



Infrastructure
Canada



2020

Evaluation of the Municipal Asset Management
Program (MAMP) and the Municipalities for
Climate Innovation Program (MCIP)

Canada

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List of Acronyms

FCM – Federation of Canadian Municipalities

DMAF - Disaster Mitigation and Adaptation Fund

GTF – Gas Tax Fund

GHG – Greenhouse Gas

GMF – Green Municipal Fund

INFC – Infrastructure Canada

MAMP – Municipal Asset Management Program

MCIP – Municipalities for Climate Innovation Program

1.0 Executive Summary

Program Overview

Budget 2016 introduced two programs to support municipal capacity in asset management and climate change resilience. The Municipal Asset Management Program (MAMP) is an eight year (2016-17 to 2023-24), \$110 million contribution program designed to support municipal asset management capacity building. The Municipalities for Climate Innovation Program (MCIP) is a five year (2016-17 to 2021-22), \$75 million contribution program that focuses on integrating climate change considerations into asset management and reducing greenhouse gas (GHG) emissions.

The Federation of Canadian Municipalities (FCM) is responsible for delivering the two programs, including selecting projects and entering into agreements with ultimate recipients.

Evaluation Objective and Scope

The evaluation covered the timeframe of April 1, 2016 to June 30, 2019. The evaluation assessed the relevance, achievement of outcomes, and design and delivery of both MAMP and MCIP.

Key Findings and Conclusions

Relevance

MAMP and MCIP align with Infrastructure Canada's (INFC) priorities to manage infrastructure in a more sustainable way. They also align with the Government of Canada's priorities related to a clean environment and stronger municipalities.

The most common stakeholder-identified needs for both MAMP and MCIP are awareness/understanding of asset management or climate change and having the human and financial resources needed to address those needs. MAMP and MCIP activities are appropriate in addressing diverse municipal needs based on the size of municipalities.

MAMP is the only national program in Canada providing municipal grants, technical assistance, training, and awareness activities to address municipal asset management capacity building.

MCIP complements other national programs by providing municipal grant funding for capital projects, staff grants, training and awareness activities for both climate adaptation and mitigation, as well as a broader vision and capacity for collaboration among municipalities.

Progress towards achievement of outcomes

Overall, MAMP and MCIP have exceeded their performance targets for their immediate outcomes and are making progress towards their intermediate outcomes, as well as contributing to INFC's expected results.

Design and delivery

MAMP and MCIP are aligned with internationally recognized best practices related to asset management and capacity building to prepare for climate resiliency.

The third party design and delivery approach of MAMP and MCIP has been effective. FCM was able to deliver the programs at favorable operating costs.

Gender-based Analysis Plus is a process that examines the impact of one's identity factors, e.g. race, ethnicity, religion, age, mental or physical disability on how one experiences policies, programs and initiatives. When MAMP and MCIP were introduced in 2016, the government's gender-based analysis requirements at that time were met. Gender-based Analysis Plus was also included as part of MAMP's 2019 renewal. While there were no requirements to do so resulting from the analyses, FCM took inclusion of a diverse range of communities into account in their program delivery.

No recommendations were made as a result of this evaluation. Overall the findings were positive and no further action was required.

2.0 Evaluation Context

In accordance with the 2016 Treasury Board Secretariat *Policy on Results*, the objective of this evaluation is to assess the relevance, progress towards outcomes and design and delivery of the Municipal Asset Management Program (MAMP) and the Municipalities for Climate Innovation Program (MCIP).

The evaluation covered the timeframe of April 1, 2016 to June 30, 2019. Projects that were examined as part of the assessment of achievement of expected outcomes included projects funded from the launch of the program in January 2017 to the end of June 2019.

3.0 Overview of Programs

As part of Budget 2016, the Government of Canada introduced two new complementary programs: MAMP focuses on asset management capacity building and MCIP focuses on integrating climate change considerations into asset management.

Municipal Asset Management Program

MAMP is an eight-year (2016-17 to 2023-24), \$110 million contribution program¹ designed to support municipal asset management² capacity building and training so as to have stronger asset management practices, using reliable data, and supporting municipal infrastructure investment decisions.

The program focuses on improving municipal asset management practices and supporting asset management collaboration across Canada through:

- 1) Funding to municipal governments, Indigenous communities, public sector bodies or boards to conduct asset management projects (e.g. asset management assessments, asset management plans, policies, and strategies); and,
- 2) Funding to partner organizations, not for profit, non-governmental organizations, provincial and territorial municipal associations, communities of practice and national organizations such as the Canadian Network of Asset Managers to provide capacity building activities.

¹ Originally announced in Budget 2016 as a \$50 million program, the program's Terms and Conditions were extended and received a top-up of \$60 million through Budget 2019.

² According to the Canadian Network of Asset Managers asset management is a tool that aligns strategic planning at the municipal level with value that stakeholders and citizens place on the functionality and reliability of their public infrastructure.

Through MAMP's awareness building, technical assistance, outreach and knowledge mobilization activities, there is an increased understanding among municipal elected officials and staff of the value of asset management practices. This enhanced awareness is expected to increase asset management capacity, and thus improve skills in asset management and data gathering.

Based on this program theory, in the medium term, municipalities are expected to improve their data management and analysis practices in order to strengthen their asset management capacity. Then, as a result of stronger asset management practices, municipalities will be expected to make strategic infrastructure investments for operations, and maintenance decisions over the long term. It is anticipated that the increase in strategic investments will lead to an improved quality of public infrastructure services for Canadians, supporting INFC longer-term economic, social and environmental outcomes. For more information on the program theory, refer to the MAMP logic model in Annex A.

To assist in measuring progress towards the above short term expected results, the Asset Management Readiness Scale was created as a self-assessment tool for MAMP. It assesses progress that is being made by municipalities for five competencies. The competency areas are organized on a progressive scale of five levels. Each level is further broken down into three outcome areas as seen in Annex B.

Municipalities for Climate Innovation Program

MCIP is a five-year (2016-17 to 2021-22), \$75 million contribution program designed to improve local decision making and investments related to infrastructure and climate change. MCIP focuses on (GHG) emissions reduction, local climate change adaptation and mitigation, and the integration of climate considerations into the asset management practices of local and municipal governments, Indigenous communities, public sector bodies or boards, and Canadian not-for-profit, non-governmental organizations through:³

- 1) Awareness raising activities (i.e. webinars, training workshops, presentations at conferences/events) for municipal and elected officials;
- 2) Direct funding to municipalities for plans, operational/feasibility studies, capital projects; and,
- 3) Grants to climate change partners to provide technical assistance. The delivery of technical assistance and training builds upon the Federation of Canadian Municipalities' (FCM) experience

³ According to Natural Resources Canada's report entitled *Adapting to Climate Change An Introduction for Canadian Municipalities*, mitigation is defined as reducing GHG emissions and adaptation is defined as responding to climate impacts and both are necessary complements in addressing climate change. G.R.A Richardson, *Adapting to Climate Change: An Introduction for Canadian Municipalities* (Ottawa, ON: Natural Resources Canada, 2010), 2-3, 37, 38.

gathered through the delivery of the Green Municipal Fund (GMF) and the Partners for Climate Protection Program.⁴

Through MCIP's awareness building, technical assistance, outreach and knowledge mobilization activities, municipal elected officials and staff are expected to better understand the value of committing to GHG reduction and improving climate change resilience. They are also expected to have more capacity to incorporate climate change considerations into asset management and leverage support for improved business practices through strengthened networks.

In the medium term, municipalities are expected to increase their collaborative networks and use improved business practices to bring about GHG emissions reduction and climate change resilience building. It is also expected that in the long-term, municipalities will be able to take more effective action to mitigate GHG emissions and develop infrastructure that is resilient to the projected future impact of climate change. It is anticipated that these investments will support INFC's economic, social and environmental outcomes by helping Canada reach its global GHG reduction targets and develop sustainable infrastructure. For more information on the program theory, refer to the MCIP logic model in Annex A.

To help measure progress towards the program's intermediate outcomes, MCIP developed two maturity scales related to GHG Emissions Reduction (Annex C) and Climate Adaptation (Annex D) to allow program recipients to self-assess their progress. Municipalities are required to complete a self-assessment scale at the beginning and end of their initiative by competency. Each of the three competencies are broken down into five levels or milestones from initial concept to continuous improvement. The outcomes for each milestone indicate what municipalities need to achieve before progressing to the next level as seen in Annexes C and D.

⁴ During the inception phase of MCIP it was decided to integrate the Partners for Climate Protection program into MCIP with certain activities co-funded by the Green Municipal Fund. This approach provided the strongest linkage between MCIP and FCM's long-standing climate programming experience and network.

Program Management for MAMP and MCIP

In January 2017, INFC and FCM entered into a Contribution Agreement outlining the Terms and Conditions for FCM to deliver both MAMP and MCIP on behalf of INFC. FCM is responsible for delivering the two programs, including selecting projects and entering into agreements with ultimate recipients. All Canadian municipalities are eligible for both programs; eligibility is not limited to municipalities that pay membership fees to FCM.

FCM used a three-phase process to design and implement MCIP and MAMP:

- The inception phase (September 2016 to April 2017) involved taking the program design guidelines provided by INFC and conducting consultations with a wide range of stakeholders to obtain inputs to the final design and preparing a program implementation plan.
- The implementation phase (April 1, 2017 with activities ending March 31, 2021 for MCIP and March 31, 2024 for MAMP) involves carrying out the program activities.
- The results reporting phase will take place after the implementation phase and focus on completing activities, developing a final report for each program and closing the programs.

INFC is the administrator of both programs and oversees its implementation via the Agreement Management Committee. In addition to the Agreement Management Committee, each program has its own additional governance structure, as outlined in Figure 1 and 2.

Figure 1: MAMP Governance Structure

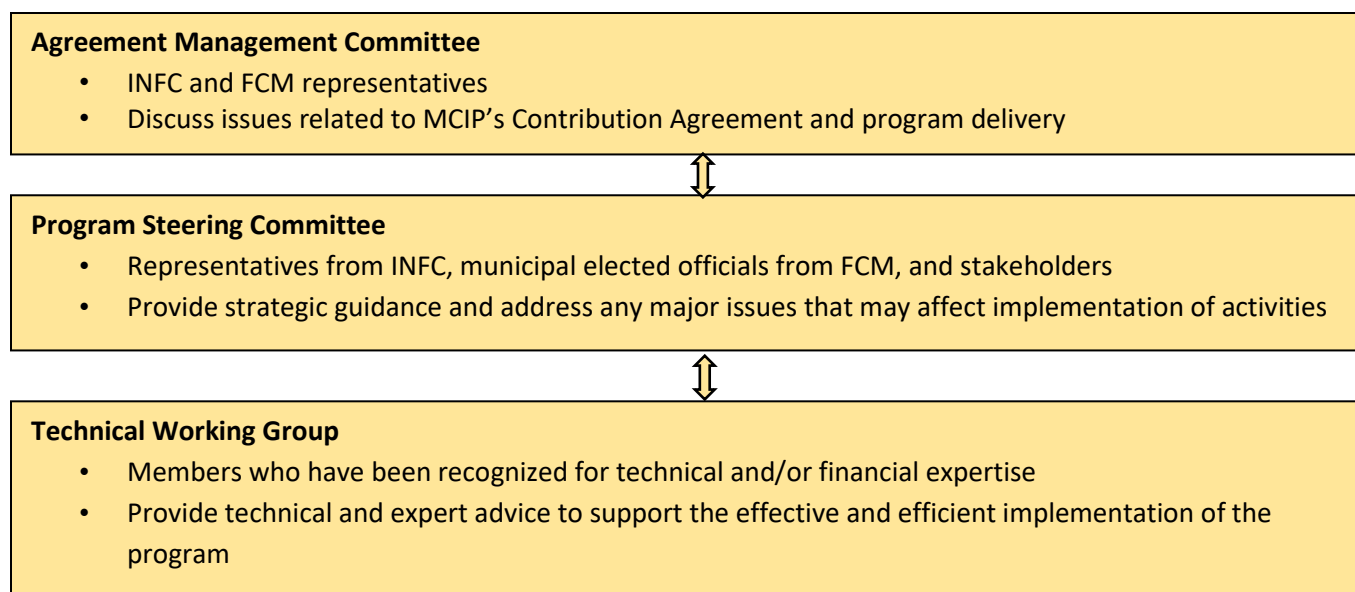
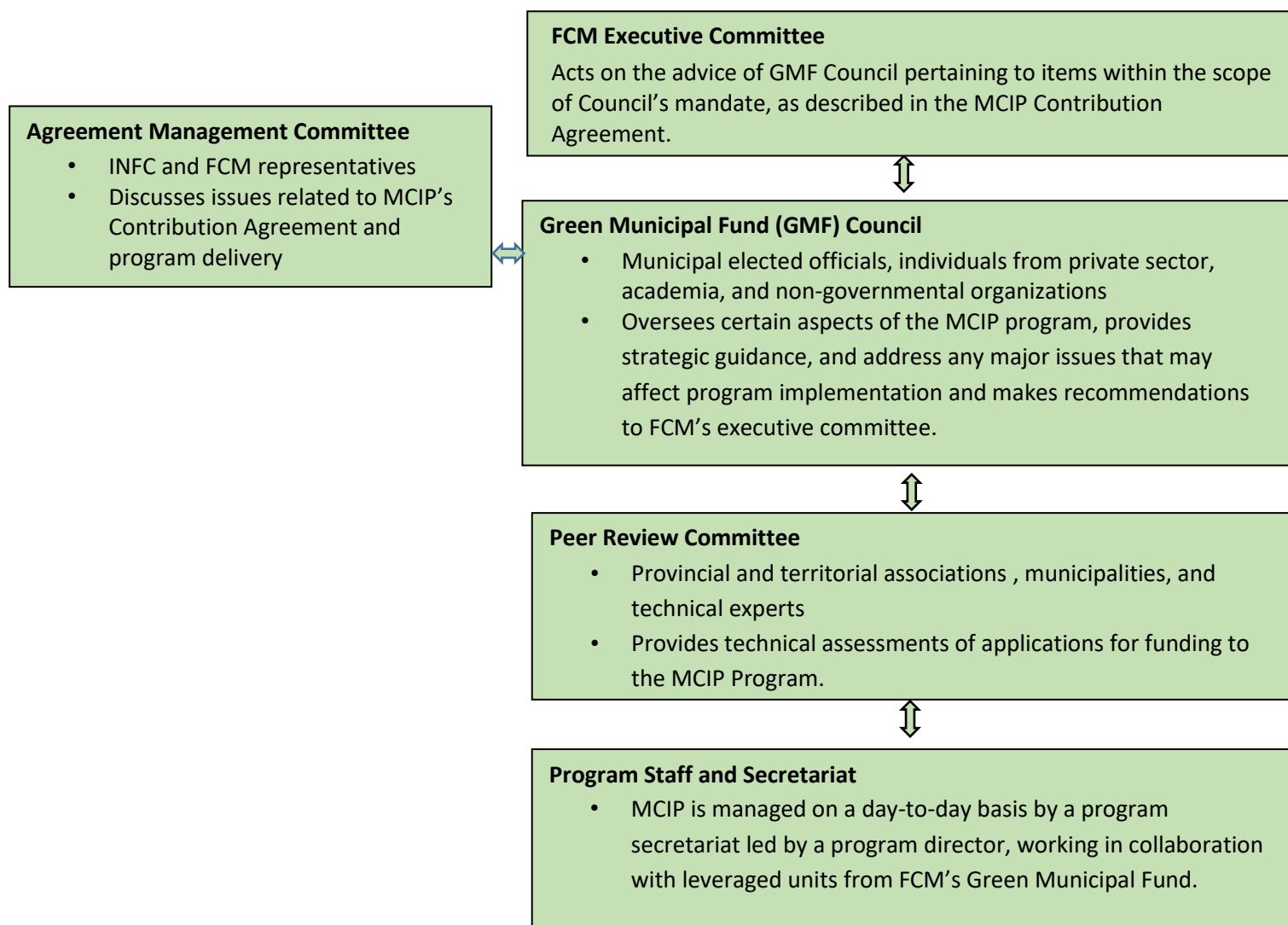


Figure 2: MCIP Governance and Management Structure



4.0 Methodology

The evaluation used a mix of qualitative and quantitative lines of evidence. The information collected was validated across multiple lines of evidence to ensure the accuracy of the evidence presented and to minimize potential bias. The following is an overview of the lines of evidence used as part of this evaluation.

Document Review

The document review examined program alignment with INFC and Government of Canada priorities, informed the identified needs for capacity building in asset management and climate change resilience planning, and supported the assessment of progress towards expected outcomes through annual program reports.

