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# The Regional Municipality of Durham Report

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| To: | Committee of the Whole |
| From: | Commissioner of Finance and Commissioner of Works |
| Report: | #2025-COW-25 |
| Date: | June 11, 2025 |

**Subject:**

2025 Asset Management Plan

**Recommendation:**

That the Committee of the Whole recommends to Regional Council:

A) That the 2025 Regional Municipality of Durham Asset Management Plan and the Region's Corporate Strategic Asset Management Policy be endorsed; and

B) That the 2025 Regional Municipality of Durham Asset Management Plan be posted on the Region's website and the Ministry of Municipal Affairs and Housing be advised.

**Report:**

## 1. Purpose

1.1 The 2025 Asset Management Plan details the state of the Region's infrastructure, service levels, asset performance, lifecycle costs, and climate change risks, adaptation and mitigation initiatives to protect the Region's assets.

1.2 The Region's Asset Management Plan is a collaborative cross-departmental effort produced from year-round asset management processes to maintain assets and identify investment needs to meet target service levels. The process is guided by the Region's Corporate Strategic Asset Management Policy.

1.3 Aligned with best practices, the Asset Management Plan informs the Region's long-term planning and the annual business plans, budgets and nine-year capital forecast.

1.4 This report maintains the Region's compliance with provincial and federal regulatory requirements and meets the requirements for many senior government funding programs. In addition, with Regional Council's adoption of the 2025 Regional Municipality of Durham Asset Management Plan, the Region has met the new asset management requirements under Ontario Regulation 588/17 that are due by July 1, 2025.

## 2. Previous Reports and Decisions

2.1 On June 26, 2019, Region Council approved the Region's 2019 Asset Management Plan and the Region's Corporate Strategic Asset Management Policy (Report #2019-COW-16).

2.2 On September 30, 2020, Regional Council approved the Region's 2020 Corporate Asset Management Update Report (Report #2020-COW-24). This report provided an update to the Region's full 2019 Asset Management Plan.

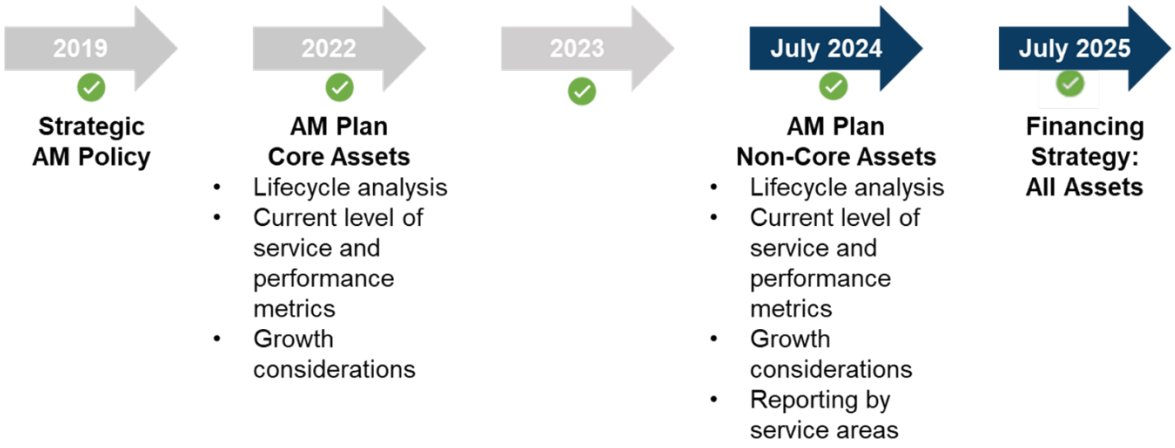
2.3 On June 29, 2024 Regional Council approved the Region's 2024 Asset Management Plan (Report #2024-COW-29). This report presented the Region's asset management goals, approach and policies, and advised Council on the state of the Region's infrastructure, service levels, performance, lifecycle considerations and risk and climate change adaptation and mitigation initiatives.

2.4 This report is aligned with and is informed by the 2025 Business Plans and Budget for Property Tax Purposes (Report #2024-COW-53), the 2025 Business Plans and Budget for the Consolidated Water Supply and Sanitary Sewerage Systems (Report #2024-COW-53), the Transit Service and Financing Strategy (2023 – 2032) (Report #2023-F-5), the 2023 – 2032 Region of Durham Paramedic Services Service and Financing Strategy (Report #2023-COW-7), and the Housing and Homelessness Service and Financing Strategy (Report #2025-COW-14).

## 3. Complying with Ontario Regulation 588/17

3.1 On January 1, 2018, Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure, under the Ontario Infrastructure for Jobs and Prosperity Act 2015, came into effect with a full implementation deadline of 2024. Due to the pandemic, the regulation was amended to provide a one-year extension to the implementation timelines. The regulation requires municipal asset management plans to include the following components by specific deadlines as outlined in Figure 1.

**Figure 1: Ontario Regulation 588/17 Key Changes and Timeline**




3.2 Compliance with Ontario Regulation 588/17 is required for senior government capital funding programs like the Canada Community-Building Fund (CCBF), formerly the Federal Gas Tax Fund.

3.3 The Region's 2025 Asset Management Plan achieves the new requirements outlined in Ontario Regulation 588/17 for all assets (core and non-core assets) reported by service area by July 1, 2025 including:

- Inventory with asset condition, replacement value and remaining useful life;
- Current level of service and performance metrics;
- Growth considerations;
- Lifecycle analysis including operating and capital investments;
- Infrastructure gap analysis; and
- Financing strategy for all assets.

3.4 Lifecycle analysis considers all operating and capital costs required for an asset to deliver its targeted service level over its useful life: from initial acquisition, repairs and maintenance, rehabilitation and eventual decommissioning costs. Ontario Regulation 588/17 requires the lifecycle analysis for a ten-year forecast period.

3.5 Ontario Regulation 588/17 requires municipalities to include a financial strategy in their asset management plans by July 1, 2025. This strategy must cover a 10-year period and outline annual funding projections for lifecycle activities. The financing strategy of this report leverages the capital financing forecast from the 2025 Business Plans and Budgets and the 10-year Housing and Homelessness Service and Financing Strategy. Conservative assumptions regarding operating expense financing have also been incorporated. Through the development of annual business plans and budgets, staff examine options to maximize available funding and evaluate various senior government funding, development charge revenue, and debenture financing scenarios. Further work will be undertaken to align funding with Regional asset management priorities, with forecasts subject to adjustment through future Regional business plans and budgets.

3.6 Regional staff will continue to refine lifecycle data processes and cost analysis aligned with the continual improvement practices enshrined in both the regulation and the Region's Corporate Strategic Asset Management Policy.

3.7 In addition to Ontario Regulation 588/17, the Region's Asset Management Plan ensures compliance and alignment with the following:

- The Development Charges Act and the provincial housing targets;
- The Smart Growth for Our Communities Act;
- Requirements under A Place to Grow: Growth Plan for the Greater Golden Horseshoe;
- The Region's Tangible Capital Assets (TCA) Policy;
- PSAB requirements for the recording of Tangible Capital Assets; and
- Requirements for federal and provincial funding programs including the Canada Community-Building Fund Agreement.

3.8 On May 12, 2025, the Province introduced the Protect Ontario by Building Faster and Smarter Act, 2025. If passed, this legislation may have significant implications for growth-related infrastructure financing. Staff will assess its impact and incorporate relevant changes into future Asset Management Plans, capital budgets, and forecasts.

## 4. Asset Management Planning Process

4.1 Formal asset management planning has been in place at the Region since 2004. The Region's Corporate Strategic Asset Management Policy which articulates asset management goals, objectives, guiding principles as well as an asset management framework, was reviewed by staff. In accordance with Ontario Regulation 588/17, the Region's Corporate Strategic Asset Management Policy must be reviewed and updated at least once every five years.

4.2 Asset management planning is a cross-departmental continuous year-round process that supports the development of Regional business and financial plans as illustrated in Figure 2. The asset management planning process is a cornerstone of the Region's annual business planning cycle.

**Figure 2: Region's Asset Management Planning Process**


4.3 The Asset Management Plan considers asset condition, remaining useful life and service needs and identifies operating and capital requirements including maintenance, repair, rehabilitation, and replacement over a ten-year period. Asset management investment needs and financing strategies are addressed through the annual business plans, budget and nine-year capital forecast.

## 5. Replacement Value of Regional Assets

5.1 The Region's infrastructure assets have a total replacement value of approximately $24.37 billion (as of December 31, 2024), of which $15.90 billion are utility-rate supported and $8.47 billion are property tax supported. Attachment #1 provides an overview of the Region's asset inventory, replacement value and condition.

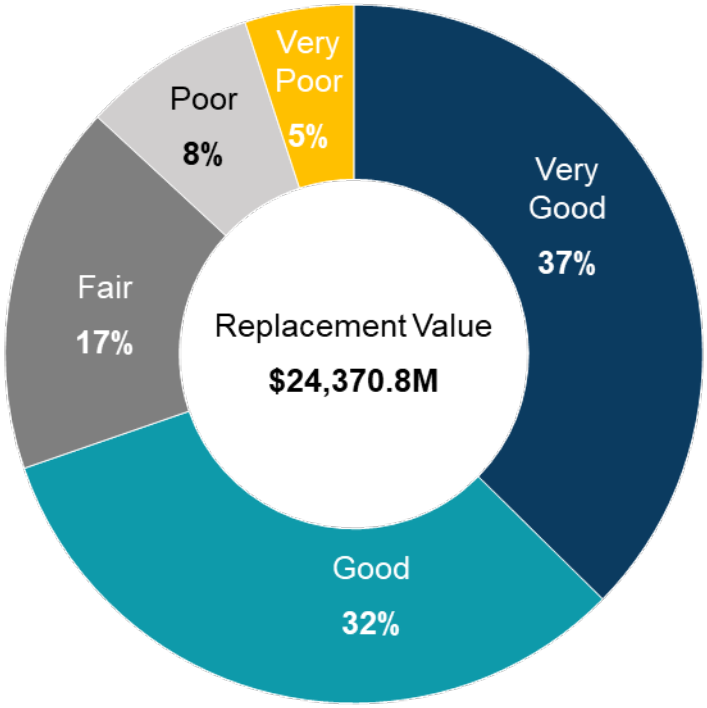
5.2 Replacement values are impacted by both growth (additional infrastructure) and inflationary cost increases. The December 31, 2024 replacement value of the Region's assets has increased by $1.56 billion (6.9 per cent) from December 31, 2023.

5.3 As per Report #2025-INFO-40, Durham is home to an estimated 258,400 households as at 2024 year-end. This implies that approximately $94,314 per Durham household would be required to replace the Region's entire asset inventory.

## 6. The Condition of the Region's Infrastructure

6.1 Asset condition helps to inform the Region's prioritization of maintenance, repair and replacement investments. The overall average condition across all Regional assets is considered Good and is generally consistent with the average condition in 2023. Across all assets, most are rated in Fair to Very Good condition (86 per cent based on relative share of total replacement value). Figure 3 displays the total replacement value and condition rating of the Region's assets.

**Figure 3: Condition and Replacement Values for Regional Assets***




* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include condition for equipment assets as these are pooled assets.

