Asset Management Status Report

Presented To:	City Council
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Recommended by:	General Manager of Corporate Services

Report Summary

This report provides an update on the asset management planning activities to develop and implement plans and strategies to achieve the requirements of Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, and to help guide the City to optimize the lifecycle value of assets.

Relationship to the Strategic Plan, Health Impact Assessment and Community Energy & Emissions Plan (CEEP)

This report is directly linked to the goals as described in City Council's 2019 – 2027 Strategic Plan. The emphasis is primarily on Goal 1: Asset Management and Service Excellence, however in accordance with the Enterprise Asset Management Policy the purpose of asset management planning is to make the best possible decisions about the acquisition, maintenance, and disposition of assets to sustainably provide municipal services. In that broader sense, asset management plans support reliable service delivery and assist with virtually all strategic goals.

Financial Implications

There are no direct financial implications associated with this report. Indirectly, the guidance provided by asset management planning will inform asset investment and renewal decisions that will influence both capital and operating budgets.

Background

Asset management is the systematic and coordinated activities and practices of an organization to deliver on its service objectives optimally and sustainably through cost-effective life-cycle management of assets. In 2018, City Council approved an Enterprise Asset Management

Policy aimed at ensuring its municipal infrastructure systems are supported by plans and financing decisions that demonstrate effective service support and appropriate regard for managing lifecycle costs.

The Enterprise Asset Management Policy was prepared to meet the first requirement of *O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure* under the *Infrastructure for Jobs and Prosperities Act, 2015*. *Ontario Regulation 588/17* was formally approved by the Province on December 13, 2017. The Regulation prescribes due dates for asset management policies and plans and provides a description of the content required at each milestone. For example: asset management plans are to describe an asset's expected service level and performance based on technical data.

In August 2021, Greater Sudbury achieved the second milestone of the Provincial Regulation with the approval of the Enterprise Asset Management Plan (2021) for core infrastructure. The plan successfully exceeded the requirements of *O. Reg. 588/17* both in terms of timing and scope. The plan was completed and approved approximately one year in advance of the legislated deadline and the scope was exceeded by including municipal parking, and fleet and equipment; in addition to core infrastructure. The regulation defines core infrastructure as water, wastewater, stormwater management, roads, bridges, and large culverts. Greater Sudbury's Enterprise Asset Management Plan which includes the Enterprise Asset Management Policy is available through the following link: https://www.greatersudbury.ca/city-hall/budget-and-finance/financial-reports-and-plans/.

The next two critical milestones outlined in *O. Reg. 588/17* include:

1. **July 1, 2024,** to approve asset management plans for all other municipal infrastructure (Phase 2 asset management plans). This includes Buildings and Facilities, Parks and Recreation, and Solid Waste. Note: Housing, Long-Term Care, and Infrastructure Technology will be included within the Buildings and Facilities Asset Management Plan.
2. **July 1, 2025,** to approve asset management plans for all municipal infrastructure that build upon the previous requirements (Phase 3 asset management plans). This includes identification of proposed levels of service, the activities required to meet proposed levels of service, and a strategy to fund these activities.

Within Greater Sudbury's asset management framework, the city has committed to prepare asset management status reports prior to the annual budget. The report will discuss asset management planning activities, progress, and information on the performance of asset classes. Additionally, the Enterprise Asset Management Policy states that Greater Sudbury will produce a State of the Infrastructure (SOIR) report at least once per Council term. The SOIR provides more comprehensive information regarding the major asset classes managed by Greater Sudbury. The first State of the Infrastructure Report was prepared with the Enterprise Asset Management Plan (2021) for core infrastructure, municipal parking, and fleet and equipment. Components of the SOIR such as the Infrastructure Report Cards have been incorporated into the latest asset management status report. Additionally, 'draft' infrastructure report cards have been prepared for asset classes that have asset management plans under development.

Previously, Asset Management Status Reports provided definition of the key steps that the City must perform in-order to meet the Enterprise Asset Management Policy requirements. The key steps that were discussed include: defining level of service, failure prediction of an asset, risk management and assessment, asset life cycle planning and optimization, and financial strategy. The annual report will continue to evolve along with the dynamic asset management program and with evaluation of the state of the City's infrastructure supported by asset data that will drive capital investment and long-term asset management strategies.

The asset condition information, financial need and associated risks that are discussed in this report reflect best available data and professional judgment. Work continues to refine data collection activities and manage the evolution of our asset management program.

The Asset Management Roadmap

Key steps that must be performed to develop and implement effective asset management plans are detailed in the Figure 1 below.

Within the asset management roadmap, the legislated phase 1 asset management plan approved in 2021, and the phase 2 asset management plan due by July 1, 2024, are developed in steps 1 through 6 (Assess and Plan). The Implement column represents requirements of the phase 3 asset management plan due by July 1, 2025. In the short term, activity is focused on data collection and analysis to identify existing level of service, quantifiable risk, and infrastructure need. Over the next several years, activities are focused on the development of a sustainable financing strategy to achieve target level of service at an acceptable level of risk.

Figure 1: The Asset Management Roadmap		
A) Assess ➡	**B) Plan** ➡	**C) Implement**
1. Framework • Asset Management Policy • Review Asset Management Practices • Develop Council Reporting	**4. Modeling** • Criticality • Failure Prediction • Climate Change Resiliency • Risk Management Framework	**7. Benchmark** • Target Level of Service Framework • Review Existing and Generate Additional Key Performance Indicators
2. Need and Gap Analysis • Data Availability • Data Collection Practices • Path to Improvement	**5. Prioritization** • Asset Lifecycle Planning and Optimization • Cost Benefit Analysis • Project Scheduling	**8. Sustainability Strategy** • Financing Strategy for Target Levels of Service • Plan to manage infrastructure within the City's capacity to renew and maintain assets, and accept the associated risk • Cost & Asset Tracking
3. Assessment • Data Analysis • Asset Performance • Legislative and Industry Standards • Levels of Service	**6. Financial Strategy** • Long-Term Needs • Capital expenditure and significant operating costs to maintain life cycle activities • Funding Gap • Future Demand	**9. Execution** • Monitor Performance of Asset Management Program

City of Greater Sudbury Asset Value

The corporation has a historical capital investment of $3.216B (2021) invested into infrastructure assets that is detailed in Figure 2. The expenditure data to develop Figure 2 is managed within the City's Tangible Capital Asset Database.

Figure 2: Asset Investment History (2021)
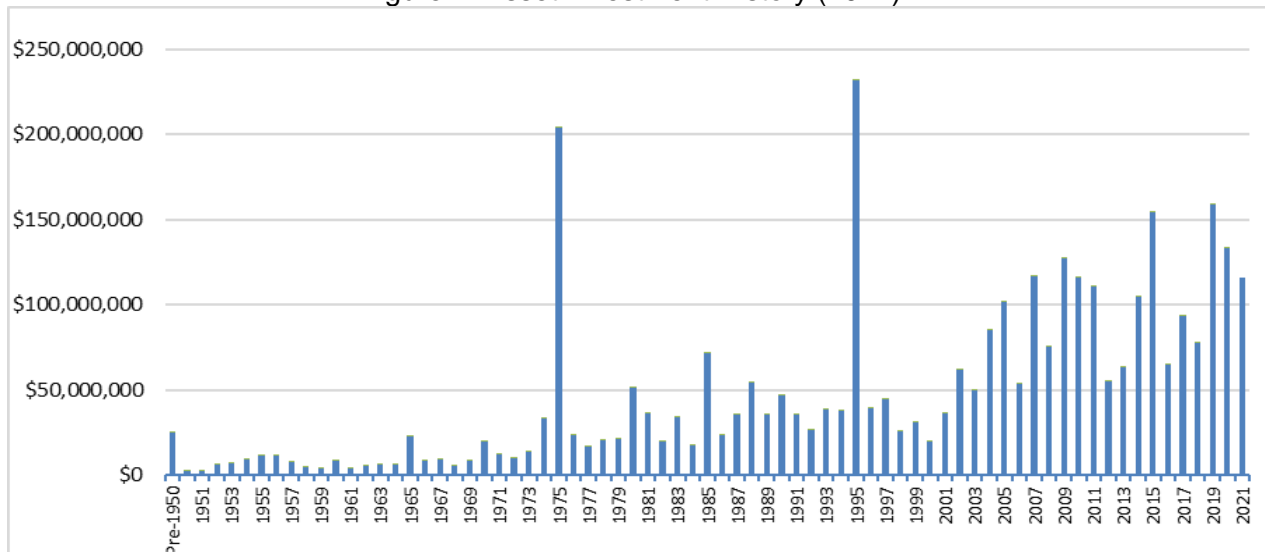
The historical investment spans a large portfolio of assets that have a replacement value of $10.91B (2021). The replacement value is an increase of $400,000,000 to the value reported in July 2021. The primary reason for the increase is due to significant data collection in asset classes such as buildings and facilities as well as inflation. The historical investment values in figure 2, do not include Housing Operation assets.

Replacement values of infrastructure assets are presented in Figure 3.

Figure 3: Replacement Cost of Assets by Asset Class
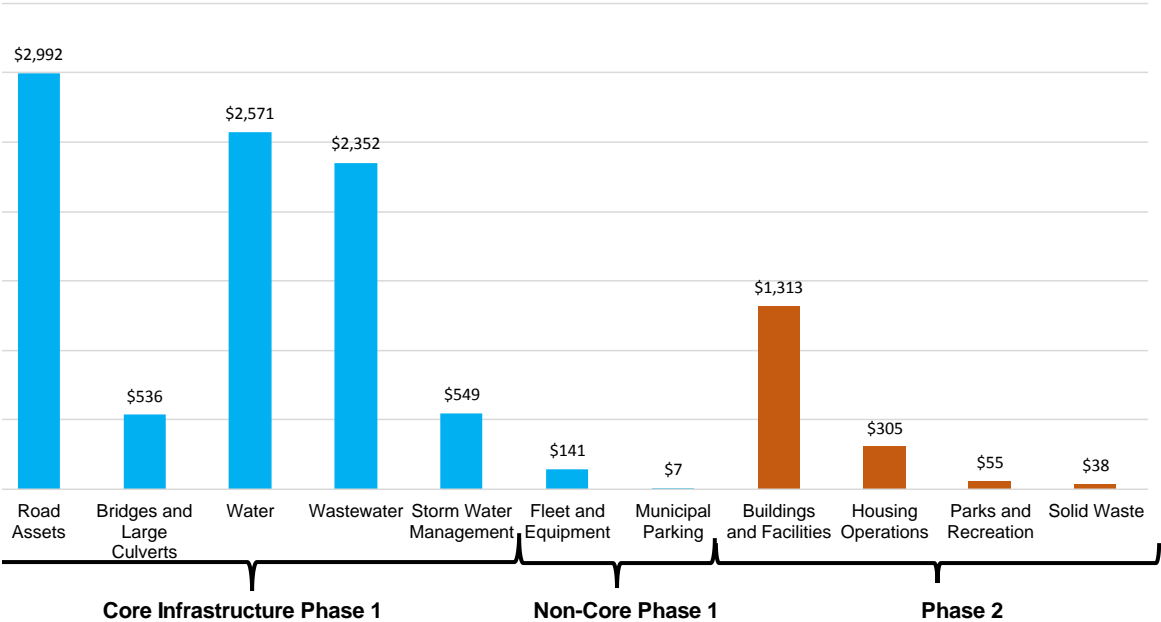
City of Greater Sudbury Asset Portfolio

The Infrastructure Report Cards describe the assets within an asset class, provide infrastructure condition data, and discuss infrastructure performance. The performance of an asset is largely predicated on its condition. Infrastructure condition reporting involves both technical data and professional judgement. The information provided to describe asset condition reflects the best available data and professional judgement. Work continues to refine data collection activities and manage the evolution of the asset management program. For example, building condition assessments (BCA) are conducted at five-year intervals and the BCA data is stored within the City's asset management and capital planning tool for buildings to keep the data current. By the end of 2022, approximately 80% of the building inventory will have Building Condition Assessments completed.

