RMA
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ASSET DEFICIT SUMMARY REPORT

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Introduction

Overview & Key Objectives

Rural municipalities in Alberta can be characterized by large geographic areas and low populations, where industrial activities play a significant role in shaping the local economy. Rural municipalities manage a significant amount of infrastructure in the province, providing maintenance and repairs as needed to support communities and industries, including the energy, forestry, and agricultural sectors.

The Rural Municipalities of Alberta (RMA) has identified a growing need for up-to-date data to accurately quantify the infrastructure deficit across various asset types. Most critically, this assessment is required for the "core" infrastructure of bridges and culverts, roads, and utilities (such as water, wastewater, and engineered stormwater).

An infrastructure deficit refers to a state of deterioration of these assets below their "optimal" levels of condition, which can vary depending on the asset type. As infrastructure deteriorates over its expected lifecycle, significant maintenance and re-investment is required to keep assets at optimal levels. The lack of current and detailed data has previously made such analyses nearly impossible, hence RMA's desire to codify this deficit through a series of asset-specific studies.

RMA developed this project to conduct a comprehensive analysis of the infrastructure deficit faced by its members. The study's significance lies in its ability to offer evidence-based insights to measure the true level of infrastructure investment required. As such, the project relies on information provided by RMA members.

Overall, this project has produced separate deficit reports for each asset type and culminates in a final report summarizing the entire study to provide recommendations. The project had the following goals:

- Quantify the current infrastructure deficit for RMA members across a range of core asset categories
- Provide foundational information for effective, data-driven RMA advocacy efforts
- Provide an up-to-date understanding of the true state of municipal infrastructure
- Collect a robust municipal asset data set from RMA members
- Provide novel insights into patterns, trends, and other important findings related to the municipal infrastructure deficit
- Provide an understanding on how to best support asset management efforts for RMA members

This final report provides the summary overview of the study, outlining the steps taken, key learnings identified, and recommendations for the Government of Alberta, RMA itself, and RMA

members. It represents the summarization of the study and is intended to act as a complimentary report to the individual asset studies.

If you have questions about this report, or any others in the series, please reach out to Wyatt Skovron, General Manager of Policy and Advocacy at 780.955.4085 or wyatt@rmalberta.com

Currently Available Infrastructure Funding Programs

There are currently two provincial and one federal funding programs that predominantly support core municipal infrastructure. These are:

Local Government Fiscal Framework/Municipal Sustainability Initiative

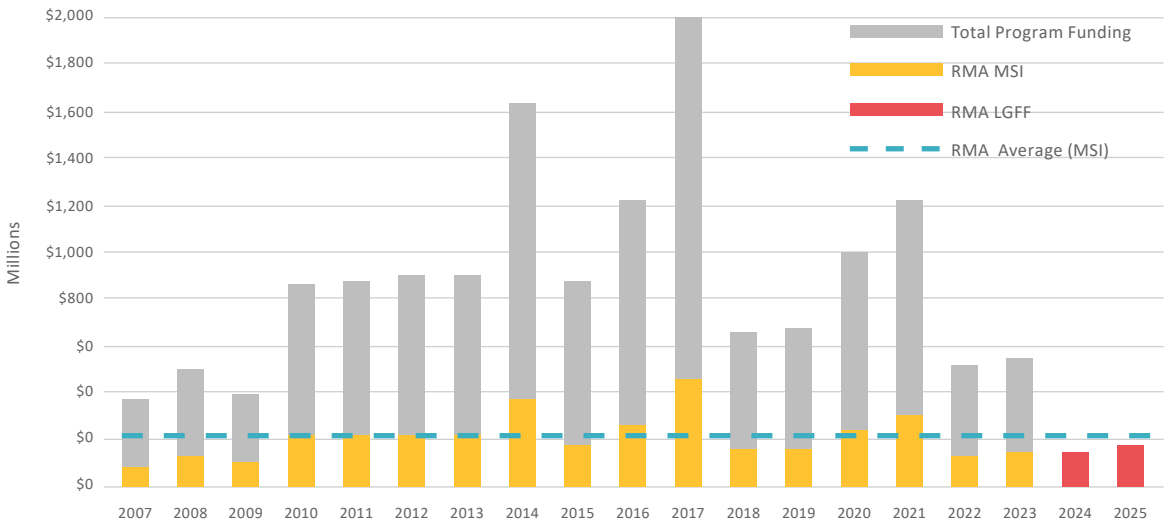
The Municipal Sustainability Initiative (MSI) operated between 2007 and 2023. It provided provincial funding to municipalities for capital projects and operating expenses. MSI distributed more than $15.2 billion while it was active. In 2024, the program was replaced by the Local Government Funding Framework (LGFF). The LGFF provides a provincially legislated infrastructure funding program for local governments in Alberta. Under LGFF, RMA members will receive approximately $149 million in capital funding for 2024. Similarly to MSI funding, eligible capital projects include:

- Roads and bridges
- Public transit vehicles and facilities
- Emergency services facilities and equipment
- Water and wastewater systems
- Solid waste management facilities and equipment
- Other municipal buildings such as recreation and sports facilities, libraries, and cultural and community centers

While MSI/LGFF continues to be a critical funding source, the program has been historically volatile in terms of funding amounts, resulting in financial uncertainty for municipalities. Over its 17 years of existence, MSI program funding amounts fluctuated from less than $400 million to over $2 billion per year. Further, program funding has been reduced in recent years, and in 2024, the new LGFF program has been funded below the historical average of the MSI program.

[1] Apples to Apples: Rural Municipal Finance in Alberta

The historical trends can be seen in the figure below:



Guidelines and Procedures Funding/Strategic Transportation Infrastructure Program

In 1991, the Government of Alberta introduced the Guidelines and Procedures (GAP-01) Funding for Municipal Bridge Structures. GAP-01 contained a funding stream known as the Local Road Bridge Program. Along with this program, the responsibility and management for local bridges were transferred to municipalities. However, funding was intended to financially compensate for the work previously done by the Provincial Bridge Department. This program was not without its criticisms, primarily that GAP-01 money was intended to be distributed on a priority basis. In practice, priority basis meant RMA members found annual funding allocations to vary significantly depending upon the Bridge Inspection Maintenance (BIM) program priority ratings, provincial budgets, and government policy.

In 2011, the province made changes to bridge funding with the introduction of the Strategic Transportation Infrastructure Program (STIP). STIP replaced GAP-01 funding and consolidated the Local Road Bridge Program with several other infrastructure funding initiatives, including the Local Road Bridge Program, the Resource Road Program, and the Local Municipal Initiatives funding stream. The Local Road Bridge Program provides funding for funding for rehabilitation and maintenance of bridges on municipal roads. The Resource Road Program provides funding to build or improve road infrastructure that supports industrial growth. Finally, the Local Municipal Initiatives funding streak provides funding for priority local transportation infrastructure projects that are not eligible for support under STIP's other streams.

These programs ran for two years under STIP. In 2013, the STIP program was zero-funded, meaning that the program was effectively removed from the budget. Several RMA resolutions were passed to advocate for the Government of Alberta to reinstate funding as it was critical to supporting and maintaining infrastructure in rural areas. As a result, STIP was reinstated in the 2017-2018 budget, albeit at reduced funding levels, and with varied program amounts each subsequent year.

Applications for funding under this program are competitive, and Alberta Transportation and Economic Corridors has acknowledged the program is oversubscribed.[1]

Canada Community Building Fund

The other primary funding source for municipalities in Alberta is the Canada Community-Building Fund (CCBF), previously known as the Gas Tax Fund. All municipalities and Metis Settlements are eligible to receive funding under this program. The program provides grants for capital costs of infrastructure projects that meet the program eligibility criteria, which limits the funding to use in essential infrastructure, such as roads and bridges, public transit, drinking water and wastewater infrastructure, and recreational facilities. Municipalities determine projects and activities based on local priorities and can pool and bank this funding, providing financial flexibility.