Evidence was collected from a variety of documents such as Ministerial mandate letters, departmental plans and departmental results reports, program information profiles, FCM's program implementation plans, and annual program progress reports. A scan of information on other national programs that support municipal capacity building for asset management and climate resilience was also conducted.

The document review did not provide enough information about other national capacity building programs to provide a full understanding of all such programs, their activities and their similarities and differences to MAMP and MCIP. Although these details were sought through interviews, interviewees were not easily able to identify other national programs and when they did, the details were limited.

Data Review

The evaluation used both program specific databases as well as external data sources. To address the evaluation issue of progress towards outcomes, performance data based on the MAMP and MCIP Performance Measurement Frameworks was gathered from INFC/FCM's program databases.

Data was also used from the Canada Core Public Infrastructure Survey, which was developed by INFC and Statistics Canada and collected in the summer of 2016 from municipalities. This provided information on the stock, condition and performance of Canada's core public infrastructure assets. Canada's core public infrastructure is broken down into nine asset classes: roads; tunnels and bridges; potable water; wastewater; storm water; public transit; solid waste; culture, recreational and sports; and social and affordable housing. The survey identified municipalities that reported having an asset management plan prior to receiving MAMP funding.

There were two limitations related to the data that was reviewed.

Firstly, as of June 2019, only a small number of final assessments (n= 22) have been completed to date, as most projects are still being implemented. This limitation was expected given the timing of the evaluation, and was taken into account when designing the evaluation's scope and questions.

Secondly, the Canada Core Public Infrastructure Survey does not include all municipalities that are receiving MAMP funding and there is no data available until the summer of 2020 to be able to illustrate progress from where municipalities were at in 2016 to 2019. Finally it does not provide data related to asset management practices beyond plans or about the quality of the plans. Related information was also gathered from other lines of evidence such as the document review, program data and interviews to mitigate this limitation.

Literature Review

The literature review focused on program design and delivery, particularly characteristics of effective third-party program design and delivery approaches. It also covered best practices related to third-party design and delivery of similar capacity building programs in asset management and climate change resiliency planning internationally. The review examined best practices in the United States, Australia, New Zealand, the United Kingdom and the Netherlands. Scans were also conducted of other Government and non-Government of Canada programs that support municipal capacity building for asset management and/or climate resilience and the efficiency of third-party program delivery partnerships.

The literature consulted was comprehensive, but may not have been exhaustive. The evaluation team consulted with international experts (see interview section below) who could further inform the evaluation questions and identify key resources to mitigate this potential limitation.

Interviews

A total of 45 key informant interviews were conducted to gather information on need, factors that affected progress towards outcomes, and the design and delivery of the programs with INFC/FCM staff, governance committee members, implementation partners and municipalities. The interviews were held after an evidence gap analysis was conducted to ensure interview questions helped address identified gaps in other lines of evidence.

Interviews were also conducted with international organizations on best practices in program design and delivery, as well as results achieved in their respective countries. For MAMP, non-governmental organizations that support asset management capacity in Japan, Australia, and South Africa were interviewed. An international non-governmental organization focused on South America was interviewed for MCIP.

Interviews can result in miscommunication of information. To avoid this, key informants were given the opportunity to validate their notes to ensure accuracy.

Case Studies

As part of the 10 case studies conducted within this evaluation, project-specific documentation was reviewed and interviews with municipal representatives were conducted to assess progress towards achievement of ultimate outcomes. Case studies were selected, where possible, based on region (i.e. Western, Central and Eastern Canada). For more information on the case studies, please refer to Annex E.

For more information related to the evaluation methodology, including the evaluation questions, indicators and methods of data collection used, please refer to the evaluation matrix in Annex E.

5.0 Findings

The following section presents the findings related to relevance, progress towards expected outcomes, and design and delivery of MAMP and MCIP.

5.1 Relevance

This section outlines the extent to which MAMP and MCIP have aligned with INFC and Government of Canada priorities, as well as how each of these programs helped municipalities to address their capacity building needs.

Finding 1: MAMP and MCIP align with INFC and Government of Canada priorities.

Alignment with INFC priority of having public infrastructure managed in a more sustainable way

Municipal governments own and maintain almost 60% of public infrastructure (i.e. roads and highways, public transit, safe drinking water, and waste management assets) and thus influence over 50% of GHG emissions, the main cause of global warming.⁵

According to the 2016 Canadian Infrastructure Report Card, one-third of municipal infrastructure is in fair, poor or very poor condition, increasing the risk of service disruption. The number of events related to climate change is increasing. As such, according to the document review and interviews, a strategic and sustainable

⁵ Canadian Infrastructure Report Card, 2016. Canada's Long-Term Infrastructure Plan, 2018; Canada's Climate Change Report, 2019

approach to managing existing infrastructure assets that takes into account climate change considerations is needed.

By applying asset management principles, local governments can strategically incorporate the sustainability of existing infrastructure and future growth and climate change resiliency into the planning process to improve the quality of services and allow public infrastructure to be managed in a more sustainable way.

Alignment with INFC's priorities of increasing capacity to reduce GHG emissions and adapting to climate change

MCIP aligns with INFC's priority of reducing GHG emissions and building resilient municipalities that can address the impact of climate change by supporting them in increasing their capacity to incorporate climate change considerations into asset management plans.

Supporting Government of Canada priorities of economic growth, clean environment and strong communities

Research undertaken over the past decade indicates a strong causal and interdependent relationship between adequate and properly functioning public infrastructure investment and enhanced economic development and stronger communities. For example, it is difficult to attract and retain skilled workers if a community does not have suitable social infrastructure (i.e. housing). At the same time, economic development initiatives could have quality of life impacts, as well as generate revenue for investments in social infrastructure.

MCIP aligns with the Pan-Canadian Framework for Clean Growth and Climate Change to reduce GHG emissions and build climate change resiliency.

Finding 2: The most common stakeholder identified needs for both MAMP and MCIP are awareness/understanding of asset management or climate change and having the human and financial resources needed to conduct it. MAMP and MCIP activities were appropriate in addressing diverse municipal needs based on the size of municipalities.

Municipalities have diverse needs based on their size

The evaluation found that for both MAMP and MCIP, there are differing needs for program activities depending on the size of a municipality. In particular under MAMP, small municipalities are typically more nimble and flexible in their planning and implementation, as their organizational structure tends to have fewer stakeholders/departments. Large municipalities, in contrast, have a harder time coordinating efforts

among the multitude of different players, developing integrated plans across sectors and keeping them current.

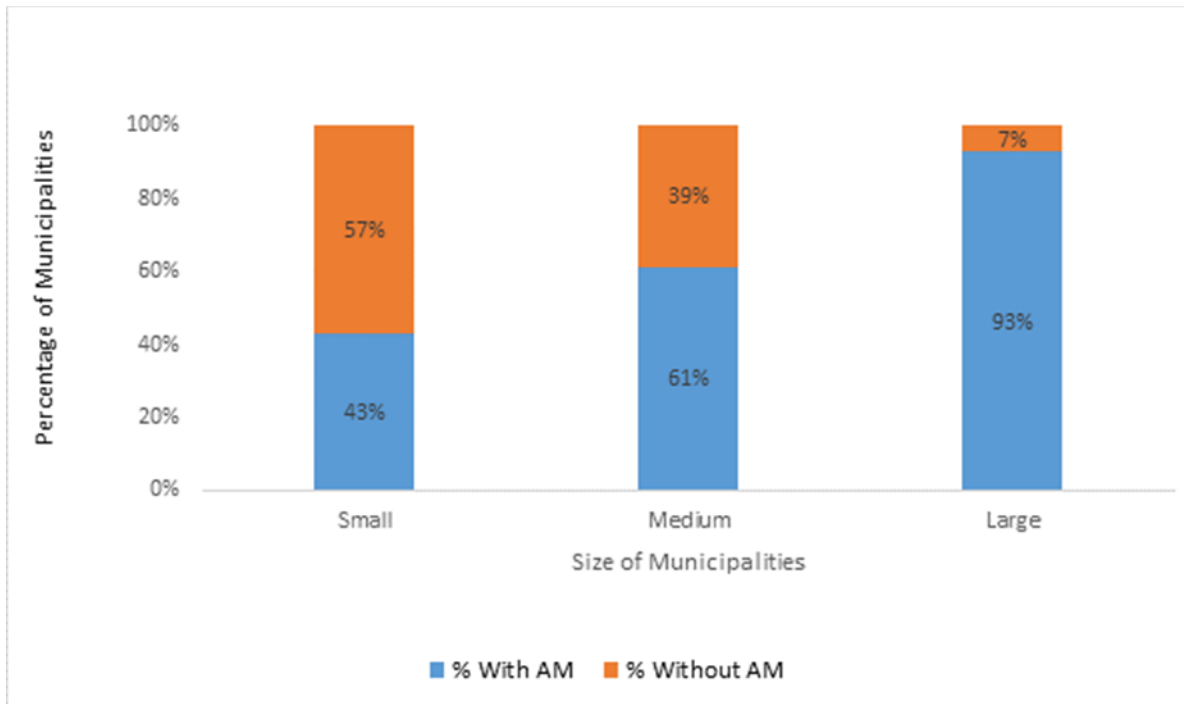
On the other hand, large municipalities under MAMP are more likely to have sufficient resources and staff, whereas the most common barrier for many small and medium-sized municipalities is a lack of resources. Many lack the professional or financial capacity needed to build additional asset management or climate change activities and procedures into their operations and sustain them. The 2016 Canada Core Public Infrastructure Survey highlights these differences, showing that 62% of large municipalities, 56% of medium-sized municipalities and 35% of small municipalities reported having a formal asset management plan in place.

Asset Management

The 2016 Canada Core Public Infrastructure Survey reported that 62% of asset owners did not have a documented asset management plan. Municipal capacity, both financial (i.e. adequate and sustained funding) and human (i.e. staff who have the technical knowledge and skills to support asset management planning and implementation, training and tools) continues to be one of the main challenges to consistent asset management practices across the country. Other needs identified include: building and maintaining an understanding/awareness of asset management among municipal governments; a long-term vision and coordinated approach to asset management among all levels of government; and a coordinated approach to asset management delivery that is based on collaborative networks and experiences in different jurisdictions across Canada.

As seen in Figure 3, based on program data, small municipalities are more likely not to have an asset management plan in place compared to large municipalities.

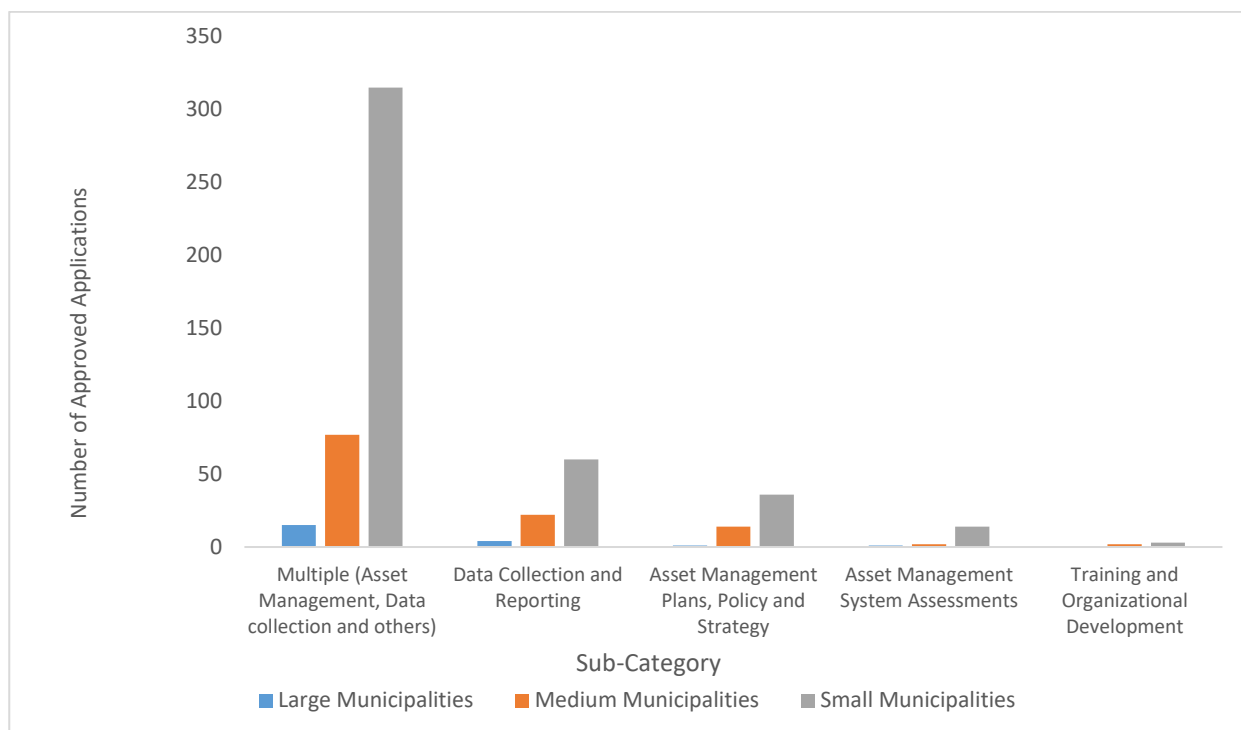
Figure 3: Percentage of Municipalities that Participated in the Canada Core Public Infrastructure Survey and Received MAMP Funding with Asset Management Plan in place



Source: Canada Core Public Infrastructure Survey and FCM Program Database

MAMP's focus was to specifically target small municipalities that generally face more challenges in implementing an asset management plan. According to program data, 76% of approved funding applications were for municipalities with populations under 5,000. As seen in Figure 4, the majority of funding applications for small and medium municipalities were addressed multiple activity categories, which aligns with the finding that small municipalities face a number of interconnected challenges to conduct asset management.

Figure 4: MAMP Municipal Grant Funding by Sub-Category and Size of Municipality



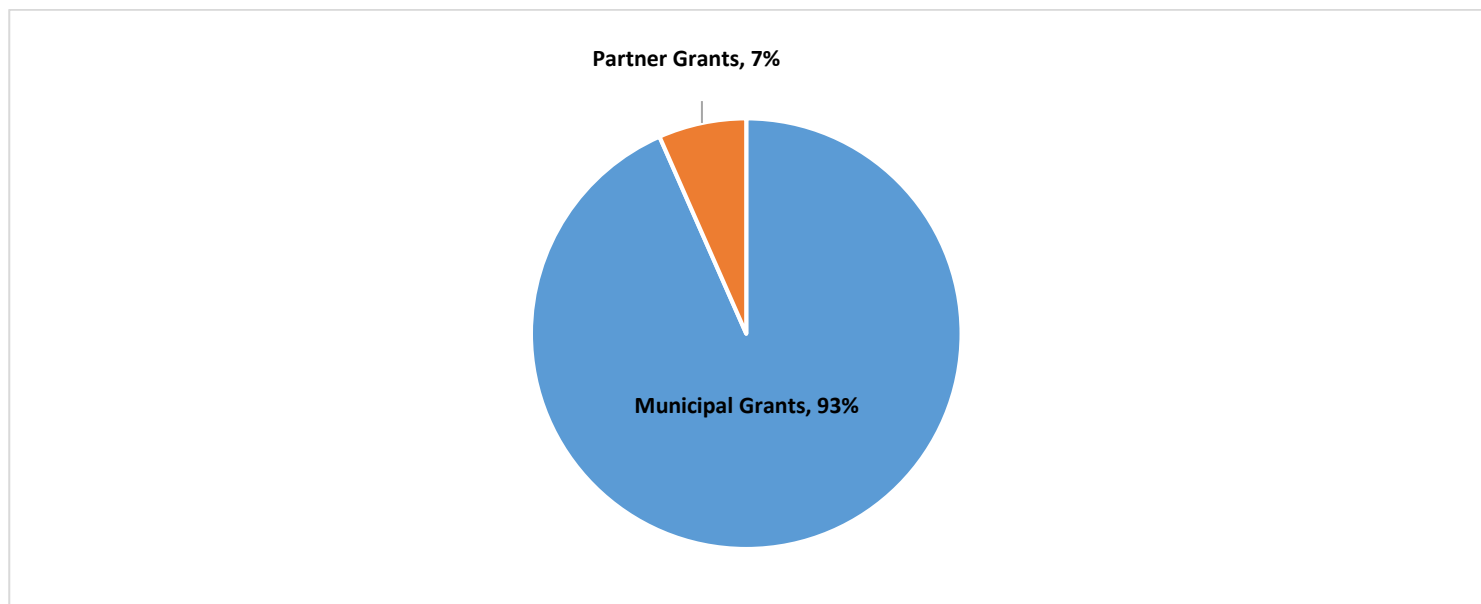
Source: FCM Program Database

The evaluation found that the variety of MAMP activities allowed the varying needs of municipalities based on their size to be addressed.