The Infrastructure Report Cards are provided in Appendix A. Also within Appendix A is an explanation of the data quality rating which is directly linked to the data confidence rating on the report cards. The Asset Classes, Buildings and Facilities, Parks and Recreation and Solid Waste, make up the non-core phase 2 portion of the Enterprise Asset Management Plan and are currently scheduled for completion in Q3 of 2023, therefore the report cards presented in this update are fluid and may be revised at the time of the AMP completion.

The Status of Asset Management Planning

The City's Assets Section canvased various divisions and sections to compile the performance indicators that detail the status of asset management planning summarized by asset class in the tables that follow.

The ALoS referred to in the following tables is Asset Level of Service which is the condition and performance expectations for a given asset to produce desired levels of service.

The estimated annual capital investment to maintain current asset level of service (ALoS) is incorporated from newly developed asset management plans in accordance with *O. Reg. 588/17 or* the City of Greater Sudbury Municipal Asset Management Plan (2016) developed by KPMG. The estimated annual capital investment to maintain current ALoS source is provided under the notes section. For definition of the quality of financial estimate, please refer to Appendix A.

Water and Wastewater (Core Infrastructure)

Table 1: Water and Wastewater Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 1 - Existing ALoS Phase 3 - Target ALoS	**Phase 1: 100% Complete Phase 3: Work to begin in 2023.**	• Existing Asset Level of Service complete • The Phase 1 Asset Management Plan is currently undergoing an update as it is approaching 5 years in age. The primary update is significant data that has been collected for Water and Wastewater facilities such as treatments plants, lift stations, and wells through standardized building condition assessments. • Target Asset Level of Service definition will begin once the Phase 1 Asset Management Plan is updated with the current data upgrade. • Legislation drivers include but are not limited to: Safe Drinking Water Act (2002), Clean Water Act (2006), Ontario Water Resources Act (1990), Public Lands Act (1990), Conservation Authorities Act (1990), Lakes and Rivers Improvement Act (1990), Water Opportunities and Water Conservation Act (2010), Nutrient Management Act (2002), Sustainable Water and Sewage Systems Act (2002), Municipal Water and Sewage Transfer Act (1997), Canadian Environmental Protection Act (1999), Environmental Assessment Act (1990), Environmental Protection Act (1990), Canadian Water Quality Guidelines, Provincial Water Quality Objectives, Building Code Act (1992), National Fire Code, Occupational Health and Safety Act (1990), and O. Reg. 490/09: Designated Substances.

Table 1: Water and Wastewater Asset Information (Continued)		
Performance Indicator	**Current Status**	**Notes**
Data Standards	**85% Complete**	• Recommendations from the Asset Management Plan Water and Wastewater include identification of additional data performance measure reporting • Consequence of failure is established within the W/WW AMP 2018 for both linear and vertical infrastructure. • The Probability of Failure for facilities is being significantly upgraded with the new building condition assessment data. • The current CCTV inspection program follows the Pipeline Assessment Certification Program (PCAP) • The CCTV program will continue bolster the probability of failure for linear assets • Building Condition Assessment submissions are being completed using industry standards and Greater Sudbury's newly adopted Uniformat II standard.
Data Availability	**80% Complete**	• Assets are known and documented • Data collection for water and wastewater assets are on going
Estimated Annual Capital Investment to Maintain Current ALoS	**$96,000,000**	• Estimate is an average of annual requirements from the Asset Management Plan Water and Wastewater (2018) and incorporated into the current City of Greater Sudbury Water and Wastewater Long-Range Financial Plan. • The estimate will be updated with the Phase 1 update.
Quality of Capital Investment Estimate	**B - Linear Pipe D - Plants & Facilities**	• Quality will improve with additional datasets. • Plants and facility building condition and process assessments have not yet been incorporated in the estimate. The data is being collected, analyzed, and will be included in the phase 1 plan update. At this time, the quality of the estimate will improve to a **B** for all Water and Wastewater infrastructure.

Storm Water Management (Core Infrastructure)

Table 2: Storm Water Management Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 1 - Existing ALoS Phase 3 - Target ALoS	**Phase 1: 100% Complete Phase 3: Underway**	• Existing Asset Level of Service complete • Target Asset Level of Service require additional data collection and analysis • Legislation drivers include but are not limited to: Ontario Water Resources Act (1990)
Data Standards	**75% Complete**	• Consequence of failure is well established; however, data for probability of failure to be improved • The Storm Water Asset Management Plan recommends additional data collection techniques such as CCTV camera inspection of linear pipe • Presently initiating a CCTV inspection program what will follow the Pipeline Assessment Certification Program (PCAP) • The CCTV program will bolster the probability of failure for linear assets
Data Availability	**75% Complete**	• Assets are known and documented • Data collection for storm water assets are on going
Estimated Annual Capital Investment to Maintain Current ALoS	**$4,100,000**	• The value represents the annual capital investment requirement. In addition to the average annual capital reinvestment need, an annual maintenance infrastructure need has been determined to be $6,400,000 • Annual capital investment taken from the Storm Water Asset Management Plan
Quality of Capital Investment Estimate	**B**	• Quality will improve with additional datasets and level of service targets • Estimate is based on local experiences unique to Greater Sudbury area; for example, acidic soils.

Roads, Bridges and Large Culverts (Core Infrastructure)

Table 3: Roads, Bridges and Large Culverts Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 1 - Existing ALoS Phase 3 - Target ALoS	**Phase 1: 100% Complete** **Phase 3: Work to begin in 2023.**	• Existing Asset Level of Service complete • Target Asset Level of Service for Bridges and Large Culverts has been determined. Greater Sudbury's bridge and large culvert maintenance and replacement program is maintaining these assets to within 2% of the target. The target aligns with the Ministry of Transportation Ontario's goals for bridges and large culverts. • A software upgrade to bolster data analysis and forecasting for the road network is in progress. • Legislation drivers include but are not limited to: Highway Traffic Act (1990), Minimum Maintenance Standards, O. Reg. 104/97: Standards for Bridges
Data Standards	**80% Complete**	• Pavement Condition Index (PCI) and Bridge Condition Index (BCI) well established • Potential for Safety Improvement is monitored with network screening • Risk Framework for the road network is to be bolstered. • Risk Framework for bridges and large culverts has been well established
Data Availability	**85% Complete**	• Assets are known and documented • PCI data collected in 2021 was used to develop the 2022 roads program and the proposed 2023 roads program. ; • Biennial bridge and large culvert structural inspection program for 2022 is underway. The program will be underway again in 2024. • Gravel road visual inspection complete • The development of a sidewalk condition index (SCI) including data collection for Greater Sudbury's entire sidewalk network is underway.
Estimated Annual Capital Investment to Maintain Current ALoS	**$80,000,000 for Roads** **$6,900,000 for Bridges and Large Culverts**	• Roads annual capital investment requirement developed with the Roads and Transportation Asset Management Plan • Bridge and large culvert annual capital investment requirement developed with the Road Structure Asset Management Report. This value is updated with the biennial bridge and large culvert structural inspection program.
Quality of Capital Investment Estimate	**C - Roads** **B+ - Bridges**	• With the pavement management system upgrade, ongoing road estimates will be data driven • Quality will improve with additional datasets

Buildings and Facilities

Table 4: Buildings and Facilities Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 2 - Existing ALoS Phase 3 - Target ALoS	**Phase 2: 75% Complete** **Phase 3: Work to begin Q1/Q2 of 2023**	• Asset Level of Service framework has been prepared • Legislation drivers include but are not limited to: Environmental Protection Act (1990), Physical Activity and Sport Act (2003), Building Code Act (1992), National Fire Code, Accessibility for Ontarians with Disabilities Act (2005), Occupational Health and Safety Act (1990), and O. Reg. 490/09: Designated Substances.
Data Standards	**95% Complete**	• Building condition assessment data collection follows industry standards for example Uniformat II and adapted to meet City specific requirements • A risk-based prioritization framework has been developed for prioritizing capital need • The risk framework considers probability of failure which is driven by actual asset condition and established consequences of failure • Facility condition index is designed to forecast facility need and consider future expenditure scenarios
Data Availability	**80% Complete**	• The building condition assessment (BCA) program is well underway. • Building and facility condition data is kept current within Greater Sudbury's new asset management and capital planning tool for buildings and facilities • BCA data will be updated through audits that follow industry standards and scheduled time frames
Estimated Annual Capital Investment to Maintain Current ALoS	**$32,500,000**	• Buildings and facilities annual capital investment requirement has been determined with available data from the new asset management and capital planning tool. The entire building network will have a BCA completed by the end of 2022. At this time the value will be updated. However, staff prioritized the order in which BCAs were completed, so there should not be a very significant in this value.
Quality of Capital Investment Estimate	**C**	• Quality will improve to a **B** once the building condition assessments are completed at the end of 2022.

Housing Operations

Table 5: Housing Operations Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 2 - Existing ALoS Phase 3 - Target ALoS	**Phase 2: 75% Complete Phase 3: Work to begin Q1/Q2 of 2023**	• Asset Level of Service framework has been prepared • Legislation drivers include but are not limited to: Housing Services Act (2011), Promoting Affordable Housing Act (2016), Environmental Protection Act (1990), Building Code Act (1992), National Fire Code, Accessibility for Ontarians with Disabilities Act (2005), Occupational Health and Safety Act (1990), and O. Reg. 490/09: Designated Substances.
Data Standards	**95% Complete**	• Building condition assessment data collection follows industry standards for example Uniformat II and adapted to meet City specific requirements • The risk-based prioritization framework developed with the City's buildings and facilities will also be applied to the housing operations database. The framework is an enhancement to the prioritization framework that housing has applied in recent years.
Data Availability	**95% Complete**	• Housing operations has building condition assessments for the entire asset inventory. However, data collection is perpetual. As with buildings and facilities among other asset classes, condition data must be audited regularly.
Estimated Annual Capital Investment to Maintain Current ALoS	**$5,178,540**	• Housing facility annual capital investment requirement developed with the housing operations asset management and capital planning tool database
Quality of Capital Investment Estimate	**B**	• Quality will improve with additional datasets. • Engaging in the revitalization program to replace buildings and sell buildings that are in low demand will improve the overall stock condition and financial estimates. Repair and upgrades to older units are subject to fluctuating contractor pricing in the market.

Fleet and Equipment

Table 6: Fleet and Equipment Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 2 - Existing ALoS Phase 3 - Target ALoS	**Phase 2: 100% Complete** **Phase 3: Work to begin in 2023**	• Existing Asset Level of Service Complete • Legislation drivers include but are not limited to: Ambulance Act (1990), Accessibility for Ontarians with Disabilities Act (2005), Occupational Health and Safety Act (1990), Public Vehicles Act (1990), O. Reg. 199/07: Commercial Motor Vehicle Inspections, O. Reg. 424/97: Commercial Motor Vehicle Operators Information, and MOECC Reg. 347: General - Waste Management (Hazardous Material Transport)
Data Standards	**95% Complete**	• Fleet data collection is well underway • The risk-based prioritization framework has been developed for the fleet and equipment asset registry • Data is driven by asset age and collection of mileage or engine run-time hours
Data Availability	**95% Complete**	• Assets are known and documented • Data for fleet and equipment is available. However, data storage and analysis has been challenging. Several databases must be amalgamated in spreadsheets
Estimated Annual Capital Investment to Maintain Current ALoS	**$10,600,000**	•Estimated annual capital investment requirement is from the Fleet and Equipment Asset Management Plan and based over a 20-year period. • Estimate includes all Fleet, Fire, Paramedic, Transit, Parks, and Housing Operations assets included in the Fleet and Equipment Asset Management Plan
Quality of Capital Investment Estimate	**B-**	• Reliable inventory and age data; minimal assumptions for fleet and equipment

Solid Waste

Table 7: Solid Waste Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 2 - Existing ALoS Phase 3 - Target ALoS	**Phase 2: 75% Complete** **Phase 3: Work to begin Q1/Q2 of 2023**	• Existing Asset Level of Service framework has been prepared • Legislation drivers include but are not limited to: Occupational Health and Safety Act (1990), MOECC Reg. 347: General - Waste Management (Hazardous Material Transport), and Ontario Regulation 542 and Waste Diversion Transition Act (2016)
Data Standards	**50% Complete**	• The asset inventory is being reviewed to develop data and condition standards • A risk-based prioritization framework will be developed
Data Availability	**50% Complete**	• Available data is being reviewed to determine if or what additional data collection is required
Estimated Annual Capital Investment to Maintain Current ALoS	**$1,500,000**	• Solid Waste - Landfills annual capital investment requirement provided by the CGS Municipal Asset Management Plan (2016) developed by KPMG
Quality of Capital Investment Estimate	**D**	• Quality will improve with additional datasets. • Estimate is based on data from past purchasing records • A risk-based prioritization framework will improve the quality of financial estimate