6.2 An asset assessed as Poor or Very Poor condition does not necessarily represent a health or safety risk. Rather, these are assets that may not be performing as intended, may be experiencing higher than average rehabilitation and/or maintenance costs due to condition, or may be deemed to be at or near the end of their useful life. When warranted, Very Poor assets are considered for current year replacement or significant rehabilitation. Staff balance replacement and repair work with the impact of the asset's poor performance to ensure assets are not prematurely replaced and deliver best value to user rate and property taxpayers.

6.3 Table 1 outlines the approaches the Region's asset management staff employ to assess the condition of each asset class:

**Table 1: Asset Condition Assessment Methods**

| Asset Class | Assessment Methods |
|---|---|
| Linear Water and Sewer (e.g., buried pipes) | Pipe material, break rates, inspections, remaining service life and operational concerns |
| Vertical Water and Sewer (e.g., plants and pumping stations) | Site-specific inspections |
| Roads and Traffic Infrastructure | Inspections and consideration of age-based condition rating where appropriate |
| Bridges and Culverts (greater than a three metre span) | Biennial visual inspections |
| Facilities | Building Condition Assessment (BCA) |
| Fleet | Estimated service life and inspection |

6.4 The assets currently rated in Poor to Very Poor condition may already be scheduled and in process for rehabilitation/replacement. The balance will continue to undergo assessment for investment through future business planning and budget processes.

## 7. Service Levels

7.1 Assets are instrumental in the Region delivering services at its desired service levels. Desired service levels are set both by regulatory compliance and Regional priorities. Regional plans, studies, policies, by-laws influencing all assets' service levels include:

- Durham Region's 2025 – 2035 Strategic Plan;
- Durham Region Corporate Climate Change Action Plan;
- Energy Conservation and Demand Management Plan (CDM);
- The 2022 Durham Accessibility and Inclusivity Standards;
- Light Duty Fleet Electrification Plan;
- The Durham Standard;
- Transit Service and Financing Strategy;
- Region of Durham Paramedic Services Service and Financing Strategy; and,
- Housing and Homelessness Service and Financing Strategy.

7.2 Additionally, service levels are also influenced by:

- Departmental reports and plans;
- Best engineering and industry practices;
- Regulatory guidelines and/or requirements; and

- Other performance expectations as defined through multiple reports approved by Regional Council.

7.3 Desired service levels influence asset management planning and subsequent investment decisions. Attachments #2 through #9 outline the desired service levels for each service areas as well as performance measures to track progress.

7.4 Ontario Regulation 588/17 sets out specific technical metrics and qualitative descriptions that must be included in service level reporting for core assets (water, wastewater, roads, bridges, culverts, traffic systems).

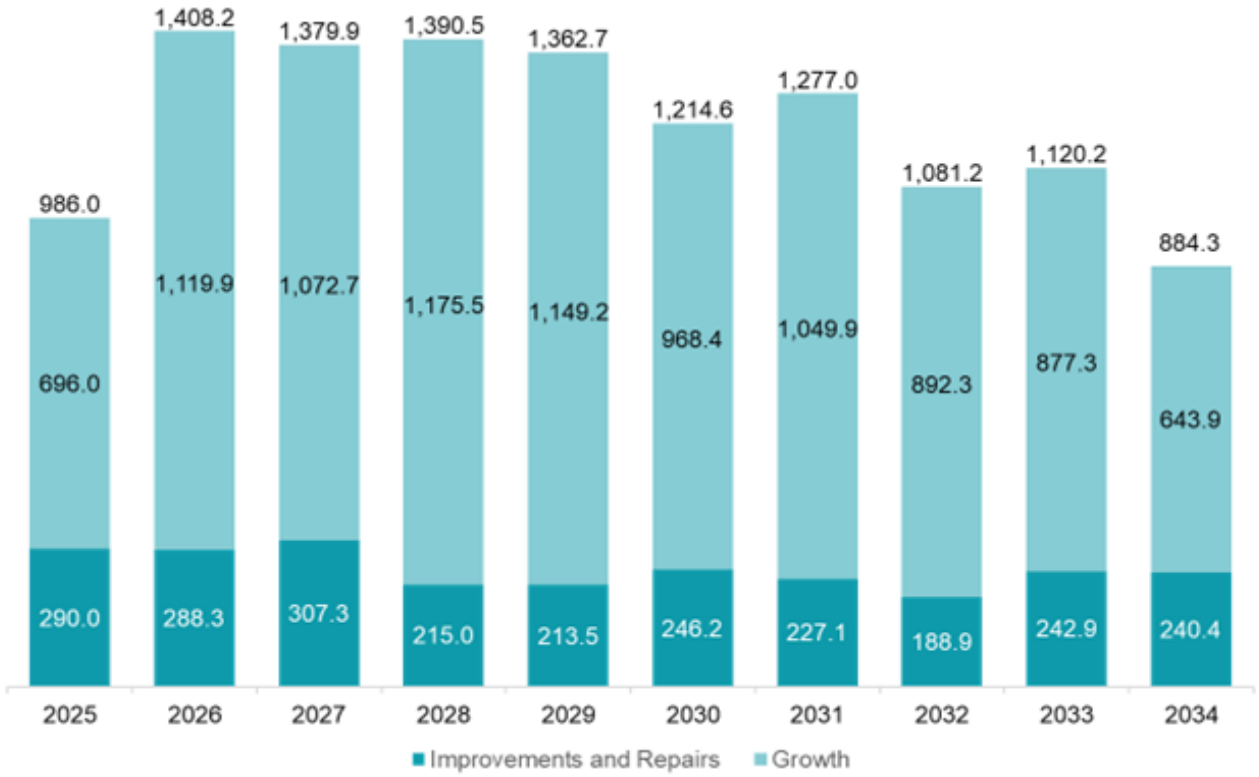
## 8. Capital Forecast for Core and Non-Core Assets

8.1 The Region's 2025 Business Plans and Budget identified major capital investments for core and non-core assets of $12,104.8 million from 2025 to 2034. As illustrated in Figure 4, approximately $9,645.2 million of this investment is growth related and is primarily funded from development charges with any development charge shortfalls being funded from user rates, property taxes, reserves, reserve funds and debenture financing.

8.2 The balance of $2,459.6 million for non-growth related infrastructure will to be funded primarily from property taxes, water and sewer user rates and Regional reserves and reserve funds.

8.3 Ten-year capital forecasts for each of the Region's Service areas are included in Attachments #2 through #9.

**Figure 4: Ten-Year Capital Forecast ($ millions)***



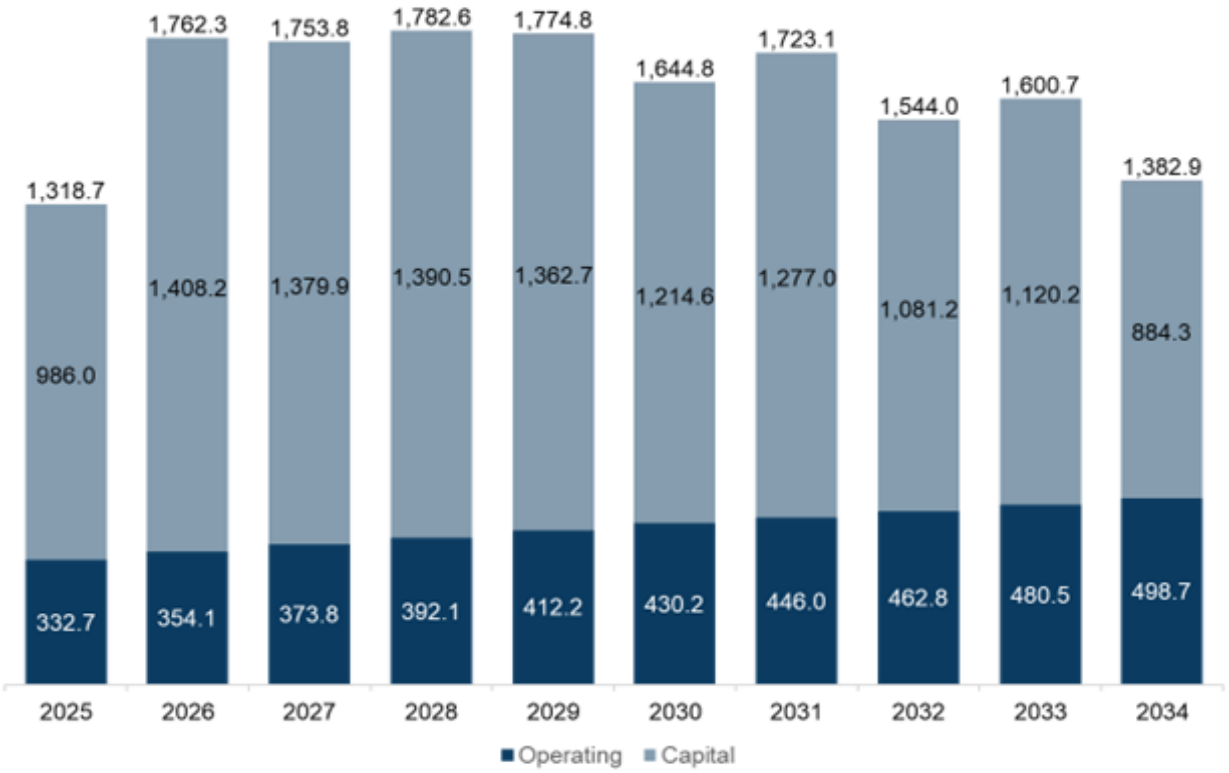

*Improvements and Repairs and Growth may not add to the Total due to rounding.

## 9. Lifecycle Considerations

9.1 Lifecycle analysis considers the costs for all capital and operating activities undertaken during the life of an asset to ensure it meets its desired service levels and target performance measures at the best value to user rate and property taxpayers. Lifecycle costs begin before an asset is even acquired including planning activities to determine needs, through to eventual asset disposal and possible site remediation activities.

9.2 As illustrated in Figure 5, the 2025 gross lifecycle costs (operating and capital) for regional assets is $1,318.7 million. Over the nine-year forecast period, total planned lifecycle expenditures for regional assets total $14,969.1 million. Detailed lifecycle costing by service area are included in Attachments #2 through #9.

**Figure 5: Ten-Year Lifecycle Costs ($ millions)***

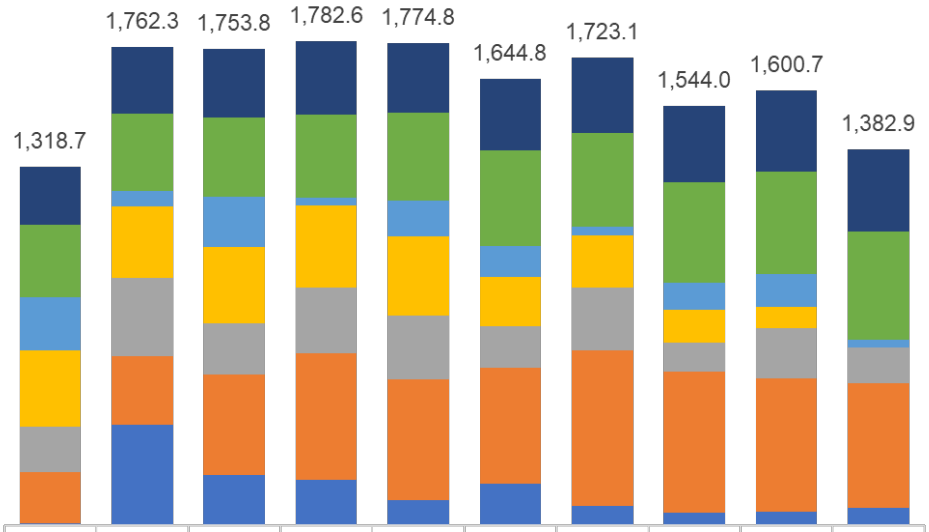



*Operating and Capital may not add to Total due to rounding.