Funding is first transferred from the federal government to the provinces and territories who in turn distribute the funding to their communities. Each province or territory develops its own formula for distributing funds to their communities. In Alberta, CCBF funding allocations for municipalities are calculated on a per capita basis, according to the most recent Municipal Affairs Population List. Municipalities (with the exemption of summer villages) receive a minimum allocation of $50,000 per year. Summer villages receive a base allocation of $5,000 per year, in addition to the per capita amount. [2]

In 2023, RMA members received $45,108,951 of the $265,415,054 Alberta received in funding. This equates to just 17% of funding, despite the fact that 41% of Alberta's public and private investment, and 26% of Alberta's GDP is in rural Alberta. [3]

Rural Funding Summary

It is notable that several of these programs rely on per capita funding distribution, which often place RMA members at a funding disadvantage compared to urban municipalities. This focus on per capita funding does not address the specific challenges faced by rural municipalities and does not recognize the role RMA members play in supporting economic activity in the province. Specifically, the Canada Community Building Fund and the new Local Government Fiscal Framework rely heavily on per capita funding in their distribution formulas.

Previous Related RMA Initiatives, Advocacy, and Policy Statements

RMA has a long history of strongly advocating for consistent and sustainable funding processes that support rural municipalities. Rural municipalities face an increasing infrastructure deficit because municipal taxation revenues alone are not sufficient to build and maintain these vital infrastructure networks. The organization has voiced concerns over the years regarding the underfunding of infrastructure maintenance, which has resulted in a significant backlog of unfunded repairs. There have been many RMA member resolutions passed over the years advocating for infrastructure funding. Both a reinstatement of road and bridge funding as well as calls for increases to infrastructure funding have been discussed as an issue of vital importance to RMA and its members. For instance, in 2007, RMA passed a resolution to request a "comprehensive, stable bridge replacement initiative and enhanced funding strategy."[4] In more recent years, resolutions continue

[2] Strategic Transportation Infrastructure Program Funding
[3] CCBF – Funding allocations and eligibility
[4] The Economic Contribution of Rural Alberta. RMA Report. 2018
[5] Provincial Funding for Municipal Bridge Structures (GAP-01)

to be passed by RMA members to advocate to the Government of Alberta to substantially increase the funding available in the Strategic Transportation Infrastructure Program.[5]

Infrastructure has been a focus of RMA's initial analysis of the three most recent provincial budgets (2022-2023[6], 2023-2024[7], 2024-2025[8]). The most recent 2024-2025 initial analysis regarding infrastructure includes the following quote from the RMA President:

> RMA is disappointed that similar investments were not made in supporting rural municipalities to maintain the core infrastructure that is relied upon by industries operating across Alberta, including roads, bridges, and water/wastewater systems. Local Government Fiscal Framework funding continues to fall well short of historical levels, and allocations for more targeted programs aimed at resource roads, bridges, and water infrastructure remained stagnant or were significantly reduced. As municipalities continue to be downloaded increasing responsibilities in areas such as policing and healthcare, it will become harder and harder to keep critical core infrastructure in good condition and expand networks to accommodate industry growth. The RMA is frustrated that the Government of Alberta continues to view core municipal infrastructure support as an obligation to avoid, rather than an investment in the economic engine of the province.

In light of the increasing deficit in bridge infrastructure and the forecasted reductions in STIP funding, RMA continues to advocate for increased funding to support maintenance and repair of rural roads and bridges.

In addition to advocating for increased funding for infrastructure, RMA has conducted significant work to support member capacity-building related to asset management. RMA has acknowledged that asset management is likely to become an important consideration in future grant funding programs, echoing a trend seen in other provinces.[9] To support municipalities to work towards meaningful asset management, RMA has conducted policy studies,[10] developed educational programs,[11] generally promoted asset management to members, and noted asset management support as a key goal in their current strategic plan.[12] Most notably, RMA has received funding through the Federation of Canadian Municipalities' Municipal Asset Management Program (MAMP) to develop and deliver a collaborative asset management cohort initiative with Alberta Municipalities (ABMunis) and Infrastructure Asset Management Alberta (IAMA). This program was taken by dozens of municipalities across the province and has been key to RMA advancing asset management principles among members. The funding received from MAMP has supported several programs, including the following:[13]

[5] https://rmalberta.com/resolutions/1-23f-strategic-transportation-infrastructure-program-funding/
[6] RMA 2022-23 Provincial Budget Analysis
[7] RMA 2023-24 Provincial Budget Analysis
[8] RMA 2024-25 Provincial Budget Analysis
[9] https://rmalberta.com/wp-content/uploads/2023/09/Transportation-and-Infrastructure-Position-Statements.pdf
[10] https://rmalberta.com/reports-toolkits/asset-management-for-municipalities-in-alberta-navigating-the-asset-management-journey/
[11] https://rmalberta.com/news/register-for-an-asset-management-learning-community/
[12] https://rmalberta.com/wp-content/uploads/2024/06/2023.2027-StrategicPlan-1.0.pdf
[13] https://rmalberta.com/news/rma-ABMunis-and-iama-receive-fourth-round-of-mamp-asset-management-funding/

- Introductory Cohort: This workshop will provide participants with an overview of key asset management concepts and implementation strategies. Participants will also have the opportunity to develop a draft assessment management policy, strategy, and a team's terms of reference to be used to support asset management implementation following the cohort.
- Advanced Cohort: This workshop will focus on further supporting implementation by focusing on data, information, planning, and decision-making. The workshop will also touch on skills related to:
  - Data collection
  - Defining service levels
  - Communicating with residents and stakeholders on asset management
- Elected Officials Course: This workshop provides elected officials with basic knowledge on asset management, including its value and implementation strategies from a perspective that is relevant to their role.
- Asset Management Small Group Learning Communities: The purpose of this activity is to create and support the long-term sustainability of a series of small group learning communities. These communities will focus on using collaboration and mentorship among municipal staff to build asset management capacity among municipalities.

RMA continues to work with members on their asset management capacity and advocate for long-term asset management practices through their support of organizations such as IAMA.

[4] CCBF – Funding allocations and eligibility
[5] Infrastructure And Transportation In Rural Alberta

Overview of Asset Study Results

As noted, the study focuses on three distinct asset-specific reports:

- Bridges
- Roads
- Utility infrastructure

Each individual report was focused on identifying and understanding the infrastructure deficit associated with that particular asset class. The processes, data sources, and analyses differed slightly for each category, but the final calculations of deficits were consistent. Readers are encouraged to explore each standalone report for additional details. This report provides an aggregated view of these processes and the summarized results.

Work Process Overview

A high-level view of the work process conducted for these analyses includes:

1. A request sent to Alberta Transportation for Bridge Information System (BIS) data
2. Receipt of the BIS data in late December 2023
3. Initial bridge analysis using BIS data in early 2024
4. Initial development of a data collection workbook in early 2024
5. Workbook testing with a small sample of RMA members in February and early March 2024
6. Launch of the workbooks to RMA members mid-March 2024
7. Data collection and support for workbooks through May 2024
8. Data analysis conducted through June 2024
9. Report writing and study finalization through July and August 2024

