 crossings[15], nine of which it operates. They are located mainly along the St. Lawrence River, between Sorel-Tracy and the Basse-Côte-Nord.

Aside from its head office building, the STQ owns infrastructure that includes 22 vessels (15 ferries, three passenger vessels and four work craft), buildings (terminals, service buildings, footbridges, warehouses, workshops), wharves, landing docks as well as other civil engineering works (waiting areas, access roads, parking lots, ripraps).

[15] Crossing: route followed by a ferry on a watercourse.

SOCIÉTÉ DES TRAVERSIERS DU QUÉBEC

Infrastructure Inventory[1]
By Infrastructure Type and Category

	Average Age (years)	Quantity			Measurement		
		AMPI		Variation	AMPI		Variation
		2021-2022	2022-2023		2021-2022	2022-2023	
Buildings	22	85	85	0	9,005 sq. m	9,005 sq. m	0
Civil Engineering Works							
Wharves	37	26	26	0	65,022 sq. m	65,022 sq. m	0
Docks	18	20	20	0	3,604 sq. m	3,604 sq. m	0
Other	33	22	22	0	161,298 sq. m	161,298 sq. m	0
Equipments							
Vessels	26	22	22	0	n.a.	n.a.	n.a.

1 Data as at November 2021.

Variation in Inventory

Compared to the previous period, the only variation observed in the STQ inventory relates to the age of the infrastructure in the “other” civil engineering works category, which decreased slightly from 35 to 33 years old following the reconstruction of the vehicle waiting areas in Sorel-Tracy and at Saint-Ignace-de-Loyola.

INFRASTRUCTURE SUSTAINABILITY

SOCIÉTÉ DES TRAVERSIERS DU QUÉBEC

Infrastructure Conditions and Asset Maintenance Deficit[1] By Infrastructure Type and Category

	Government Condition Indicator[2] (GCI) (%)						Asset Maintenance Deficit ($M)		
	A	B	C	ABC	D	E	GCI of D	GCI of E	Total
Buildings	86	8	5	99	1	0	–	–	–
Civil Engineering Works									
Wharves	8	13	3	24	63	13	79.6	37.6	117.2
Docks	36	0	64	100	0	0	–	–	–
Other	83	17	0	100	0	0	–	–	–
Equipments									
Vessels	54	20	15	89	11	0	10.0	–	10.0
Total – Infrastructures	**52**	**17**	**14**	**83**	**15**	**2**	**89.6**	**37.6**	**127.2**

1 Data as at November 2021.
2 Percentages are weighted according to replacement values.

Objectives

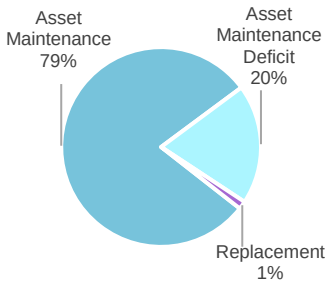
In the coming years, the STQ's objectives in managing its infrastructure are tied with the objective of maintaining the performance of the number of crossings planned at 99.5%, i.e.:

- By March 31, 2025, achieve a proportion of infrastructure with an GCI greater than or equal to C of:
  - 35% for wharves;
  - 92% for vessels;
- By March 31, 2026, carry out at least $38.3 million of work intended to reduce the AMD for the following infrastructure categories:
  - $28.3 million for wharves;
  - $10.0 million for vessels.

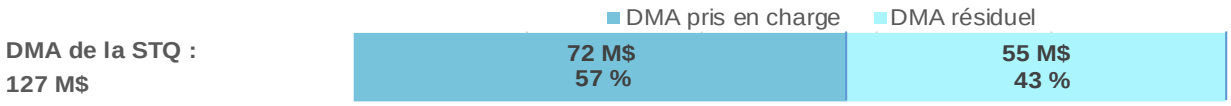
Infrastructure Maintenance Investments in the 2022-2032 QIP

(contribution of the Gouvernement du Québec, in millions of dollars and as a percentage)

	STQ	%
Infrastructure Maintenance		
Asset Maintenance	293.7	79
Asset Maintenance Deficit	71.9	20
Replacement	4.8	1
Total	**370.4**	**100**



Addressing the Asset Maintenance Deficit



Investment Strategy

To ensure the sustainability of its assets and maintain their performance, the STQ must update and implement its investment plans taking into account the main phases of their useful life cycle, particularly their design, construction, operation, maintenance, rehabilitation and replacement. The decisions made at any time during this cycle can impact the residual useful life of STQ assets. This is particularly important considering that many infrastructures are aging and require investments to prevent their deterioration and remain operational.