## 10. Financing Strategy

10.1 Figure 6 presents the financing strategy for Regional infrastructure operating and capital costs. The financing strategy leverages user rate revenues, property tax revenues, debenture financing, reserves and reserve funds, senior government funding, development charge revenues and contributions from developers and other partners.

**Figure 6: Operating and Capital Financing Strategy ($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 214.0 | 244.5 | 251.6 | 268.9 | 253.7 | 265.6 | 278.5 | 282.2 | 297.6 | 302.7 |
| User Rates | 265.6 | 284.7 | 293.1 | 308.5 | 324.6 | 351.9 | 343.3 | 367.7 | 378.0 | 397.9 |
| Senior Government Funding | 195.1 | 59.6 | 184.7 | 29.0 | 131.2 | 113.6 | 33.3 | 101.7 | 122.8 | 26.8 |
| Debentures | 281.0 | 262.3 | 280.8 | 299.3 | 291.4 | 180.2 | 190.6 | 120.3 | 74.8 | 0.0 |
| Reserve and Reserve Funds | 167.1 | 287.4 | 190.8 | 242.1 | 234.6 | 153.0 | 232.0 | 106.8 | 185.6 | 132.2 |
| Development Charges | 189.9 | 253.4 | 369.5 | 468.4 | 445.3 | 426.8 | 573.3 | 519.7 | 491.2 | 460.2 |
| Other | 6.2 | 370.2 | 183.8 | 166.5 | 93.5 | 154.1 | 71.4 | 46.0 | 50.7 | 63.4 |
| Total | 1,318.7 | 1,762.3 | 1,753.8 | 1,782.6 | 1,774.8 | 1,644.8 | 1,723.1 | 1,544.0 | 1,600.7 | 1,382.9 |

Notes:

- Other includes contributions from developers and other partners.
- Columns may not add due to rounding.

10.2 Risks associated with the financial forecast include:

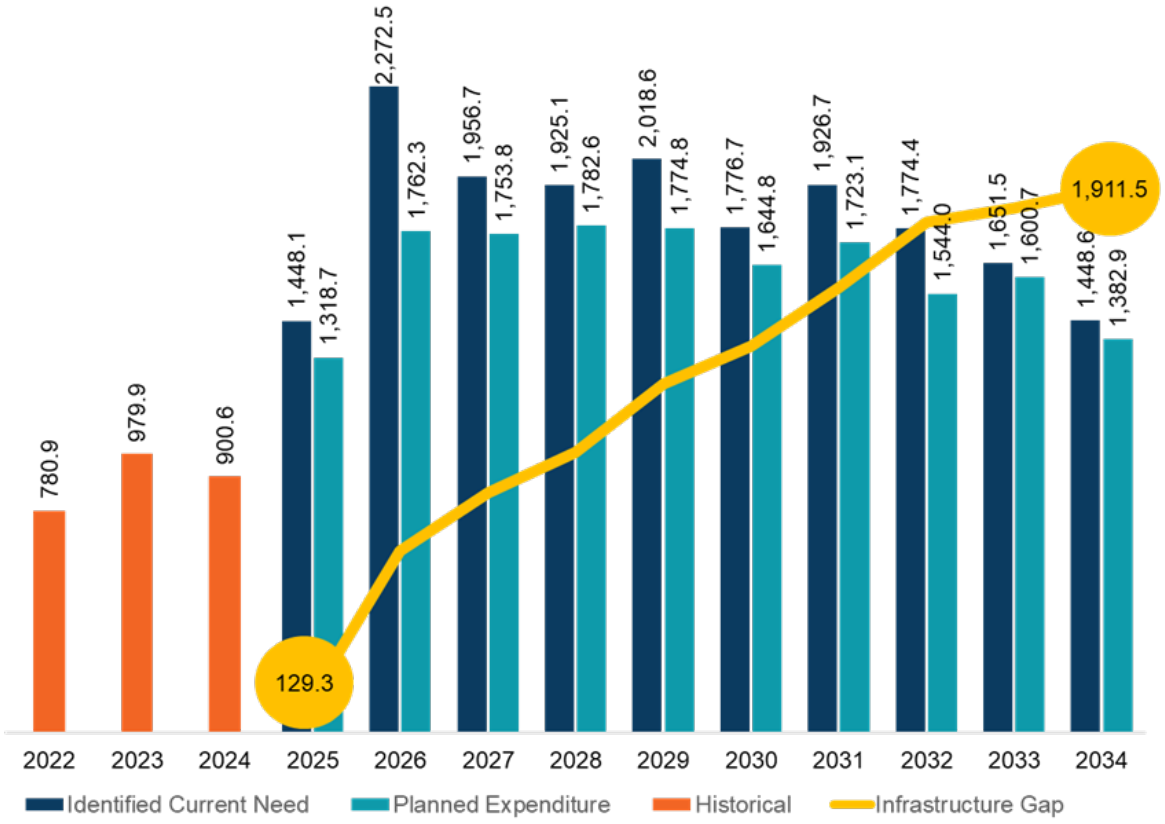
- Development charge revenue forecasts are subject to uncertainty due to fluctuations in the actual level of development achieved. Additionally, evolving legislation in Ontario, such as amendments to the Development Charges Act, may impact the ability of municipalities to collect and allocate these revenues effectively.
- Future provincial and federal funding remains uncertain, as a significant share of the forecasted senior government funding is not secured through agreements. Changes in government priorities, economic conditions, and policy shifts may affect the availability and timing of these funds.
- Interest rate fluctuations will impact the Region's debt carrying costs throughout the forecast. The Region takes a responsible and sustainable approach to debt financing infrastructure, ensuring compliance with related legislation. This includes aligning borrowing practices with municipal debt limits, maintaining fiscal prudence, and leveraging available funding mechanisms to support long-term financial sustainability.

## 11. Infrastructure Gap

11.1 As part of the lifecycle costing analysis, staff analysed the current planned operating and capital expenditures and financing plan against projected expenditure and financing needs to meet service levels. Through this analysis, an infrastructure funding gap of $129.3 million in 2025 was identified, growing to $1,911.5 million by 2034 (Figure 7). The infrastructure gap consists of:

- Water supply and wastewater system rehabilitation and replacement needs above forecasted capital plan and projected financing ($314.1 million);
- Road rehabilitation requirements above forecasted capital plan and projected financing ($55.1 million);
- Additional financing required to implement Durham Region Transit's capital forecast, as a result of a reduction in anticipated senior government funding and increasing costs associated with fleet electrification ($547.6 million);
- Durham Regional Police Service's forecasted facility needs ($852.1 million). Durham Regional Police Service staff and Regional staff are currently working on a multi-year service and financing strategy which will contemplate these facility pressures for Regional Council's consideration in advance of the 2026 budget; and,
- Forecasted facility state of good repair work, for Social Services, Solid Waste, Management and Health facilities, above the Region's 2025 capital budget and nine-year capital forecast ($142.6 million).

**Figure 7: Infrastructure Gap Analysis ($ millions)**




11.2 A significant infrastructure funding gap poses serious challenges for the Region, impacting both the state of repair of existing assets and the ability to accommodate future growth. Insufficient funding could lead to the gradual deterioration of roads, bridges, water and wastewater systems, the public transit system, police and paramedic infrastructure, and public facilities, increasing maintenance costs and reducing service reliability. Residents may experience more frequent service disruptions or delays. Moreover, economic development can stagnate if businesses perceive the municipality's infrastructure as outdated or inadequate to support growth and investment. Without adequate funding, the Region could struggle to meet evolving regulatory standards.

11.3 In addition to challenges related to asset condition, a restricted ability to invest in infrastructure expansion may hinder the municipality’s ability to support population growth. A lack of investment in new infrastructure can lead to congestion, reduced accessibility, and an inability to meet the increasing demands of the community. This could have cascading effects on social equity, affordability, and environmental sustainability, as inadequate infrastructure may limit access to essential services, deter new housing supply, and hinder the transition to greener technologies. Long-term neglect of infrastructure growth could also force the Region into reactive rather than proactive planning, further straining available resources.

11.4 To address these challenges, the Region will leverage a multi-pronged approach to ensuring the long-term sustainability of infrastructure assets. Conducting further analysis to refine cost projections and evaluate infrastructure needs can help identify cost-saving measures and prioritization strategies. Pursuing additional senior government funding for capital projects can provide financial relief and enable critical investments. Re-evaluating service level targets may allow for more flexible approaches to asset management, aligning expenditures with realistic financial constraints. Additionally, exploring new technologies, innovative processes, and updated policies could help reduce asset lifecycle costs, enhancing efficiency and long-term financial sustainability. These strategies will be incorporated into future asset management plans and annual business plans and budgets for Council's consideration. By taking these proactive steps, the Region can minimize these risks.

## 12. Climate Change Mitigation and Adaptation Measures

12.1 The Durham Region Corporate Climate Action Plan has set targets to achieve net-zero corporate GHG emissions by 2045. The 2025 Business Plans and Budget includes a number of investments to reduce corporate GHG emissions from the Region's assets including the purchase of low carbon-emitting vehicles, the advancement of Durham Region Transit's zero emission fleet, facility initiatives, including adherence to the Durham Standard, the use of recycled materials in construction projects, and the undertaking of comprehensive building condition assessments and Level 3 ASHRAE energy audits to document the baseline and inform the development of a GHG emissions reduction plan and pathway for the balance of the Region's facilities. Further details of these and other initiatives can be found in the Region's 2025 Business Plan and Budget reports (Report #2024-COW-53 and Report #2025-COW-54). The Region of Durham's 2024 to 2029 Energy Conservation and Demand Management Plan (Report #2024-COW-30) provides an overview of the Region's planned future energy conservation and demand management measures.

12.2 Staff employ strategies to prepare for the impacts of a changing climate as part of ongoing asset management best practices and in accordance with Ontario Regulation 588/17 requirements. Asset design, including material types, technical specifications and location, is all impacted by consideration of climate adaptation.

12.3 The asset class attachments (Attachments #2 through #9) provide further details on the specific measures being employed to adapt assets to a changing climate and highlight the ways in which investments in assets are aligned with the Region's corporate GHG inventory reduction targets.

## 13. Risk

13.1 Regional staff proactively analyze potential risks to assets on an ongoing basis considering risk likelihood and impact. Identified risk mitigation strategies include coordinated responses to potential risk events, measures to ensure business continuity, and systems to address service interruption.

13.2 Attachments #2 through #9 detail, by service area, the risks specific to each asset class as well as mitigation measures.