With respect to geographic distribution, the number of MAMP projects across the country is overall proportionate to the population of each province and territory. The notable exceptions are Saskatchewan and New Brunswick, which had a high number of projects in relation to their populations. As well, Quebec had a fairly low proportion of projects underway given its population, due to MAMP launching later in this province.

As seen in Figure 5, the majority of approved applications (93%) were in the municipal grant funding component which aligns with the identified need of financial capacity and tools to conduct asset management activities. The other 7% focused on partner grants, with half of them in the subcategory of awareness building. This aligns with the identified need to improve awareness and understanding of asset management.

Figure 5: MAMP's Approved Applications by Category



Source: FCM Program Database

Climate change

The practice of integrating climate change considerations into asset management planning is relatively new. Most municipalities are still in the early stages of addressing climate change impacts and exploring ways to reduce the vulnerability of infrastructure and services⁶. According to the 2016 Canada Core Public Infrastructure Survey, 29.3% of municipalities surveyed reported considering climate change in their asset management plans across asset categories.

To increase this ratio, there is a need to increase the awareness of the link between infrastructure planning, climate change impacts and the practice of integrating these considerations into asset management, particularly among elected officials and municipal staff. Further, municipalities recognized the need for technical help to identify risks associated with climate change and options to address them through mitigation and adaptation efforts.

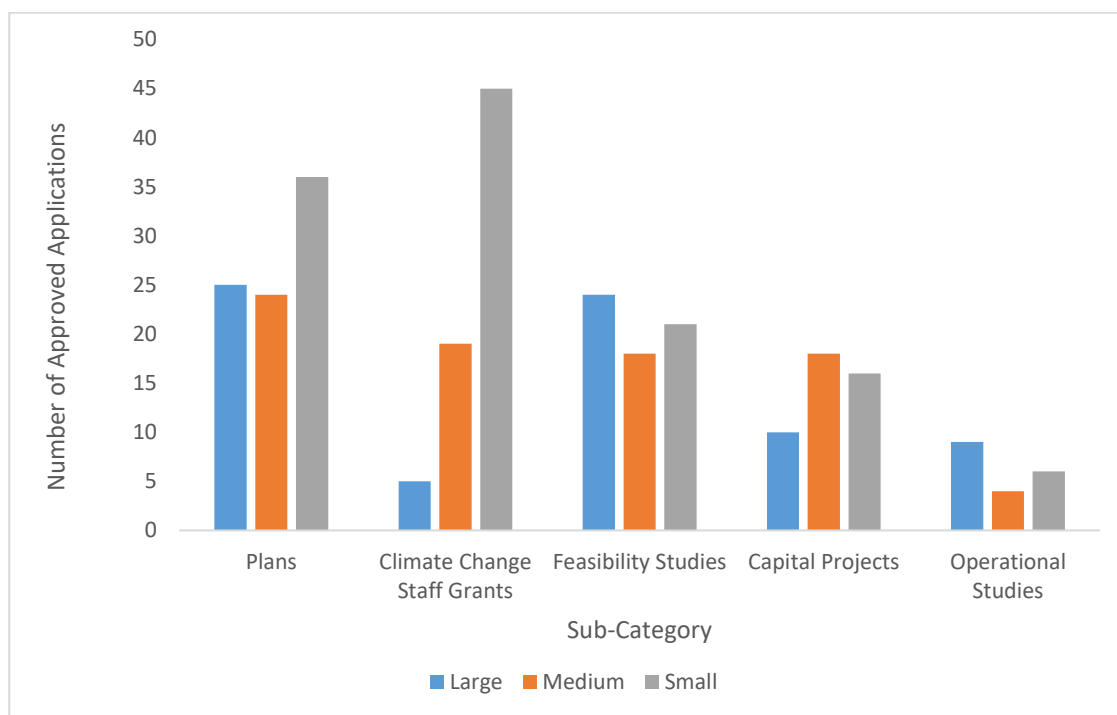
Other identified needs included financial resources for dedicated municipal staff to take the lead on climate change initiatives and funding to conduct climate change activities (i.e. planning exercises, feasibility studies, etc.). Moreover, the need for a central hub to break down silos and facilitate networking and information sharing among practitioners and stakeholders was determined.

⁶ MCIP Annual Report year 2.

Small municipalities lack the dedicated human resources and knowledge to work on climate change plans. Several small municipalities also struggle with matching funds or cash flow requirements, so even if it is available, accessing that funding may still be challenging. Large municipalities might have dedicated staff to work on climate change action, but they have to engage with various departments within the municipality. This creates other types of challenges for coordination and implementation of a unified vision.⁷

Program data in Figure 6 show that small municipalities have the most approved applications under climate change staff grants followed by plans. This supports the idea that small municipalities face capacity challenges. As the number of applications approved for rural municipalities (n=9) was small, there is limited useful analysis that can be done.⁸

Figure 6: MCIP Direct Funding by Sub-Category and Size of Municipality



Source: FCM Program Database

Evidence suggests the variety of MCIP funding sub-categories under their direct funding and partner grants streams address the diverse municipal needs described above. Interviewees felt their needs were addressed through MCIP activities, particularly staff grants, funding for the development of climate change plans and

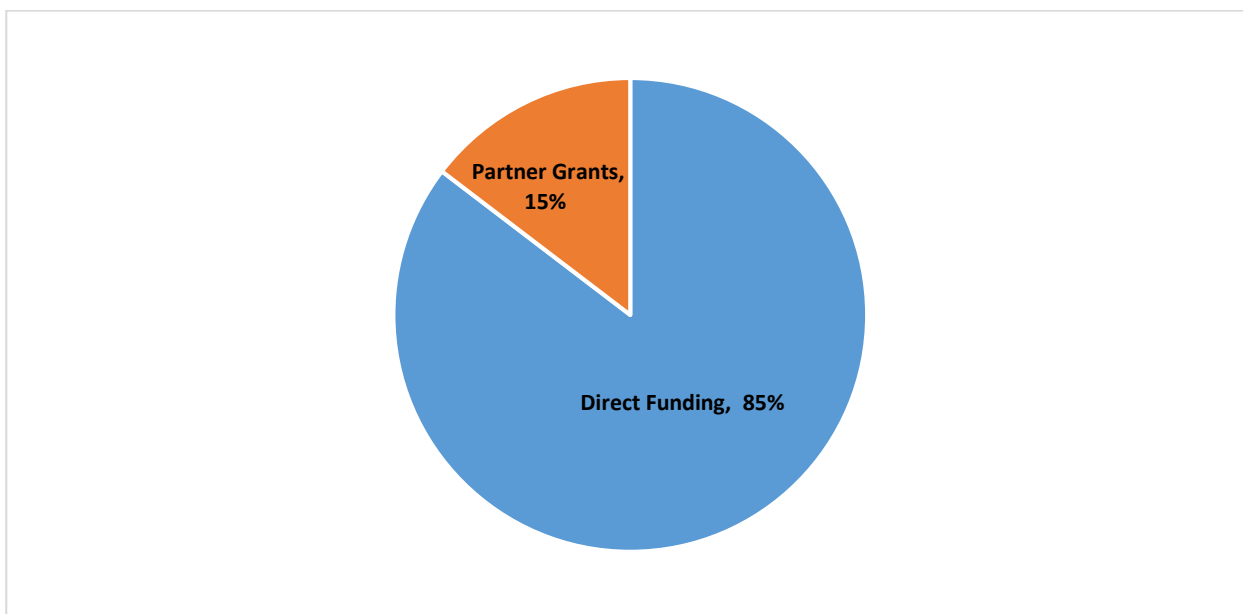
⁷ Partners for Climate Protection National Measures Report, 2018; Local Adaptation in Canada Survey Report, 2019.

⁸ The definition for rural municipalities used by the MCIP and FCM is municipalities with populations under 10,000.

feasibility studies. Awareness-building workshops on the link between climate change and asset management, as well as face-to-face and online forums for sharing best practices, also addressed these needs.

As seen in Figure 7, the majority of MCIP funding (85%) was under the category of direct funding, in particular the sub categories of climate change plans (30%), climate change staff grants (25%) and feasibility studies (23%). The funding category of partner grants (15% of approved applications) addressed the identified need of sharing of best practices and providing technical assistance through its sub-categories of Climate and Asset Management Network, Climate Adaptation Partners Grants and Network Transition 2050.⁹

Figure 7: MCIP's Approved Applications by Category



Source: FCM Program Database

Finding 3: MAMP is the only national program in Canada providing municipal grant funding, technical assistance, training and awareness activities to address municipal asset management capacity building.

At the national level, programs or initiatives that focus on supporting capacity building for asset management are limited. Partnerships and collaboration with other programs or organizations offering asset management capacity building activities have helped ensure that MAMP completing existing resources, rather than duplicating them.

⁹ Transition 2050 and Climate Adaptation Partner Grants are grants provided by FCM through MCIP that fund training and support delivered by Non-governmental organizations to groups of municipalities to foster deep emissions reductions and support climate adaptation initiatives through peer learning, strategic planning and operational implementation.

There are two other Government of Canada programs that offer similar capacity building support:

- Indigenous Services Asset Management Program is an initiative under Indigenous Services Canada's Capital Facilities and Maintenance Program that helps First Nations communities manage their infrastructure in a more sustainable way. Funding for the program comes from the Government of Canada's Investing in Canada plan. The initiative provides \$15 million over five years (until March 2023) in direct funding to build asset management capacity within First Nations communities, including funding to address the following: awareness building; planning and development of an asset management plan; and implementation of an asset management plan. This program mirrors MAMP, but is available only to First Nations communities.
- INFC's Gas Tax Fund supports capacity building to strengthen the ability of municipalities to develop long-term asset management practices including planning, developing, and implementing capital investment plans, integrated community sustainability plans and/or asset management plans. For example, GTF funds studies, strategies, or systems related to asset management, asset management training and long-term infrastructure plans. GTF does not include support for awareness building or knowledge sharing networks, and capacity building funds are not limited specifically to asset management.

In order to minimize overlap and support these initiatives, MAMP staff supported the development of the Asset Management Program and integrated MAMP lessons learned into its design and delivery. MAMP staff also participate regularly in GTF workshops and GTF signatories are invited to annual MAMP workshops.

Some national organizations and a few private entities such as universities and consulting firms provide asset management training to develop specific skills and expertise. However, none of these appear to provide support that is as comprehensive as MAMP, which offers both capacity building activities and funding to support participation. Interviewees indicated they were aware of some of the training opportunities, especially those offered by MAMP's national partner organizations and regional partners within their province/territory. However, some indicated a lack of understanding as to which training and tools would best meet their needs, and how to access them. Interviewees also indicated that without MAMP funding, the cost of training can be a barrier to participation.

Finding 4: MCIP complements other national programs by providing municipal grant funding for capital projects, staff grants, training and awareness activities for both climate adaptation and mitigation, as well as a broader vision and capacity for collaboration among municipalities.

There are a number of programs in Canada that focus on supporting climate change resiliency. The programs described below have multiple activities that are similar to those of MCIP. However, MCIP is unique in that it facilitates the planning and application of both climate change mitigation and adaptation strategies for municipalities, as well as provides an array of activities through a single program.

The GMF, established by the Government of Canada in 2000 and delivered by FCM, provides financial support for municipalities to develop and implement municipal projects that advance innovative solutions to address environmental challenges. Like MCIP, GMF supports municipalities in capacity building, as well as generating and sharing lessons learned and successful new models for advancing sustainability. However, the focus of this knowledge mobilization differs between the programs. MCIP focuses on building stronger connections with non-governmental organizations, academics and regional partners who work with municipalities so these networks will be better able to support municipalities in their work to reduce GHG emissions and build climate resilience.¹⁰ GMF focuses on sharing lessons learned and knowledge from GMF funded projects to support the replication of new solutions, better position future projects for success and inspire the next wave of innovation.¹¹ There may be some overlap in participating municipalities, yet unlike MCIP, GMF does not offer technical assistance training. In addition, whereas MCIP offers activities for both mitigation and adaptation, GMF's activities are limited to mitigation only.¹²

The Partners for Climate Protection, supported by MCIP and GMF, is a partnership with the *International Council for Local Environmental Initiatives* and FCM. The partnership provides tools to support climate change mitigation activities and guides members through a five-step Milestone Framework, which includes developing inventories, targets, plans, implementation and monitoring strategies.¹³ It is a peer-to-peer online network that helps municipal staff and elected officials connect with the best resources and expertise on local climate action.¹⁴ Membership to this program and online resource is free and provides access to case studies and other information. While there may be some overlap in participating municipalities and tools or resources, unlike MCIP, no additional funding support is provided by this partnership. Also, while MCIP

¹⁰ MCIP Annual Progress Report – Year 3 (p.6)

¹¹ <https://fcm.ca/sites/default/files/documents/resources/strategic-plan/five-year-plan-2018-2023-gmf.pdf> (p.6)

¹² <https://fcm.ca/sites/default/files/documents/resources/strategic-plan/five-year-plan-2018-2023-gmf.pdf>

¹³ <https://fcm.ca/en/programs/partners-climate-protection>

¹⁴ <http://www.pcphub.fcm.ca/index.html>

provides tools and support for both adaptation and mitigation projects, Partners for Climate Protection focuses specifically on mitigation activities.

The Building Adaptive and Resilient Communities program provides access to tools and expertise through the International Council for Local Environmental Initiatives, as well as help with research, planning and implementation, and community outreach. It also provides individual guidance and support for participants. Yet, unlike MCIP which provides funding support, there is a cost applied to those municipalities who wish to participate in the Building Adaptive and Resilient Communities program.¹⁵ The program focuses specifically on adaptation.

The Climate Risk Institute provides climate change impacts and adaptation decision and planning support.¹⁶ Its Climate Change Adaptation Community of Practice is a national online community where researchers, experts, policy-makers and practitioners can come together to ask questions, generate ideas, share knowledge, and communicate with others working in the field of climate change adaptation. It provides support to all provinces and territories in their efforts to incorporate climate change adaptation into planning and policies.¹⁷ Membership is free and includes activities such as monthly webinars, a resource library, discussion forums and request for information forums, as well as news and information on upcoming climate change events. While this program offers training and knowledge sharing like MCIP, it does not provide funding for initiatives or projects.

The Public Infrastructure Engineering Vulnerability Committee, an advisory body of Engineers Canada, facilitates initiatives to support the design, construction, maintenance and regulation of safe, reliable and financially sustainable public infrastructure in Canada to address the risks of a changing climate.¹⁸ The focus is on awareness and best practices. It does not provide funding, training or technical assistance.

The Disaster Mitigation and Adaptation Fund (DMAF) aims to strengthen the resilience of Canadian communities through investments in large-scale infrastructure projects, including [natural infrastructure](#) projects, enabling them to better manage the risk associated with current and future natural hazards, such as floods, wildfires and droughts. Like MCIP, DMAF provides funding for infrastructure projects that seek to address adaptation and/or mitigation; however, it funds much larger capital projects and does not support other activities such as capacity building or knowledge mobilization.

¹⁵ https://icleicanada.org/wp-content/uploads/2019/10/2nd-BARC-Impact-Report-final_with_bleeds.pdf

¹⁶ <https://climateriskinstitute.ca/about-cri-2/>

¹⁷ <https://ccadaptation.ca/en/landing>

¹⁸ <https://pievc.ca/about-pievc>

MCIP appears to complement other INFC programs, such as DMAF, by enabling municipalities to prepare plans that better meet INFC eligibility requirements. This provides municipalities participating in MCIP greater capacity to leverage other funding opportunities. For example, DMAF requires municipalities to submit available [adaptation](#) and [mitigation](#) related plans, strategies and frameworks, legislation, regulations and policies as part of their application. The municipality of Surrey in British Columbia indicated the plan it had developed through MCIP became part of its successful application to DMAF for a capital project to increase the city's climate resiliency.

Table 1 shows the areas where MCIP activities overlap with those of other programs. While such overlap exists, MCIP provides a broader vision and capacity for collaboration among local-based initiatives, which is beneficial as piecemeal approaches are ultimately not sustainable, as noted by international experts.¹⁹

¹⁹ Thomas G. Measam, et. alia., "Adapting to climate change through local municipal planning: barriers and challenges," *Mitigation and Adaption Strategies for Global Change* 16, no.8 (December 2011): 889-909; Mark A. Benedict and Edward T. McMahon, *Green Infrastructure: Smart Conservation for the 21st Century* (Washington, D.C.: Sprawl Water Clearing House, 2002), 3.