Municipal Parking

Table 8: Municipal Parking Asset Information		
Performance Indicator	**Current Status**	**Notes**
ALoS Definitions: Phase 2 - Existing ALoS Phase 3 - Target ALoS	**Phase 2: 100% Complete** **Phase 3: Work to being in 2023**	• Existing Asset Level of Service Complete • Legislation drivers include but are not limited to: O. Reg. 413/12: Integrated Accessibility Standards, Accessibility for Ontarians with Disabilities Act (2005)
Data Standards	**90% Complete**	• A municipal parking inspection program has been developed and implemented in 2020 • The risk-based prioritization framework has been developed with the probability and consequence of failure
Data Availability	**95% Complete**	• The 2020 municipal parking inspection program has ensured data is available for the entire municipal parking inventory
Estimated Annual Capital Investment to Maintain Current ALoS	**$195,000**	•Estimated annual capital investment requirement is from the Municipal Parking Asset Management Plan and based over a 60-year period. • The municipal parking requirement in the downtown has been rapidly changing since the asset management plan was prepared. Notably, Council provided the green light for the Junction East to proceed on the Shaughnessy East Lot. Additionally, the rapidly change COVID-19 pandemic had a major impact on municipal parking. Due to these changing circumstances, studies are being performed to determine updated parking need and usage rates for municipal parking in the downtown.
Quality of Capital Investment Estimate	**B**	• Reliable inventory of condition and age data; minimal assumptions for municipal parking assets

Milestones and Next Steps in Asset Management Planning

The City's asset management plans are being prepared by asset class with Phase 1 plans and some Phase 2 plans complete, while other Phase 2 plans are in various stages of development. Table 14 provides a summary of asset management plan status. The table identifies legislated completion dates, completion target date and the status to identify areas of significant progress.

Table 9: Legislated Milestones and Current Status				
AM Plan Core Infrastructure	Division or Section	Legislated Phase 1 Date	Current Status	Completion for Council Approval
Water AM Plan	Infrastructure and Capital Planning Services	July 1, 2022	• The plan was completed in 2018. The Provincial Regulation requires that plans be updated every 5 years. Therefore, the plan is undergoing an update and being bolstered by new data for water and wastewater facilities.	Complete with update underway
Wastewater AM Plan	Infrastructure and Capital Planning Services	July 1, 2022	• The plan was completed in 2018. The Provincial Regulation requires that plans be updated every 5 years. Therefore, the plan is undergoing an update and being bolstered by new data for water and wastewater facilities.	Complete with update underway
Storm Water Management AM Plan	Infrastructure and Capital Planning Services	July 1, 2022	• Included with the SAMP are recommendations that have been accelerated for implementation. Staff have initiated and are diligently working on a sustainable storm water financing study. The purpose of the study is to develop funding models to achieve sustainability. • Council has requested a business case for enhanced catch basin cleaning, which is a recommendation of the SAMP, in advance of the sustainable financing study due to the importance of system maintenance for functionality and environmental protection. • The CCTV inspection program initiated by the SAMP is ongoing.	Complete
Roads and Transportation AM Plan	Infrastructure and Capital Planning Services	July 1, 2022	• The City's pavement management system (PMS) has been upgraded. The PMS analyzes various parameters to allow for 270 treatment zones based on 18 different treatment types. Treatment thresholds for various scenarios and pavement types have been developed by City staff to meet specific needs. Lifecycle analysis forecasts financial need for existing and target level of service options. • A risk framework detailing the probability and consequences of failure is being developed to supplement the decision analysis of the PMS. The quantification of risk will analyze various data sources. • A Sidewalk Condition Index is being prepared and data collection of the entire sidewalk network is underway.	Complete
Bridge and Large Culvert AM Plan	Infrastructure and Capital Planning Services	July 1, 2022	• The 2022 Bridge and Large Culvert Structural Inspection is underway.	Complete

Table No. 9: Legislated Milestones and Current Status (Continued)				
AM Plan	**Division or Section**	**Legislated Phase 2 Date**	**Current Status**	**Completion for Council Approval**
Buildings and Facilities AM Plan	Assets and Fleet Services Leisure Services	July 1, 2024	• Greater Sudbury has developed a data inventory within an asset management and capital planning tool for buildings and facilities. The tool analyzes building condition assessment data to determine and prioritize short and long-term capital investment need. • A risk driven prioritization framework has been prepared specific to the City's building and facility infrastructure needs. The framework quantifies risk calculated within the asset management and capital planning tool from data collected on site. • The building condition assessment project is well underway. • The Buildings and Facilities Asset Management Plan is being developed to also include Infrastructure Technology (IT).	Third Quarter 2023
Housing Operations	Housing Services	July 1, 2024	• The Housing Operations Asset Management Plan is being completed in-conjunction with the Buildings and Facilities Asset Management Plan • The 6 high rise buildings in the housing inventory are scheduled to receive updated building condition assessments.	Third Quarter 2023
Long-Term Care AM Plan	Long-Term Care Services	July 1, 2024	• The Pioneer Manor Asset Management Plan is being completed in-conjunction with the Buildings and Facilities Asset Management Plan.	Third Quarter 2023
Fleet and Equipment AM Plan	Assets and Fleet, Transit, Leisure, Cemetery, Paramedic, Fire Services, and Housing Operations	July 1, 2024	• The plan has been developed in-conjunction with all affected departments.	Complete
Solid Waste (Landfill) AM Plan	Environmental Services	July 1, 2024	• Asset inventory has been developed • A condition framework is being prepared • A risk framework with lifecycle analysis will be prepared	Third Quarter 2023
Municipal Parking AM Plan	Security and By-Law Services	July 1, 2024	• Studies are underway to analyze the changing municipal parking need in the downtown.	Complete
Parks AM Plan	Leisure Services	July 1, 2024	• Asset inventory has been developed • A condition framework is being prepared • A risk framework with lifecycle analysis will be prepared	Third Quarter 2023

Table No. 9: Legislated Milestones and Current Status (Continued)				
AM Plan	**Division or Section**	**Legislated Phase 3 Date**	**Current Status**	**Completion for Council Approval**
All assets in Corporate Asset Management Plan	All departments and sections listed above	July 1, 2025	• To begin following the completion of Phase 1 and Phase 2 asset management plans.	First Quarter 2025

Per legislation, the city will perform an annual review of asset management progress following the implementation of the Phase 3 asset management plan. The review will monitor asset management planning implementation and progress.

The regulation also states that asset management policy and plan updates are to be prepared every 5 years. To ensure internal and external transparency, policies and plans have or will be posted to the City's website and shared with ministries or any persons as requested.

Conclusion

This report provides information on the current state of asset management and the steps staff are taking to implement an enterprise-wide approach to evolving the asset management planning.

The timeline for development and implementation of the City's asset management program has been outlined by the Province under the *Ontario Regulation 588/17*. The success of the City's asset management program relies on the collaboration of all City departments. Staff within Corporate Services are working with individual departments to ensure Greater Sudbury meets and achieves the steps and milestones as outlined.

Asset management continues to provide the city with a framework for consistent, calculated, reliable and transparent decision making. Staff will continue to update Council regularly on the status of the City's asset management planning.

Legislative References

Ministry of Infrastructure Ontario (2011) Building Together – Guide for municipal asset management plans. (Online: https://www.ontario.ca/page/building-together-guide-municipal-asset-management-plans). Queen's Printer for Ontario 2012.

Infrastructure for Jobs and Prosperity Act, 2015. (Online: https://www.ontario.ca/laws/statute/15i15). Queen's Printer for Ontario 2015.

Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure. (Online: https://www.ontario.ca/laws/regulation/r17588). Queen's Printer for Ontario 2018.

Appendix A: Data Quality Rating and Infrastructure Report Cards

Table 10: Quality of Asset Datasets	
Data Quality Rating	**Description**
A	• No Assumptions with condition and age data • Reliable data inventory and source • Examples: Closed Circuit Television Inspection, Building Condition Assessment, Pavement Condition Assessment, Bridge Condition Assessment, Structural Report
B	• Dataset contains less than 10% assumptions • Moderately reliable data inventory and source • Example: aging condition data or studies
C	• Data contains greater than 10% assumptions • Moderately reliable data inventory and source • Example: aging condition data or studies
D	• Data from unreliable or out of date documents • Many assumptions of condition, age, and replacement values • Example: purchasing records, condition data or studies older than 5 years
E	• Moderately reliable data for age or value, but not both • Only 1 moderately reliable data source
F	• No data available

C Roads

Fair Condition
(49.8 out of 100)

A well-maintained transportation system promotes economic vitality and a positive image. Investing in a measurable approach in the maintenance of road infrastructure will ensure the continued economic and social vitality of the city.
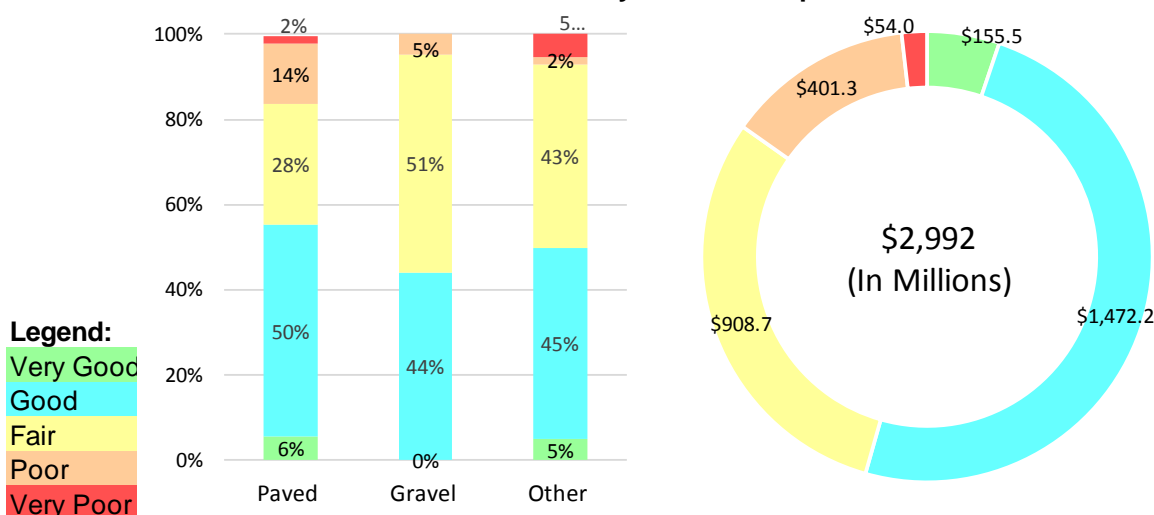
The City of Greater Sudbury road network strives for complete streets that accommodate multimodal transportations.

The City's road network transports people and goods safely and quickly. Roads are maintained to ensure safe and smooth transportation. One of the challenges facing the City is the need to balance competing needs between expanding the transportation network within the City's large geographic area and meeting the needs of existing and aging assets.

Overall, the assets in the road network are in **FAIR** condition.

Inventory: The City owns and operates a road network of 3,592 km of varying road classifications; namely arterial, collector and local. Other road inventory includes 441 km of sidewalk, 3,601 street light poles and 14,916 street light fixtures.

Condition of Inventory and Total Replacement Value

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Note: PCI averages include asphalt and surface treated roads.