## 14. Relationship to Strategic Plan

14.1 This report aligns with/addresses the following Strategic Directions and Pathways in Durham Region's 2025-2035 Strategic Plan:

a. Connected and Vibrant Communities

- C1. Align Regional infrastructure and asset management with projected growth, climate impacts, and community needs.
- C2. Enable a full range of housing options, including housing that is affordable and close to transit.
- C3. Improve public transit system connectivity, reliability, and competitiveness.
- C4. Improve road safety, including the expansion and connection of active transportation networks to enhance the range of safe mobility options.
- C5. Improve digital connectivity and multi-channel access to information, resources, and service navigation.
- C6. Continue to revitalize and transform downtowns into hubs of economic, social, and cultural connection.
- C7. Create accessible, lively, and culturally welcoming public spaces, including opportunities to access nature.

b. Environmental Sustainability and Climate Action

- E1. Reduce corporate greenhouse gas emissions to meet established targets.
- E3. Prepare for and respond to severe weather impacts.
- E4. Lead the transition to sustainable living through waste management, diversion, and the circular economy.
- E5. Respect the natural environment, including greenspaces, waterways, and agricultural lands.

c. Strong Relationships

- S4. Advocate to the federal and provincial government and agencies to advance regional priorities.
- S5. Ensure accountable and transparent decision-making to serve community needs, while responsibly managing available resources.

14.2 This report aligns with/addresses the following Foundations in Durham Region's 2025-2035 Strategic Plan:

a. Processes: Continuously improving processes to ensure we are responsive to community needs.
b. Technology: Keeping pace with technological change to ensure efficient and effective service delivery.

## 15. Next Steps

15.1 Infrastructure needs identified in this report will inform the 2026 business planning and budget process, capital planning, and departmental 2026 to 2035 business plans and budgets.

15.2 Asset management staff will continue to work collaboratively to:

- Refine data collection processes and analysis to improve asset management planning capabilities and lifecycle costing, to inform future business plans, budgets, capital forecasts, and long-term financial planning strategies;
- Refine the Region's non-core asset inventory;
- Continue to seek alignment between corporate climate initiatives and asset management processes; and
- Continue to assess risk, business continuity, asset criticality, and asset reliability.

## 16. Conclusion

16.1 The Asset Management process is a critical element in the Region's business planning, budget and long-term financial planning processes. The Asset Management Plan details the current condition of the Region's assets and forecasts future investment needs for repair, maintenance, and replacements and provides a financing strategy.

16.2 The Region's 2025 Asset Management Plan complies with the additional reporting requirements for core and non-core assets including the development of financing strategies required under Ontario Regulation 588/17.

16.3 The overall replacement value of the Region's assets is increasing due to growth demands for additional infrastructure and inflationary pressures. The asset class attachments (Attachments #2 through #9) provide additional details on the change in replacement values for each asset class.

16.4 The condition of the Region's assets remained relatively stable year-over-year as a result of preventative maintenance, rehabilitation and timely repairs and replacements with strategic investments planned that will address many assets currently in Very Poor condition.

16.5 As part of continual improvement, the asset management planning processes of data collection, asset assessment, asset and lifecycle analysis and associated financing strategies will continue to be refined and improved.

**Attachments:**

Detailed 2025 Regional Municipality of Durham Corporate Asset Management Plan

Attachment #1: Regional Asset Inventory, Replacement Value and Condition

Attachment #2: Water Supply System Asset Class Report

Attachment #3: Wastewater System Asset Class Report

Attachment #4: Transportation Asset Class Report

Attachment #5: Durham Region Transit Asset Class Report

Attachment #6: Social Services Department Asset Class Report

Attachment #7: Solid Waste Management Asset Class Report

Attachment #8: Health Department Asset Class Report

Attachment #9: Durham Regional Police Service Asset Class Report

Respectfully submitted,

Original signed by:

Nancy Taylor, BBA, CPA, CA
Commissioner of Finance

Original signed by:

Ramesh Jagannathan, MBA, M.Eng., P.Eng., PTOE
Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer


DURHAM REGION

# 2025 Asset Management Plan

**Attachments**

Attachment #1: Regional Asset Inventory, Replacement Value and Condition

Attachment #2: Water Supply System Asset Class Report

Attachment #3: Wastewater System Asset Class Report

Attachment #4: Transportation Asset Class Report

Attachment #5: Durham Region Transit Asset Class Report

Attachment #6: Social Services Department Asset Class Report

Attachment #7: Solid Waste Management Asset Class Report

Attachment #8: Health Department Asset Class Report

Attachment #9: Durham Regional Police Service Asset Class Report

## 1. Overview of Asset Management Processes

1.1 Formal asset management planning processes have been in place at the Region of Durham since 2004. In 2019, Council approved the Region's first Corporate Strategic Asset Management Policy. The policy which articulates asset management goals, objectives, guiding principles as well as an asset management framework, was reviewed by staff. In accordance with Ontario Regulation 588/17 this policy must be reviewed and updated once every five years.

1.2 Year-round asset management planning processes are undertaken as part of the Region's best business practices of long-term financial planning as well as to ensure compliance with senior government grant programs.

1.3 Asset investment priorities are identified over a multi-year planning horizon based on lifecycle analysis, asset condition, and risks assessment with the objective of delivering approved service levels that are aligned with corporate goals and comply with regulatory requirements.

1.4 Financing to fund identified asset investment priorities is sought through the Region's annual business planning and budget process. Investment decisions balance asset condition and service needs with ensuring assets are not prematurely replaced to ensure best value for water and sanitary sewer user rate customers, property taxpayers and the community.

1.5 The 2025 Asset Management Plan – in compliance with Ontario Regulation 588/17 – includes analysis of the following:

- Current asset status (inventory, replacement value, condition, average age, and remaining useful life);
- Reporting by service areas;
- Service levels and asset performance based on Regionally-defined objectives, best practice and regulatory requirements;
- Lifecycle analysis on operating and capital investment to maintain current levels of service over a ten-year period;
- A financing strategy for forecasted lifecycle costs;
- Climate mitigation and climate adaptation initiatives including linkages to the Corporate Climate Change Action Plan; and,
- Infrastructure investment needs, the identification of an infrastructure gap, and discussion of related implications and strategies.

1.6 Development of the Asset Management Plan is a multi-departmental, collaborative process led by the Finance Department and overseen by an inter-departmental Steering Committee.

1.7 The Region's Asset Management Plan and supporting asset management processes are compliant with Ontario Regulation 588/17, the regulation governing municipal asset management plans. Ontario Regulation 588/17 was passed in 2018 with a phased implementation that must be fully implemented by municipalities by July 1, 2025 (as amended in 2021 due to the COVID-19 pandemic).

1.8 The Region's aggregated asset information (inventory, condition and replacement value) is provided in Attachment #1 and Attachments #2 through #9 provide details by service area.

## 2. The State of the Region's Infrastructure

2.1 Under the coordination of the Corporate Asset Management Team in the Finance Department, year-round tracking, assessment and analysis of all Regional assets is completed by departmental asset working teams to determine inventory, valuations, conditions, average ages and remaining useful life.

**Table 1: Key Components of the State of Infrastructure**

| Component | Description |
|---|---|
| Inventory | Asset inventories are tracked by asset class including consideration of new assets acquired and decommissioned assets. |
| Replacement Costs | Asset replacement costs are updated annually using the most up to date information. |
| Condition Assessment Ratings | Asset condition ratings from Very Good to Very Poor are assigned using the most appropriate assessment method and the best data available. |
| Remaining Useful Life | The average age and useful lives are updated and assigned relative to the asset lifespan. |

### Asset Inventory

2.2 Table 2 provides a summary of the Region's infrastructure assets as of December 31, 2024. Further details can be found in Attachment #1.

**Table 2: Regional Infrastructure Summary (At Year-End December 31, 2024)**

| Asset Class | Assets Inventory |
|---|---|
| Water Supply System | 14 Water Supply Plants and Well Systems<br>11 Water Pumping Stations<br>9 Combined Water Pumping Stations/ Storage Facilities<br>14 Water Storage Facilities<br>5 Other Water Facilities<br>2,734 km watermains<br>29,047 control valves<br>188,924 service connections<br>722 Specialty Valves<br>17,529 Hydrants<br>2,095 Fire Lines<br>188,075 Meters |
| Sanitary Sewerage System | 11 Water Pollution Control Plants<br>52 Pumping Stations<br>3 Other Wastewater Facilities<br>2,294 km Gravity Sewers<br>68 km Forcemains<br>33,351 Maintenance Holes<br>185,101 Service Connections |
| Transportation System | 2,452 lane km Road Network<br>255 Bridges and Culverts >3m<br>12,112 Storm Appurtenances<br>371 km Storm Mains and Culverts<br>19 Traffic Management Systems<br>19,297 Signs, Signals or Beacons<br>473.6 km Communication Infrastructure<br>122 km Roadside Protection<br>130 CCTV Cameras |

| Asset Class | Assets Inventory |
|---|---|
| Durham Region Transit (DRT) | 180 Conventional Buses<br>2 Specialized Buses<br>19 Supervisory Fleet<br>2 Maintenance, Administrative and Bus Storage Facilities<br>2,541 Bus Pads and Shelters |
| Social Services | 28 Housing Facilities<br>4 Childcare Centers<br>4 Long-Term Care Facilities<br>10 Fleet Vehicles |
| Solid Waste | 7 Facilities<br>7 Fleet Vehicles |
| Health | 102 Ambulances and other Paramedic Service Vehicles<br>9 Paramedic Stations<br>Shared Public Health Facility |
| Durham Regional Police Service | 9 Facilities<br>377 Fleet Vehicles |

**Replacement Value of Regional Assets**

2.3 As of December 31, 2024, the Region's infrastructure assets had an estimated replacement value of approximately $24.37 billion representing an increase of 6.9 per cent from December 31, 2023.

2.4 Replacement values assist with long-term financial planning through informing cost estimates for eventual asset replacement at end of useful life. Regional staff consider the following information when assigning replacement values:

- Annual increases in benchmark construction costs (Statistic Canada's Non-Residential Building Construction Price Index) and other inflationary asset replacement cost pressures;
- Updated building codes or standards;
- Updated market information including recent vendor quotes; and

- Inclusion of new assets into the Region's inventory to accommodate growth.

**The Condition of the Region's Assets**

2.5 Asset condition assessment, coupled with service level targets, play an important role in replacement and maintenance decisions. Table 3 highlights the most common asset condition assessment approaches undertaken at the Region.

**Table 3: Asset Condition Assessment Methods**

| Asset Class | Assessment Methods |
|---|---|
| Linear Water and Sewer (e.g., pipeline) | Pipe material, break rates, inspections, remaining service life and operational concerns. |
| Vertical Water and Sewer | Site specific inspections. |
| Roads and Traffic Infrastructure | Inspections and consideration of age-based condition rating where appropriate. |
| Bridges and Culverts >3m | Biennial visual inspections. |
| Facilities | Building Condition Assessments (BCAs) |

2.6 Using the above-mentioned approaches, Regional assets are assigned one of five condition ratings described in Table 4.