More concretely, for the vessel investment plan, it is important to plan long-term to optimize interventions that require dry docking and ensure the continuity of service. Consequently, work planned according to the useful life cycle includes:

- Midlife interventions when a vessel reaches approximately 30 years of age;
- Thorough inspection and maintenance of each vessel over a five-year period are intended for work such as:
  - The restoration of vessel structural components;
  - The retrofit of mechanical components (engines, propellers), electrical (power distribution systems), electronics (radars, communication systems) and other systems (fire detection and suppression, rescue equipment and systems).

This work makes it possible to obtain the certifications required to continue vessel operations.

An inspection program (onshore and underwater) of wharves and landing docks is in place to identify specific restoration work on essential components to keep it operational and extend the end of their useful life. By following these procedures, the STQ gains extra time to plan the reconstruction of wharves and landing docks, which will make it possible to restore them to very good condition (GCI of A) and respond to needs associated with the evolution of the service offering. For example, the asset maintenance project currently being planned at the L'Isle-aux-Coudres and Saint-Joseph-de-la-Rive wharves will extend the infrastructure's end of useful life in preparation for a major reconstruction project.

In addition, for some infrastructure categories, and particularly for vessels, interventions not foreseen in the initial planning may be required to deal with unexpected component breakdowns or to comply with new standards. When possible, these are completed during maintenance periods scheduled in the investment plan.

SITUATION

Investments Listed in the QIP
By Type
(contribution of the Gouvernement du Québec, in millions of dollars)

	Infrastructure Maintenance				Infrastructure Enhancement	Total
	Asset Maintenance	Asset Maintenance Deficit	Repla-cement	Subtotal	Addition and Improvement	
Société des traversiers du Québec						
2020-2021						
Actual	1.7	3.4	–	**5.1**	6.6	**11.7**
Forecast	12.8	10.0	0.5	**23.3**	17.4	**40.7**
Difference	(11.1)	(6.6)	(0.5)	**(18.2)**	(10.8)	**(29.0)**
2021-2022						
Probable	18.6	23.6	0.5	**42.7**	12.6	**55.3**
2022-2023						
Forecast	16.9	15.3	4.8	**37.0**	9.9	**46.9**

ADDITIONAL INFORMATION

Differences Between Planned and Actual Investments

The investments made in 2020-2021 for infrastructure maintenance for the STQ infrastructure portfolio totalled $5.1 million while planned investments were $23.3 million. This difference of $18.2 million is primarily due to the postponement of investments for the project to modernize the MV *Joseph-Savard*, which reduced investments made by approximately $10.5 million.

Infrastructure Maintenance

Probable investments in infrastructure maintenance were $42.7 million in 2020-2021 and enabled completion or continuation of the following projects:

- Restore and redevelopment of the MV *Joseph-Savard* – L'Isle-aux-Coudres – Saint-Joseph-de-la-Rive crossing;
- Asset maintenance work on the MV *Armand-Imbeau*;
- Reconstruction of the Saint-Augustin wharf of the Rivière Saint-Augustin crossing (Basse-Côte-Nord).

Planned investments in 2022-2023 amount to $37.0 million. These investments will enable the continuation or completion of the following projects:

- Reconstruction of the pier (wharf component) on the east side in Matane;
- Reconstruction of the Saint-Augustin wharf of the Rivière Saint-Augustin crossing (Basse-Côte-Nord);
- Maintenance of L'Isle-aux-Coudres wharf assets;
- Replacement of the MV *Radisson* engine.

Infrastructure Enhancement

The investments made in 2020-2021 in inventory enhancement projects totalled $6.6 million, while probable investments for 2021-2022 are $12.6 million. These amounts allowed for the completion or continuation of the following projects:

- Construction of a freight transport vessel at the Rivière Saint-Augustin crossing (Basse-Côte-Nord), the MV *Rivière Saint-Augustin*;
- Construction of a multifunctional building in Chevery;
- Better traffic flow to the ferry from Sorel-Tracy to Saint-Ignace-de-Loyola.