$2,992
(In Millions)

$54.0 $155.5
$401.3
$908.7
$1,472.2

Paved: 2%, 14%, 28%, 50%, 6%
Gravel: 5%, 51%, 44%, 0%
Other: 5..., 2%, 43%, 45%, 5%

Road Network Pavement Condition Index and Investment Scenarios

- $35M/Yr Current
- $65M/Yr Decrease PCI
- $80M/Yr Maintain PCI
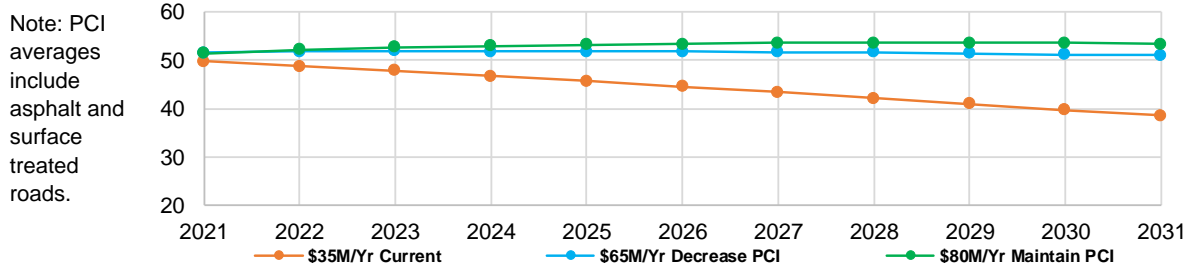
Expenditure	
Historical Investment (5 Year Average)	$35,000,000
Capital Funding Gap to Maintain PCI	$45,000,000

The funding gap is the unfunded value of infrastructure renewal needs that require attention as of the current year.

Infrastructure Need	
Average Annual Reinvestment Need	$80,000,000
Summer Maintenance Infrastructure Need	$22,800,000

Data Confidence Rating	
C	Please refer to confidence rating provided in Methodology.

Roads and Transportation Network

Current Asset Level of Service
How is our infrastructure performing?

Current Performance

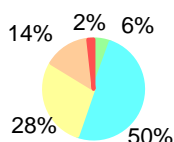| Plow Class 1 to 3 roads within	Plow Class 4 to 6 roads within	Clear snow from 80% of sidewalks within	Regulatory sign replacement
8 Hours	**24** Hours	**24** Hours	**5%** Annually

Remove winter sand within	Pothole repair meets min. maint. standards	Curb and sidewalk replacement	Road crossing culvert replacement
9 Weeks	**100%**	**2.5%** Annually	**3%** Annually

Condition by Asset Class Replacement Value

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Paved Road: 14%, 2%, 6%, 28%, 50%

Gravel Road: 5%, 44%, 51%, 5%

Street Light Pole: 39%, 13%, 20%, 15%, 13%
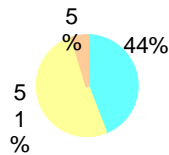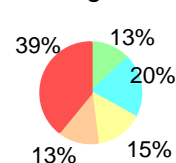
Street Light Fixture: 28%, 72%
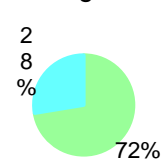
Street Lights Owned

Poles	Street Light Fixtures
3601	**14916**

The remainder of poles are owned by utilities.

Expected Service Life (Examples)

Paved Road	Gravel Road	LED Light Fixture	Concrete Light Pole
60 Years	75 Years	100,000 Hours	60 Years
Aluminum Light Pole	Annodized Al Light Pole	Steel Light Pole	Treated Wood Pole
20 Years	25 Years	10 Years	40 Years

Community Energy and Emission Plan (CEEP) Applicable Goals

Goal 8: Achieve 35% active mobility transporation mode share by 2050.

Current Performance

Sidewalk (km)	Bike Lane (lane km)	Bike Lane Multi-Use Path (lane km)
441	**32**	**4**

Cycle Tracks (lane km)	Street Light Fixtures Retrofitted to LED
10	**14916** (100% of Inventory)

All street lights operate on photocell technology to ensure optimal usage during dark hours only.

B+

Good Condition
(77 out of 100)

Bridges and Large Culverts

The bridge and large culvert inventory supports the transportation and road network as well as storm water management. The inventory provides safe passage to vehicles, cyclists, and pedestrians.
Each structure is inspected every two years as mandated by the Province of Ontario.

Any bridge or large culvert in the poor category is a high priority for reconstruction and/or renewal.
Overall, bridge and large culvert are in **GOOD** condition.

Inventory: The City owns 185 structures; 95 bridges and 98 large culverts. With some exceptions, a large culvert is generally characterized as a culvert with a span greater than 3 meters.

Condition and Total Replacement Value

Legend:
- Good
- Fair
- Poor

Quantity Percentage

	Bridges	Large Culverts
Poor	0%	4%
Fair	22%	26%
Good	78%	69%

$536
(In Millions)

- $6.9
- $116.8
- $411.8
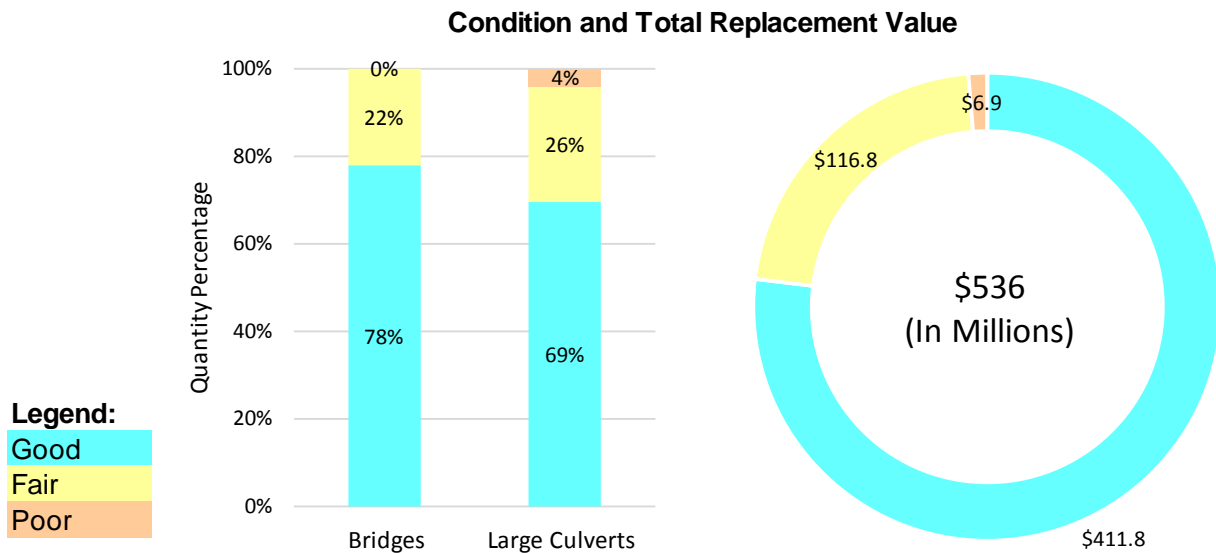
Bridge Condition Index and Quantity of Bridge and Culvert Inventory

- ≥70 (Good)
- 60 < 70 (Fair)
- ≤60 (Poor)

Bridge: 0, 20, 70

Culvert: 4, 25, 66
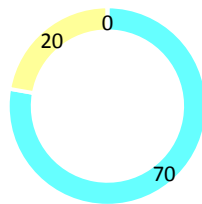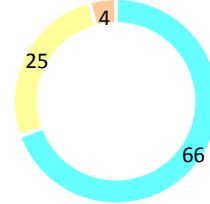
Expenditure	
Historical Investment (5 Year Average)	$7,500,000
Capital Funding Gap	$0

The funding gap is the unfunded value of infrastructure renewal needs that require attention as of the current year.

Infrastructure Need	
Average Annual Reinvestment Need	$6,900,000
Annual Maintenance Infrastructure Need	$536,000

Data Confidence Rating	
A	Please refer to confidence rating provided in Methodology.

Bridges and Large Culverts

Current Asset Level of Service
How is our infrastructure performing?

Current Performance

Percentage of bridges with a BCI greater than or equal to 70   **78%**

Percentage of large culverts with a BCI greater than or equal to 70   **69%**

MTO Goal is to maintain **at least 80%** of structures with a BCI greater than or equal to 70

Structure Data

Structures with load restrictions	Structures with 1-lane dimensional restrictions	Structures with height restrictions*	Single Span structures
2 Each to be replaced in 2022	**13** Dimensions are not inadequate	**2** CPR Subway and Brady Underpass	**130**

Multi-span structures	Average age of structures	Average age of bridges	Average age of large culverts
55	**31.4** Years	**42.8** Years	**25.4** Years

* The height of the CPR Subway on College Street is 3.8 m and the MTO height restriction on trucks is 4.15 m. The height of the Brady Street Underpass is 4.4 m; greater than the height restriction placed on trucks.

Structure Area in m^2

Largest Structure	Average Area	Total Area	Area rate of renewal
2381	**234**	**43219**	**0.83%**

The recommended area rate of renewal is 1.0%.

Community Energy and Emission Plan (CEEP) Applicable Goals
Goal 8: Achieve 35% active mobility transporation mode share by 2050.

Current Performance

Pedestrian Bridges	Pedestrian Culverts (Underpass)
23	**5**

B- Water Treatment and Distribution

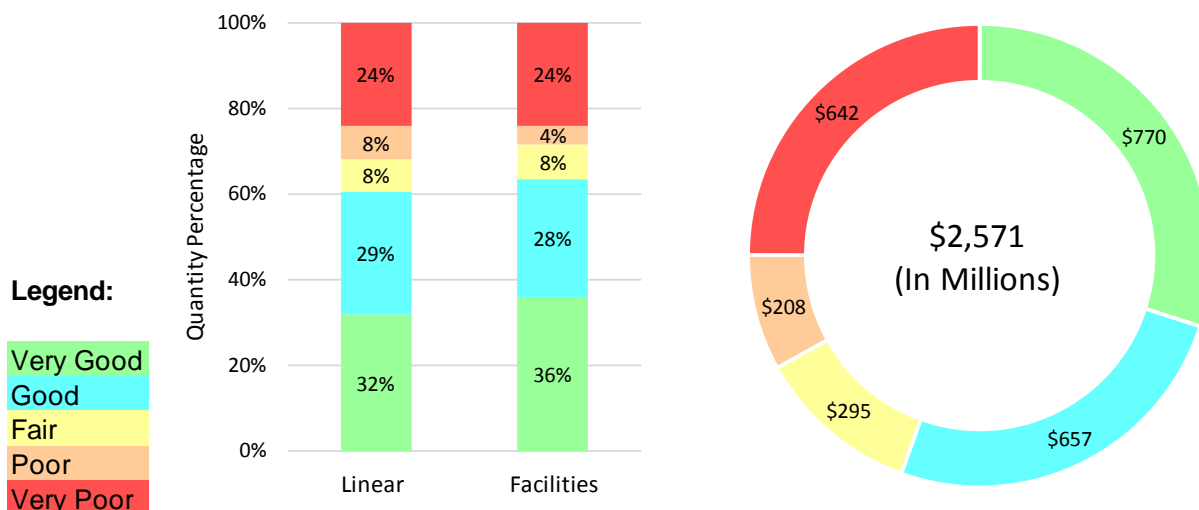**Fair to Good Condition**
(2.6 out of 5)

Water treatment and distribution encompasses all aspects of supply, treatment, and distribution of water from the source to a community tap.
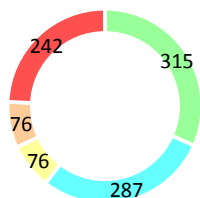The City owns and operates the infrastructure to support six water supply systems.

The water treatment and distribution infrastructure condition is based on a desktop study of infrastructure age and service life consumption. Overall, water treatment and distribution infrastructure is in **Fair to GOOD** condition. A new program of condition assessment is underway to determine the exact condition of the assets.

Inventory: The linear water infrastructure inventory consists of approximately 997km of water mains and appurtenances, including: 533 km of service connections, 8,950 system valves, 90 control valves, 5,699 hydrants, 6 meter stations, 2,792 valve chambers and 47,940 water meters.
The vertical water infrastructure inventory consists of 57 water facilities including: 26 distribution facilities, 9 storage facilities, 2 treatment facilities and 20 water well facilities.