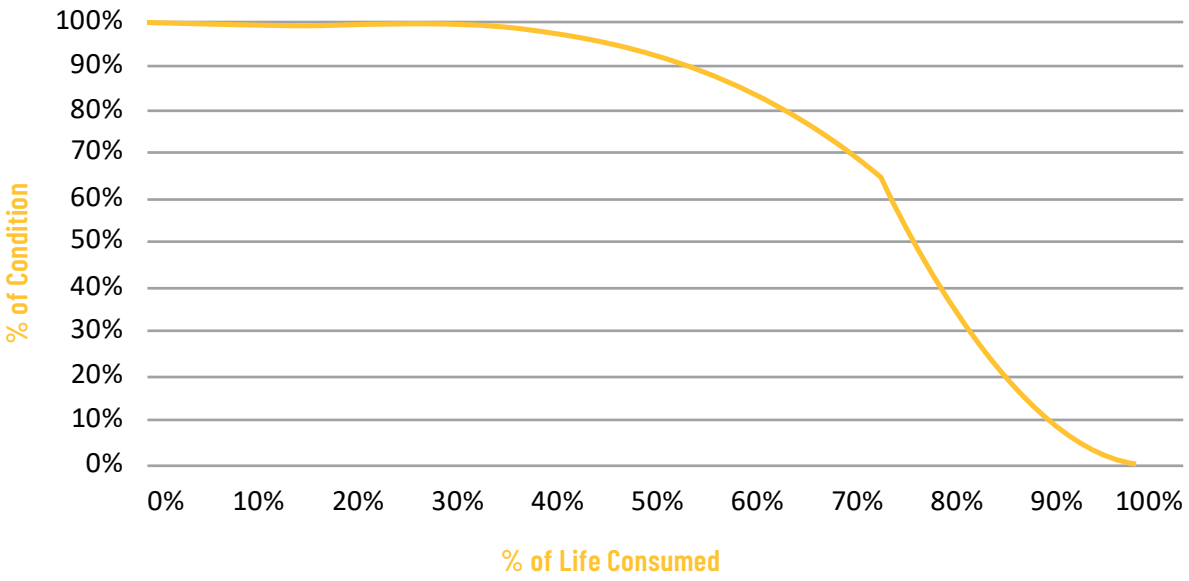
As the above process shows, the primary data sources for this study was BIS data (for bridges and culverts) and RMA member provided data (for road and utility infrastructure). All member-provided information was received from municipalities in a structured workbook format. The asset-specific reports provide detailed methodologies, but all member-provided information was subjected to a data cleansing process, and information was sorted into categories based on overall quality. Class 1 data was considered the most complete and accurate. All other classes required some degree of extrapolation to include in the study.

Note: all asset data used in the study was from 2023, and where needed, adjustments were made to move values to 2023 dollars.

Study Methodology & Deterioration Curve Overview

This study was structured around a standardized deterioration curve model, utilizing two different curve shapes to account for differences in the asset types being considered. The first curve is a standard inverted s-curve and is used for bridges/culverts and road assets. The second curve is used for utility assets and is known as the utility curve in this analysis. The deterioration curve model has been used to inform analysis in several RMA reports, including 2013's Apples to Apples: Rural Municipal Finance in Alberta[14]. It was also used for RMA's input for the design of the original Municipal Sustainability Initiative.

The deterioration curve model is based on the fundamental principle that **infrastructure does not deteriorate in a linear fashion.** If infrastructure is not properly protected, there will be little initial change in its condition, but over time, deferred investment leads to a dramatic reduction in both condition and value. This pattern can be seen in the standard inverted s-curve below:



[14] Apples to Apples: Rural Municipal Finance in Alberta

Deterioration Curve Key Definitions

This assessment uses a number of definitions for key terms related to the Deterioration Curves and other portions of the analysis:

Useful Life: Largely based on statistics from Infrastructure Canada. "Average expected useful life of new publicly owned [asset type] assets, Infrastructure Canada." This shows the average expected life of an asset without significant maintenance or reinvestment.

Effective Age: The effective age of the portfolio based on life consumed.

Life Consumed: How much of the useful life the portfolio has consumed.

Condition: The condition of the portfolio. In this study we utilize a percent condition rating.

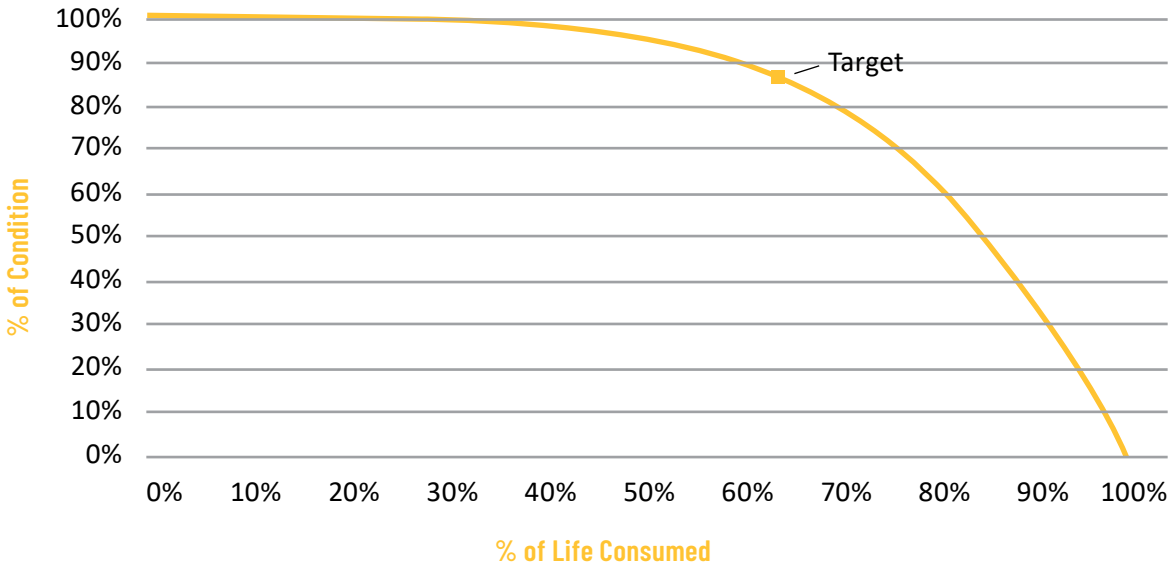
Value: The value of the portfolio based on estimated replacement cost and condition.

Holding Cost: How much it costs to keep the portfolio at the same level from year 0 to year 1.

Target: The optimal point on the deterioration curve to maintain the portfolio.

Cost to Get to Target: How much it would cost to bring the portfolio from its existing condition to the target condition.

Deterioration Curve Interpretation



The graph above shows the utility deterioration curve. Both curves are a function of two factors: **the percentage of life consumed of the assets,** and **the percentage condition rating of the assets.** For this study, the curve is used to model the deterioration of an overall asset portfolio (all the assets of a particular type managed by rural municipalities), rather than individual assets. That means that investment can be made into individual assets, which will affect the effective condition of the portfolio. If one asset is completely rehabilitated, it will naturally "pull" the portfolio back up the curve. If investment lags, the natural change in condition over asset age will occur, with an expectation that aging without intervention will follow the curve shape.

The Optimal "Target" Point

The curve begins to steeply slope downward at an accelerated rate at approximately 64% of the infrastructure lifespan for the utility curve, and 50% of infrastructure lifespan for the inverted S-curve, with a corresponding condition rating of 87% and 94%, respectively. At these points, the investment required simply to hold the asset portfolio at its current condition begins to accelerate. Therefore, the **most economical option is to attempt to hold the portfolio right at this drop-off point.** This point is represented by the "Target State" label and represents the most cost-effective point to maintain an asset portfolio on this curve. This shows that **maintaining infrastructure at a higher condition level and lower percentage of lifespan is the most cost-effective way of preserving that infrastructure over time.**

Calculating an Infrastructure Deficit

Given the target point on the curve above, the infrastructure deficit is the difference between the current condition of assets observed and the target state level of condition. The deficit calculation, therefore, is based on the one-time investment required to move the portfolio to its target state, and can be represented by:

Infrastructure Deficit = Portfolio Target State Value ($) – Portfolio Observed Condition Value ($)