**Table 4: Condition Rating Categories and Description**

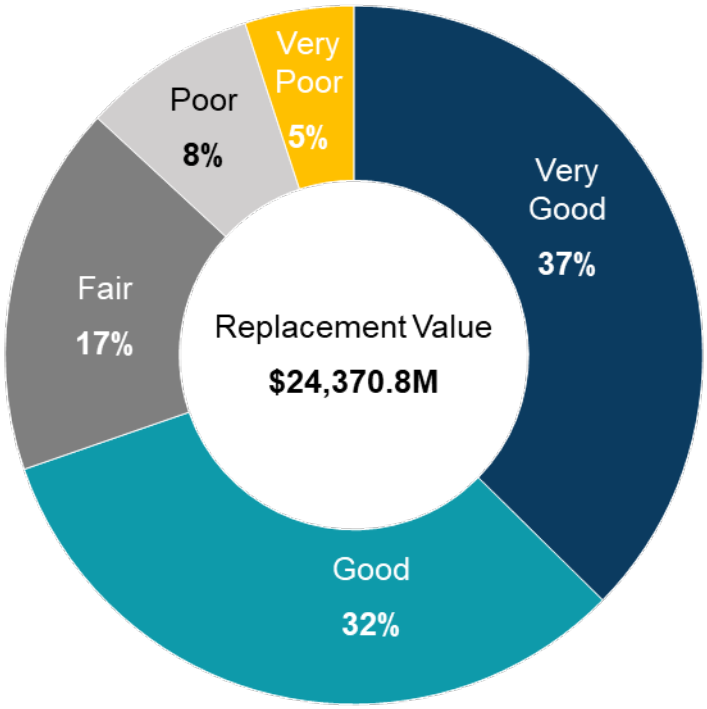
| Rating | Description |
|---|---|
| Very Good | Asset is sound and functioning as intended. Typically, asset would be new. |
| Good | Asset is sound and functioning as intended. Typically, asset would be within mid-range of useful life. |
| Fair | Asset is starting to show signs of deterioration and functioning lower than intended. Typically, asset could be approaching later stages of useful life. |
| Poor | Asset is showing significant signs of deterioration and functioning much lower than intended. Typically, asset could be approaching the end of useful life. |
| Very Poor | Asset is not performing as intended. Typically, asset would be at the end of useful life. |

2.7 An asset which has been classified as Poor or Very Poor does not represent a health or safety risk. Rather, these are assets that may not be performing as intended, may be experiencing higher than average rehabilitation and/or maintenance costs due to condition, or may be deemed to be at the end of their useful life. When warranted, Very Poor assets are considered for current year replacement or significant rehabilitation. Staff balance replacement and repair work with the impact of asset poor performance to ensure assets are not prematurely replaced and deliver best value to water and sewer ratepayers and property taxpayers.

2.8 The asset management working groups continue to refine, advance, and improve condition-based assessments.

2.9 Figure 1 illustrates the condition and replacement values for the Region's assets as of December 31, 2024. More detailed information on the asset inventory, replacement value and condition is included in Attachment #1.

**Figure 1: Condition and Replacement Values for Regional Assets***



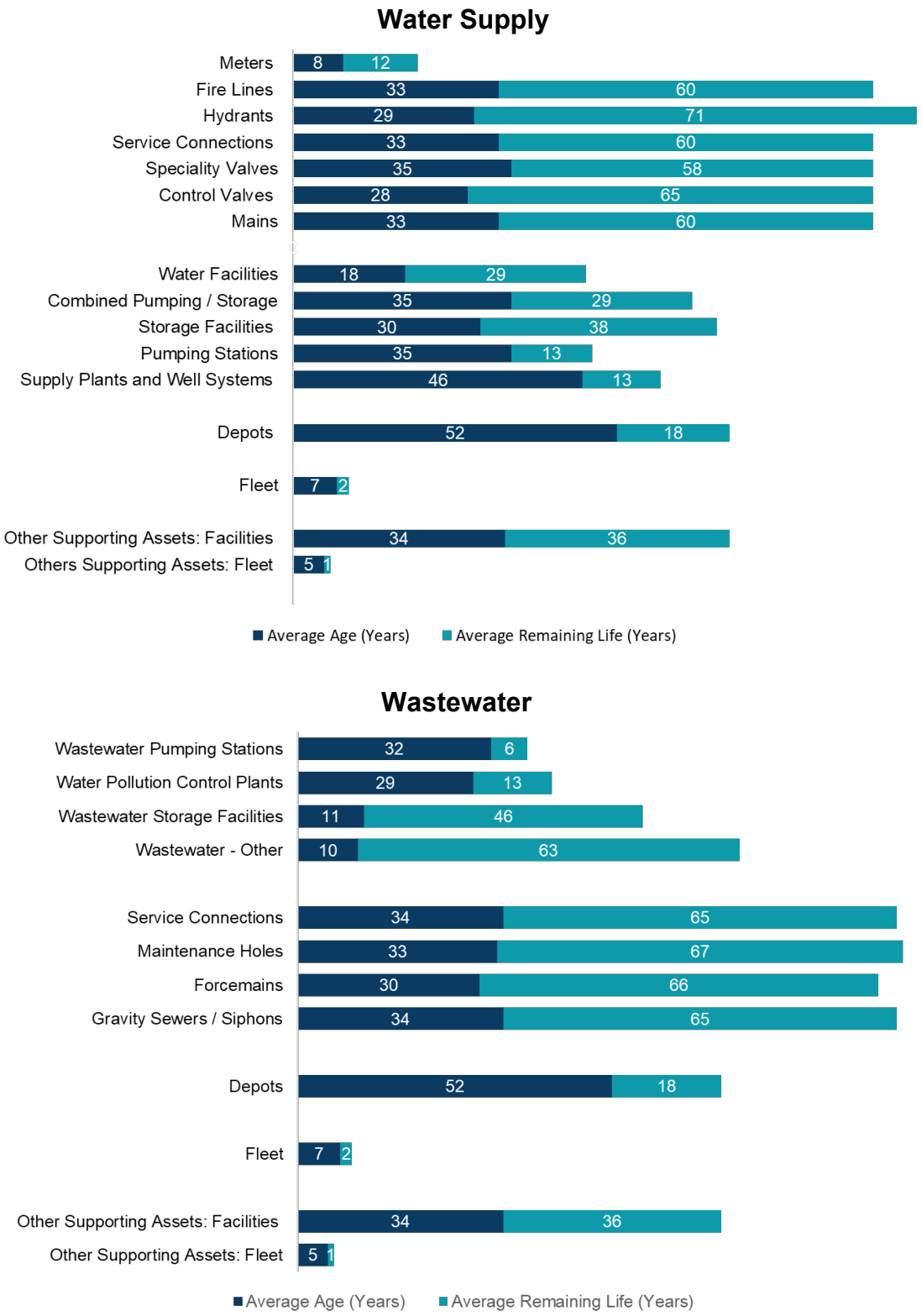

* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include condition for equipment assets as these are pooled assets.

2.10 The assets currently rated in Poor to Very Poor condition will continue to undergo assessment through the 2026 Business Planning and Budget cycle for continued investment. Ongoing maintenance and repair investments for assets in Fair to Very Good condition will continue through annual business planning and budget processes.

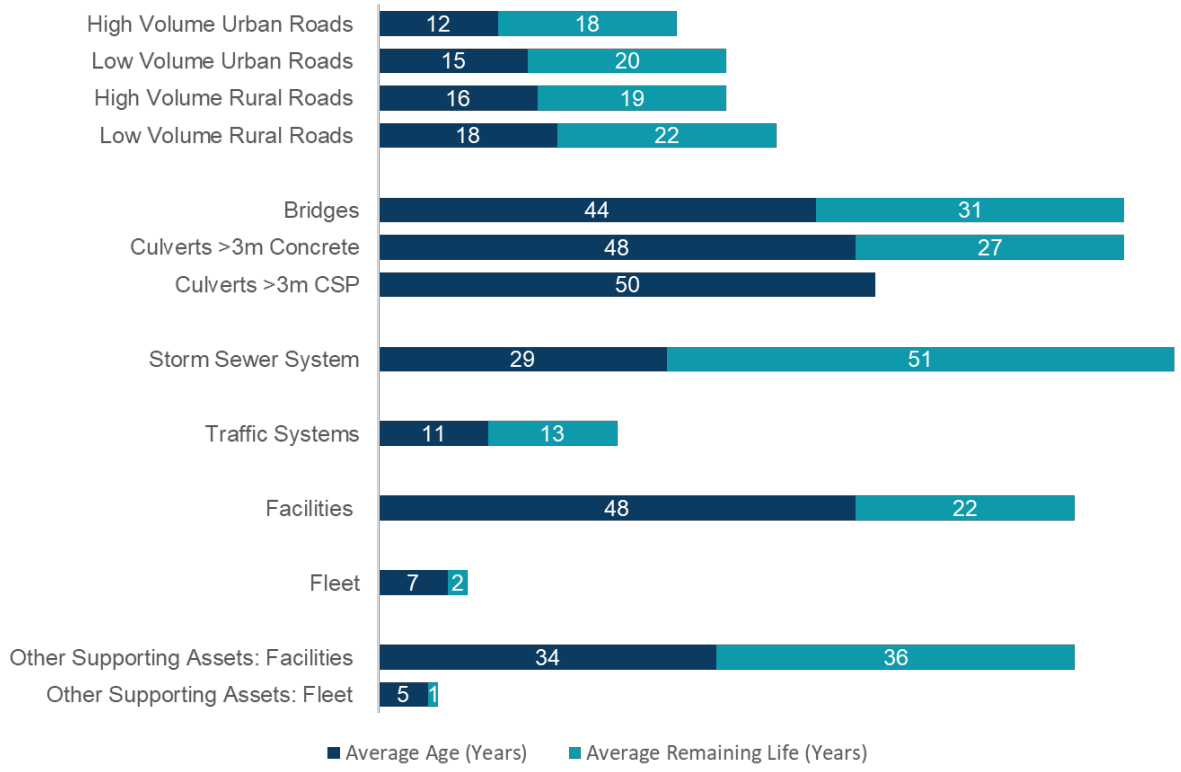
**Average Age and Remaining Life of Regional Assets**

2.11 Figure 2 summarizes the average age and estimated remaining life by asset class as of December 31, 2024.

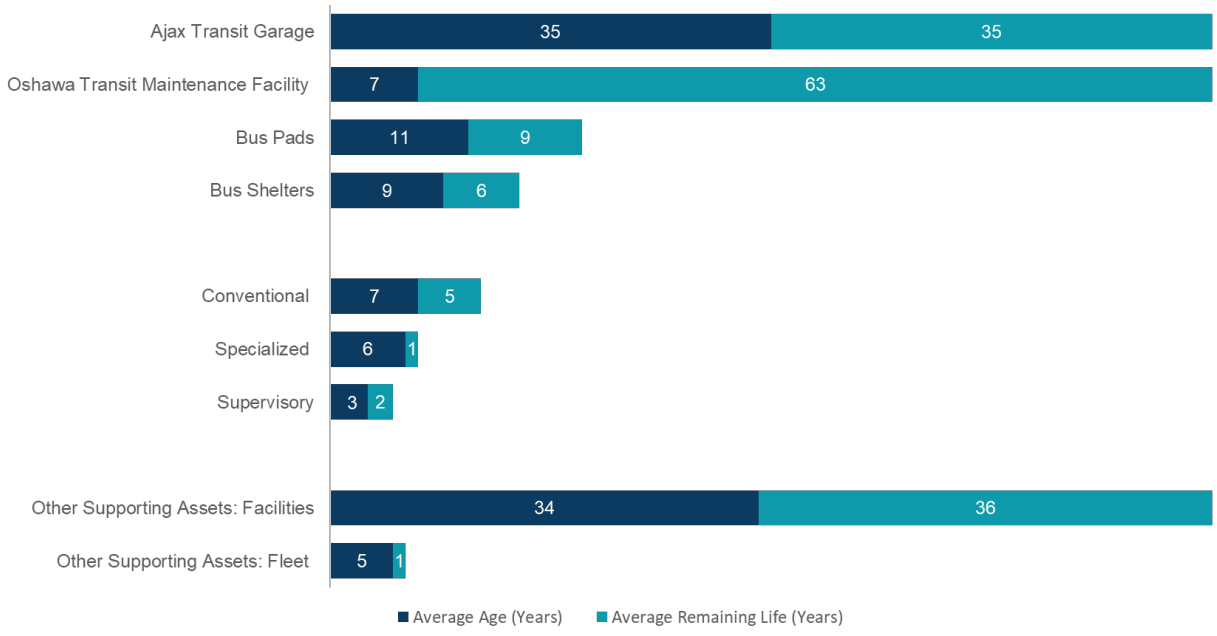
**Figure 2: Average Age and Remaining Useful Life**