Condition and Total Replacement Value

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Condition and Total Replacement Value chart:

Linear: Very Good 32%, Good 29%, Fair 8%, Poor 8%, Very Poor 24%
Facilities: Very Good 36%, Good 28%, Fair 8%, Poor 4%, Very Poor 24%

Donut: $2,571 (In Millions) — $770, $657, $295, $208, $642

Linear Condition and Quantity

315, 287, 76, 76, 242

- <30%
- 30 to <50%
- 50 to <75%
- 75 to 95%
- >95%

Facility Condition and Value

$70, $54, $15, $9, $47
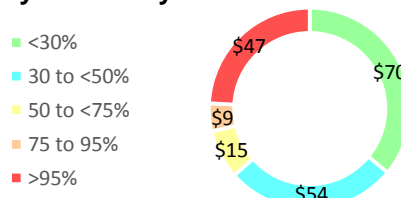
Expenditure includes Wastewater	
Historical Investment (5 Year Average)	$41,900,000
Capital Funding Gap	$54,100,000

Infrastructure Need	
Average Annual Reinvestment Need	$96,000,000
Annual Maintenance Infrastructure Need	$3,000,000

Average annual reinvestment includes existing asset renewal and asset renewal driven by the W/WW Masterplan. Development projects with separate funding sources are not included.
The Water and Wastewater Long-Range Financial Plan dated April 2019, defines the Council supported path to sustainability that is summarized in Section 2.7 of this plan.

Data Confidence Rating	
B & D (Linear & Facilities)	Confidence rating provided in Methodology.

Water Treatment and Distribution

Current Asset Level of Service
How is our infrastructure performing?

Current Performance

Taste, odour, or colour complaints	Cleaning and swabbing small dia. watermains	Water main breaks	Valves inspected and operated
370 / Year	**10%** of network /Year	**72** / Year	**5410** / Year

Length of watermain tested for leakage	Ministry of Environment, Conservation and Parks	Quantity of water service repairs	Volume of water treated and supplied
99.25 km	**99.1%** Inpection Score	**94** / Year	**19,744,331** m³

Condition by Asset Class

Legend:	Watermain Material	Condition Rating	Grade	Facility Type	Condition Rating	Grade
Very Good						
Good	PVC	1.5	A	Water Well	2.6	B
Fair	Concrete	2.3	B+	Small Water System	1.4	A
Poor	HDPE	1.1	A+	Booster Station	2.6	B
Very Poor	Cured in Place	2	B+	Storage Facility	2.5	B
	Steel	1.4	A	Treatment Plant	3	C+
	Galvanized Pipe	4.7	D-	Small Treat Plant	2	B+
	Copper	4.4	D	Pump Station	1.4	A
	Cast Iron	4.2	D+	Pressure Control	1.1	A+
	PE	4.4	D			
	AC Cement	3.7	C			

Expected Service Life (Examples)

PVC Watermain 105 Years	Cast Iron Watermain 60 Years	Concrete Watermain 95 Years	HDPE Watermain 80 Years
Hydrants 60 Years	Maint. Hole & Chamber 70 Years	System Valve 40 Years	Service Connection 60 Years

Community Energy and Emission Plan (CEEP) Applicable Goals

Goal 5: Decrease energy usage in the potable water treatment and distribution system by up to 60% by 2050.

Current Performance

- Detailled energy studies have been completed for water treatment facilities and implementation of the recommendations are in progress. Recommendations include upgrades to energy consuming equipment. Efficiency has always been a top selection criteria for equipment. However, in many cases, equipment must also be sized up to accommodate required capacity.
- Implementation of 6 mobile district metered area sites to support water loss management.
- A water leak detection project is underway in the subdivision of Moonglo.
- A water efficiency strategy is under development for Greater Sudbury.
- A water transients project is underway to monitor for expected pressure within water systems.

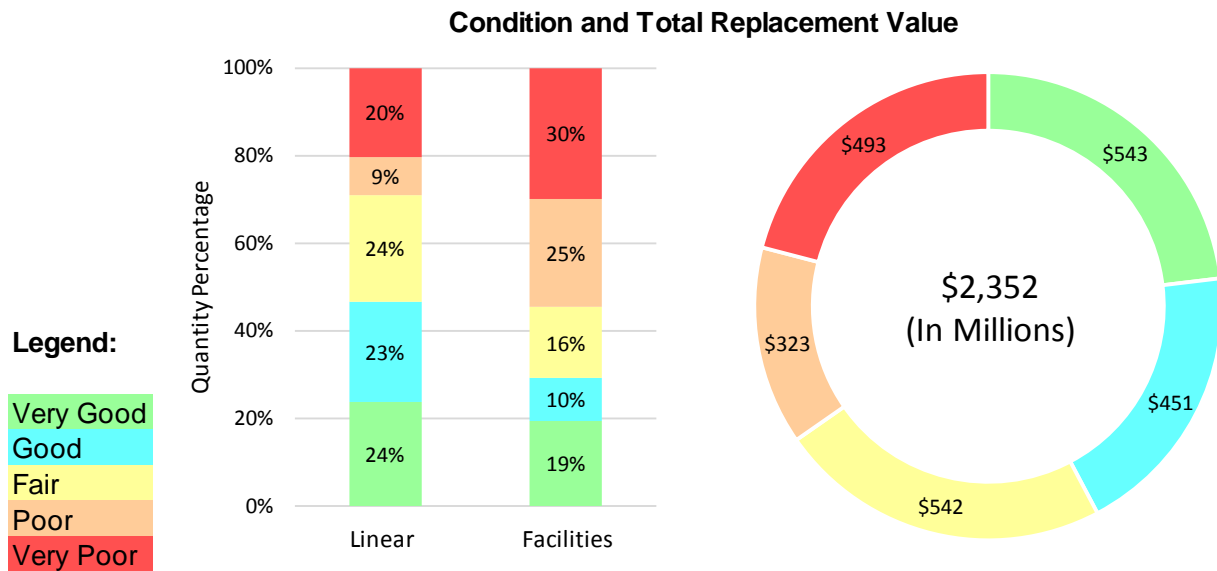| Energy Consumption: (Plants, Tanks, Wells, and Booster Stations)	Electricity (kWh)	Natural Gas (m³)
	10,280,000	**71,800**

B- Wastewater Collection and Treatment

Fair to Good Condition
(2.9 out of 5)

Wastewater collection refers to the infrastructure that conveys sewage from collection points to the sewage treatment plants.

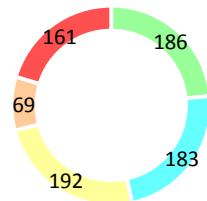The City owns and operates the infrastructure to support thirteen wastewater collection systems.

The wastewater collection and treatment infrastructure condition is based on a desktop study of infrastructure age and service life consumption. Overall, wastewater collection and treatment infrastructure is in **Fair to GOOD** condition. A new program of condition assessment is underway to determine the exact condition of the assets.

Inventory: The linear wastewater infrastructure inventory consists of approximately 791 km of wastewater mains, 381 km of lateral connections, 70 control valves, 21 drop shafts and 11,726 maintenance holes.

The vertical wastewater infrastructure inventory consists of 83 wastewater facilities including: 69 collection facilities and 14 treatment facilities.

Condition and Total Replacement Value

Legend:

Very Good	(green)
Good	(cyan)
Fair	(yellow)
Poor	(orange)
Very Poor	(red)

Linear: 24% (Very Good), 23% (Good), 24% (Fair), 9% (Poor), 20% (Very Poor)
Facilities: 19% (Very Good), 10% (Good), 16% (Fair), 25% (Poor), 30% (Very Poor)

Donut: $543, $451, $542, $323, $493 — $2,352 (In Millions)

Linear Condition and Quantity

186, 183, 192, 69, 161

Facility Condition and Value

$139, $70, $115, $177, $215

Legend:
- <30%
- 30 to <50%
- 50 to <75%
- 75 to 95%
- >95%

Expenditure	
Historical Investment (5 Year Average)	Included with Water
Capital Funding Gap	Included with Water

The funding gap is the unfunded value of infrastructure renewal needs that require attention as of the current year.

Infrastructure Need	
Average Annual Reinvestment Need	Included with Water
Annual Maintenance Infrastructure Need	$1,700,000

Data Confidence Rating	
B & D (Linear & Facilities)	Confidence rating provided in Methodology.

Wastewater Collection and Treatment

Current Asset Level of Service
How is our infrastructure performing?

Current Performance

Number of City-side sewer backups **138** / Year	Gravity Sewer blockage resulting in a back up **7.1** /100 km / Year	Volume of wastewater treated **30,570,484** m³	Number of sewage bypass events **12** / Year
Total number of reported overflows **7** / Year	Quantity of maintenance hole (MH) inspections **1188** / Year	Flushing and cleaning program **27%** of network	Quantity of MH structure rehab **69** / Year

Condition by Asset Class

Legend:	Sanitary Sewer Material	Condition Rating	Grade	Facility Type	Condition Rating	Grade
Very Good	PVC	1.7	A-	Lift Stations	3.3	C+
Good	Concrete	2.3	B+	Wastewater Treatment Lagoons	4.8	D-
Fair	HDPE	1	A+			
Poor	Steel	3.3	C+	Wastewater Treatment Plants	3.9	C-
Very Poor	Cast Iron	3.7	C-			
	Polyethylene	1.2	A+			
	AC Cement	3.5	C			
	Vitrified Clay	3.8	C-			
	Ductile Iron	1.5	A			

Expected Service Life (Examples)

PVC Sewer 105 Years	AC Cement Sewer 55 Years	Concrete Sewer 90 Years	Cast Iron Sewer 60 Years
HDPE Sewer 80 Years	Steel Sewer 60 Years	Maintenance Hole 70 Years	Service Connection 60 Years

Community Energy and Emission Plan (CEEP) Applicable Goals

Goal 6: Achieve 90% solid waste diversion by 2050. An organics and biosolids anaerobic digestion facility is operational by 2030.

Current Performance

- Detailled energy studies have been completed for wastewater treatment facilities and implementation of the recommendations are in progress. Recommendations include upgrades to energy consuming equipment. Efficiency has always been a top selection criteria for equipment. However, in many cases, equipment must also be sized up to accommodate required capacity.
- I&I (Inflow and Infiltration) projects underway for Lively, Chelmsford, Azilda, and Flour Mill
- New subsidy created to disconnect storm water connections from sanitary sewers

Energy Consumption: (Plants and Lift Stations)	Electricity (kWh) **14,170,000**	Natural Gas (m³) **295,600**

B Stormwater Management

Good Condition
(2.5 out of 5)

Stormwater Management is comprised of two main asset types: land drainage and stormwater management.
Land drainage infrastructure includes stormwater collection and conveyance assets such as ditches, municipal drains, catch basins, manholes and gravity mains.
Stormwater management infrastructure includes ponds and oil and grit seperators to protect people, property and the environment.
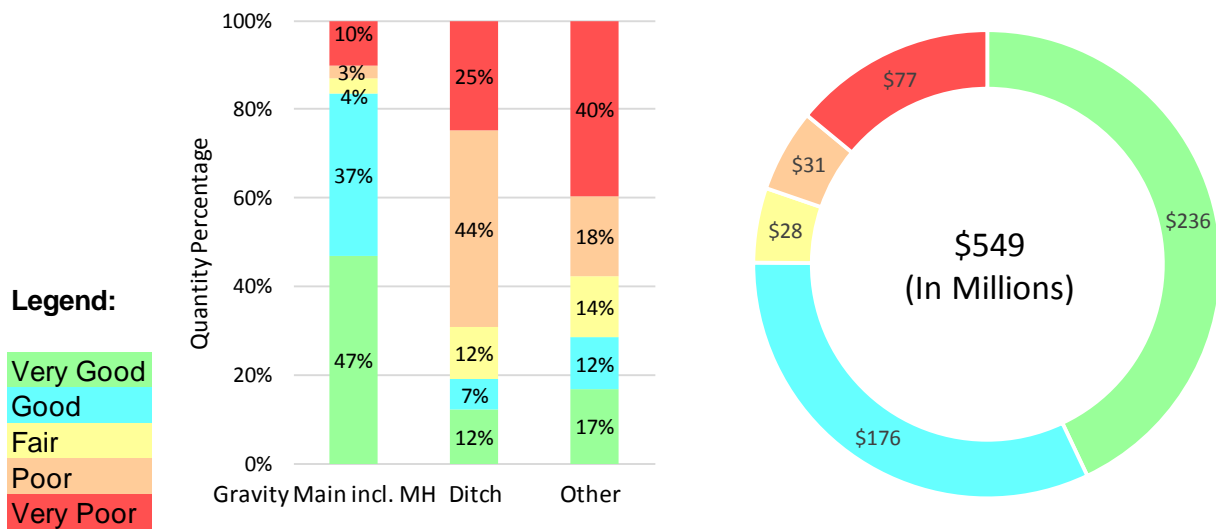
The City's geographic area ensures that the City must maintain a large stormwater management system.
Overall, stormwater management infrastructure is in **GOOD** condition.
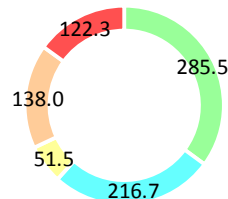The stormwater system is relatively new and this is reflected in the condition. However, investment including additional maintenance is required to ensure the system continues to serve the community.