Table 1: Crosswalk of MCIP and Other National Climate Change Programs

Program	MITIGATION				ADAPTATION			
	Municipal grant funding	Technical Assistance or Training (workshops, webinars, etc.)	Awareness Building	Knowledge Sharing (networks, lessons learned, resources, tools, etc.)	Municipal grant funding	Technical Assistance or Training (workshops, webinars, etc.)	Awareness Building	Knowledge Sharing (networks, lessons learned, resources, tools, etc.)
Municipalities for Climate Innovation Program	X	X	X	X	X	X	X	X
Green Municipal Fund	X			X				
Partners for Climate Protection		X		X				
Building Adaptive and Resilient Communities Program						X	X	X
Climate Risk Institute						X		X
Public Infrastructure Engineering Vulnerability Committee			X	X			X	X
Disaster Mitigation and Adaptation Fund	X				X			

Interviewees identified a number of gaps that remain despite MCIP funding with respect to support for municipal capacity building to prepare for, mitigate, and adapt to climate change. These gaps include sustainable funding for capacity building, especially ongoing support towards implementation. While MCIP provides staff grants to bolster financial support for municipalities to hire an employee dedicated to climate resilience activities, the availability of human resources with the time, training, and technical capacity to perform duties related to addressing climate change mitigation and adaptation (i.e. grant writing, reliable data collection and resources to interpret the data).

Interviewees also identified a gap for continued support for awareness-building, capacity building, collaboration among municipalities and knowledge sharing of formal and informal networks among all stakeholders across the country. They further expressed a desire for funding sources that were not solely project based, focused on innovation, and could be applied differently by municipalities who may be at different adaptation and readiness maturity levels.

5.2 Achievement of Expected Outcomes

The evaluation looked at the available performance data for each program indicator to assess progress towards expected outcomes.

Finding 5: Overall, MAMP and MCIP have exceeded their performance targets for their immediate outcomes.


MAMP has surpassed the performance targets related to its immediate outcomes

MAMP has surpassed the performance targets related to its immediate outcomes overall, as seen in Table 2. Municipalities interviewed as part of this evaluation reported having increased their understanding of asset management. It is seen as a holistic strategy that requires the involvement of multiple actors, which needs to be incorporated into service-level planning and linked with financial planning and a life cycle replacement schedule.

Table 2: Progress toward MAMP Immediate Outcomes

Immediate Outcomes	Immediate Indicators	Target	Progress against Target (as of June 30, 2019)
Municipalities of various sizes across Canada and targeted elected municipal officials and staff are more aware of the value of adopting better asset management practices.	Percent of participants (individuals) that report better understanding of asset management thanks to the program	60%-70%	SURPASSED – Since program inception 76% of participants (individuals) that reported a better understanding of asset management thanks to the program.
Municipalities of various sizes across Canada have increased their skills for assessing, including data gathering, and planning the implementation of better asset management practices	Percent of technical assistance recipients (organizations) that report improved asset management capacity thanks to technical assistance provided by MAMP	60%-70%	SURPASSED – 71% of municipalities taking part in technical assistance have increased their capacity
	Percent of technical assistance recipients (participants) who report having increased their skills through participation in program	60%-70%	SURPASSED - 84% of individual technical assistance participants report having increased their skills levels as a result of assistance provided by MAMP
Municipalities of various sizes across Canada have used MAMP funding to increase asset management capacity.	Percent of funding recipients (organizations) that report improved asset management capacity thanks to MAMP funding technical assistance funding	60%-70%	SURPASSED - 84% (138/165) of recipients increased at least one asset management competency by one level or more on the AMRS
Municipalities and other municipal sector stakeholders have increased awareness of MAMP lessons learned.	Number of provincial and territorial associations and other key stakeholders that have increased awareness of MAMP lessons learned.	26	SURPASSED - 29 stakeholders reported having an increased awareness of MAMP lessons learned.
	Number of times knowledge products that share lessons learned are accessed from FCM's website ²⁰	10%	SURPASSED - Between 2017 and 2018, stakeholders accessed program materials such as MAMP web pages, videos, and e-bulletins related to guidance documents, asset management resources, and MAMP's annual report 20,506 times. The open rate of emails that shared MAMP

²⁰ The target in percentage does not match the indicator as formulated in the performance measurement framework. Data provided have been put in a way so as to cover both number and percentage.



lessons learned was 32%, for asset management training it was 29%.

The case studies undertaken as part of the evaluation identified examples of municipal best practices as a result of participation in MAMP activities:

- In 2018, as a result of \$42,760 of MAMP municipal grant funding, Pembroke, Ontario, was able to collect the necessary data to generate a pavement condition index of its roads and sidewalks. This allowed the community to properly prioritize the work required to keep its infrastructure in good condition and estimate the financial need related to a long-term action plan and budgeting process. Once Council realized the value of having a structured approach to asset management, it approved creating for a new position dedicated to asset management.
- Cowichan Valley Regional District in British Columbia used \$48,000 of MAMP funding in 2018 to conduct a condition assessment framework and refresh its asset inventory for waste management and parks and trails assets. The data provided a solid foundation for effective planning, such as a strategic asset management plan that identified asset management capacity needs going forward. The district also progressed from Level 1 to Level 2 on the Asset Management Readiness Scale in the areas of (1) Improved Data and Information Competencies and (2) Contribution to Asset Management Practices.

Despite the progress made towards expected outcomes to date, MAMP was fully prescribed early and as such there are still communities that need support for awareness building, and municipal capacity building, and that have not accessed the program.²¹

MCIP has surpassed the performance targets related to its immediate outcomes

MCIP has surpassed its immediate performance targets, as seen in Table 3. In particular, municipalities reported being more aware of the value of committing to GHG reduction and improving climate change resilience. Municipalities acknowledged that the program contributed to a culture change among their staff and elected officials.

Moreover, respondents reported an increase in skills related to improving climate change resilience, integrating climate change considerations into asset management by developing strategies and plans, and collecting data related to GHG emissions.

²¹ At the time of the evaluation, MAMP's additional \$60 million in funding was being rolled out, which is expected to allow more municipalities to access the program.

Table 3: Progress toward MCIP Immediate Outcomes

MCIP Immediate Outcomes	Targets	Progress against Target (as of June 30, 2019)
Municipalities are more aware of the value of committing to GHG reduction, improving climate change resilience	75%	SURPASSED - 92% of participants reported an increase in awareness of the need to reduce GHGs and adapt to climate change.
Municipalities have increased skills relating to GHG reduction, improving climate change resilience, and integrating climate change considerations into asset management	75%	SURPASSED - 82% of respondents reported an increase in skills related to GHG reduction and 88% reported an increase in skills related to climate adaptation and integrating climate change considerations into their asset management plans.
Municipalities are equipped to take actions that reduce GHGs and/or improve climate change resilience	80%	HAS NOT YET BEEN MET: 15% of participating municipalities have completed plans, studies, capital projects for climate adaptation through MCIP funding in order to improve their climate change resilience. 23% of participating municipalities have completed plans, studies, capital projects for for GHG mitigation through MCIP funding.
The capacity of actors supported through MCIP is increased to better engage with and support the GHG mitigation and climate change resilience work of municipalities measured through percent of implementing partners reporting a new professional connection or relationship as a result of attending a partner's workshop	90%	SURPASSED - 98% of implementing partners reporting a new professional connection or relationship as a result of attending a partner's workshop.

Based on the 2019 results of participant self-assessments using FCM's climate mitigation readiness scale (described in Annex C) and the 2014 National Municipal Adaptation Survey, large municipalities appear to be at a more advanced stage with respect to climate change adaptation and mitigation.

Despite the progress made towards expected outcomes to date, MCIP was fully prescribed early and as such there are still communities that need support for awareness building, municipal capacity building, collaboration and sharing of best practices, and that have not accessed the program.

Finding 6: MAMP and MCIP are making progress towards their intermediate outcomes and contributing to INFC's expected results.

MAMP is making progress towards its intermediate outcomes

MAMP has made progress towards its intermediate outcome of having provincial and territorial associations and other key stakeholders indicate changes in their asset management policies and practices because of awareness resulting from MAMP shared lessons. The target of 50% has been surpassed to date, with 94% of provincial and territorial associations and key stakeholders indicating that changes have been made in asset management policies and practices because of awareness resulting from MAMP shared lessons.

MAMP is making progress towards its target of 60-70% of organizations participating in MAMP that demonstrate improved asset management practices by the end of the program. Fifty one percent of municipalities receiving MAMP funding who participated in the 2016 Canada Core Public Infrastructure Survey (143 out of 279) reported having a documented asset management plan prior to receiving the funding. Results can be compared against this baseline based on the Canada Core Public Infrastructure Survey data that will be available in 2020 and at program completion in 2024 to demonstrate progress towards the intermediate outcome: the percentage of organizations participating in MAMP that demonstrate improved asset management practices by the end of the program.

MCIP is making progress towards its intermediate outcome

One of MCIP's intermediate outcomes is to help municipalities use improved business practices to move closer to GHG reduction and climate change resilience. To measure progress towards this outcome, MCIP developed two maturity scales related to these items. Further detail on these scales can be found in Annexes C and D.

According to preliminary results, MCIP has made some progress towards meeting this intermediate outcome's targets (that are meant to be achieved by end of the program). This is measured through competency scores on the above-mentioned maturity scales. Specifically, the targets of an average increase on the scale of 0.25 have been exceeded for the GHG mitigation maturity scale. However, similar progress has not been made towards a similar average increase on the climate adaptation maturity scale at this point in the program, as illustrated in Table 4.

Table 4: Progress towards Mitigation and Adaptation Competency as Self-Assessed on FCM Maturity Scales

Competency	Mean Reported Competency Levels				Median Reported Competency Levels			
	Start Levels	End-Levels	Gap-Levels	Target	Start-Levels	End-Levels	Gap-Levels	Target
GHG Emissions Reduction Scale								
Policy and decision-making	1.3	2.6	1.33	+ 0.25	3.5	4.0	0.50	1.00
Human resources and governance	0.7	2.1	1.42	+ 0.25	2.5	5.0	2.50	1.00
Technical Capacity	0.9	1.6	0.68	+ 0.25	2.0	2.0	0.00	1.63
Climate Adaptation Scale								
Policy and decision-making	1.7	1.7	0.02	+ 0.25	1.0	2.0	1.00	2.00
Human resources and governance	1.5	1.6	0.02	+ 0.25	1.0	1.0	0.00	2.00
Technical Capacity	1.4	1.4	0.01	+ 0.25	1.0	2.0	1.00	1.70

Source: Start and End Level: FCM Program Database. Target: Program Performance Measurement Framework

The document and database reviews highlighted how certain municipalities demonstrated progress in terms of GHG emissions, including:

- The District of Ucluelet in British Columbia, through the development of a climate action plan, recorded increased capacities in the areas of policy (from a Level 2 to Level 3 on the GHG mitigation maturity scale), human resources (Level 0 to Level 3), and technical and risk management (Level 2 to Level 4).
- The City of Terrebonne in Quebec completed a project on strategy for the acquisition of energy-efficient vehicles and electrification of public spaces. As a result, it progressed from Level 0 to Level 3 for human resources competency, and from Level 2 to Level 4 for policy competency.

MCIP is also intended to help actors²² work more collaboratively to provide a supportive environment for municipalities to reduce GHG emissions and improve climate change resilience. Based on program data, 98% of implementing partners that attended the partners' workshop reported new professional connections or relationships from being involved in MCIP.

Some participating municipalities interviewed recognized the importance of working with provincial and territorial associations to improve their capacity to develop climate change plans and processes related to mitigation. This is the case of several municipalities within Petit Nation River, Quebec, that were affected by flooding in the spring of 2017. They worked collaboratively with the Institut National de Recherche Scientifique which received MCIP funding to develop knowledge of the watershed, including risks and impacts

²² For example, associations or non-governmental organizations that have a mandate to support Canadian municipalities in the areas of climate change mitigation and adaptation.

of flooding through mapping. This enabled the municipality to develop action plans to prepare for and respond to flooding.

MAMP is contributing to INFC's expected results of strengthened municipal asset management practices

Of the 566 municipalities participating in MAMP activities, 169 (30%) have completed at least one project that contributes towards INFC's priority of ensuring municipal infrastructure investment decisions are made through stronger asset management practices. The following cases highlight the kinds of work that has been undertaken as a result of program participation.

- The Association of Yukon Communities published a guide, *The Joy of Governing*, which demystifies asset management by using easy-to-understand language, colourful graphics and practical examples. This booklet is intended to encourage staff and elected officials of local governments to apply the principles of asset management.
- In the Gros Morne Region of Newfoundland and Labrador, seven municipalities with fewer than 1,000 people (Glenburnie-Birchy Head-Shoal Brook, Woody Point, Cow Head, Norris Point, Rocky Harbour, St. Paul's and Trout River), each with populations of fewer than 1,000 people, banded together to ensure that their infrastructure continues to deliver essential services such as clean drinking water and waste disposal. With funding from MAMP and through the Atlantic Infrastructure Management network, these municipalities benefited from technical support and awareness building and gained a comprehensive understanding of their infrastructure and its condition. They municipalities were also able to advance their asset management practices to allow them to make strategic infrastructure investment decisions so as to improve the quality of public infrastructure services.

MCIP is contributing to INFC's expected results of enhanced municipal capacity to reduce GHG emissions and adapt to climate change

MCIP has funded 324 projects to improve municipal capacity to reduce GHG emissions and adapt to climate change, of which 42 were completed as of June 30, 2019. The following examples highlight the kind of work municipalities undertook as a result of program participation and how these efforts contributed towards meeting intermediate outcomes.

- The city of Selkirk, Manitoba improved its capacity to adapt to climate change. It has been experiencing regular spring flooding of the Red River over the last 10 years. Through MCIP's Climate and Asset Management Network funding and peer learning, the city developed a plan to link climate change adaptation planning and asset management practices, and identified infrastructure

enhancements needed over the long term and financial strategies to make those enhancements. The city progressed from Level 1 to Level 3 for policy and decision-making on FCM's Climate Adaptation Maturity Scale.

- Surrey, British Columbia has increased its climate change resiliency by developing a plan for a coastal flood adaptation strategy through MCIP's funding. The work of the coastal flood adaptation strategy will be implemented in partnership with the Semiahmoo First Nation through \$76 million in DMAF funding. This collaborative action will enhance resiliency for over 125,000 residents who are at high risk of coastal flooding, and is expected to provide significant long-term savings on recovery and replacement costs.

5.3 Design and Delivery

The evaluation looked at the extent to which MAMP and MCIP were efficient and aligned with promising approaches for third-party design and delivery for asset management and climate change resiliency capacity building programs.

Finding 7: MAMP's and MCIP's design and delivery aligns with internationally recognized best practices related to asset management and capacity building to prepare for, adapt to and mitigate climate change.

According to the literature review of promising practices nationally and internationally for delivering asset management and climate change resilience capacity building programs, it is important to have flexibility in the program design to allow responsiveness to local needs. It was found that the design and delivery framework outlined in the Contribution Agreement between INFC and FCM, and the programs' Terms and Conditions, allowed the program design to be flexible in addressing municipal needs.

MAMP activities coincide with recognized best-practices for asset management programming, including:

- The provision of sufficient funding for the effective delivery of the program;
- Pro-active awareness-building conveying what asset management is and its importance;
- Technical and skill-building initiatives to ensure that asset management practices are conducted correctly and effectively; and,
- Support for the development of asset management plans and policies that respond to identified needs and objectives of the community or organization.

MCIP is similarly aligned with recognized international best practices with respect to designing programs intended to build infrastructure sustainability and environmental stewardship for the purpose of climate change resilience, especially within the context of asset management. These best practices include:

- The implementation and maintenance of an accurate life-cycle management framework. This framework is intended to assist in identifying, acquiring and assessing fixed assets to ensure they are appropriately maintained, disposed of and replaced as required and that these considerations are incorporated into municipal planning and budgets;
- The funneling of investment to adopt innovative approaches to improve climate change resilience;
- The implementation of sustainable and long-term data collection and analysis;
- The maintenance and improvement of technological capacity that will mitigate climate risks; and,
- The retention and renewal knowledgeable staff with expertise in asset management to build upon the existing knowledge-base.

MAMP and MCIP's activities have supported best practices by providing municipalities with the tools to develop asset management plans that incorporate key elements such as accurate asset lifecycle information, as well as funding for projects involving data collection, technical capacity-building and staff grants that enabled municipalities to obtain personnel with the needed expertise in climate change and asset management.