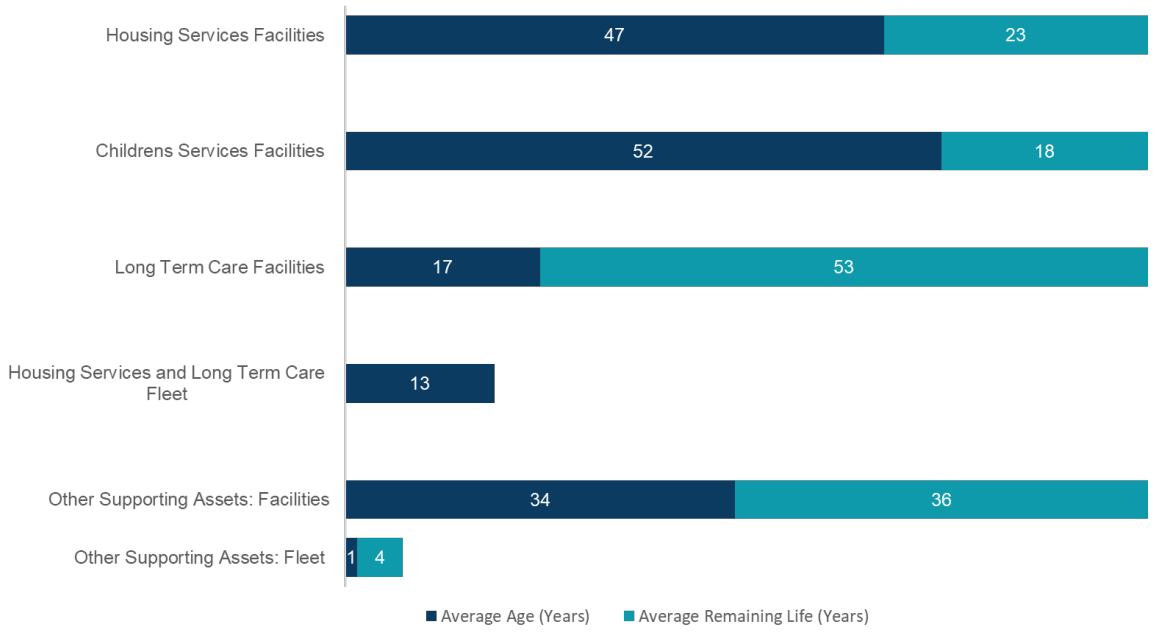
## Transportation System



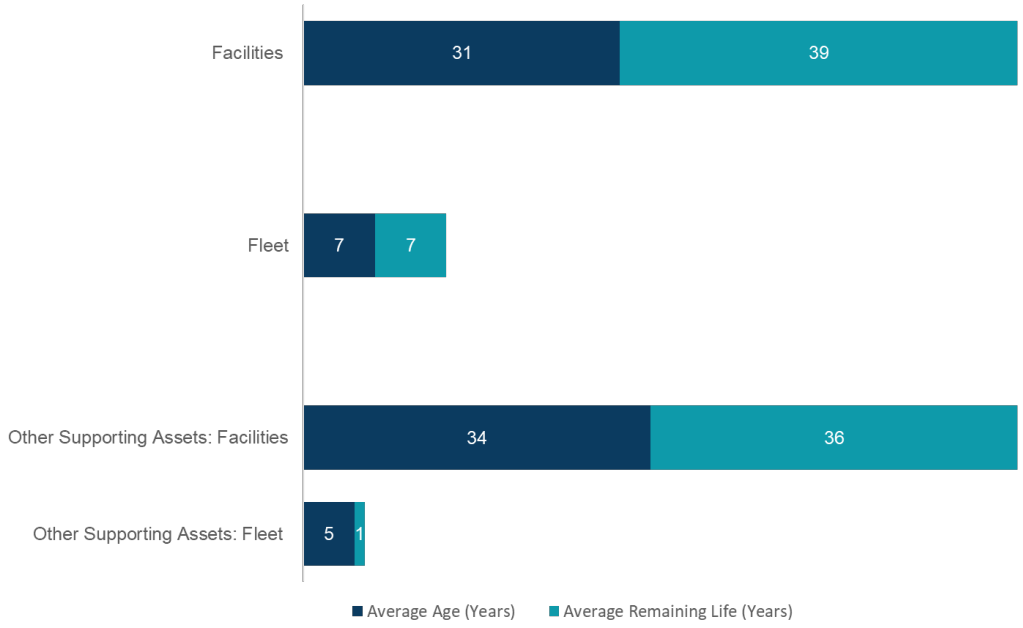

## Durham Region Transit



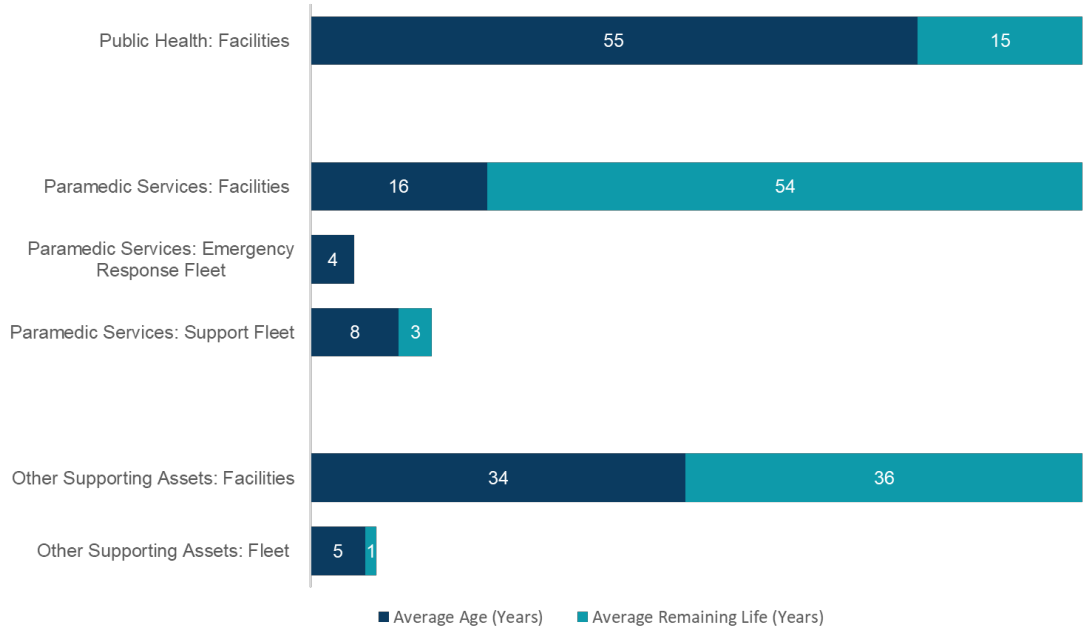
## Social Services



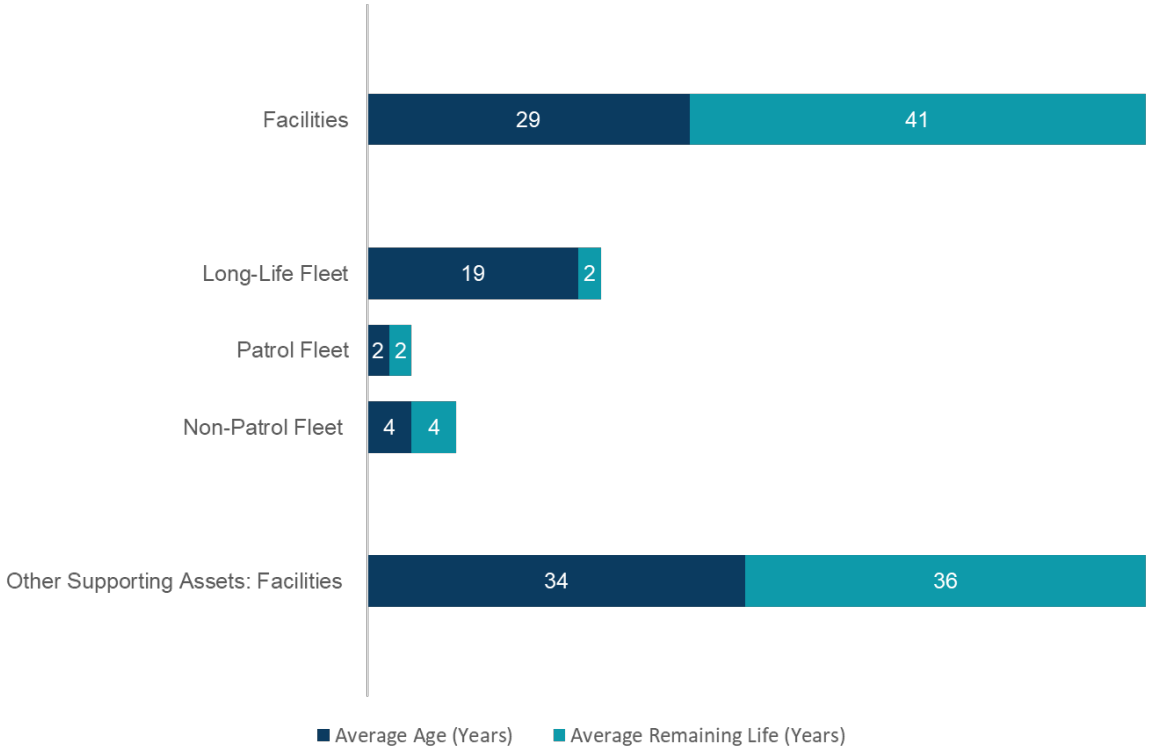

## Solid Waste



## Health




## Durham Regional Police Service



2.12 Asset useful life considers when an asset came into service, how it has been performing, expected lifespan of the asset and any rehabilitation work undertaken to extend its life. This metric does not reflect the suitability of the assets for their current usage due to changes in either standards or legislative requirements. These important considerations are evaluated through financial planning processes including long-term service and financing studies and the Region's annual business planning and budget process.