The investments planned for 2022-2023 for inventory enhancement projects, totalling $9.9 million, will allow for the realization of new projects or the continuation of ongoing projects, including the addition of a relief vessel for certain crossings in eastern Québec.

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Change in Infrastructure Conditions and Asset Maintenance Deficit By Infrastructure Type and Category

	GCI of D[1] (%)			GCI of E[1] (%)			Asset Maintenance Deficit ($M)				
	AMPI		Variation	AMPI		Variation	AMPI 2021-2022	Natural Degradation	New Findings	Decrease	AMPI 2022-2023
	2021-2022	2022-2023		2021-2022	2022-2023						
Buildings	5	1	(4)	1	0	(1)	–	–	–	–	–
Civil Engineering Works											
Wharves	60	63	3	13	13	0	93.1	22.3	1.8	–	117.2
Docks	39	0	(39)	0	0	0	11.4	–	(11.4)	–	–
Other	0	0	0	0	0	0	–	–	–	–	–
Equipments											
Vessels	11	11	0	0	0	0	25.0	–	7.8	(22.8)	10.0
Total – Infrastructures	**18**	**15**	**(3)**	**2**	**2**	**0**	**129.5**	**22.3**	**(1.8)**	**(22.8)**	**127.2**

[1] Percentages are weighted by infrastructure replacement value.

ADDITIONAL INFORMATION

Changes in Condition

The proportion of STQ buildings in poor or very poor condition (GCI of D or E) showed a 5% decrease. This improvement in condition is explained by the completion of inspections during the year, which enabled to clarify the GCI of certain buildings.

For docks, there is a significant 39% improvement in the proportion rated in poor condition (GCI of D). This is attributable to a gradual transition in the evaluation methodology used. The evaluation was based on a theoretical deterioration curve, whereas in the long run the condition of all piers will be determined by the inspections performed. The pier inspection cycle enabling the new methodology began in 2021 and will continue in 2022. The analyses carried out have established that the jetties that were in a poor condition (GCI of D) are in fact in a satisfactory or better condition (GCI of A, B or C), considering that the level of deterioration and defectiveness of these has little or no impact for ensuring service and user safety.

For wharves, the 3% increase in the proportion evaluated to be in poor condition (GCI of D) is attributable to the fact that one of the wharves changed from a satisfactory (GCI of C) to a poor (GCI of D) condition in 2021 because of an identified age-related deterioration.

The proportion of vessels in poor or very poor condition (GCI of D or E) remained stable compared with the previous year. Projects currently underway will help reduce the proportion of vessels in poor condition within the next two years.

Changes in the AMD

The net decrease in AMD of $2.3 million is primarily due to the following:

- The increase of AMD of $22.3 million resulting from natural deterioration due to the aging of wharves, many of which are nearing or have passed the end of their useful life;
- The increase of AMD of $7.8 million as a result of the increase in the costs of repair work on the MV *Joseph-Savard* and the MV *Radisson* and the *Pakuashipi Esprit* ACV replacement project;
- A $1.8 million increase in the AMD for wharves to reflect the increased cost of work in recent years;
- A decrease in pier AMD of $11.4 million as a result of inspections that excluded certain interventions that are no longer required;
- The midlife recapitalization work carried out on the MV *Joseph-Savard* which allowed for a $22.8 million decrease in the AMD.

APPENDIX 1

Additional Information

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Inspection and Data Update

A continuous inspection schedule was established targeting the critical components of essential buildings and civil engineering works for delivery of the required service. The objective is to have an up-to-date picture of the infrastructure condition to support decisions about them.

For vessels, a periodic inspection and follow-up program for all components is required under the legislative and standards-based obligations imposed by the Canada Shipping Act 2001, among others, and the statutory regulations of classification societies. As a result of these inspections, each vessel obtains the periodic statutory approvals needed to maintain the certification required to perform its mission.

Methodology

The average age of the wharves and docks represents their effective age, which considers the infrastructure's chronological age and the work done on it to ensure its ability to render service until the end of its useful life.

For the vessels, buildings and civil engineering works, the average age of these infrastructures corresponds to their actual age.