Inventory: The Stormwater Management System includes 537 km of stormwater gravity mains, 277 km of ditches (urban), 8,600 maintenance holes, 8,744 catch basins, 15 ponds and 24 oil and grit separators.

Condition and Total Replacement Value

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Gravity Main incl. MH / Ditch / Other

$549 (In Millions): $236, $176, $28, $31, $77

Linear Condition and Quantity (km)

285.5, 216.7, 51.5, 138.0, 122.3

All Other Condition and Quantity (ea.)

2,518, 1,716, 2,087, 2,677, 5,908

- <30%
- 30 to <50%
- 50 to <75%
- 75 to 95%
- >95%
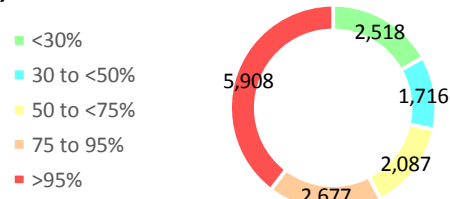
Expenditure	
Historical Investment (5 Year Average)	$2,500,000
Capital Funding Gap	$1,600,000

The historical investment for Stormwater Management is contained within the Roads budget. The Drainage items in the Capital Budget are studies and new infrastructure.

Infrastructure Need	
Average Annual Reinvestment Need	$4,100,000
Annual Maintenance Infrastructure Need	$6,400,000

Data Confidence Rating	
C	Please refer to confidence rating provided in Methodology.

Stormwater Management

Current Asset Level of Service
How is our infrastructure performing?

Current Performance

Annual culvert cleaning **4%** of inventory	Annual catch basin & manhole cleaning **20%** of combined inventory	Annual inspection & cleaning of OGS **100%** of OGS inventory	Spring cleanup street sweeping **100%** Annually
Spring cleanup sidewalk sweeping **100%** Annually	Storm sewer flushing and CCTV inspection **1%** Annually	Roadside ditching urban **4%** Annually	Roadside ditching rural **4%** Annually

Condition by Asset Class

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Storm Sewer & MH
3% 10%
3%
47%
37%

Catch Basins
18%
38%
13%
18%
13%

Ponds
27% 13%
60%

Ditches
12%
25%
7%
12%
44%

Oil and Grit Separators (OGS)
100%
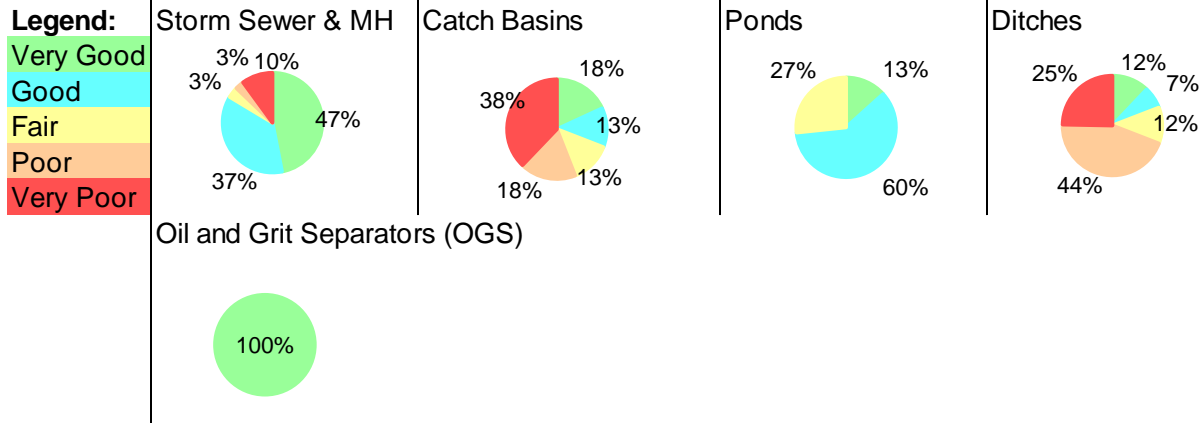
Expected Conservative Service Life (Examples)

HDPE Storm Sewer 80 Years	CSP Storm Sewer 30 Years	Concrete Sewer 90 Years	AC Sewer 55 Years
Catch Basin 70 Years	Oil and Grit Separators 50 Years	Maintenance Hole 70 Years	Ponds 25 Years

Community Energy and Emission Plan (CEEP) Applicable Goals

Goal 8: Achieve 35% active mobility transporation mode share by 2050.

Current Performance

Spring Cleanup

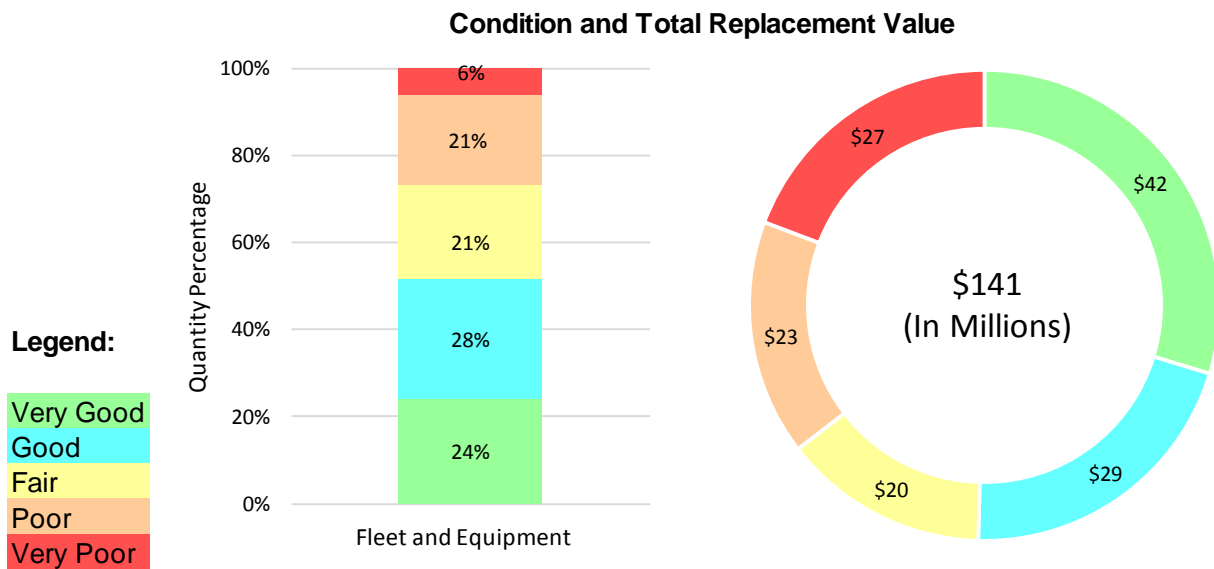| Street Bike Lane Sweeping	Sidewalk Sweeping
100%	**100%**

B- Fleet and Equipment

Good Condition
(60 out of 100)

Fleet and equipment includes assets that support services such as: employee transportation; the GOVA transit system; parks and recreation facility management; emergency services; and municipal road, sewer and water maintenance.
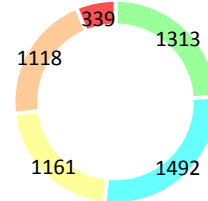
Furthermore, fleet and equipment includes: fuel and oil supply and fill station infrastructure. Overall, Fleet and Equipment infrastructure is in **GOOD** condition.

Inventory: The City owns a fleet of 570 vehicles, 4,738 pieces of equipment and 115 bus shelters.
The inventory includes: heavy, medium and light duty vehicles, ambulances, fire trucks, GOVA bus, heavy equipment, municipal tractors and light diesel equipment, paramedic equipment, fire equipment, bus stop shelters, park maintenance equipment and various operating equipment

Condition and Total Replacement Value

Fleet and Equipment (Quantity Percentage):
- Very Poor: 6%
- Poor: 21%
- Fair: 21%
- Good: 28%
- Very Good: 24%

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Total Replacement Value: **$141 (In Millions)**
- $42
- $29
- $20
- $23
- $27

Condition and Quantity

- 80 to 100
- 60 to 79
- 40 to 59
- 20 to 39
- 0 to 19

- 1313
- 1492
- 1161
- 1118
- 339

Expenditure	
Historical Investment (5 Year Average)	$8,000,000
Capital Funding Gap	$2,600,000

The funding gap is the unfunded value of infrastructure renewal needs that require attention as of the current year.

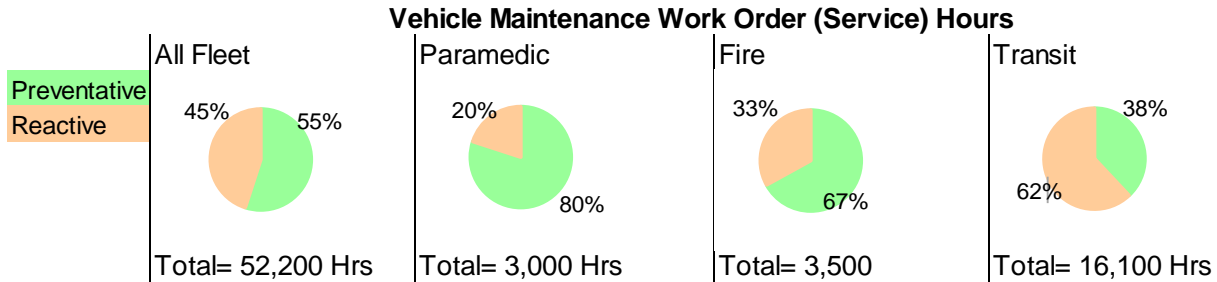| Infrastructure Need	
Average Annual Reinvestment Need	$10,600,000
Annual Maintenance Infrastructure Need	$12,700,000

Data Confidence Rating	
B	Please refer to confidence rating provided in Methodology.

Fleet and Equipment

Current Asset Level of Service
How is our infrastructure performing?