MCIP and MAMP have been designed and delivered with diverse local municipal contexts in mind. They have operationalized local action, which is internationally recognized as a key practice in building municipal capacity and climate change resilience. This approach involves supporting municipalities to develop initiatives, tools and networks that respond to their unique challenges, as well as helping them develop agency, capacity and autonomy to address local needs related to mitigating or adapting to rapidly shifting environmental conditions or appropriately managing assets.

MAMP was designed in collaboration with stakeholders and community members, to ensure the program's funds and activities could be effectively used by local experts and officials to implement asset management. MCIP similarly conducted consultations, which informed the program's provision of funding and technical support to municipalities to address climate change through mitigation and adaptation strategies that were applicable to municipal circumstances.

Through attending to local priorities and needs, MCIP and MAMP have paralleled other effective community projects globally in that they have supported municipalities to engage stakeholders; built awareness, understanding and capacity; conveyed relevance and personal meaning to stakeholders and staff; developed feasible adaptation solutions; and enhanced planning strategies and policies. At the same time, FCM has also

provided a broader vision and capacity for collaboration among these locally-based initiatives as piecemeal approaches are ultimately not sustainable, much as international experts have also noted.

Finding 8: MAMP's and MCIP's third party approach has generally led to greater efficiency and effectiveness of the programs.

INFC makes investments in public infrastructure, develops policies, delivers programs, fosters knowledge about public infrastructure in Canada, and builds partnerships and works with federal/ provincial/territorial/ municipal and Indigenous stakeholders.

FCM is a recognized national voice for local governments in Canada. Interviewees spoke to how FCM's knowledge of working with municipalities, as well as its established networks and partnerships, allowed the organization to effectively and efficiently deliver MAMP and MCIP.

- FCM's position as a respected and long-established organization with a strong relationship with municipalities across the country has been effectively leveraged. Interviewees reported that FCM staff were helpful and knowledgeable. They used their existing networks and built partnerships to deliver and customize materials based on needs to improve reach and utility. They also have significant experience working directly with municipalities.
- FCM has experience in the delivery of capacity building programs domestically, including municipal action on climate change, environmentally sustainable infrastructure and innovation in municipal development, especially through the GMF and Partners for Climate Change Program.
- The positive working relationship between INFC and FCM led to greater effectiveness of the programs overall. INFC's engagement of FCM on program design and their ongoing communication, mutual investment and flexible, multi-layered approach to decision-making aligned with promising practices nationally and internationally for third-party program delivery.

The program objectives of MAMP and MCIP, as well as FCM's expertise, places FCM in a more efficient and effective position than INFC to deliver the municipal programs.

The degree of autonomy that FCM was granted by INFC in determining how the programs would be delivered allowed it to have an enhanced capability to make decisions quickly and adjust program specifics based on local and regional needs.

FCM was able to deliver the programs at favorable operating costs. These compare well to other programs that use third party delivery agreements for training and capacity building, as seen in Table 5. FCM was

allocated up to 12% over the life of the program to cover eligible administrative costs associated with MAMP and MCIP program delivery, which seems reasonable given the programs' national scope, with hundreds of projects and training activities.

The first three years of actual operating costs of MCIP and MAMP, at 11%, are lower than the 12% FCM was allocated through the funding agreement with INFC.

Table 5: Examples of Administrative Costs for Third Party Contribution Agreements for Programs Comparable to MAMP and MCIP

Program	Administrative Costs	Program Scale
Aboriginal Skills and Employment Training Strategy (Employment and Social Development Canada)	Up to 15% of the total funding amount over the duration of the program	<ul style="list-style-type: none"> • Training and capacity building • Support for a network of 85 delivery organizations that design and deliver programming based on the needs and priorities of Indigenous people and communities through more than 600 points of service across Canada • Responsive, flexible and innovative strategy that meets the unique needs of Indigenous people²³ • Maximum of \$70 million per year per recipient
Reaching Home: Canada's Homelessness Strategy (Employment and Social Development Canada)	Up to 15% of total funding	<ul style="list-style-type: none"> • Data collection and technical assistance • Reinforcing of the Government of Canada existing community-based approach by delivering funding directly to municipalities and local service providers through Reaching Home²⁴. • \$2.2 billion over 10 years
Digital Skills for Youth Program (Innovation, Science and Economic Development)	Up to 15% of total funding over the term of the contribution agreement	<ul style="list-style-type: none"> • Training and capacity building • Connections of underemployed post-secondary graduates with small businesses and not-for-profit organizations where they can gain meaningful work experience to help them transition to career-oriented employment²⁵. • Part of the Youth Employment and Skills Strategy (YESS) which has up to \$600 million
Municipal Asset Management Program and Municipalities Climate for Innovation Program	<p>Approved up to 12% of the overall contribution</p> <p>Actual operational costs for first three years reported at 11%</p>	<ul style="list-style-type: none"> • Training and knowledge mobilization, data collection and technical assistance, municipal grant funding and capacity building • Support for municipal capacity building in asset management and climate change resilience. • \$75 million over five years for MCIP • \$110 million over eight years for MAMP

²³ <https://www.canada.ca/en/employment-social-development/news/2019/03/backgrounder-aboriginal-skills-and-employment-training-strategy.html>

²⁴ <https://www.canada.ca/en/employment-social-development/news/2019/04/reaching-home-canadas-homelessness-strategy-launch.html>

²⁵ <https://www.ic.gc.ca/eic/site/122.nsf/eng/home>

Finding 9: Inclusion was taken into account in the programs' delivery.

Gender-based Analysis Plus is defined by the Government of Canada “as a process of analysis by which a policy, program, initiative or service is assessed for its impacts on various groups of women, men and non-binary people, taking into account various identity factors, including gender, race, ethnicity, religion, age, mental or physical disability.”²⁶

When MAMP and MCIP were introduced in 2016, the government’s gender-based analysis requirements at that time were met. When MAMP was updated in 2019, a Gender-based Analysis Plus that looked at gender and demographic characteristics (e.g. education level, age, income level, ethnicity) was conducted. While there were no requirements to do so resulting from the analyses, FCM took inclusion of a diverse range of communities into account in their program delivery.

International experts have highlighted that the most effective action plans for community climate change resilience and asset management capacity building have involved a more inclusive “bottom-up” approach to implementation that takes into account how certain demographic segments within that area are more vulnerable to the impacts of climate change and asset mismanagement. It is therefore important to consider factors like economic status, gender, ethnicity, health and disability, and educational attainment in the design and delivery of such programs. This can help to determine the most inclusive approach to take at the municipal level.

²⁶ Gender Based Analysis Plus, Women and Gender Equality Canada, Government of Canada. <https://cfc-swc.gc.ca/gba-accs/index-en.html>

6.0 Conclusions

Based on the above findings, the evaluation has concluded the following:

Relevance

Both MAMP and MCIP align with INFC's priority for public infrastructure to be managed in a more sustainable way. By applying asset management principles, local governments can strategically incorporate into the planning process the sustainability of existing infrastructure, future growth and climate change resiliency. This improves the quality of services and allows public infrastructure to be managed in a more sustainable way

Moreover, both MAMP and MCIP align with the Government of Canada's priorities related to a clean environment and stronger municipalities by ensuring that municipalities have asset management practices that take into consideration climate change.

The most common stakeholder-identified needs for both MAMP and MCIP included awareness/understanding of asset management and/or climate change and the human and financial resources needed to conduct it. These needs varied based on the size of municipalities for both MAMP and MCIP. In particular, small municipalities' needs were more related to a lack of human and financial resources, whereas, large municipalities have challenges with coordination among stakeholders. Municipalities' differing needs, based on their size was addressed by the activities offered under MAMP'S and MCIP's activities.

At the national level, programs or initiatives that focus on supporting capacity building for asset management are limited. Partnerships and collaboration with other programs or organizations offering asset management capacity building activities have helped ensure that MAMP is complementary to existing resources, rather than duplicative.

Although there are a number of programs that focus on supporting climate change resiliency in Canada, MCIP appears unique in terms of facilitating the planning and application of both climate change mitigation and adaptation strategies for municipalities, as well as providing an array of activities through a single program.

Progress towards achievement of outcomes

MAMP has surpassed the performance targets related to its immediate outcomes. It has made progress towards its first intermediate outcome of PTAs and other key stakeholders indicating changes in their asset management policies and practices because of awareness resulting from MAMP shared lessons. It is contributing to INFC's expected results of strengthened municipal asset management practices.

MCIP has surpassed its performance targets related to its immediate outcomes, is making progress towards its intermediate outcome and is contributing to INFC's expected results of enhanced municipal capacity to reduce GHG emissions and adapt to climate change.

Program Design and Delivery

MAMP and MCIP are aligned with internationally recognized best practices related to asset management and capacity building to prepare for climate resiliency.

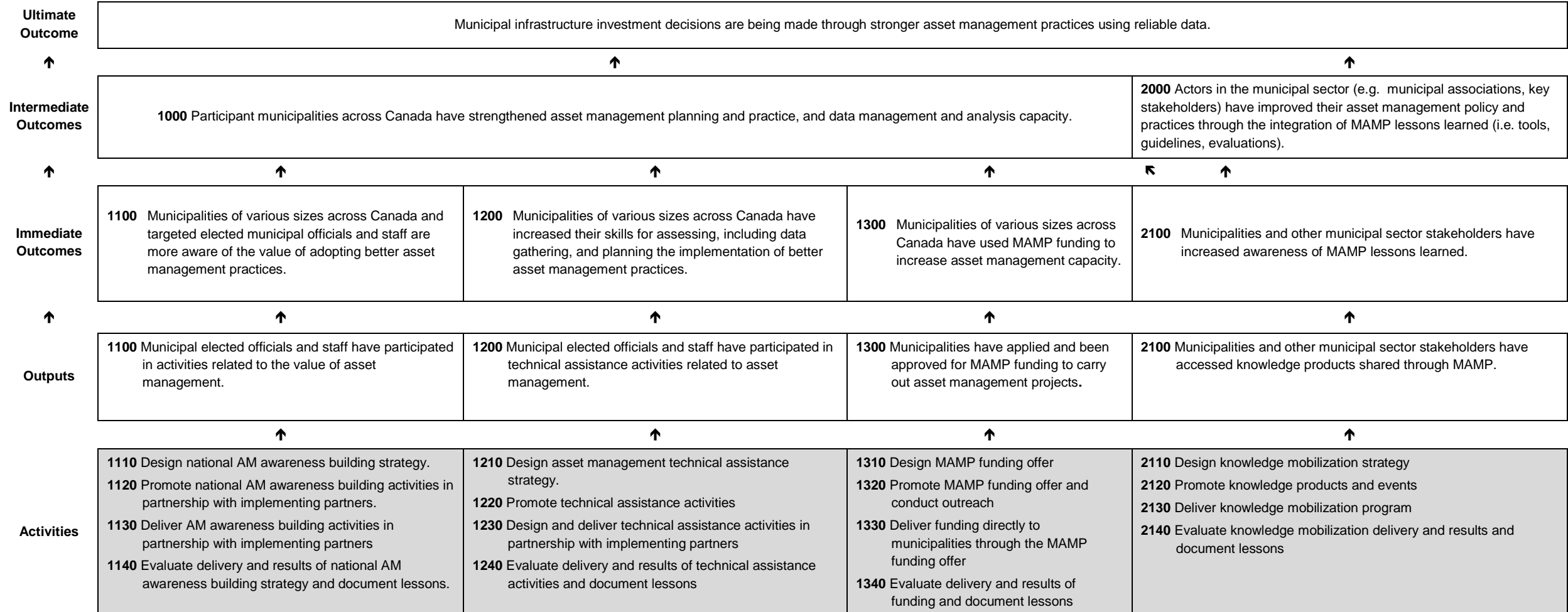
The third-party design and delivery approach of MAMP and MCIP has been effective. FCM was able to deliver the programs at favorable operating costs.

When MAMP and MCIP were introduced in 2016, the government's gender-based analysis requirements at that time were met. Gender-based Analysis Plus was also included as part of MAMP's 2019 renewal. While there were no requirements to do so resulting from the analyses, FCM took inclusion of a diverse range of communities into account in their program delivery.

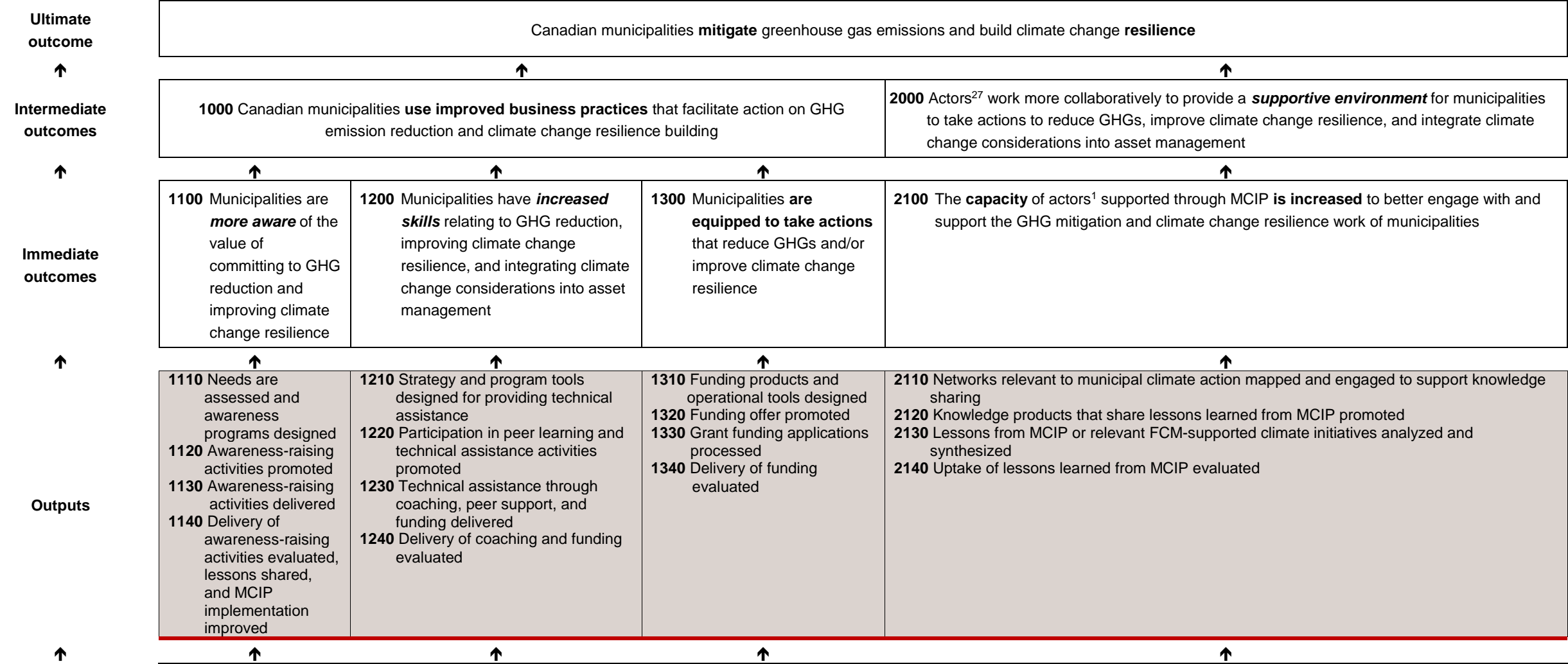
No recommendations were made as a result of this evaluation. Overall the findings were positive and no further action was required.

Annex A: Logic Models

MAMP Logic Model



MCIP logic model (Revised as of January 21, 2019)



²⁷ For example, associations that have a mandate to support Canadian municipalities in the areas of climate change mitigation and adaptation.