2.13 Asset useful life can play a role in informing long-term financial planning for asset replacement. Generally, assets that have reached the end of their useful life may experience additional repair and maintenance costs and may be prioritized for replacement or rehabilitation to extend their useful life.

2.14 It is also important to assess which assets are considered as operating "Beyond Useful Life" but are still functioning as designed and may be assigned favourable condition ratings of Fair to Very Good. Regional staff monitor the performance and condition of assets operating beyond expected useful life as part of ongoing asset management processes.

## 3. Asset Management Service Levels and Performance Measurement

3.1 Level of service is a key consideration that influences asset management planning and investment decisions. Assets must be maintained, through ongoing maintenance activities as well as timely repairs, rehabilitation and/or eventual replacement to ensure service levels can be provided.

3.2 Asset management related service levels are defined through the following:

- Approved Regional strategic and master plans, related service standards, supporting plans, policies and by-laws;
- Regulatory compliance requirements; and,
- Other performance expectations as defined through best practice and Regional Council direction.

3.3 Ontario Regulation 588/17 requires municipalities to include both community service levels which provide qualitative descriptions on asset reliability and asset management practices as well as technical service levels which focus on service delivery and reliability in their Asset Management Plans.

3.4 Details on the Region's community and technical service levels for each of the Region's assets, by service area, are provided in Attachments #2 through #9 as required under Ontario Regulation 588/17.

3.5 Moving forward, existing service levels will continue to be refined to reflect Regional Council approved goals, plans, policies, strategies as well as best engineering practices.

## 4. Durham Region's Corporate Goals and Objectives

### Durham Region Strategic Plan

4.1 Durham Region's 2025 to 2035 Strategic Plan was approved by Durham Regional Council in January 2025. To achieve the vision of "Connected communities. Connected to you." there are five Strategic Directions that will guide the Region's work and act as a lens for decision-making over the next 10 years:

- Connected and Vibrant Communities
- Environmental Sustainability and Climate Action
- Healthy People, Caring Communities
- Resilient Local Economies
- Strong Relationships.

4.2 Regional assets and corporate asset management processes support the Region in meeting its Strategic Plan goals.

4.3 Strategic Plan goals that can be directly linked to asset management include:

- Connected and Vibrant Communities
  - C1. Align Regional infrastructure and asset management with projected growth, climate impacts, and community needs.
  - C2. Enable a full range of housing options, including housing that is affordable and close to transit.
  - C3. Improve public transit system connectivity, reliability, and competitiveness.
  - C4. Improve road safety, including the expansion and connection of active transportation networks to enhance the range of safe mobility options.
  - C5. Improve digital connectivity and multi-channel access to information, resources, and service navigation.
  - C6. Continue to revitalize and transform downtowns into hubs of economic, social and cultural connection.
  - C7. Create accessible, lively, and culturally welcoming public spaces, including opportunities to access nature.
- Environmental Sustainability and Climate Action
  - E1. Reduce corporate greenhouse gas emissions to meet established targets.
  - E3. Prepare for and respond to severe weather impacts.
  - E4. Lead the transition to sustainable living through waste management, diversion, and the circular economy.

  - E5. Respect the natural environment, including greenspaces, waterways, and agricultural lands.
- Strong Relationships
  - S4. Advocate to the federal and provincial government and agencies to advance regional priorities.
  - S5. Ensure accountable and transparent decision-making to serve community needs, while responsibly managing available resources.

4.4 Asset management also aligns with the following Foundations in the Durham Region's 2025 to 2035 Strategic Plan:

- Processes: Continuously improving processes to ensure we are responsive to community needs.
- Technology: Keeping pace with technological change to ensure efficient and effective service delivery.

4.5 The Strategic Plan goals can be further directly linked to the targeted levels of service of an individual asset class as these targets reflect both legislated standards and corporate goals and objectives. Detailed tables linking each service-level target to Strategic Plan goals and other corporative priorities can be found in each asset class attachment (Attachments #2 through #9).

**Corporate Strategic Asset Management Policy Goals**

4.6 The Corporate Strategic Asset Management Policy approved by Council in 2019 has been reviewed and remains aligned with best practices for asset management and various Regional priorities and plans. The following are the Policy's seven objectives:

1) The Region will maintain its assets in a safe condition throughout their lifecycles with tolerable risks mitigated through effective strategies, to deliver Regional services at approved levels in a financially prudent and sustainable manner;
2) The Region will maximize the value of its assets by undertaking the most appropriate and cost-effective maintenance, repair, rehabilitation, and/or replacement activities at the most optimal time, to achieve the lowest possible lifecycle cost as feasible;
3) The Region will demonstrate leadership in sustainable asset management, including investments in assets to mitigate (reduce energy use and emissions) and adapt to climate change (to build resiliency), as part of asset management planning;
4) The Region will proactively monitor, identify, and implement asset related risk mitigation measures to ensure the continuity of asset related services, as part of asset management planning;

5) The Region will strive for continuous improvements and innovation in asset management planning, including data analysis, technologies, processes, practices, strategies, and coordination with its lower tier municipalities, neighboring municipalities and senior governments;
6) The Region's asset management planning and reporting process will be transparent and accountable through the development and approval of an Asset Management Plan by Regional Council (which reports performance as well as ensures compliance with all senior government legislative, regulatory, and grant funding reporting requirements); and
7) Infrastructure capital needs identified through asset management planning, as well as risk and climate adaptation and mitigation measures, will be addressed based on funding allocated through the Region's business planning and budget process.

**Climate Change Adaptation and Mitigation**

4.7 Addressing climate change is a critical priority for the Region that is reflected in the Durham Region Strategic Plan 2025 – 2035, the 2020 Council declaration of a climate emergency and the Region's 2021 Corporate Climate Action Plan (CCAP) that positions the Region as a leader in the community-wide effort.

4.8 In 2019, the Region introduced a Corporate Strategic Asset Management Policy that specifies that leadership in sustainable asset management, including investments in assets to mitigate (reduce greenhouse gas emissions) and adapt to climate change (to build resiliency), be a key part of asset management planning.

4.9 The Region's 2021 Corporate Climate Action Plan (CCAP) establishes corporate GHG emission reduction targets and a carbon budgeting framework. The Region is moving towards a target of 100 per cent reduction in corporate GHG emissions from the 2019 baseline by 2045.

4.10 The clear establishment of corporate performance targets provides guidance for corporate facility operations and helped inform the Region's 2024 to 2029 Energy Conservation and Demand Management Plan (Report #2024-COW-30).

4.11 Corporate climate change considerations and related initiatives continue to be integrated into the Region's asset management planning processes and reporting requirements. Within each asset class attachment, specific climate resiliency and mitigation risks and actions are identified and linked to target service levels as appropriate. Key asset-related climate change initiatives include:

- Build on flood risk and vulnerability assessment work completed with some Conservation Authorities in 2021 – 2024 to incorporate flood risk data into corporate decision-making that informs capital planning and asset management for critical infrastructure by expanding flood risk assessment work into areas of the Region where significant development is planned over the coming decades.

- Advance the implementation of the Region's Light Duty Fleet Electrification Strategy with the replacement of a number of vehicles with fully electric, hybrid and plug-in hybrid electric vehicles in both Durham Regional Police Services and the Region's Public Works fleet.
- Implement Durham Region Transit's fleet electrification plan, including the continued procurement of battery electric buses and related charging equipment.
- Broader implementation of electrical vehicle charging infrastructure, funded in part through Natural Resources Canada's (NRCan) Zero Emission Vehicle Infrastructure Program (ZEVIP), to support corporate fleet charging activities and where appropriate, public charging.
- Apply the Durham Standard to the development of new and major rehabilitation of existing Regional facilities, actioning a green development standard of net zero facilities for new construction and major facility retrofits for Region-owned facilities (and leased facilities where appropriate).
- Complete Greenhouse Gas Reduction Pathway Feasibility Studies for Regional sites allowing for improved pursuit of funding opportunities and incorporation into budget forecasting.
- Complete deep energy building retrofits of Durham Regional Local Housing Corporation's senior's housing portfolio to reduce energy consumption and carbon emissions including initiatives supported by the Federation of Canadian Municipalities' Sustainable Affordable Housing Program.
- Implementation of the Water and Wastewater GHG Emission Management Strategy that charts a path to decarbonize water supply and wastewater treatment operations over the next 20 years.
- Continue utilization of recycled materials for road construction.

4.12 The 2025 Asset Management Plan's assessment of climate-related risks and climate adaptation and mitigation initiatives complies with the requirement of Ontario's asset management planning regulation (Ontario Regulation 588/17) to consider vulnerabilities that may be caused by climate change as part of asset management planning.

4.13 GHG emission impacts (with a view towards reduction targets) and climate resiliency will continue to be integrated into asset planning and supporting lifecycle analysis, where possible.

**Barrier Free Infrastructure**

4.14 Ensuring inclusive and accessible environments is a key corporate value for Durham Region and new facility and retrofit projects, whether owned or leased by the Region, are guided by the Durham Standard and provincial requirements.

4.15 Provincial requirements include those related to the Ontario Building Code Act, Accessibility for Ontarians with Disabilities Act, 2005 (AODA), The Ontarians with Disabilities Act, (ODA), Ontario Regulation 191/11 Integrated Accessibility Standards Regulation (IASR): the Provincial Policy Statement, and the Human Rights Code.

4.16 The Accessibility Advisory Committee (AAC) and/or the AAC Site Plan review sub-committee continue to be consulted by staff for their review and input on projects.

4.17 The following are ongoing asset-related accessibility initiatives:

- New public facilities are designed and built for full accessibility;
- Existing facility upgrades include removing trip hazards and implementing accessibility features (e.g., depressed curbs, ramps, smooth sidewalks, tactile plates, automatic doors and accessible reception areas, parking, entrances and washrooms etc.);
- Effective facility and transportation enhancements including accessible signage, bus stops/shelters, traffic signals, pedestrian poles and signals, sidewalks, curbs and reduced crossing distances at cross walks; and,
- Increased maintenance activities to enhance accessibility through enhanced snow clearing and de-icing.

**Coordination of Planning and Partnerships with Other Governments**

4.18 Successful coordination and partnerships with other governments related to asset management include:

- Partnership with the City of Oshawa and Town of Whitby to deliver an integrated solid waste management system. Oshawa and Whitby collect garbage and organic waste in their municipalities, while the Region collects these in the other six area municipalities;
- The Durham York Energy Centre (DYEC) in the Municipality of Clarington is co-owned by the Region of Durham (78.6 per cent) and York Region (21.4 per cent) and is operated by the private sector through a design-build-operate public-private-partnership (P3) model under a 20-year Project Agreement to 2036;
- The Next Generation Interoperable Communications Platform (NextGen) allows Durham Regional Police Service, Regional Departments, fire services and public works staff from the area municipalities, and Ontario Power Generation (OPG) to jointly use the communication platform to improve service efficiency and achieve cost efficiencies;
- DRT and Metrolinx coordination and partnerships include:
    - DRT continued participation in the Metrolinx-led Joint Transit Procurement Initiative (TPI) for the procurement of vehicles, equipment, technology, supplies and services to increase buying power, assist in standardization of equipment and leverage industry expertise.