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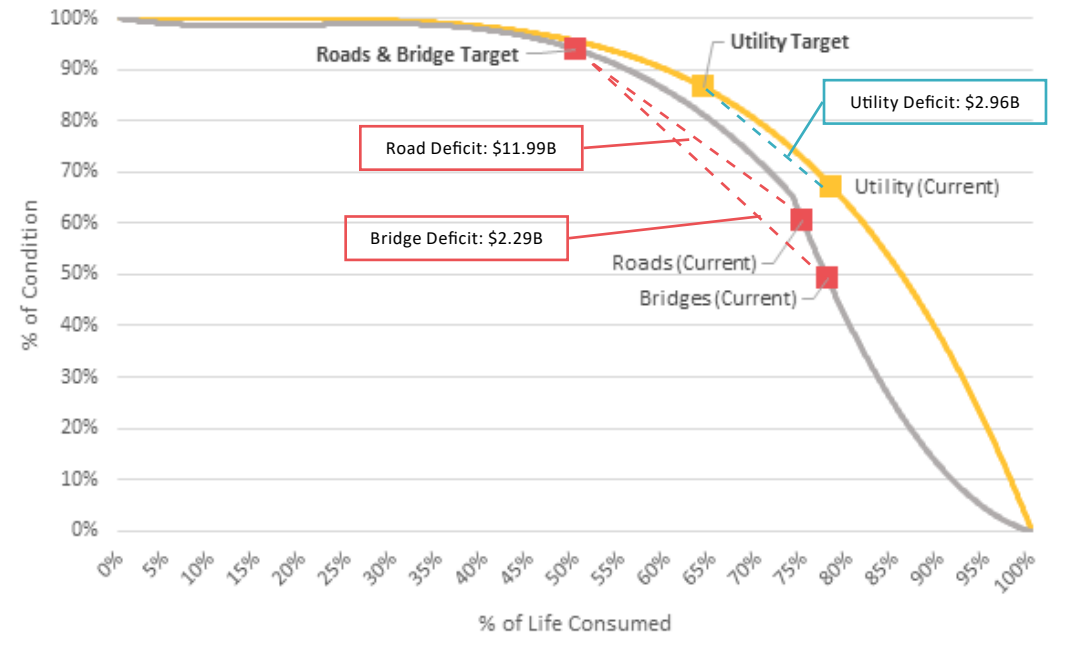
Overall Deficit Results Summary

Overall Rural Municipal Utility Infrastructure Deficit

Putting all three studies together reveals an alarming deficit figure.

Collectively, Across All Asset Types, the RMA Member Infrastructure Deficit is $17.25 billion.

The figure and table below show that the overall RMA member portfolio is well below the target condition level. All three asset types currently sit on an expensive point of the curve, which increases the risk to fundamental usability, safety, and reliability of the network.



Grey Line = Inverted S-Curve (Road and Bridge Assets) | Yellow Line = Utility Curve (Utility Assets)

The following table shows a comparison between the current portfolio and a hypothetical ideal target state portfolio. The comparison shows overall portfolio values, life consumed, condition, the annual holding cost (investment required to hold the position on the curve), and the effective age.

CATEGORY	CURRENT	TARGET
Deficit:	$17.25 Billion	$0.00
Portfolio Value:	$34.75 Billion	$52.00 Billion
Life Consumed:	76.01% (weighted average)	50.00% (Bridge & Road) 64.00% (Utilities)

Condition:	61.46% (weighted average)	93.96% (Bridge & Road) 86.58% (Utilities)
Holding Cost:	$6.41 Billion	$1.17 Billion

Financial Summary

As noted above, the overall infrastructure deficit for RMA member utilities is $17.25 billion. To understand the significance of this figure, there are a few things to consider. Firstly, it is important to understand the meaning of the term holding cost:

> **Holding Cost:** How much it costs to keep the portfolio at the same condition level from one year to the next, to offset the natural aging and deterioration of assets. The exact point that infrastructure is on the curve will determine how expensive its holding cost is. The target state point is the most cost-effective holding cost.

RMA member infrastructure is at an expensive point of the curve. The current holding cost, or investment needed, just to maintain its assets is **over $6.41 billion per year.** Any investment level below that will result in even further deterioration of the portfolio. **If the portfolio was brought back up to the target state, the holding cost would decrease significantly to just $1.17 billion per year.**

This means that investing $17.25 billion into rural municipal infrastructure to bring the portfolio to its ideal target state condition would reduce the year-over-year holding cost by $5.24 billion. **This creates a return on investment (ROI) in only 3.29 years.**

PORTFOLIO (CURRENT)	
61% condition	$6.41 Billion Holding Cost

↓

PORTFOLIO (IDEAL)		
87% / 94% condition	$1.17 Billion Holding Cost	3.29 Year ROI

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Individual Asset Type Results

CATEGORY	BRIDGES & CULVERTS	ROADS	UTILITIES
Deficit:	$2.29 Billion	$11.99 Billion	$2.96 Billion
Portfolio Value:	$2.54 Billion	$21.95 Billion	$10.27 Billion
Life Consumed:	77.60%	74.90%	78.10%
Condition:	49.34%	60.76%	67.20%
Holding Cost:	$373.14 Million	$5.55 Billion	$492.37 Million

Projecting the Future State

To forecast the future condition of rural municipal infrastructure, this study attempts to project five years into the future based on current investment levels. The assumed investment varies by asset type but is predominantly based on available grant funding levels through STIP and LGFF/MSI funding levels. In most cases, this was based on an average of recent years.

For Consideration:

Rural Alberta's infrastructure sits at a critical point on the deterioration curve. Investment needs to be made now to save significantly in the long term.

Based on previous RMA analysis conducted in 2018, RMA members spent a much more significant portion of their total municipal expenses on core infrastructure such as utilities and roads in comparison to Alberta's urban municipalities, and municipalities in other comparator provinces. This suggests that any significant growth in spending on infrastructure maintenance must come from the province.

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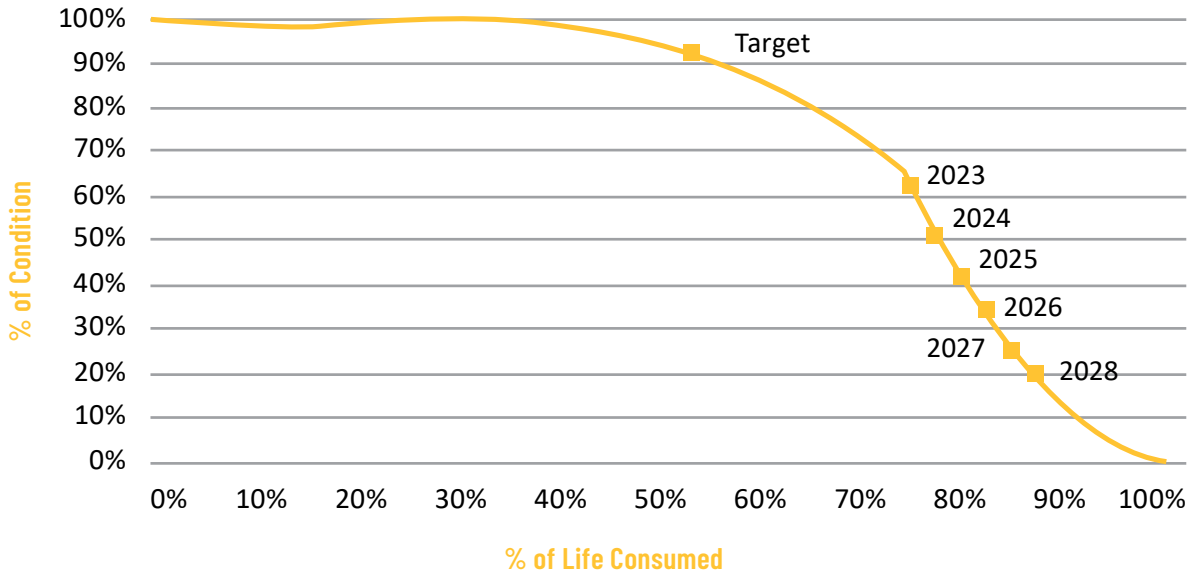
2023-2028 Outlook

If Alberta continues with the same level of provincial funding[15,16], 2028 will see a dramatically decreased infrastructure portfolio condition rating. Such a decline in condition places serious risk to the viability, resiliency, and safety of core municipal infrastructure.



Note: This graph provides an estimate of future conditions and may not align precisely with the life consumed shown in the subsequent chart. While both are closely related, the chart figures should be considered more accurate in representing future conditions.

The current level of provincial funding is nowhere near enough to maintain the current 67.20% condition rating. Further, in 2028, the cost to move the portfolio to the target levels will more than double to $40.71 billion. This highlights the urgent need for increased funding and strategic investment to prevent further deterioration and ensure the safety and functionality of core infrastructure.