Vehicle Maintenance Work Order (Service) Hours

All Fleet	Paramedic	Fire	Transit
Preventative (green) / Reactive (orange)			
45% / 55%	20% / 80%	33% / 67%	38% / 62%
Total= 52,200 Hrs	Total= 3,000 Hrs	Total= 3,500	Total= 16,100 Hrs

Total Annual Mileage

All Fleet	Paramedic	Fire	Transit
≈11,700,000 kms	≈1,400,000 kms	≈1,300,000 kms	≈3,700,000 kms

Average Annual Engine Hours

Municipal Tractors and Light Diesel	Heavy Equipment
381 Hours	621 Hours

Expected Service Life (Examples)

Light Duty Vehicle	Medium Duty Vehicle	Snowplow	Solid Waste Packer
10 Years	10 years	10 Years	10 Years
Ambulance	Fire Truck	Transit Bus	Transit Shelter
7 Years	20 years	15 Years	15 Years
Municipal Tractor	Heavy Equipment	Difibrillators	Power Stretcher
12 Years	15 years	7 Years	6 Years
Structural Hose	Fire Bunker Gear	Zero-Turn Mower	Ice Edger
20 Years	10 Years	15 Years	20 Years

Community Energy and Emission Plan (CEEP) Applicable Goals

Goal 7: Enhance Transit Service to increase transit mode share to 25% by 2050
Goal 9: Electrify 100% of transit and City fleet (vehicles) by 2035

Current Performance

# of Hybrid Vehicles	# of Electric Vehicles	Electric Vehicle Penetration-Light Duty
31	**11**	**5%**

GOVA Ridership	GOVA Service Hours	Fuel Consumption (litres/year)
4,605,502	**>181k/yr**	**4,570,000**
(Pre-COVID)		

As mandated within the CEEP, Greater Sudbury will begin to electrify its fleet in the coming years.
Electric vehicle charging stations will be installed as required as part of the fleet electrification.
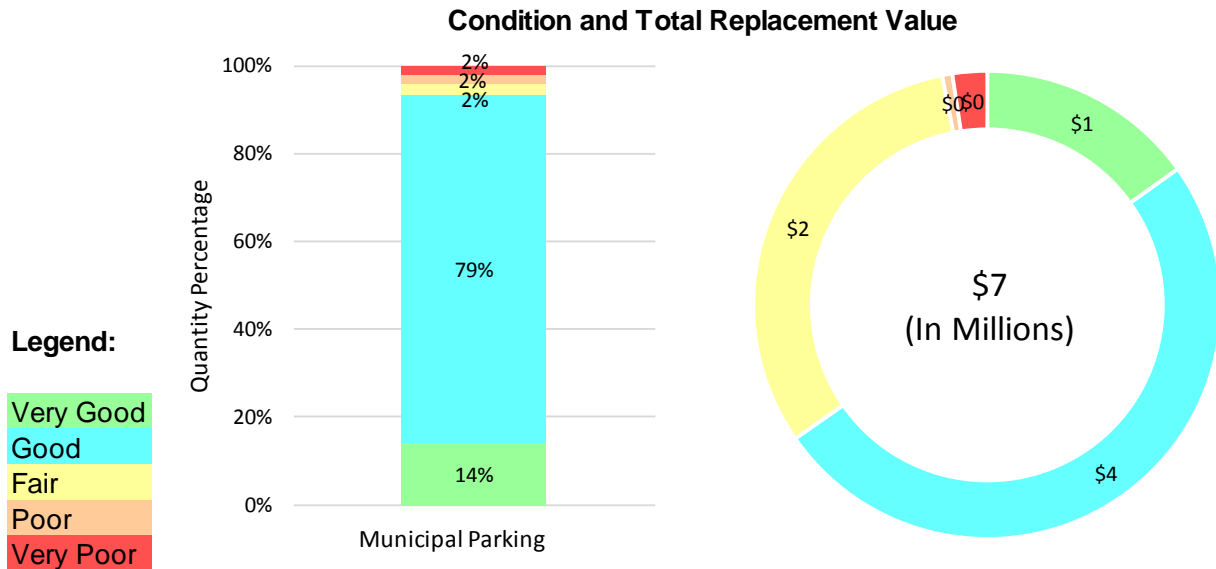
B Municipal Parking

Good Condition
(67 out of 100)

The City of Greater Sudbury recognizes the need to ensure that downtown land uses remain supported by an effective transporation infrastructure network. The Downtown Master Plan anticipates that the planned intensification of the downtown will be supported through incremental investments in active transportation infrastructure and parking.
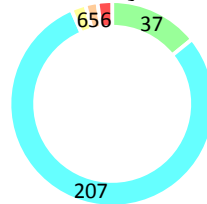
The downtown parking system provides two types of parking opportunities, permit and pay parking. Permit parking allows users to purchase monthly passes, while pay parking allows users to purchase parking time on demand on an hourly or shorter period. Overall, the municipal parking infrastructure is in **GOOD** condition.

Inventory: The City owns 13 municipal parking lots. Of the 13 municipal parking lots, 10 are paved and 3 are gravel. Other parking inventory includes: 230 meters, pay machines, kiosks and ticketing equipment, light standards and signs.

Condition and Total Replacement Value

Legend:

Very Good
Good
Fair
Poor
Very Poor

Municipal Parking:
- 2% (Very Poor)
- 2% (Poor)
- 2% (Fair)
- 79% (Good)
- 14% (Very Good)

Total Replacement Value: $7 (In Millions)
- $1
- $4
- $2
- $0 $0

Condition and Quantity

- 80 to 100
- 60 to 79
- 40 to 59
- 20 to 39
- 0 to 19

Quantities: 37, 656, 207

Expenditure	
Historical Investment (5 Year Average)	$107,000
Capital Funding Gap	$0

The average annual reinvestment need is elevated when compared to the 5-year historical investment. However, existing parking revenue will permit additonal expenditure as required.

Infrastructure Need	
Average Annual Reinvestment Need	$195,000
Annual Maintenance Infrastructure Need	$110,000

Data Confidence Rating	
B	Please refer to confidence rating provided in Methodology.

Municipal Parking

Current Asset Level of Service
How is our infrastructure performing?

Current Performance

Quantity of on-street spaces	Quantity of spaces in municipal lots	Quantity of Lots with illumination	Average hourly rate for on-street parking
438 Spaces	**1769** Spaces	**9** Lots	**$1.30** /hour (2019)
Parking tickets per 100k population	Parking revenue per space managed (2019)	Operating Cost per space managed	Revenue to cost ratio for spaces managed
10949 /100k (2019)	**$1,238.27**	**$657** /space (2019)	**1.88** (2019)

Expected Service Life (Examples)

Paved Lot 60 Years	Gravel Lot 60 Years	LED Light Fixture 100,000 Hours	Light Pole 40 Years
Parking Meters 20 Years	Parking Ticket System 5 Years	Pay Machines 10 Years	Light pole ESL will be monitored. Lot poles are not exposed to the same quantity of salts as as on-street light poles.

Community Energy and Emission Plan (CEEP) Applicable Goals

Goal 8: Achieve 35% active mobility transporation mode share by 2050.

Current Performance

- All municipal parking lots and spaces are located in or around the downtown core.
- Parking in the municipal lots on the downtown perimeter are lower cost than parking within the downtown core. All parking lots are connected to the downtown by sidewalk promoting walking into the downtown area.
- Solar Panels are installed with all new pay-by-plate technology.
- All new or retrofitted lighting fixtures receive LED lights and photocell technology to ensure optimal usage during dark hours only.

C+ Bldgs. & Facilities

Fair Condition
(12.5 out of 100)

A well-maintained building and facility portfolio promotes economic vitality and a positive image. Investing in a measurable approach in the preventative maintenance of building(s) will ensure the continued economic and social vitality of the city.
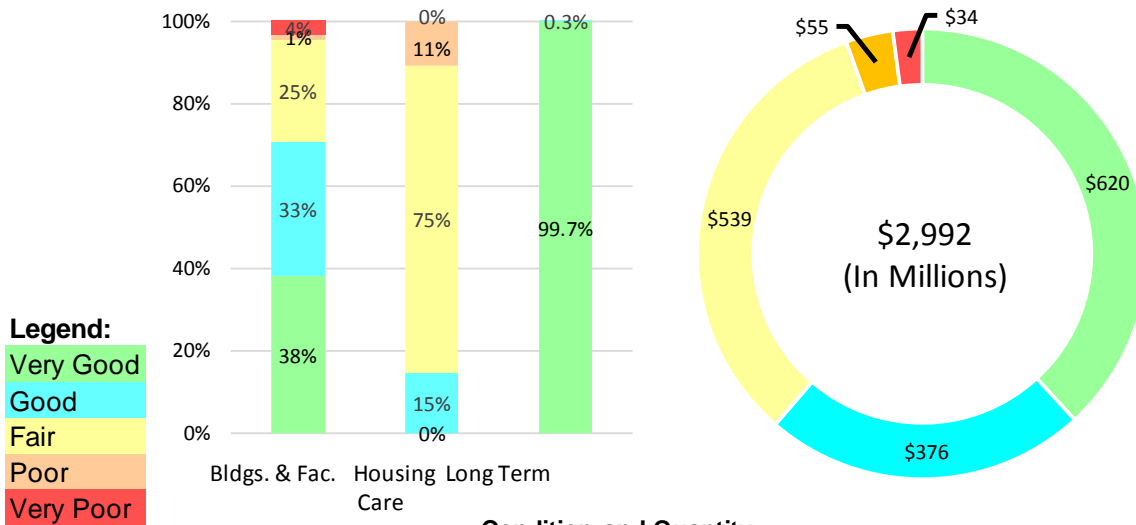The City of Greater Sudbury strives for complete preventative work schedules to ensure that the assets are kept in a state of good repair.
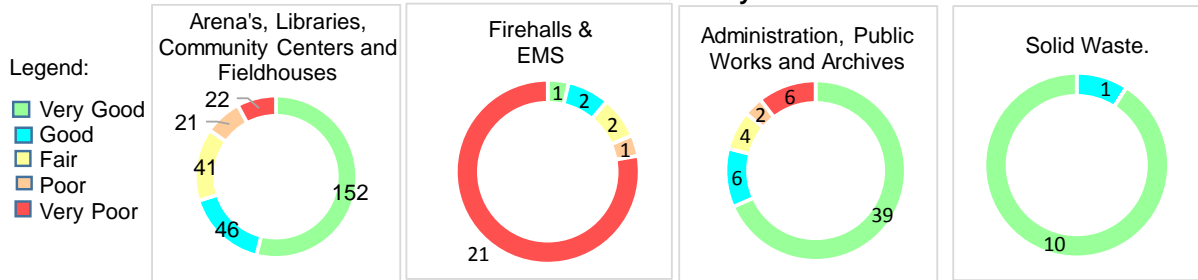
The City's building and Facility portfolio's main purpose is to provide safe and reliable spaces for the services that the community expects and to provide safe, expected levels of service, and are maintained to ensure safe and optimal use. Overall, the assets in the Buildings and Facilities portfolio are in **FAIR** condition.

Inventory:
The City of Greater Sudbury owns a building inventory consisting of 399 buildings and facilities and 237 residential housing facilities, that equates to over 5,000,000 square feet. The building inventory is managed across several areas including Assets and Fleet Services, Cemetery Services, Emergency Services, Environmental Services Solid Waste, Leisure Services, Library and Heritage Services, Long-Term Care as well as Sudbury Housing Operations.

Condition of Inventory and Total Replacement Value

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Condition and Quantity

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Expenditure	
Historical Investment (5 Year Average)	$10,048,682
Capital Funding Gap to Maintain PCI	In Progress

The funding gap is the unfunded value of infrastructure renewal needs that require attention as of the current year.

Infrastructure Need	
Average Annual Reinvestment Need	In Progress
Summer Maintenance Infrastructure Need	In Progress

Data Confidence Rating	
C	Please refer to confidence rating provided in Methodology.

Building and Facilities Network

Current Asset Level of Service
How is our infrastructure performing?

Building Size/Footprint (sq.ft)

	Buildings & Facilities	Housing Operations	Long Term Care	Total
In Millions	**3.14**	**1.66**	**0.323**	**5.13**

Building Inventory

	Buildings & Facilities	Housing Operations	Long Term Care	Total
	399	**237**	**9**	**645**

Buidling Condition Assessments

percentage of assets with completed Condition Assessments	BCA Intervals
80%	**5 years**

Community Energy and Emission Plan (CEEP) Applicable Goals

Goal 2: Periodically increase the energy efficiency of new buildings until all new buildings in 2030 onward are Passive House energy efficiciency compliant.