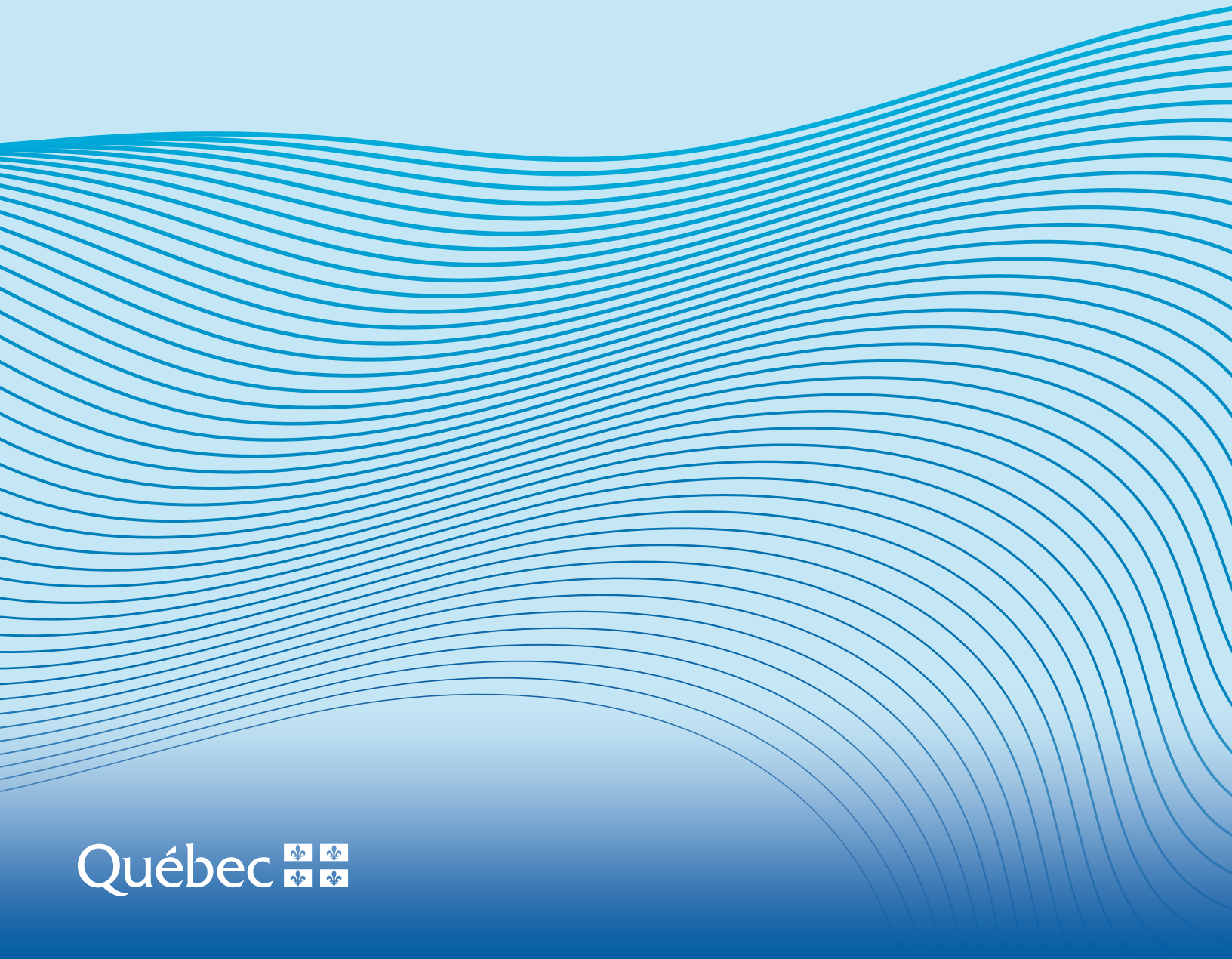
The evaluation method respecting the condition of buildings and civil engineering works is based on the determination of a GCI established following a technical inspection.

For wharves, the method of evaluating the GCI is based on a theoretical deterioration model based on their apparent age.

For piers, the determination of the GCI is gradually shifting from a methodology based on a theoretical deterioration model based on their apparent age to a method based on the analysis of detailed inspection reports.

Over the years, the condition indicators will all be supported by inspection reports and the deterioration curve model will gradually be abandoned.

For vessels, the condition evaluation method takes into account their facility condition index and age to better reflect the situation. This method supports informed investment decisions regarding them.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