Year	Life Consumed	Condition	Value	Holding Cost	Cost to get to Target
2023	76.01%	61.46%	$34.75 Billion	$6.41 Billion	**$17.25 Billion**
2024	78.91%	50.47%	$28.54 Billion	$5.57 Billion	**$23.46 Billion**
2025	81.80%	40.97%	$23.17 Billion	$4.15 Billion	**$28.83 Billion**
2026	84.69%	32.72%	$18.50 Billion	$4.15 Billion	**$33.50 Billion**
2027	87.58%	25.73%	$14.55 Billion	$3.45 Billion	**$37.45 Billion**
2028	90.40%	19.96%	$11.29 Billion	$2.72 Billion	**$40.71 Billion**

[15] https://www.alberta.ca/stip
[16] https://www.alberta.ca/local-government-fiscal-framework

Study Limitations and Observations

The results of this study, while highly informative, were impacted by several factors. The following observations include key findings from the analysis, as well as study limitations.

Observation 1: RMA Member Infrastructure Data Is Incomplete, Impacting Results

Asset management is essential for municipalities to maintain and improve their infrastructure in a strategic and sustainable manner. Asset management has been a critical focus for Alberta municipalities over the past decades and RMA itself has initiated several studies and programs associated with asset management.

This study highlighted that past investments in asset management have not necessarily resulted in readily available infrastructure data in the way that was expected. The limited level of participation from RMA members indicates that many municipalities may not have any readily available data, though the specific reasons for not participating can vary, and at least one RMA member indicated that internal capacity, not data availability, was the largest barrier to participation. Regardless, it can be inferred that a significant portion of RMA members simply did not have asset data readily available to allow them to participate in the study.

Municipalities that did participate had significant variations in data "quality," at least in terms of how well data fit with the parameters of this study. The data requested from municipalities included standard elements such as: condition, original construction date, estimated replacement value, etc. There were significant differences in data quality across asset types, and even within them. These differences created a challenge for the study to include the varying levels of information received for municipalities in the analysis. As such, the study relies on extrapolation of data to inconsistencies in data quality among municipalities that did participate, and a lack of data from municipalities that did not participate. While a series of tests and adjustments were conducted to ensure extrapolations were reasonable, actual source data from all rural municipalities would have greatly strengthened the analysis. As a result, some caution should be taken with the analysis, keeping in mind that precise dollar figures are merely an output of the extrapolation models, and some variation in the "actual" condition of assets across the province should be expected.

While these limitations impacted the study, it is also reasonable to expect that the asset management efforts of municipalities are also being impacted by a lack of comprehensive data. Solid data is a foundational element to successful asset management programs, and it is unclear as to the extent that municipalities without reliable data could be making informed decisions about maintenance, rehabilitation, and replacement projects.

Observation 2: Under-Investment is Widespread in a Range of Asset Categories

The asset-specific reports include a variety of analyses to test condition levels based on a range of characteristics, including asset types, sub-types, location in the province, traffic counts, surface type, number of lanes, and even who is managing the asset (only for bridges and culverts). Very few meaningful patterns were observed across these categories and condition levels remained generally similar to the overall portfolio, which shows a poor overall condition. The only areas where significant differences were observed is when categories were limited in data availability, specifically showing results from only one or two municipalities, which occurred in some of the regional analyses.

Notably, the bridge and culvert data received from Alberta Transportation and confirmed by municipalities allowed for comparisons between RMA member managed bridges and those managed by urban municipalities and Alberta Transportation. While some small differences were observed between the three sets of data, the differences appeared to be mostly a result of the different subtypes of bridges each party manages. Once like-for-like assets were considered, the portfolios were very similar. The overall trend of poor condition and under-investment is clear and extends beyond just RMA member core infrastructure. While more study is needed, it is reasonable to expect similar condition levels for non-RMA member infrastructure as well.

Observation 3: Infrastructure Failures are Likely to Increase in Both Frequency and Severity Based on Portfolio Conditions

While the current condition of infrastructure observed in this study raises immediate concerns regarding the reliability, resiliency, and safety of core transportation and utility systems, the incorporated forecasts point to an even more concerning potentiality.

Infrastructure resiliency is critical in the face of an increasing population, an ever-growing industrial sector, and more frequent extreme weather events. Core infrastructure in rural Alberta is particularly critical in supporting a wide range of industrial and economic activity, much of which results in increased revenues for both the province and municipalities. An infrastructure portfolio already showing signs of underinvestment is particularly vulnerable to risks and has likely already begun deteriorating quickly. Without adequate intervention this deterioration will impact not only resident quality of life, but also economic potential.

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Case Study - Smith Bridge (M.D. Lesser Slave River)[17,18]

The Smith Bridge, a 78-year-old structure located in the M.D. of Lesser Slave River, is a critical piece of infrastructure that has served the local community for decades. Spanning the Athabasca River, the bridge provides essential access for residents and businesses, supporting both daily life and economic activities in the region. However, the aging bridge is now at risk of collapse, and the local government, facing financial constraints, has struggled to secure the necessary funding for its replacement.

In 2023, the bridge received $1.6 million in STIP funding for design work and an additional $871,830 for interim repairs. These funds were crucial in addressing immediate concerns, preventing further deterioration, and ensuring the bridge remained operational in the short term. In 2024, an additional $2 million in STIP funding was secured to continue the efforts to repair the structure. Despite these investments, the bridge remains in a precarious state, highlighting the ongoing challenges of maintaining aging infrastructure in rural areas.

The Smith Bridge connects residents to essential services such as fuel and water, and its closure would impose a 90-minute detour on residents, significantly disrupting daily life. Local businesses rely heavily on the bridge for customer access, particularly during the busy summer months. Furthermore, the bridge plays a vital role in the region's economy by providing access to oil fields nearby, which generate substantial royalties for the province. However, the bridge's current condition limits its capacity to handle larger industrial vehicles, forcing them to take longer routes. This not only increases operational costs for the industries involved but also underscores the urgent need for infrastructure that can support economic activities without imposing additional burdens.

This situation highlights the importance of proactive asset management, and the challenges rural municipalities face in maintaining critical infrastructure. Despite the bridge's clear importance, securing funding for its replacement has been a long and difficult process. Thanks to the concerted efforts of local council members, senior leadership, and the community—who engaged in multi-front lobbying and garnered public and industry support—funding was eventually secured. However, this case illustrates the reactive nature of many infrastructure funding decisions, where significant risks and economic impacts must be demonstrated before investments are made.

The Smith Bridge serves as a cautionary tale of the risks associated with underinvestment in infrastructure and the challenges rural communities face in maintaining essential services. It also highlights the critical role of asset management in ensuring the long-term sustainability and resilience of infrastructure. By adopting more proactive asset management practices, municipalities can better anticipate and address infrastructure needs, thereby avoiding the kind of crisis that has unfolded with the Smith Bridge. As the local government continues to seek solutions, the experience of Smith Bridge will likely serve as a valuable lesson for other communities facing similar challenges.

[17] https://www.cbc.ca/news/canada/edmonton/aging-bridge-alberta-hamlet-smith-worries-community-1.6604338
[18] https://globalnews.ca/news/9406368/drivers-face-90-minute-detour-as-smith-bridge-in-northern-alberta-deteriorates/

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Infrastructure Asset Management Overview

To better understand the relationship between infrastructure deterioration and asset management, it is first important to understand what asset management is and why it is beneficial. Asset management is about creating a sustainable framework for infrastructure stewardship. It requires a commitment to continuous data collection, analysis, and adaptation to changing conditions and needs. For municipalities, embracing a comprehensive and consistent asset management plan is not just a best practice; it is a necessity for ensuring the long-term viability and functionality of infrastructure.