Goal 3: The existing building stock is retrofit for 50% increased energy efficiency by 2040 and large buildings are routinely commissioned

Goal 4: Achieve net-zero emissions in City buildings by 2040

Goal 14: Install net-metered solar photovoltaic (PV) systems on 90% of new buildings and 80% of existing buildings, supplying 50% of their electric load

Current Performance

Notable climate efforts in Greater Sudbury include:

- A 5 MW district energy cogeneration system was installed, jointly by the City, providing heating, cooling and electricity to some downtown buildings.
- approx. 500 kilowatt of solar rooftop projects were installed on City buildings
- All new roof replacement/refurbishments do so with increase R-values to provide energy efficient heating and cooling
- All new or retrofitted lighting fixtures receive LED lights, when and where possible
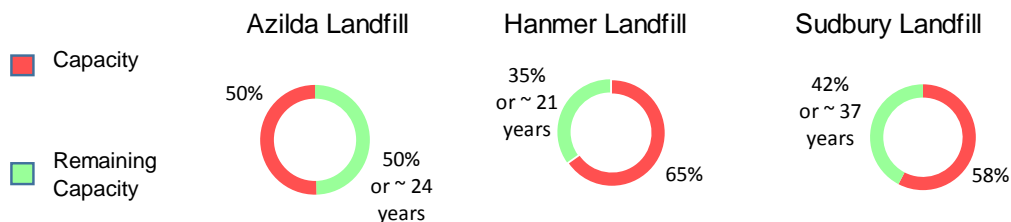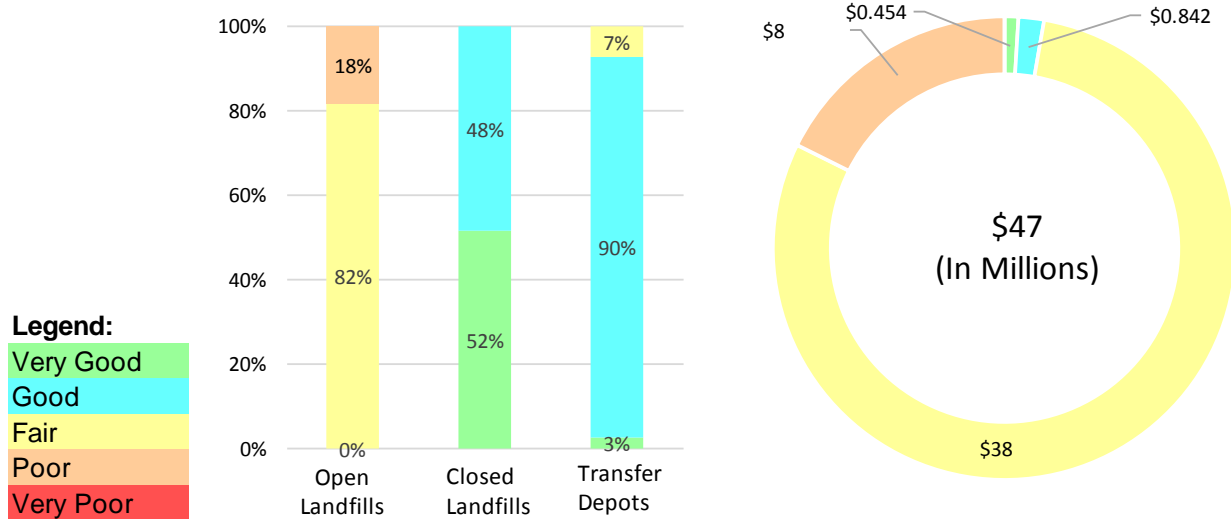
B

Good Condition

(64 out of 100)

Solid Waste

The City of Greater Sudbury's primary goal for solid waste management/environmental services is reducing and eliminating adverse impacts of waste materials on human health and the environment to support economic development and superior quality of life. Environmental services are responsible for three areas: Collection and recycling, Waste processing and disposal, and solid waste support services.

Environmental Services Division is committed to implementing projects, programs, and processes that promotes the 3R's and that extends the lifespan of our assets, meeting the current needs and challenges while anticipating the needs and challenges of the future. Overall, the assets in the Solid Waste network are in **GOOD** condition.

Inventory: The City of Greater Sudbury owns and operates three active landfill sites, two closed landfill sites and one small vehicle transfer station.

Condition of Inventory and Total Replacement Value

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Open Landfills: 18% Poor, 82% Fair, 0% Very Good

Closed Landfills: 48% Good, 52% Very Good

Transfer Depots: 7% Fair, 90% Good, 3% Very Good

$8 $0.454 $0.842

$47 (In Millions)

$38

- Capacity
- Remaining Capacity

Azilda Landfill
50% — 50% or ~ 24 years

Hanmer Landfill
35% or ~ 21 years — 65%

Sudbury Landfill
42% or ~ 37 years — 58%

Expenditure	
Historical Investment (5 Year Average)	$895,183
Capital Funding Gap	In Progress

The funding gap is the unfunded value of infrastructure renewal needs that require attention as of the current year.

Infrastructure Need	
Average Annual Reinvestment Need	In Progress
Maintenance Infrastructure Need	In Progress

Data Confidence Rating	
C	Please refer to confidence rating provided in Methodology.

Solid Waste Network
Current Asset Level of Service
How is our infrastructure performing?

Solid Waste Management

Annually	**33,795**	**5,827**	**15,108**	**362**
	tonnes of collection of waste and litter	# of Toxic Taxi Pick-ups	processed tonnes at Recycling Centre	tonnes of hazardous waste handled

Maintain and Operate processing and handling facilities with capacities
for approx. 100,000 tonnes of waste annually using:

13	**1**	**1**	**1**
# of residential transfer depots	# of small vehicle transfer station	# of Recycling Centres	# of Household Hazardous Waste Depots

Maintain/Operate residual disposal of waste with reserve capacity
of approx. 6 million tonnes, est. service life of 60-84 yrs. Utilizing:

3

# of landfill sites, 6 days per week

Community Energy and Emission Plan (CEEP) Applicable Goals

CEEP Goal #18: Increase the reforestation efforts of the Regreening Program

Current Performance

- Greater Sudbury Utilities' 1.5 MW Landfill Gas Generation System was completed. It converts landfill methane into electricity, powering the equivalent of over a thousand homes.

- Leaf and yard waste diverted and supplied to Vale to be used for tailings remediation, contributing to the regreening efforts and carbon sequestration.

- With the recent change to waste collection biweekly, the CGS has noticed the decrease in garbage and the increase in organics, diverting inorganics to the landfill.

C Parks and Recreation
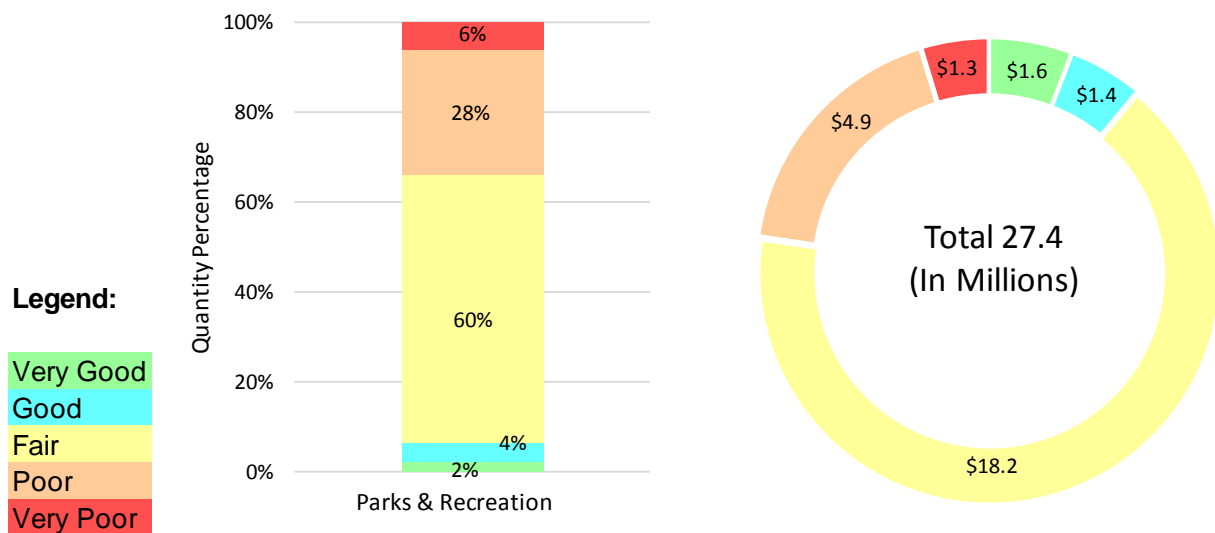
Fair Condition
(43 out of 100)

Parks and Recreation includes all municipal parks, playgrounds, beaches, tot lots, splash pads, trails, ski hills, planters, sporting field and courts enjoyed by community members across the City of Greater Sudbury. Leisure and Parks Services mission is to provide parks, open spaces and leisure programs and facilities that contribute to the social, cultural and economic well-being of residents and enhance overall quality of life. To achieve this goal Parks maintains its necessary infrastructure assets to achieve uninterrupted service levels as defined within the Parks, Recreation and Culture Asset Management Plan.
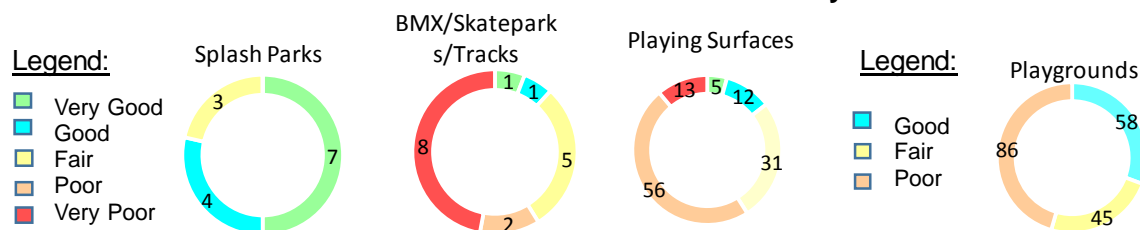
Overall, Parks and Recreation infrastructure is in **FAIR** condition.

Inventory: The city owns a total of 417 assets that make up Parks and Recreation; these include basketball courts, BMX track, boat launches, bocce courts, running tracks, outdoor rinks, dog parks, playgrounds, skate parks, soccer/football fields, softball/baseball diamonds, splash parks, tennis courts, trails, and volleyball courts.

Condition and Total Replacement Value

Legend:

| Very Good |
| Good |
| Fair |
| Poor |
| Very Poor |

Parks & Recreation bar chart:
- 6% Very Poor
- 28% Poor
- 60% Fair
- 4% Good
- 2% Very Good

Donut chart (Total 27.4 In Millions):
- $1.3
- $1.6
- $1.4
- $4.9
- $18.2

Condition and Quantity

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Splash Parks: 3, 7, 4

BMX/Skateparks/Tracks: 1, 1, 5, 2, 8

Playing Surfaces: 13, 5, 12, 31, 56

Legend:
- Good
- Fair
- Poor

Playgrounds: 58, 45, 86

Expenditure	
Historical Investment (5 Year Average)	$1,832,971
Capital Funding Gap	TBD

The funding gap is the unfunded value of infrastructure renewal needs that require attention as of the current year.

Infrastructure Need	
Average Annual Reinvestment Need	TBD
Annual Maintenance Infrastructure Need	TBD

Data Confidence Rating	
C	Please refer to confidence rating provided in Methodology.

Parks and Recreation

Current Asset Level of Service
How is our infrastructure performing?

**To guide the development of a parks system, the City
will use the following active parkland targets:**

	Parkland	Neighbourhood Parks	Community Parks	Regional Parks
Asset Level of Service per 100,000 population	866.87 ha	2.3 ha	1.3 ha	3.6 ha

	Trails	Premier Sports Field	Playground Sites	Outdoor Rinks
Asset Level of Service per 100,000 population	1.1 km	1.85	117.28	34.7

Community Energy and Emission Plan (CEEP)

Appendix 1: Public Charging Stations Strategy
Phase 1: "Create Visibility, Generate Demand" Strategy: Increase public infrastructure, and concentrate charging stations in high density population areas. Making charging available and visible is a primary EV encouragement approach for the City. Priority areas for charging stations include: City public facilities; **Recreation facilities**; Libraries; Retail hubs; Employment hubs; Hospitals; and High-visibility curbside locations.

Current Performance
# of EV charging Stations at Parks and Recreation Sites

0

Greater Sudbury has 14 arenas, 5 pools, playfields and rinks. Most facilities have upgraded lighting (LED) and arenas have low-emission roofs. One community arena has a 245kW solar PV array. Building condition assessments determine energy efficiency needs - every 5 years. There is a need to develop more of an organizational culture about energy efficiency - need energy champions, real-time data for facilities