Activities

1110 Assess needs and design awareness programs 1120 Promote awareness-raising activities 1130 Deliver awareness-raising activities 1140 Evaluate delivery of awareness-raising activities, draw lessons, and improve MCIP	1210 Design strategy and program tools for providing technical assistance 1220 Promote participation in peer learning and technical assistance activities 1230 Deliver technical assistance through coaching, peer support, and funding 1240 Evaluate delivery of coaching and funding	1310 Design funding products and operational tools 1320 Promote the funding offer 1330 Process applications received and deliver grant funding 1340 Evaluate delivery of funding	2110 Map networks relevant to municipal climate action, and engage them to support knowledge sharing 2120 Promote knowledge products that share lessons learned from MCIP 2130 Analyze and synthesize lessons from MCIP or relevant FCM-supported climate initiatives 2140 Evaluate uptake of lessons learned from MCIP
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Annex B: MAMP’s Asset Management Readiness Scale

The Asset Management Readiness Scale self-assessment assesses progress that is being made by municipalities for the following five competencies

- Policy and governance: Putting in place policies and objectives related to asset management, bringing those policies to life through a strategy and roadmap, and then measuring progress and monitoring implementation over time.
- People and leadership: setting up cross-functional teams with clear accountability and ensuring adequate resourcing and commitment from senior management and elected officials to advance asset management.
- Data and information: collecting and using asset data, performance data and financial information to support effective asset management planning and decision-making.
- Planning and decision-making: documenting and standardizing how the organization sets asset management priorities, conducts capital and operations and maintenance (O&M) planning, and decides on budgets.
- Contribution to asset management practice: supporting staff in asset management training, sharing knowledge internally to communicate the benefits of asset management, and participating in external knowledge sharing. (FCM, Asset Management readiness Scale guidance document)

The competency areas are organized on a progressive scale of five levels. Each level is further broken down into three outcome areas as seen below.

Policy and governance

By developing this competency, your organization is putting in place policies and objectives related to asset management (AM), bringing those policies to life through a strategy and roadmap, and then measuring progress and monitoring implementation over time. **Outcomes: Select the outcomes that your organization has achieved.**

Outcome areas	Level 1	Level 2	Level 3	Level 4	Level 5
Policy and objectives	<ul style="list-style-type: none">o Senior management is committed to formalizing an AM program.	<ul style="list-style-type: none">o We have drafted an AM policy.o Senior management and council have endorsed the AM policy.	<ul style="list-style-type: none">o We are starting to use our AM policy to guide our actions.	<ul style="list-style-type: none">o We manage assets and services in accordance with our AM policy and organizational objectives.	<ul style="list-style-type: none">o We continue to validate and refine our corporate, service and AM objectives based on the evolving needs of our community.
Strategy and roadmap	<ul style="list-style-type: none">o We have identified the benefits that we want AM to deliver, and the benefits support organizational objectives.	<ul style="list-style-type: none">o We have a strategy for our AM program.o We have a draft roadmap that outlines our approach for the next 1 to 3 years.	<ul style="list-style-type: none">o We have a roadmap that details the actions for implementing our AM strategy over the next 3 to 5 years.	<ul style="list-style-type: none">o We are achieving our AM policy objectives. The necessary workflows, documents, and reporting tools are in place.o We update our roadmap to address evolving needs.	<ul style="list-style-type: none">o We follow our roadmap and continually improve our AM practices.o We document improvements to our AM practices.
Measurement and monitoring	<ul style="list-style-type: none">o We have identified short-term actions that will demonstrate early progress on AM.	<ul style="list-style-type: none">o We are collecting baseline data on our current AM practices.	<ul style="list-style-type: none">o We have established performance measures to monitor our asset management progress, outcomes, and the benefits to our community.	<ul style="list-style-type: none">o We use performance measures to monitor AM progress, outcomes, and benefits.	<ul style="list-style-type: none">o We monitor performance and use the feedback to prioritize and make ongoing refinements and improvements to AM practices.

People and leadership

By developing this competency, your organization is setting up cross-functional teams with clear accountability and ensuring adequate resourcing and commitment from senior management and elected officials to advance asset management. **Outcomes: Select the outcomes that your organization has achieved.**

Outcome areas	Level 1	Level 2	Level 3	Level 4	Level 5
Cross-functional teams	<ul style="list-style-type: none">o We have identified the representation we need on our cross-functional AM team.	<ul style="list-style-type: none">o We have a cross-functional AM team* that guides the planning and implementation of our AM program.	<ul style="list-style-type: none">o Our AM team* works within our organization to lead, communicate, and support AM improvements and organizational changes.	<ul style="list-style-type: none">o Our AM team* is permanent and tasked with guiding and supporting AM across the organization on an ongoing basis.	<ul style="list-style-type: none">o Our AM team* guides and supports the ongoing improvement of AM within the organization.
Accountability	<ul style="list-style-type: none">o We have a champion who has been tasked with planning for our AM program.	<ul style="list-style-type: none">o Our AM team* has a documented mandate to develop our AM program, which is outlined in a terms of reference and a one- to three-year roadmap.o Our AM team is accountable to senior management and council.	<ul style="list-style-type: none">o Our AM team* is accountable for implementing our AM program.o AM roles and responsibilities are included in staff job descriptions.	<ul style="list-style-type: none">o We have operationalized AM roles and responsibilities across our organization.	<ul style="list-style-type: none">o We document changes to AM roles and responsibilities as needed to support our evolving requirements.
Resourcing and commitment	<ul style="list-style-type: none">o Council knows that resources must be dedicated to exploring the requirements for AM and for drafting an AM roadmap.	<ul style="list-style-type: none">o Council demonstrates buy-in and support for AM and allocates resources (funding or staff time) to further develop the AM program.	<ul style="list-style-type: none">o Council champions AM as a core business function and has approved funding to continue AM roadmap activities.	<ul style="list-style-type: none">o Council funds ongoing AM monitoring and enhancement.	<ul style="list-style-type: none">o The AM team measures and monitors progress.o Council demonstrates commitment to ongoing improvement of AM practices.

Data and information

By developing this competency, your organization is collecting and using asset data, performance data and financial information to support effective asset management planning and decision-making. **Outcomes: Select the outcomes that your organization has achieved.**

Outcome areas	Level 1	Level 2	Level 3	Level 4	Level 5
Asset data	<ul style="list-style-type: none">o We have asset inventory data, including approximate quantities of assets within most asset groups.o We have some anecdotal information on asset condition.Some age information exists.	<ul style="list-style-type: none">o We have a basic inventory of most critical assets, including information on general asset properties such as size, material, location and installation date.o We are moving our data to a centralized location for use by the AM team (note: this does not require AM software).o We have defined critical assets and have some information on asset condition for these assets.	<ul style="list-style-type: none">o We have a consolidated, basic inventory of all assets.o We have defined life cycle investment requirements for critical assets.o We have standardized condition rating systems defined for most asset groups.o We have asset condition information on all critical assets.	<ul style="list-style-type: none">o We have expanded inventory data for some assetso We have evaluated the life cycle investment requirements associated with critical assets.o We update data according to cycles defined in our AM plans or strategy.	<ul style="list-style-type: none">o We have expanded inventory data for most assets.o We have evaluated the life cycle investment requirements associated with most assets.
Performance data	<ul style="list-style-type: none">o We have informal or anecdotal approaches for measuring asset or service performance.	<ul style="list-style-type: none">o We have some information on performance of critical assets, collected from a variety of sources.	<ul style="list-style-type: none">o We have defined level of service measurements for some service areas.o We have captured data on current level of service performance for some service areas.o We have reviewed service levels and asset performance with council.	<ul style="list-style-type: none">o We have defined level of service measurements for critical service areas.o We communicate the results from our level of service measurement program to staff and council regularly.	<ul style="list-style-type: none">o We have defined level of service measurements for most or all service areas.o W e continually improve how we collect data on level of service performance.

Planning and decision-making

By developing this competency, your organization is documenting and standardizing how the organization sets asset management priorities, conducts capital and operations and maintenance (O&M) planning, and decides on budgets. **Outcomes: Select the outcomes that your organization has achieved.**

Outcome areas Documentation and standardization	Level 1 o Our asset planning approaches vary across the organization.	Level 2 o Our departments follow a similar but informal asset planning approach. o We evaluate investment needs and priorities based on a mix of structured and ad-hoc practices and criteria.	Level 3 o We have a structured asset planning approach, but application is inconsistent. o We set priorities using criteria based on organizational goals and objectives.	Level 4 o We employ a consistent structured asset planning approach for each of our critical services . o We set priorities using criteria that are fully aligned with our organizational goals and objectives.	Level 5 o We employ a consistent structured asset planning approach for all services. o We adapt our planning approach and criteria to align with evolving organizational goals and objectives.
Asset management plans	o Our approach to asset renewal focuses on reacting to basic needs (e.g. growth, regulations and known problems). o We evaluate priorities based on available information, staff experience, and input from council and management.	o We have draft AM plans for some asset classes, with forecasted financial needs based on estimated data.	o We have AM plans for critical services , based on a mix of estimated and actual data. o Our AM plans include available information about level of service (current and target) and risk management. o Our AM plans identify short-term issues and priorities.	o We have AM plans for most services based on actual data. o Our AM plans include basic needs forecasting and risk management strategies for critical assets . o Our AM plans are based on both short- and long-term issues and priorities. They balance short-term service objectives with longer-term goals and risks . o We keep our AM plans up to date through normal business.	o We have AM plans for all services based on actual data. o Our individual AM plans are integrated across services. o Our AM plans include needs forecasts and risk management strategies for most assets. Plans address risks to both service and business goals.
Outcome areas Budgets and financial planning	Level 1 ☑ We prepare annual capital and operating budgets based on historical values. o We deal with new needs reactively, as they occur.	Level 2 2 ☑ We prepare annual capital and operating budgets based on a mix of historical values and new priorities.	Level 3 o We prepare an annual capital budget based on an annual assessment of current needs. o We have a 3-year capital plan that addresses short-term issues and priorities.	Level 4 o We prepare annual needs-based capital and operating budgets that are based on an annual assessment of risks and current needs. o We have a 5-year capital plan* and update it annually. o We update our long-term financial plan (at least 10-year) annually and understand the risks associated with our investment gap.	Level 5 o We prepare multi-year needs-based capital and operating budgets that are based on our short- and mid-term needs. o We take a structured approach to address in-cycle changes.

Contribution to asset management practice

By developing this competency, your organization is supporting staff in asset management training, sharing knowledge internally to communicate the benefits of asset management, and participating in external knowledge sharing. **Outcomes: Select the outcomes that your organization has achieved.**

Outcome areas Training and development	Level 1 <ul style="list-style-type: none">o Our AM training and development approach is informal and largely driven by the personal initiative of staff.o Some staff conduct targeted research, seeking out basic information on AM concepts and techniques.	Level 2 <ul style="list-style-type: none">o Our AM training and development requirements are defined by management based on short-term needs.o Selected staff are trained on basic AM concepts.o Council has opportunities to increase their understanding of AM concepts.	Level 3 <ul style="list-style-type: none">o We provide all staff with basic AM awareness training.o Some staff undergo training on advanced AM concepts specific to their roles and responsibilities.o Staff and council are able to communicate the value of AM in their own words.	Level 4 <ul style="list-style-type: none">o We define AM knowledge and skill requirements. A training plan is in place for all positions.o Council, management and staff receive role-appropriate AM training to establish needed capacity across the organization.	Level 5 <ul style="list-style-type: none">o We train select staff members as internal experts to support the ongoing development of organizational capacity.o Proactive, role-based training serves as a support for career development and succession planning.
Internal communication and knowledge sharing	<ul style="list-style-type: none">o We are aware of the need to mitigate the risk of losing information held in the minds of long-term staff.	<ul style="list-style-type: none">o We mitigate the risk of losing information held in the minds of long-term staff, through improved record keeping.	<ul style="list-style-type: none">o A culture of knowledge sharing is emerging internally, supported by official initiatives.o We collect and maintain AM knowledge resources.o We communicate the benefits of AM internally to staff and council.	<ul style="list-style-type: none">o A culture of knowledge sharing exists and is supported by a mix of formal and informal initiatives.o We disseminate AM knowledge resources within the organization.	<ul style="list-style-type: none">o We capture AM knowledge and it flows freely throughout the organization.o Staff leverage internal and industry knowledge and leading practice resources.
Outcome areas External communication and knowledge sharing	Level 1 <ul style="list-style-type: none">o We are investigating AM-related organizations and resources.	Level 2 <ul style="list-style-type: none">o Staff or elected officials attend AM-related events.o We share basic information on current capital projects with the public.	Level 3 <ul style="list-style-type: none">o We are members of one or more AM organizations and actively share our AM experience.o We share basic information on our assets, the services we provide, and future needs with the public.	Level 4 <ul style="list-style-type: none">o We are actively involved in AM organizations and present at AM events.o We share information with our peers on our experience, innovations and lessons learned.o We rely on the data from our AM program to explain decisions to the public.	Level 5 <ul style="list-style-type: none">o We are a thought leader on AM within the municipal sector.o We are active in coaching others to improve the overall body of AM knowledge.o We communicate the benefits of AM to the public.








































Annex C: MCIP's Maturity Scale for Municipal GHG Emissions Reduction

This maturity scale was developed with support from FCM's Municipalities for Climate Innovation Program (MCIP) to facilitate the self-assessment of your organization's institutional readiness and progress in reducing greenhouse gas (GHG) emissions. The scale is based on the Milestone Framework for the [Partners for Climate Protection \(PCP\) program](#) and FCM's understanding of the processes needed to incorporate GHG emissions reduction into municipal operations and strategy.

Each competency within the Maturity Scale for Municipal GHG Emissions Reduction is broken down into five milestones, as per the PCP Milestone Framework. These milestones form a progressive scale from initial concept through to continuous improvement of GHG emissions reduction in municipal processes. The outcomes for each milestone show, in practical terms, what your municipality needs to achieve before progressing to the next level.

Competency: Policy Putting in place context-specific policies that support the implementation of a vision to reduce local GHG emissions.												
Maturity level ²⁸	Concept level		Milestone 1		Milestone 2		Milestone 3		Milestone 4		Milestone 5	
	Working on concept level <input type="checkbox"/>	Completed concept level <input type="checkbox"/>	Working on Milestone 1 <input type="checkbox"/>	Completed Milestone 1 <input type="checkbox"/>	Working on Milestone 2 <input type="checkbox"/>	Completed Milestone 2 <input type="checkbox"/>	Working on Milestone 3 <input type="checkbox"/>	Completed Milestone 3 <input type="checkbox"/>	Working on Milestone 4 <input type="checkbox"/>	Completed Milestone 4 <input type="checkbox"/>	Working on Milestone 5 <input type="checkbox"/>	Completed Milestone 5 <input type="checkbox"/>
	We have defined expectations for improving our capacity to reduce GHG emissions. We are aware of applicable provincial/territorial requirements and available resources to support our efforts.		We have a GHG emissions inventory in place, which was mandated.		We have set our GHG emissions reduction target , which has been informed by targets set by relevant stakeholders.		We have developed a local action plan to guide emissions reduction in our municipality.		We are implementing the GHG emissions reduction activities in our local action plan.		We are continually monitoring progress in our GHG emissions reduction activities and reviewing opportunities for improvements in our local action plan and municipal processes.	
Outcomes Policy and objectives	You have completed a specific milestone when you can demonstrate evidence of the outcomes below.											
	<input type="checkbox"/> We have defined objectives for our GHG emissions reduction activities.		<input type="checkbox"/> N/A		<input type="checkbox"/> We have set an emissions reduction target.		<input type="checkbox"/> We have prepared a local action plan that outlines specific activities we will engage in to reduce emissions through municipal operations or in the wider community. ²⁸		<input type="checkbox"/> We are implementing GHG reduction initiatives identified in our local action plan, as per our implementation schedule. <input type="checkbox"/> There are clear links between our local action plan and our municipal planning documents.		<input type="checkbox"/> We have processes in place to regularly review our local action plan, assess progress against targets and make adjustments. <input type="checkbox"/> Consideration of the emissions target is integrated into other guiding municipal plans and policy decisions.	
Alignment with broader policy context	<input type="checkbox"/> We have reviewed any applicable provincial/territorial requirements for climate change action.		<input type="checkbox"/> N/A		<input type="checkbox"/> Our target has been informed by targets set by adjacent municipalities, our provincial/territorial government, or the Government of Canada.		<input type="checkbox"/> Our local action plan considers any regulatory requirements by our provincial government.		<input type="checkbox"/> We are seeking ways to align the steps in our local action plan with those of neighbouring municipalities, upper-tier municipalities, community partners, and the provincial/territorial government.		<input type="checkbox"/> We are reporting progress to relevant bodies outside of our municipality, for knowledge-sharing purposes (e.g. provincial/territorial government, PCP program, etc.).	

²⁸ Some municipalities may choose to produce two separate local action plans — one that is focused on municipal operations and another for the wider community. FCM recommends focusing first on municipal operations.