Without it, municipalities risk operating with a fragmented or inconsistent understanding of their infrastructure's condition. This patchwork approach, where varying levels of detail are collected and maintained across different asset types, can lead to inefficiencies, misallocation of resources, and a failure to address critical infrastructure needs in a timely manner. At a macro level, municipalities benefit more from having a reasonable estimate across all asset categories rather than focusing on a few select types with varying degrees of detail

Asset Management 101

Overview

As noted, asset management is a strategic approach that involves overseeing and maintaining a municipality's infrastructure assets—such as bridges, roads, or waterlines—to ensure they are utilized and preserved effectively. This practice considers not only the immediate needs of the community but also future requirements, factoring in various environmental, economic, and social influences that may impact these assets over time.

To achieve this outcome, municipalities require: **A) a basic understanding and inventory of their current infrastructure, B) the use and general condition or performance of that infrastructure, C) an understanding of expected future replacement or investment, and D) some sort of planning process to account for planned asset reinvestment.** Combined, these steps form the most fundamental view of what asset management really means.

Included below are several key definitions included in the Federation of Canadian Municipalities (FCM) Municipal Asset Management Program related to asset management:[19]

- **Asset Inventory:** A list of assets owned and the attributes of the assets. Basic inventory data includes attributes such as size, material, location, and installation date. Expanded inventory data includes additional information such as location (coordinates), criticality, and supplementary information that is relevant for the asset class (such as type, make, model, and design capacity).
- **Asset Management (AM) Plan:** A detailed plan that outlines how assets will be managed in one or more service areas. An asset management plan identifies how assets will be maintained and renewed, and the cost, level of service, and risk considerations in each service area.
- **Asset Management (AM) Strategy:** A document that lays out the direction, framework, and approach for implementing the community's asset management policy.

[19] https://data.fcm.ca/documents/resources/mamp/asset-management-readiness-scale-mamp.pdf

This program also outlines five key competencies associated with a well functioning municipal asset management plan, including:[20]

1. **Policy and Governance:** By developing this competency, your organization is 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.
    a. Outcome Area 1: Policy and Objectives Definition
    b. Outcome Area 2: Strategy and Roadmap Development
    c. Outcome Area 3: Measurement and Monitoring
2. **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.
    a. Outcome Area 1: Cross-Functional Teams
    b. Outcome Area 2: Accountability Definition
    c. Outcome Area 3: Resourcing and Commitment
3. **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.
    a. Outcome Area 1: Asset Data Inventory
    b. Outcome Area 2: Performance Data Inventory
    c. Outcome Area 3: Financial Information Development
4. **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.
    a. Outcome Area 1: Documentation and Standardization
    b. Outcome Area 2: Asset Management Plans Comprehensiveness
    c. Outcome Area 3: Budget and Financial Planning Incorporation of AM information
5. **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.

    Outcome Area 1: Training and Development for AM

    Outcome Area 2: Internal Communication and Knowledge Sharing for AM

    Outcome Area 3: External Communication and Knowledge Sharing for AM

[20] https://data.fcm.ca/documents/resources/mamp/asset-management-readiness-scale-mamp.pdf

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Purpose

Asset management is a critical process that ensures the sustainability and resilience of communities by strategically managing and maintaining the physical assets that support essential services. One of the core purposes of asset management is to manage these assets in a way that balances performance, cost, and risk. As many municipalities face the challenge of aging and deteriorating infrastructure with limited financial resources, asset management becomes increasingly important. It provides a structured approach to track asset performance, monitor costs, and assess risks, enabling municipalities to prioritize projects and allocate resources efficiently. This process ensures that communities can maintain established levels of service despite increasing financial constraints, satisfying the expectations of residents and businesses.

Traditionally, asset management focused primarily on the operational aspects—keeping things running and fixing them when they break. However, modern asset management goes beyond this, incorporating strategic decision-making that balances investment, risk, and service levels.

Asset management plays a vital role in aligning a municipality's goals, resources, and organizational efforts around the most critical issues. Asset management enables municipalities to address risks to service sustainability, meet legislative requirements, and take advantage of funding opportunities and grants. This strategic approach is essential for building resilient communities that can thrive now and into the future.

Resources

In 2017, Infrastructure Canada launched a five-year, $50 million funding initiative in partnership with the Federation of Canadian Municipalities (FCM) called the Municipal Asset Management Program (MAMP). This program was designed to assist Canadian municipalities in making informed infrastructure investment decisions based on robust asset management practices. Recognizing the ongoing need for such support, the program has since been expanded to an eight-year, $110 million funding program. FCM also offers a robust asset management readiness scale that municipalities should utilize to understand their current asset management capabilities at any point in an asset management journey.

For municipalities at the beginning of their asset management journey, several resources can guide you through the foundational steps of developing and implementing an effective asset management strategy:

- Building Blocks of Asset Management - A comprehensive guide by FCM providing foundational knowledge on asset management practices.
- CNAM Asset Management 101 Booklet - An introductory booklet from the Canadian Network of Asset Managers (CNAM) covering the basics of asset management.
- RMA Participant Workbook - A practical workbook for rural municipalities to assess and develop their asset management capabilities.
- Alberta Municipal Affairs Toolkit - A toolkit provided by Alberta Municipal Affairs offering guidance on implementing asset management practices.

[21] https://fcm.ca/en/resources/mamp/asset-management-resources
[22] https://fcm.ca/en/resources/mamp/tool-asset-management-readiness-scale

Additionally, the FCM Asset Management Resources page provides a wealth of further materials to help municipalities enhance their asset management practices.[23]

Current Asset Management Requirements/Reporting for Municipalities

Alberta municipalities are required to maintain a basic inventory of tangible capital assets (TCAs) to comply with Public Sector Accounting Board (PSAB) standards. Since 2009, municipalities have been required to report on TCAs following the guidelines established in PSAB section 3150. These standards mandate that municipalities account for the present value of their non-financial assets, factoring in the original acquisition date, cost, depreciation, and capital reinvestment. Concerningly, TCA reporting uses a straight-line depreciation method—a fixed annual depreciation rate—to estimate asset value over time which may not accurately reflect the remaining useful life of some assets, potentially leading to discrepancies between the registry and actual asset conditions. In addition, many assets have been in use beyond the standard straight-line depreciation curves and may have 'aged out' of TCA registries. For RMA members, older roads, gravels roads, and older utility infrastructure is highly susceptible to this aging out process. For these reasons, **TCA reporting is not a substitute for an asset management plan.**

Unique to the bridge portfolio is the significant availability of data. Alberta Transportation maintains a comprehensive Bridge Information System (BIS) to track and record regular inspections of all bridges and engineered culverts in the province. Municipalities with bridge management responsibilities are required to conduct inspections and the results are submitted into the BIS system in a structured manner.

Various funding streams, including competitive funding streams like the STIP program, require an understanding and reporting on work related to specific infrastructure. However, none require a broad asset management program to be in place.

Other than the above, Alberta municipalities are not subjected to any additional external reporting requirements related to asset management data.

[23] https://fcm.ca/en/resources/mamp/asset-management-resources

Study Recommendations

There have been a range of recommendations generated based on the learnings of this study. These recommendations are targeted to the Government of Alberta (GoA), RMA, and RMA members.

Recommendations to the Province

Recommendation 1: Provide Near-Term Funding Increases to Address the Infrastructure Deficit and Support Critical Infrastructure for Economic Prosperity

There is a clear financial incentive to address the concerning condition of rural municipal infrastructure. The analysis of the holding cost of the portfolio shows a three-year ROI period if the portfolio is improved to the optimal point on the asset curves. This financial incentive is particularly imperative as the network currently sits at an expensive point on the asset curves. Each year, the holding cost for the portfolio – the cost simply to maintain the portfolio at its current levels – is projected to become a higher percentage of the current valuation of the portfolio as the associated assets continue to deteriorate. Current funding levels are below what the portfolio demands at the target points of the curves, but are far, far below the current holding costs of the portfolio at current conditions. A significant increase in funding is required to reverse this financial circumstance, and a near-term funding commitment could see the portfolio reach a point where reduced support levels are feasible (assuming the target state can be achieved). The province should explore several paths for this funding increase:

Increase LGFF Funding to Address Infrastructure Deficit

One of the most straightforward options to address the funding gap is to simply increase the funding allocated to the LGFF program. The program is currently being funded far below the highest levels, and even historical average, of its predecessor (MSI). LGFF is by far the most flexible of the current funding programs as well, which means municipalities can best direct funding to their most critical infrastructure issues.

Despite the benefits of the LGFF program, it will require significant funding increases to provide RMA members with adequate funding to make notable progress on the infrastructure deficit. The current LGFF funding formula is heavily weighted by population, so a significant funding increase and/or a change to the allocation formula are required before RMA members see meaningful increases. Quite simply, LGFF is targeted to high-population growth municipalities, and does not adequately recognize the infrastructure cost impacts of industrial development in rural municipalities.

In addition, the annual LGFF allocations are likely too low for any individual municipality, even in an increased funding environment, to allow for many renewal projects to occur simultaneously. The level of current LGFF funding places an undue burden on municipalities to invest in infrastructure renewal. In fact, given borrowing limits, tax and revenue limitations, long-term capital planning requirements, and other legislative restrictions, it is unclear that even sufficiently motivated municipalities would have the tools to make the required investments in infrastructure renewal if LGFF is the sole channel pursued.

Overall, the LGFF program is best used to target the holding cost requirements of RMA members once the portfolio is brought back to its target state. A relatively manageable increase in the overall program could result in the projected $250 million being allocated to RMA members through this program – this figure aligns with the historical average of RMA member allocations of the MSI

program over its lifetime. Regardless of other changes, the province should explore a change in the LGFF program to allow municipalities to "borrow forward" rather than be required to "bank" their LGFF allocations. The deterioration curves show the danger of forcing municipalities to defer infrastructure investment past the target point of the curves.

Increase STIP Funding to Address Infrastructure Deficit

The STIP funding is most applicable to bridge renewal and is generally too restrictive to make meaningful differences in other asset types. Increased funding for STIP would adequately target bridge renewal and should be considered as an important tool to meet the $2.29 billion in bridge deficit.

Introduce Emergency New Funding Stream/Program for High-Priority, High-Risk Infrastructure

To address gaps in the other funding programs, the province should explore a near-term emergency funding program to address core infrastructure renewal. This funding should be explored over a five-year period and should expect to inject significant funding into capital projects to address the infrastructure deficit. The funding should be restricted to renewal and maintenance work for roads, bridges and culverts, and water/wastewater/stormwater infrastructure only. While ideally this funding would occur over an even shorter time frame to reduce further deterioration of the portfolio, there are concerns about the capacity of municipalities to manage, or for the market to respond to, such a large increase in project demand in a short time frame.

Recommendation 2: Develop a Prioritization Matrix for Key Municipal Infrastructure to Determine Funding Priorities

The GOA should develop and formalize a priority ranking matrix for its increased funding program outlined in the recommendation above. This should be publicly available so municipalities can plan their own prioritization of projects given the ones most likely to meet the province's prioritization ranking. These criteria would be most applicable to the proposed new funding stream, rather than existing funding programs.

The ranking criteria should prioritize three key areas:

- **Current Condition of Infrastructure:** Given the financial imperative to make significant improvements to the portfolio, significantly deteriorated infrastructure should be prioritized. Less deteriorated (and therefore less expensive) infrastructure would be better addressed after bringing the most deteriorated assets back to the ideal state. Work required to address the less deteriorated infrastructure can likely be achieved through normal, ongoing investment after the province achieves new, reduced holding costs.
- **Risk (including resiliency and safety concerns):** Regardless of current condition, infrastructure that is particularly prone to failure, significant reduced functionality/capacity, or has notable public safety concerns should be prioritized.
- **Criticality to Economic Prosperity:** Although this factor should include infrastructure primarily used for commercial purposes such as resource roads, it is not the only, or even most important,

economic consideration. A bridge that is required to close and causes an extensive detour for residents causes significant economic loss due to lost time and productivity. These less direct economic considerations must be considered in the program using standard factors for a variety of economic impacts.

- **Additional consideration:** The demonstrated ability to incorporate innovative construction methods or materials should be given a boost in scoring to help support future innovation and cost reduction.

Recommendation 3: Introduce Restrictions on Existing Funding to Focus Investment on Core Infrastructure Maintenance/Renewal

The GOA should introduce restrictions on existing programs, most notably LGFF, to focus funds on the reinvestment into existing infrastructure. Currently, limitations on funding use are only placed on municipalities that have triggered multiple sustainability criteria metrics. The analysis shows that LGFF funding (brought up to historical MSI averages) could be an effective tool for addressing the revised holding cost of the RMA asset portfolio, after the portfolio has been brought back up to the target state. It is reasonable to assume that this pattern would hold for urban municipalities as well, though additional study would be required. However, this funding stream cannot reasonably support the maintenance of core infrastructure in addition to supporting new, growth-related infrastructure investment. The analysis also suggests that even small deficits in annual reinvestment will result in municipalities 'falling off' the steep part of the deficit curves and a similar pattern of significant deterioration can be expected again in future years.

While further restricting LGFF funding would impact local autonomy, the criticality and financial prudence of addressing the annual holding cost of core infrastructure should be weighed more heavily.

Recommendation 4: Introduce Grant Program to Support Asset Management Program Development by Municipalities

This study highlighted a significant gap in the current asset management programs of RMA members. It is reasonable to expect that a comparable gap exists for all municipalities in the province. As a result, the GoA should implement a new granting program to support the development of asset management programs for Alberta municipalities.

This funding should be made widely available to municipalities to support a range of asset management program development, though an emphasis should be placed on asset inventorying and condition assessments. While important, strategy and program development, and system implementations are less impactful to the issues uncovered by this study.

While not an explicit part of the study, anecdotal evidence provided by municipalities during this process has highlighted that many current asset management programs have been slow and expensive to develop due to the sheer level of detail that is pursued for the assets being incorporated into the program. This manifested in numerous respondents providing a high degree of asset detail for certain categories, and nearly nothing for others. At a macro level, it is likely more impactful for municipalities to have a reasonable estimate of all their asset categories, rather than more of a patchwork of varying detail across asset types. This report stops short of recommending that the GOA only fund asset management program development projects that consider all asset

types, however the GOA should develop a corresponding guideline for the program which promotes this more comprehensive approach to asset management program development.

Recommendation 5: Strengthen Asset Management Program Existence as an Eligibility Requirement on Funding Programs

Once asset management program development has been supported and funded (Recommendation 4), the GOA should explore options to make the verification of an existing asset management program a requirement for funding programs. This requirement may necessitate a phased approach to allow time for municipalities to develop programs, but there several options to achieve this recommendation in the meantime:

- Allow for in-flight programs currently being developed to be included in eligibility.
- Make the existence of an asset management program a bonus category (or some other incentive) rather than a basic mandatory requirement.
- Use the outputs of an asset management program (i.e. planned asset maintenance investment) as a funding criteria, rather than retroactive statistics.
- Consider a basic phased approach where municipalities are provided a deadline for program development.

The GOA should explore this requirement for all existing funding programs, however the most obvious candidate is the new near-term emergency funding stream identified in Recommendation 1. Of course, the near-term nature of this funding stream almost certainly requires one of the phasing options described above to be incorporated.

Recommendation 6: Develop an Asset Data Reporting Program for Municipalities

The GOA should further strengthen its promotion of asset management as a municipal practice by developing a new asset data reporting program for municipalities. This program should be flexible enough to accommodate a range of asset management programs. At minimum, it should help guide municipalities beginning to develop asset management programs on standard “leading practices” for their program, without being too restrictive that it may require re-work from municipalities that have already developed their programs. The workbook data collection process used for this study showed that this will not be an easy process, but achievable with enough support and flexibility. This reporting program should occur over multiple phases:

- Phase 1: Basic reporting confirming the existence of an asset management program and high-level outputs from the plan (i.e. five years of projected investment, percent of assets covered by an asset management program, total replacement cost of asset portfolio). These ‘basic’ reporting elements could even be incorporated into the annual Municipal Financial Information and Statistical Returns.
- Phase 2: A more comprehensive reporting program comparable to the BIS system which captures all core municipally managed road and utility infrastructure.