Competency: Human resources and governance Ensuring staff and council are equipped with the mandate, understanding, skills and knowledge needed to increase capacity for reducing municipal GHG emissions.												
Maturity level 	Concept level		Milestone 1		Milestone 2		Milestone 3		Milestone 4		Milestone 5	
	Working on concept level 	Completed concept level 	Working on Milestone 1 	Completed Milestone 1 	Working on Milestone 2 	Completed Milestone 2 	Working on Milestone 3 	Completed Milestone 3 	Working on Milestone 4 	Completed Milestone 4 	Working on Milestone 5 	Completed Milestone 5 
	We have assigned staff members to lead our GHG emissions reduction work and have the support of council to begin.		We have assigned dedicated staff to develop and maintain a GHG emissions inventory, prepared with input from relevant stakeholders.		Our GHG emissions reduction target has been approved by council.		Our local action plan has been approved by council and informed by relevant municipal and community stakeholders.		Our dedicated staff are implementing our GHG emissions reduction activities and are providing regular progress reports to our governance body or authority.		Our dedicated staff are continually monitoring progress in our GHG emissions reduction activities and reviewing opportunities for improvement.	
Outcomes Governance	You have completed a specific milestone when you can demonstrate evidence of the outcomes below.											
	 The high-level value proposition for GHG emissions reduction is known and accepted.  We have a council resolution to join the PCP Program (if applicable).		 We have the support of council and senior management to work on GHG emissions reduction.		 Our emissions reduction target has been approved by council.		 A governance body or authority has been identified, that will monitor the implementation of our GHG emissions reduction initiatives.  Our local action plan for municipal and/or community-wide emissions reduction has been approved by council.		 We provide regular progress reports to our governance body or authority.  We are integrating our emissions reduction targets and objectives into municipal decision-making processes.		 Council understands the co-benefits of municipal GHG emissions reduction and supports continuous improvement to our local climate change work.  Council and department heads have a process in place to consider emissions reduction in all applicable investment and policy decisions.	
Roles and responsibilities	 We have established an inter-departmental climate team ²⁹ to prepare our GHG emissions inventory.		 Our inter-departmental climate team ² have received any necessary training for compiling and analyzing data in our GHG emissions inventory.		 We have consulted with municipal departments and local organizations that are in a position to reduce GHG emissions.  We have tasked relevant municipal departments and local organizations with developing parts of the local action plan that relate to the activities they will be undertaking.		 Roles and responsibilities for implementing GHG emissions reduction activities are clearly defined.  There is ownership within relevant municipal departments and local organizations of specific activities identified in our local action plan.		 The municipal departments and local organizations identified in our local action plan are implementing their respective GHG emissions reduction activities.		 We continue to review and revise roles and responsibilities to ensure longer-term sustainability our GHG emissions reduction efforts.	
Stakeholder engagement	 We are engaging with the public and relevant community groups to inform our GHG emissions inventory.  We have actively engaged our relevant utilities for data gathering and alignment of efforts.		 We have established relationships with utilities for ongoing access to data to inform our inventories.		 We have engaged the public and relevant community groups in defining our emissions reduction target.		 We have engaged the public and relevant community groups to inform our local action plan for the community.		 We have engaged relevant community groups to implement our local action plan for the community.		 We regularly engage with stakeholders to recognize their efforts, share our joint successes, and build new partnerships to improve our approach to GHG emissions reduction.  Our progress reports are regularly made available to the public.	

²⁹ It is recognized that in smaller municipalities, only one person may be tasked with preparing a GHG emissions inventory. In some cases, municipalities may also choose to engage external stakeholders to carry out this work.

Competency: Technical capacity Preparing the tools needed to reduce GHG emissions and track progress.												
Maturity level [Ⓐ]	Concept level		Milestone 1		Milestone 2		Milestone 3		Milestone 4		Milestone 5	
	Working on concept level <input type="checkbox"/>	Completed concept level <input type="checkbox"/>	Working on Milestone 1 <input type="checkbox"/>	Completed Milestone 1 <input type="checkbox"/>	Working on Milestone 2 <input type="checkbox"/>	Completed Milestone 2 <input type="checkbox"/>	Working on Milestone 3 <input type="checkbox"/>	Completed Milestone 3 <input type="checkbox"/>	Working on Milestone 4 <input type="checkbox"/>	Completed Milestone 4 <input type="checkbox"/>	Working on Milestone 5 <input type="checkbox"/>	Completed Milestone 5 <input type="checkbox"/>
	We are gathering the data we need to begin preparing a GHG emissions inventory.		We have completed our municipal and community-wide GHG emissions inventory .		We have used our available data and future forecast to set a GHG emissions reduction target .		We have identified options for funding our GHG emissions reduction activities that we have identified in our local action plan .		We are using our tools and systems to track the performance of our GHG emissions reduction activities.		We continuously improve our approach to performance measurement and reporting of our GHG emissions reduction.	
Outcomes	You have completed a specific milestone when you can demonstrate evidence of the outcomes below.											
Data and performance management	<input type="checkbox"/> We are connected to relevant technical support organizations that can help us through the process. <input type="checkbox"/> We are identifying relevant data sources and compiling available data for our emissions inventory.		<input type="checkbox"/> We have completed a municipal and community GHG emissions inventory. ³⁰ <input type="checkbox"/> We are tracking data sources and any assumptions that we are making about available data. <input type="checkbox"/> We have completed a forecast of future GHG emissions, based on a business-as-usual scenario. ³¹		<input type="checkbox"/> We are using available data and our forecast of future GHG emissions reductions to inform the development of our local action plan. <input type="checkbox"/> We have considered several emissions reduction targets, balancing ambition with feasibility.		<input type="checkbox"/> We have identified opportunities for emissions reduction and have quantified them.		<input type="checkbox"/> We are monitoring the performance of the initiatives that are we implementing through the local action plan. <input type="checkbox"/> We have processes in place to identify new opportunities for emissions reduction.		<input type="checkbox"/> We continually seek improvements in data quality to support the GHG emission reduction action plan. <input type="checkbox"/> We have processes in place to regularly review our approach to monitoring and performance measurement.	
Technical tools	<input type="checkbox"/> We are exploring suitable tools and systems for our GHG emissions inventory. <input type="checkbox"/> We are becoming familiar with the protocols and research that will enable our actions to achieve the milestones.		<input type="checkbox"/> We have secured an appropriate tool for cataloguing our GHG emissions inventory. ³²		<input type="checkbox"/> The reductions targets have been informed by technical analysis of the types of actions required to achieve them.		<input type="checkbox"/> Tools and systems are in place to track progress in our GHG emissions reduction.		<input type="checkbox"/> We are monitoring the effectiveness of our tools for tracking GHG emissions reduction.		<input type="checkbox"/> We continually improve our tools and systems for tracking GHG emissions reductions.	
Economic considerations	<input type="checkbox"/> We have allocated funding for acquiring relevant data, technical tools and systems.		<input type="checkbox"/> Our inventories consider GHG emissions and energy consumption alongside associated financial expenditures on energy.		<input type="checkbox"/> We are assessing costs related to achieving the identified GHG emissions reduction targets.		<input type="checkbox"/> We are assessing costs related to identified GHG emissions reduction actions. <input type="checkbox"/> We have allocated annual funding and, where needed, confirmed other funding sources to support prioritized activities described in our local action plan.		<input type="checkbox"/> We are assessing the value for money along with energy savings from identified projects. <input type="checkbox"/> We are dedicating funding in our annual budget and capital plans to the implementation of activities outlined in our local action plan.		<input type="checkbox"/> Our priority GHG emissions reduction activities are fully funded and we have processes in place to assess new emissions reduction opportunities.	

³⁰ The inventory should clearly indicate emission intensity values or coefficient values for all energy types (including electricity).

³¹ PCP recommends generating a forecast for the next 10 years.

³² PCP recommends using the PCP Milestone Tool.

Annex D MCIP’s Climate Adaptation Maturity Scale

Each competency within the Climate Adaptation Maturity Scale is broken down into five levels. These levels form a progressive scale from initial concept through to continuous improvement of climate change adaptation practices in regular municipal processes. The outcomes at each level show, in practical terms, what your municipality needs to achieve before progressing to the next level.

Competency: Policy Putting in place policies and objectives related to the development of an environment and vision that supports local climate adaptation.										
Maturity level	1 Concept Level		2 Preliminary Level		3 Implementation Level		4 Operational Level		5 Continuous Improvement Level	
	Working on Level 1 <input type="checkbox"/>	Completed Level 1 <input type="checkbox"/>	Working on Level 2 <input type="checkbox"/>	Completed Level 2 <input type="checkbox"/>	Working on Level 3 <input type="checkbox"/>	Completed Level 3 <input type="checkbox"/>	Working on Level 4 <input type="checkbox"/>	Completed Level 4 <input type="checkbox"/>	Working on Level 5 <input type="checkbox"/>	Completed Level 5 <input type="checkbox"/>
	We have set expectations for our work on climate adaptation. We have the support we need to begin preparing a policy.		We have drafted a climate adaptation policy and have prepared strategic guidelines that will inform the development of an adaptation plan and other adaptation initiatives.		We have adopted our climate adaptation policy and are using it to guide our actions, and have drafted an adaptation plan. We have established performance measures to monitor progress.		We have a climate adaptation plan in place and are managing climate risks. We are using performance measures to track the progress and outcomes of our climate adaptation initiatives.		We are continually improving our understanding of climate risks and our approach to managing these risks.	
Outcomes	You have achieved a specific maturity level when you can demonstrate evidence of the outcomes below.									
Policy and objectives	<input type="checkbox"/> We have looked into policy issues and constraints surrounding climate change adaptation within our community.		<input type="checkbox"/> We have developed a policy that details our organizational commitment to climate adaptation. <input type="checkbox"/> Senior management and council have endorsed the policy.		<input type="checkbox"/> We are starting to use the policy objectives to guide our broader corporate plans and actions. <input type="checkbox"/> We have drafted an adaptation plan detailing specific initiatives and processes.		<input type="checkbox"/> Senior management and council have endorsed the adaptation plan. <input type="checkbox"/> Climate risks are managed in terms of levels of service, operations, and maintenance, in accordance with the policy.		<input type="checkbox"/> We are validating and refining corporate, service, and adaptation objectives based on the evolving needs of our community.	
Strategy and framework	<input type="checkbox"/> We have defined objectives and committed to taking a concerted approach to managing climate risks.		<input type="checkbox"/> We have engaged senior leadership in identifying strategic level climate risk categories across the municipality.		<input type="checkbox"/> We are beginning to integrate climate risk considerations into our asset management practices.		<input type="checkbox"/> There are clear links between the climate adaptation plan, asset management practices, and other strategic corporate efforts.		<input type="checkbox"/> We are continually improving our understanding and management of strategic level climate risks.	
Measurement and monitoring	<input type="checkbox"/> We have articulated the expected benefits and outcomes of climate adaptation to council and internal stakeholders.		<input type="checkbox"/> We have developed guidelines and criteria for local or regional adaptation initiatives.		<input type="checkbox"/> We have established performance measures to monitor progress on climate adaptation, outcomes, and community benefits.		<input type="checkbox"/> We monitor progress on the climate adaptation plan and the implementation of adaptation initiatives.		<input type="checkbox"/> We are monitoring performance and using the feedback to prioritize and make ongoing refinements and improvements.	

Competency: Human resources and governance Ensuring staff and council are equipped with the mandate, understanding, skills, and knowledge needed to support local climate adaptation.										
Maturity level	1 Concept Level		2 Preliminary Level		3 Implementation Level		4 Operational Level		5 Continuous Improvement Level	
	Working on Level 1 <input type="checkbox"/>	Completed Level 1 <input type="checkbox"/>	Working on Level 2 <input type="checkbox"/>	Completed Level 2 <input type="checkbox"/>	Working on Level 3 <input type="checkbox"/>	Completed Level 3 <input type="checkbox"/>	Working on Level 4 <input type="checkbox"/>	Completed Level 4 <input type="checkbox"/>	Working on Level 5 <input type="checkbox"/>	Completed Level 5 <input type="checkbox"/>
	We have council support ³³ to establish a cross-functional climate adaptation team. ³⁴		We have established a clear mandate for our climate adaptation steering committee . ² Council has approved use of funding for internal or external awareness raising regarding climate risks and potential adaptation initiatives.		Our climate adaptation steering committee and team ² have clear responsibility and the support needed for preparing a draft climate adaptation plan.		Our climate adaptation plan is in place. Our climate adaptation team ² is guiding and supporting climate adaptation on an ongoing basis, and has ongoing council support. Adaptation-related roles and responsibilities are operationalized.		Our staff and council are continually improving our understanding of climate risks and our approach to managing them.	
Outcomes	You have achieved a specific maturity level when you can demonstrate evidence of the outcomes below.									
Cross-functional groups	<input type="checkbox"/> We have appointed a climate adaptation team to examine current and future climate change risks and to identify potential adaptation opportunities or initiatives.		<input type="checkbox"/> We have appointed a cross-functional climate adaptation steering committee ² to oversee planning and deployment of climate adaptation initiatives by the climate adaptation team.		<input type="checkbox"/> The climate adaptation team, with oversight from the steering committee, is developing and will manage a climate adaptation plan.		<input type="checkbox"/> Our climate adaptation team has been made permanent to provide ongoing communication, support and guidance on adaptation across the organization.		<input type="checkbox"/> Our climate adaptation team and steering committee support the continuous improvement of our climate adaptation initiatives.	
Aligned culture	<input type="checkbox"/> Staff/council have a basic understanding of risks posed by climate change to infrastructure, natural assets and operations.		<input type="checkbox"/> Our climate adaptation team raises awareness of local climate risks and builds buy-in for potential adaptation initiatives.		<input type="checkbox"/> Climate adaptation-related roles and responsibilities are clearly identified and communicated for staff in key departments.		<input type="checkbox"/> Climate risks are managed in terms of levels of service across our organisation.		<input type="checkbox"/> Climate change considerations are influencing how we optimise decisions on assets and service delivery.	
Stakeholder engagement	<input type="checkbox"/> We have identified climate change and adaptation stakeholders within the community.		<input type="checkbox"/> We have completed some community consultation on our climate change vulnerability assessment and potential adaptation initiatives (see Level 2 of the Technical and risk management capacity competency below).		<input type="checkbox"/> We have completed community consultation on the climate change vulnerability assessment, potential adaptation initiatives, and climate impacts on levels of service.		<input type="checkbox"/> We communicate regarding climate change adaptation initiatives and progress on climate adaptation plan implementation, internally and externally.		<input type="checkbox"/> Staff or council members are recognized by peers and external stakeholders as adaptation resources, and engage with them to exchange knowledge. <input type="checkbox"/> There are ongoing mechanisms through which the community can be engaged in discussions or activities relating to local climate adaptation.	

³³ Council support is defined as a formal council resolution or adoption of bylaws, studies, master plans or policies that confirm formal support from elected officials.

³⁴ Members of the climate adaptation team or steering committee may wear many hats within their organization, and may also hold responsibility for other initiatives (e.g. asset management). It is also recognized that in smaller municipalities, members may sit on both the climate adaptation team and climate adaptation steering committee. Some municipalities may choose to engage external stakeholders in their climate adaptation team or climate adaptation steering committee, or in both groups, but it is recommended that there be a strong level of internal representation.

Competency: Technical and risk management capacity Preparing the tools needed to deliver adaptation initiatives and manage operations in a way that minimizes climate risk (e.g. software, hardware, maps, models, etc.).										
Maturity level	① Concept Level		② Preliminary Level		③ Implementation Level		④ Operational Level		⑤ Continuous Improvement Level	
	Working on Level 1 <input type="checkbox"/>	Completed Level 1 <input type="checkbox"/>	Working on Level 2 <input type="checkbox"/>	Completed Level 2 <input type="checkbox"/>	Working on Level 3 <input type="checkbox"/>	Completed Level 3 <input type="checkbox"/>	Working on Level 4 <input type="checkbox"/>	Completed Level 4 <input type="checkbox"/>	Working on Level 5 <input type="checkbox"/>	Completed Level 5 <input type="checkbox"/>
	We are exploring our technical needs and data gaps so that we can take steps to better manage our assets and reduce their vulnerability to climate change.		We have defined our technical gaps and are acquiring the necessary data and tools to conduct a vulnerability assessment of our infrastructure-based services.		We understand the priority climate risks to key infrastructure systems and are planning our monitoring and management approach for addressing them.		We understand ongoing climate risks to our assets and levels of service, and are planning adaptation initiatives to address them. We have data collection and analysis processes in place to support risk management and adaptation initiatives.		We continually improve our approach to strategic adaptation planning and reducing climate risk over the longer term.	
Outcomes	You have achieved a specific maturity level when you can demonstrate evidence of the outcomes below.									
Data and performance management	<input type="checkbox"/> We are compiling available data and identifying gaps related to asset performance, as well as observed and expected local climate change impacts. <input type="checkbox"/> We are conducting a needs assessment for an information system to manage and track asset and climate data.		<input type="checkbox"/> We are filling data gaps related to asset performance and local climate change impacts. <input type="checkbox"/> We have established appropriate operational and customer levels of service for priority assets. <input type="checkbox"/> We have completed the needs assessment for our information system, and are exploring suitable options.		<input type="checkbox"/> We have identified our priority assets for risk management, and are establishing processes for ongoing data collection on asset performance and climate change impacts. <input type="checkbox"/> We have acquired an information system for managing and tracking data, and are currently implementing it and training relevant staff.		<input type="checkbox"/> We have implemented our information system, trained relevant staff, and established processes for ongoing data collection related to asset performance. <input type="checkbox"/> Our approach to climate change risk management and ensuring levels of service is well-documented.		<input type="checkbox"/> We continually improve our approach to data collection and management; and practices and tools are in place to manage the quality and consistency of data. <input type="checkbox"/> Flexibility is built into the processes and tools to make it easy to adapt them to a changing reality or changing conditions.	
Technical tools	<input type="checkbox"/> N/A		<input type="checkbox"/> We are conducting a needs assessment for other technical tools (e.g. models, software, maps, etc.) to support analysis of climate change impacts on established levels of service .		<input type="checkbox"/> We have acquired or developed other technical tools and have completed a vulnerability assessment of our assets. <input type="checkbox"/> We are identifying measures to address climate risks to levels of service, operations and maintenance, and capital projects as needed.		<input type="checkbox"/> We are using our tools to monitor the effectiveness of our risk management practices and adaptation measures.		<input type="checkbox"/> We continually improve our tools for analyzing climate impacts on established levels of service and managing climate risk.	
Economic considerations	<input type="checkbox"/> We are exploring costs for accessing relevant data sources or acquiring necessary technical tools and systems for conducting a climate risk assessment of our assets.		<input type="checkbox"/> We have allocated funding for acquiring relevant data, technical tools and systems, and/or training needed to conduct a detailed vulnerability assessment of our assets.		<input type="checkbox"/> We are assessing costs related to adaptation initiatives that address immediate risks to our assets or levels of service.		<input type="checkbox"/> We have allocated annual funding to implement priority adaptation initiatives and to manage operations in a way that reduce climate risks to our assets and service levels.		<input type="checkbox"/> Our climate adaptation initiatives are fully funded and our operations are managed in a way that minimizes climate risk to our assets and service levels over the longer term.	

Annex E: List of Municipalities and Projects Included as Case Studies

Province / Territory	Municipality	Project Name
MAMP		
Yukon	Association of Yukon Communities	<div>The Yukon Municipal Asset Management Handbook for engaging Council<ul style="list-style-type: none">“The Joy of Governing”</div>
British Columbia	Cowichan Valley Regional District	<ul style="list-style-type: none">CVRD Condition Assessments and Data Clean-up
Manitoba	Selkirk	<ul style="list-style-type: none">Capital Asset Management Program (CAMP) - People and Policy DevelopmentCapital Asset Management Program (CAMP) - Development of Levels of Service and Asset Life Cycle Policies
Ontario	Pembroke	<ul style="list-style-type: none">Mobile Sensing Road and Sidewalk Assessment and GIS Based Software Analytics Platform
Quebec	Ville de Repentigny	<ul style="list-style-type: none">Plan de maintien des actifs immobiliers (PDMA)

Province / Territory	Municipality	Project Name
MCIP		
British Columbia	Surrey	<ul style="list-style-type: none">Coastal Flood Adaptation StrategyImproving Coastal Flood Adaptation Approaches to Minimize Infrastructure Risk Using Engineers Canada PIEVC ProtocolPrioritizing Infrastructure and Ecosystem Risk from Coastal Processes in Mud BayLow-Carbon Thermal Energy Study
Manitoba	Selkirk	<ul style="list-style-type: none">City of Selkirk Asset Management Plan
Ontario	Windsor	<ul style="list-style-type: none">Flood Risk Study for Riverside/East Riverside/Lake St. Clair
Quebec	Ville de Plessisville	<ul style="list-style-type: none">Plan d'action en adaptation aux changements climatiques
New Brunswick	Saint John	<div><ul style="list-style-type: none">CAMN - City of Saint John Asset Management PlanClimate Change Vulnerability Assessment MethodologyGHG emission reduction study for municipal buildings and facilities<ul style="list-style-type: none">Saint John City Market Energy Upgrades</div>
Newfoundland	Portugal Cove	<ul style="list-style-type: none">Climate Change Staff - Portugal Cove St. Philip'sAdaptation – vulnerability and risk assessment

Annex F: Evaluation Matrix

MAMP and MCIP Evaluation Matrix

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
Q1 To what extent is there an ongoing need for MAMP’s asset management capacity building fund?	1.1 What are the identified needs/gaps with respect to municipal asset management capacity?	1.1.1 % of asset management plans per province by municipality	2.2			x		x
		1.1.2 Identified needs				x		x
	1.2 To what extent are MAMP’s activities aligned with the identified needs related to asset management capacity building?	1.2.1 Alignment of program objective, eligible activities to identified needs				x		
		1.2.2 # of projects under MAMP approved and rejected by region/PT/size of municipality				x	x	
		1.2.3 Perceptions of key informants		x				
		1.3.1 Perceptions of key informants		x				

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	1.3 To what extent does the MAMP complement other national programs (INFC, FCM or GOC) that look at municipal asset management capacity building programs? <ul style="list-style-type: none"> Is there any duplication? Are there any gaps? 	1.3.2 Identified programs that that support municipal asset management capacity building and have similar activities and objectives as MAMP.		x		x		
		1.3.3 Identified duplication, if any		x		x		
		1.3.4 Identified gaps, if any		x		x		
Q2 To what extent is there an ongoing need for MCIP’s capacity building fund to assist municipalities in preparing for and adapting to climate change?	2.1 What are the identified needs/gaps with respect to municipal capacity to prepare for and adapt to climate change?	2.1.1# of municipalities where asset management plans consider climate change	2.2, 5.1			x		x
		2.1.2 Identified needs				x	x	x
	2.2 To what extent are MCIP’s activities aligned with the identified needs related to capacity building to prepare for, adapt to and mitigate climate change?	2.2.1 Alignment of program objective, eligible activities to identified needs				x		
		2.2.2 # of projects under MCIP approved and rejected by region/PT/size of municipality				x	x	
		2.2.1 Perceptions of key informants		x				

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	2.3 To what extent does the MCIP complement other national programs (FCM, INFC or GOC) that look at municipal capacity building to prepare for, adapt to and mitigate climate change? <ul style="list-style-type: none"> Is there any duplication? Are there any gaps? 	2.3.1 Perceptions of key informants		x				
		2.3.2 Identified national programs that build municipal capacity in preparing for and adapting to climate change and have similar activities and objectives		x		x		
		2.3.3 Identified duplication, if any		x		x		
		2.3.4 Identified gaps, if any		x		x		
Q3 To what extent are the MAMP and MCIP aligned with departmental priorities?	3.1 To what extent is MAMP aligned with INFC's result of managing public infrastructure in a more sustainable way?	3.1.1 Alignment between MAMP objectives and INFC's results	2.2			x		
		3.1.2 Alignment of MAMP's objectives to INFC's Departmental Results Framework and priorities	2.2					
	3.2 To what extent is MCIP aligned with INFC's result of managing public infrastructure in a more sustainable way?	3.2.1 Alignment between MCIP objectives and INFC's results	2.2			x		
	3.3 To what extent is MCIP aligned with the INFC's priorities of a low carbon, green economy?	3.3.1 Alignment between MCIP objectives and INFC's results	5.1			x		

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
		3.3.2 Alignment of MCIP objectives to INFC’s Departmental Results Framework and priorities	5.1			x		
Q4 To what extent has there been progress made towards MAMP’s and MCIP’s immediate outcomes?	4.1 To what extent are municipalities of various sizes across Canada, and targeted elected municipal officials and staff, more aware of the value of adopting better asset management practices?	4.1.1 % of participants (individual) that report better understanding of asset management thanks to the program.				x	x	
		4.1.2 size distribution of participating municipalities					x	x
		4.1.3 geographical distribution of participating municipalities					x	x

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	4.2 To what extent have municipalities of various sizes across Canada increased their skills for assessing, including data gathering, and planning the implementation of better asset management practices?	4.2.1 % of technical assistance recipients (organizations) that report improved asset management capacity thanks to technical assistance provided by MAMP	2.2			x	x	
	4.3 To what extent have municipalities of various sizes across Canada used MAMP funding to increase asset management capacity?	4.3.1 % of funding recipients (organizations) that report improved asset management capacity thanks to MAMP funding in targeted areas of asset management	2.2			x	x	
		4.3.2 size distribution of participating municipalities					x	x
		4.3.3 geographical distribution of participating municipalities					x	x
		4.4.1 # of times MAMP materials accessed, cited, and/or shared	2.2			x	x	

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	4.4 To what extent have municipalities and other municipal sector stakeholders increased their awareness of MAMP lessons learned?	4.4.2 # of provincial and territorial associations (PTAs) and other key stakeholders that have increased their awareness of MAMP lessons learned.	2.2			x	x	
	4.5 What are the factors that impacted progress towards MAMP immediate outcomes?	4.5.1 Factors that facilitated progress towards immediate outcomes		x		x		
		4.5.2 Factors that hindered progress towards immediate outcomes		x		x		
	4.6 Based on progress to date, to what extent is MAMP on track to meet its intermediate outcomes?	4.6.1 Perception of key informants		x				
		4.6.2 % of PTAs and other key stakeholders indicating changes in asset management policies and practices because of awareness of MAMP shared lessons.	2.2			x	x	

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
		4.6.3 % of organizations participating in MAMP activities that demonstrate improved asset management practices by the end of the program [broken down by asset management competency, scale of improvement, and size of municipality	2.2			x	x	
	4.7 Based on progress to date, to what extent is MAMP on track to contribute to INFC’s results of strengthened municipal asset management practices?	4.7.1 link between strengthened municipal asset management practices and public infrastructure being managed in a more sustainable way	2.2		x			x
	4.8 To what extent are municipalities of various sizes across Canada more aware of the value of committing to GHG reduction, improving climate change resilience?	4.8.1 % of targeted municipalities that have reported an increased awareness of the need to reduce GHG emissions	5.1			x	x	
		4.8.2 % of targeted municipalities that have reported increased awareness of the need to adapt to climate change	5.1			x	x	

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
		4.8.3 size distribution of participating municipalities who are more aware of the value of committing to GHG reduction, improving climate change resilience					x	x
		4.8.4 geographical distribution of participating municipalities who are more aware of the value of committing to GHG reduction, improving climate change resilience					x	x
	4.9 To what extent do municipalities of various sizes across Canada have increased skills relating to GHG reduction, improving climate change resilience, and integrating climate change considerations into asset management?	4.9.1 % of responding municipal participants in MCIP’s technical assistance activities that have indicated an increase in skills related to GHG reduction [MITIGATION]	5.1			x	x	
		4.9.2 % of responding municipal participants in MCIP’s technical assistance activities that have indicated an increase in skills related to climate adaptation [ADAPTATION]	5.1			x	x	

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
		4.9.3 % of responding municipal participants in MCIP’s technical assistance activities that have indicated an increase in skills related to integrating climate change considerations into asset management [Asset Mgmt + Climate Change]	5.1, 2.2			x	x	
		4.9.4 size distribution of participating municipalities with increased skills relating to GHG reduction improving climate change resilience, and integrating climate change considerations into asset management					x	x
	4.10 To what extent are municipalities equipped to take actions that reduce GHGs and/or improve climate change resilience?	4.10.1 % of participating municipalities that have completed plans for GHG mitigation through MCIP funding [MITIGATION]	5.1			x	x	

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
		4.10.2 % of participating municipalities that have completed studies for GHG mitigation through MCIP funding [MITIGATION]	5.1			x	x	
		4.10.3 % of participating municipalities that have completed capital projects for GHG mitigation through MCIP funding [MITIGATION]	5.1			x	x	
		4.10.4 % of participating municipalities that have completed plans for climate adaptation through MCIP funding [ADAPTATION]	5.1			x	x	
		4.10.5 % of participating municipalities that have completed studies for climate adaptation through MCIP funding [ADAPTATION]	5.1			x	x	
		4.10.6 % of participating municipalities that have completed capital projects for climate adaptation through MCIP funding [ADAPTATION]	5.1			x	x	

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
		4.10.7 % of participating municipalities that have hired staff to support climate adaptation and/or GHG mitigation through MCIP funding [ADAPTATION]	5.1			x	x	
	4.11 To what extent has the capacity of municipalities supported through MCIP increased to better engage with and support the GHG mitigation and climate change resilience work of municipalities?	4.11.1 % of municipalities that have reported new connections or relationships as a result of their interaction with MCIP	5.1			x	x	
	4.12 What are the factors that impacted progress towards MCIP immediate outcomes?	4.12.1 Factors that facilitated progress towards immediate outcomes		x		x		
		4.12.2 Factors that hindered progress towards immediate outcomes		x		x		
		4.13.1 Perception of key informants		x				

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	4.13 Based on progress to date, to what extent is MCIP on track to meet its intermediate outcomes?	4.13.2 Average and median competency score of participating municipalities in GHG mitigation maturity scale: <ul style="list-style-type: none">• policy and decision-making• human resources and governance• technical capacity	5.1			x	x	
		4.13.3 % of sampled municipalities indicating change in attitude because of awareness of MCIP shared lessons.	5.1			x	x	
		4.13.4 Average and median milestone level achieved by PCP municipalities				x	x	

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
		4.13.5 Average and median competency score of participating municipalities in climate adaptation maturity scale <ul style="list-style-type: none"> human resources and governance policy and decision-making technical and risk management 	5.1			x	x	
	4.14 Based on progress to date, to what extent is MCIP on track to contribute to a low carbon, green economy?	4.14.1 link between building municipal capacity to prepare for and adapt to climate change and a low green carbon economy	5.1		x			x
	4.15 Based on progress to date, to what extent is MCIP on track to contribute to INFC's results of enhanced municipal capacity to reduce GHG emissions and adapt to climate change?	4.15.1 link between building municipal asset management capacity and public infrastructure being managed in a more sustainable way	5.1					

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	4.16 Were there any unintended positive or negative impacts of MAMP or MCIP?	4.16.1 Perception of key informants		x				
Q5 To what extent has the third party design and delivery approach been effective for the MAMP and MCIP programs?	5.1 What elements of the MAMP and MCIP design and delivery make the third party approach efficient and effective?	5.1.1 Alignment of program elements (including eligible recipients and activities) to INFC/FCM roles, responsibilities and expertise		x		x		
		5.1.2 Characteristics of effective third party design and delivery			x			
		5.1.3 Factors that facilitate third party design and delivery		x				
		5.1.4 Factors that hinder third party design and delivery		x				

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	5.2 To what extent is the programs' design/delivery aligned to best practices related to asset management capacity building and capacity building to prepare for, adapt to and mitigate climate change?	5.1.5 Best practices related to third party design and delivery of similar programs internationally and nationally			x			
		5.2.1 Best practices for building asset management capacity programs			x			
		5.2.2 Best practices for building climate resilience/adaptation/mitigation capacity programs			x			
		5.2.3 Promising practices nationally and internationally in building municipal asset management capacity and better data collection to support investment decisions and climate change resilience			x			
		5.2.3 Promising practices nationally and internationally in building municipal capacity to prepare for, adapt to and mitigate climate change			x			

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
	5.3 Is FCM delivering the programs as INFC designed it?	5.2.4 innovative and new practices being used in delivering MAMP and MCIP		x				
		5.3.1 Perspectives of key informants		x				
		5.3.2 Alignment between INFC and FCM documents				x		
	5.4 Does the governance structure support the program design?	5.4.1 Perspectives of Key Informants		x				
		5.4.2 Alignment between governance structure and program design documents				x		
Q6 To what extent do MAMP and MCIP program design and delivery take into	6.1 To what extent did INFC include GBA+ elements in the design of MAMP & MCIP	6.1.1 Perception of key informants		x				
		6.1.2 INFC program documents that consider GBA+ accessibility in program design				x		

Evaluation Questions	Sub-Evaluation Questions	Indicators	Reference to DRF	Lines of Evidence				
				Key Informant Interviews	Literature review	Doc Review	Program Database/	INFC Data/External Data Source
account inclusiveness and accessibility?		6.1.3 Extent to which a diverse range of municipalities (e.g. across Canada, population size, etc.) are using the programs				x	x	x
		6.1.4 Extent to which program uptake is in areas with the highest identified needs for capacity building					x	x

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