Recommendation 7: Introduce Innovation Funding to Support New Technology and Construction Techniques

The GOA should reinforce its commitment to innovation for new technologies, construction methods, and materials associated with asset maintenance and renewal by introducing a new innovation funding program. This program should target new and innovative practices by providing funding supports to account for any pricing premium that innovative projects would otherwise have for municipalities. This allows municipalities to maintain reasonable value for its residents and removes any penalties or opportunities for political opposition to pursuing innovative practices. This program will also support new and emerging private sector innovation by creating a market for innovative techniques. Eligibility for this program should be flexible to account for a wide range of potential innovations.

However, it will be important that all innovations covered by this program have some possibility of eventually delivering cost savings for asset renewal and maintenance. As a result, eligibility should emphasize potential price reduction and efficiency as a target for innovation, rather than environmental performance or other innovative focuses. While these are still important to consider, current funding must prioritize future cost effectiveness above other considerations given the sheer size of infrastructure deficit noted by the study.

Recommendations for RMA

Recommendation 8: Renew and Promote Asset Management Supports and Education Programming for Members

RMA has conducted work on asset management in the past. RMA's work has included policy studies,[24] educational programs, joint work with other associations, general promotion to its members, [25] and has noted asset management promotion as a key goal in its current strategic plan.[26] This study highlighted that the intended effects of these efforts has not materialized in broad adoption of asset management program development across its member base, based on the assumption that low participation was at least partly due to a lack of available asset data.

As a result of this potential gap, RMA should review and renew its advocacy and support programs for asset management. Most notably, a key gap for municipalities appears to be a lack of clarity on how to get started, especially for organizations that have not been able to invest in a dedicated position to advance asset management efforts. An "out of the box" asset management program and/or toolkit may provide the most value to municipalities struggling to get started with asset management. As noted above, an anecdotal assessment revealed that that many programs, toolkits and otherwise well-intentioned resources are pushing municipalities to far too detailed levels of information, which increases the perceived barriers to getting started. A more flexible approach should enable a range of levels of detail that can be built out over time.

The recent collaborative work RMA pursued with the Federation of Canadian Municipalities (FCM) Municipal Asset Management Program, including the collaborative cohort initiative with ABMunis and Infrastructure Asset Management Alberta (IAMA), was a great start in this area. Similar programs can offer significant ongoing value to rural municipalities and should be explored for expansion potential.

[24] https://rmalberta.com/reports-toolkits/asset-management-for-municipalities-in-alberta-navigating-the-asset-management-journey/
[25] https://rmalberta.com/reports-toolkits/mamp-capacity-building-partners-case-studies/
[26] https://rmalberta.com/wp-content/uploads/2024/06/2023.2027-StrategicPlan-1.0.pdf

Recommendation 9: Develop Ongoing Asset Data Collection Program for Member Asset Information

RMA should plan future advocacy efforts to regularly renew understanding of member asset information. While this program may have to remain voluntary, over time, RMA could build an ongoing expectation for members to provide available asset information to keep the results of this study up to date. This will be particularly important given the recommendations for increased funding (Recommendation 1), to determine the impact that changes to funding programs are having on the overall state of infrastructure amongst RMA members.

Having access to up-to-date infrastructure deficit information is a key advocacy tool for RMA. It is highly likely that the efforts of this study will prove to have advocacy value that will be recognized by members and will support future participation. As members increasingly develop and evolve their asset management programs, existing information should become more and more readily available, simplifying the analysis. RMA should collaborate with the province, and even its peer associations to support collaborative reporting and data collection from members to reduce workload.

Recommendation 10: Explore Program Development/Promotion of Collaborative Asset Management Programming Among Members

RMA should develop educational and support programming for its members to engage with neighbouring municipalities on asset management information sharing, joint investment, and collaborative program development. This program should include toolkits and promotion for supporting inter-municipal collaboration for Inter-municipal Collaboration Frameworks (ICF's), regional transportation and utility master-planning, inter-municipal development, and even information sharing for core infrastructure that supports service delivery for collaborative services. The program may require a more "high touch," cohort-style approach similar to RMA's recent asset management initiatives. It is likely that collaboration with ABMunis will be required to implement such programming, given the potential for rural-urban collaboration. Of course, collaboration between RMA members should also be a primary focus of the program, particularly for program development and joint system procurement initiatives.

Recommendation 11: Utilize Canoe to Promote Innovative Technology and Materials for Infrastructure Renewal Work

RMA should conduct a review of its product offerings through Canoe Procurement Group of Canada to determine opportunities to enhance innovative technology, construction approaches, and construction materials specific to infrastructure maintenance. While this review could result in several potential changes, some examples include:

- New, innovative vendors targeted to be added to the Canoe offerings.
- The introduction of a special innovation symbol/designation for current vendors/products.
- A special pricing program on innovative offerings.
- The introduction of a specialized innovation program to help sorting and promotion.

The initial review should target the culvert program, public utility program, road maintenance equipment program, wastewater management program, and the waterworks program to determine high value, innovative offerings.

Recommendation 12: Continue Advocacy on Key Infrastructure Issues

RMA has continuously advocated for increased support regarding rural infrastructure. It has also advocated against a wide range of other downloading and financial issues that its members have faced and continue to face. Given the sheer financial burden that the infrastructure deficit study has uncovered, RMA must continue, and even strengthen, its advocacy efforts. As an example, this may need to take the form of a specific advocacy campaign to target elected officials with key messaging related to the infrastructure deficit. RMA should also continue its currently utilized best practice of providing messaging to members to enable them to advocate on the issue as well. Given the high likelihood that urban municipalities are also facing similar deficit issues, RMA should consider collaborating with ABMunis for advocacy on this issue.

Recommendations to RMA Members

Recommendation 13: Expand Asset Inventorying and Asset Management Programs

Given the learnings of the study, it is strongly recommended that municipalities continue to invest in asset inventorying and the development of asset management programs. This includes obtaining comparable levels of information and assessment across all core asset categories. This recommendation most strongly applies to municipalities that have not engaged in any asset management activities to date. Understanding current asset condition is critical for municipalities to strategically manage their asset portfolios. This study has shown how financially beneficial holding asset portfolios at an optimal level is compared to waiting for infrastructure to fail before addressing issues.

Municipalities should take advantage of the wide range of resources available, including through the FCM Municipal Asset Management Program. Despite the recommendations above that call for support for municipalities to develop their asset management capabilities, individual municipalities also have responsibility to ensure they can effectively manage their infrastructure portfolios.

Recommendation 14: Explore Increased Regional Collaboration for Asset Management Program Development and Infrastructure Renewal Projects

Rural municipalities should seek collaborative opportunities with their neighbours to share infrastructure data, jointly develop asset management programs, cost-share on system investment, conduct joint infrastructure planning, and/or engage in any other collaborative asset management activities. For collaboration with urban neighbours, the ICF renegotiation process may be an opportunity for collaborative discussions to occur. Of course, regular, ongoing inter-municipal collaboration is also encouraged. Municipalities should consider establishing joint asset management council committees to study collaboration potential and support integrated regional infrastructure renewal planning.

RMA members may also find value in collaborating with rural neighbours. This collaboration is more likely to support collaborative program development, system investment, staff cost-sharing, or other

more operational collaborations based on the likelihood that rural neighbours will have similar asset characteristics and challenges.

Recommendation 15: Conduct Climate Change Resiliency Planning for Core Infrastructure

RMA members should conduct specific climate change resiliency planning for their core infrastructure to assess which infrastructure is most prone to failure, loss of function, or outright damage from climate-related events. This will help ensure that utility and transportation networks are viable, and plans are in place in the event of disruption. It will also highlight which assets may require investment earlier in their "normal" functional expected life due to climate-related risks, or where construction changes will be required during replacement to incorporate greater resiliency.

An effective asset management program should consider changing conditions and adapt investment plans accordingly. Recent years have shown the potential implications of severe weather events on municipal infrastructure, and the expectations of increasing frequency should be factored into municipal planning.

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