  - DRT continues to use the PRESTO fare collection system under agreement with Metrolinx.
  - DRT continues to leverage Metrolinx Radio service under agreement with Metrolinx.
- DRT, Works, Federal and Provincial Government coordination and partnerships include the ongoing implementation of Investing in Canada Infrastructure Program (ICIP) Transit Stream projects, including vehicle replacements, facility construction and bus rapid transit implementation;
- The Regions of York and Durham work in partnership to operate, maintain and expand the Duffin Creek Water Pollution Control Plant (WPCP) and related sanitary sewerage infrastructure;
- The Region works with the five conservation authorities to ensure environmental objectives are met related to watershed planning, environmental conservation and protection, as well as contracting with the Lake Simcoe Region Conservation Authority for the management of the Durham Regional Forest on behalf of the Region;
- The Region in partnership with the Region of York, Region of Peel, City of Toronto and nine Conservation Authorities have developed the Oak Ridges Moraine Groundwater Program which provides a collaborative approach to collecting, analyzing and disseminating water resource data and information as a basis for effective stewardship and management of water resources; and
- Co-ordination of planning and timing for infrastructure construction with the local area municipalities (e.g., Roads Capital Budget and Water and Sewer Capital Budget, Area Municipal Road Program, MTO and GO Transit Projects).

4.19 The Region's best business practice for coordination complies with Ontario Regulation 588/17 to coordinate where possible connected and/or interrelated assets with other municipalities and delivers on the Region's commitment to continuous improvement. This is also consistent with the Region's Corporate Strategic Asset Management Policy.

## 5. Lifecycle Overview

5.1 Lifecycle costing is a comprehensive consideration of the capital and operating activities (Table 5) that must be taken during the life of an asset to ensure it meets the desired service levels and target performance measures. Lifecycle costs can begin before an asset is even acquired through planning activities to determine needs (e.g., master plans) and continue through to eventual asset disposal and possible site remediation activities.

5.2 The focus of capital lifecycle activities includes ongoing regular inspections and timely preventative repair and maintenance and applying the most appropriate treatment at the optimal time. The goal of capital lifecycle activities is to maximize asset lifespan at the lowest possible cost and risk.

5.3 Operating lifecycle activities considers direct (e.g., fuel costs for fleet) and indirect activities (e.g., tree trimming programs along Regional Roads) required to ensure the asset can meet its service goals.

5.4 Ontario Regulation 588/17 requires lifecycle costing analysis for a ten-year period for core assets and non-core assets. The analysis must include:

- Full lifecycle costing of assets; all maintenance, repair, replacement and related-operating activities required over the life of an asset (from acquisition to disposal).
- Options for which lifecycle activities could be undertaken to meet desired service levels including risks associated with any options and which represent the lowest cost to deliver on service levels.

5.5 The Region is in compliance with Ontario Regulation 588/17. Additional details of this analysis can be found in each asset class attachment (Attachments #2 through #9).

**Table 5: Key Concepts: Asset Lifecycle Activities**

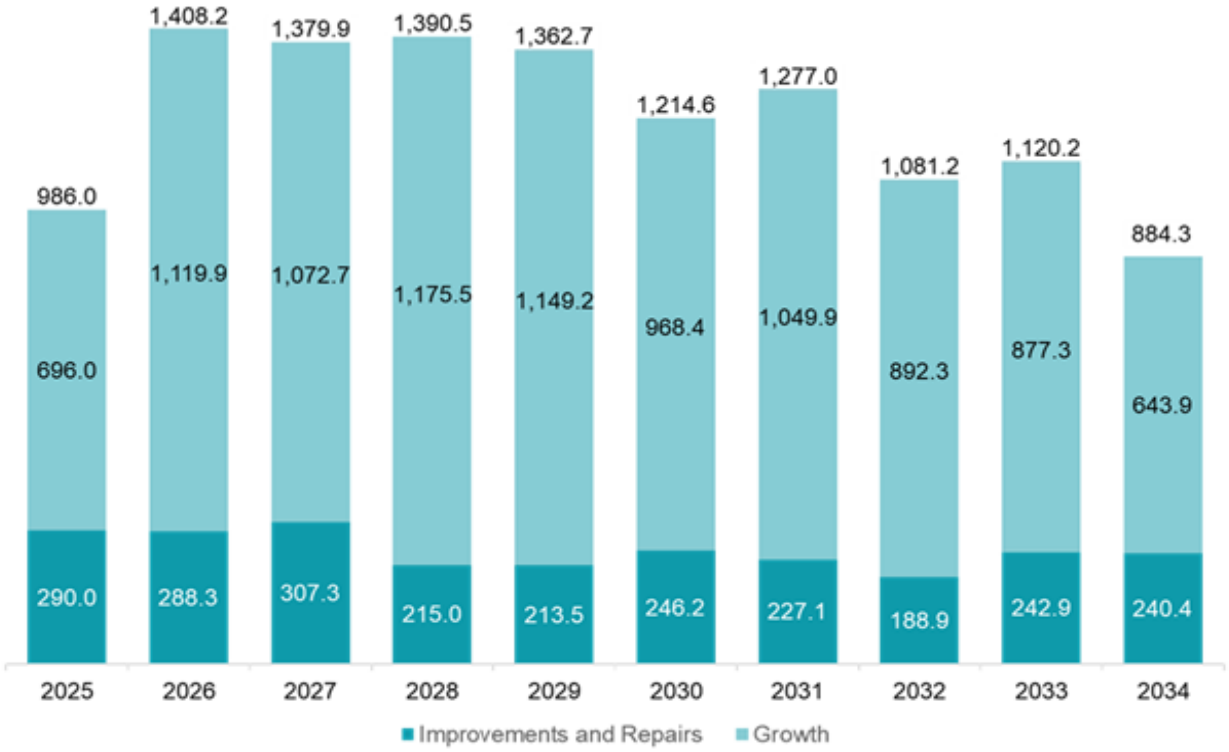
| Activity Type | Description |
|---|---|
| Operating | All operating activities required to ensure the asset can meet service level delivery (e.g., snow plowing roads) |
| Maintenance | Regular scheduled inspections and preventative maintenance, or repair activities associated with unexpected events |
| Renewal and Rehabilitation | Major repairs designed to extent asset life, restore level of service and/or defer the need for replacement |
| Replacement | Replacement occurs when the asset has reached the end of its useful life and/or renewal and rehabilitation activities are no longer considered appropriate |
| Disposal | Activities associated with the decommissioning of an asset including sale or disposal |
| Expansion | Planned activities to expand services either to enhance service levels or meet growth demands |

## 6. Capital Forecast

6.1 Major capital investments identified through the 2025 business plans and budget process (rehabilitation and growth) total $986.0 million for 2025 and $11,118.7 million over the 2026 to 2034 forecast period.

6.2 Forecasted infrastructure needs will be updated, refined and reprioritized during the 2026 business planning and budget process and long-term capital planning.

**Figure 3: Ten-Year Capital Forecast ($ millions)***




*Improvements and Repairs and Growth may not add to Total due to rounding.

## 7. Lifecycle Analysis

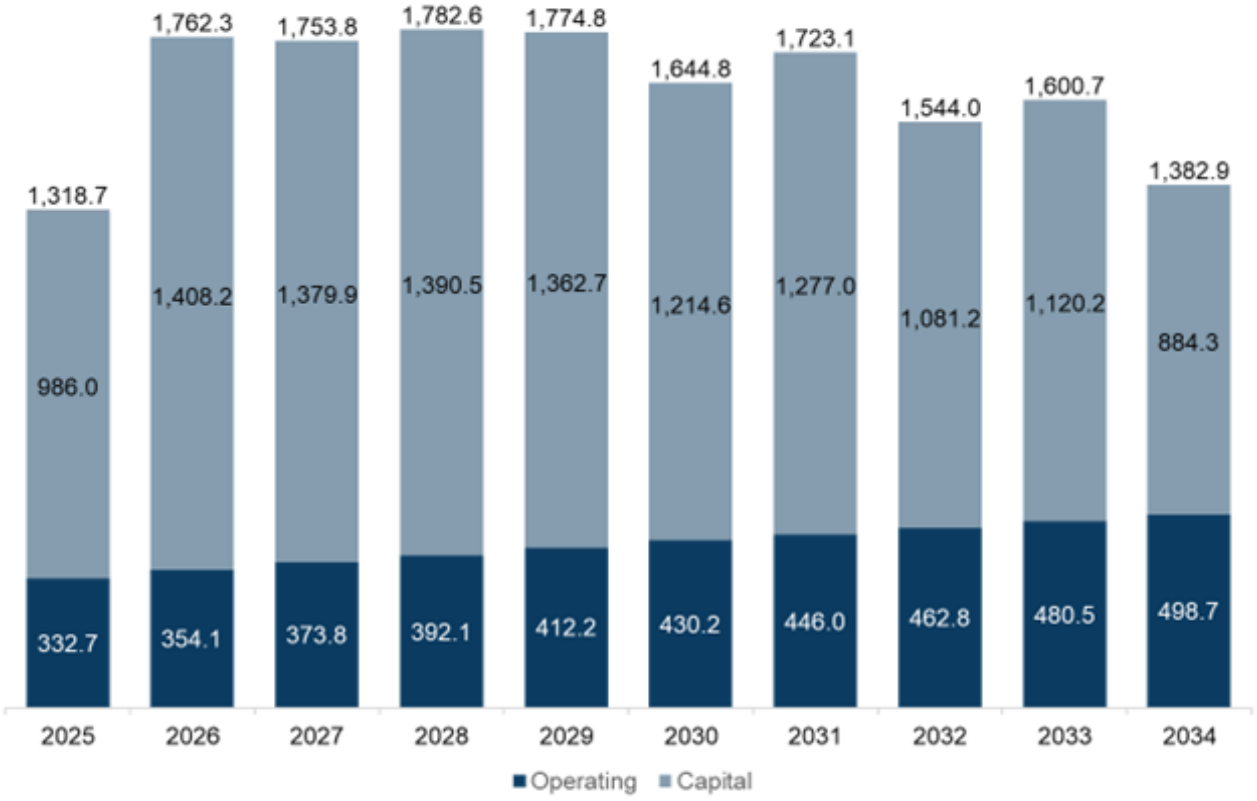
7.1 Lifecycle analysis considers the costs for all capital and operating activities undertaken during the life of an asset to ensure it meets its desired service levels and target performance measures at the best value to user rate and property taxpayers. Lifecycle costs begin before an asset is even acquired including planning activities to determine needs, through to eventual asset disposal and possible site remediation activities.

7.2 Regional staff undertook lifecycle costing analysis to determine historical and planned capital and operating lifecycle activities. Asset management practices such as condition assessments and expected useful life analysis inform capital and operating lifecycle activities. To assess capital lifecycle costs, staff considered rehabilitation and replacement activities that extend the useful life of assets and/or

meet service delivery targets. In addition to repair and maintenance activities, staff considered other ongoing operating expenditures required for assets to meet target service levels. Some examples include overhead costs (e.g., office/depot space, training, software, etc.), gas and fuel, utilities and fleet rentals.

7.3 As illustrated in Figure 4, the 2025 gross lifecycle costs (operating and capital) for regional assets is $1,318.7 million. Over the nine-year forecast period, total planned lifecycle expenditures for regional assets total $14,969.1 million. Detailed lifecycle costing by service area are included in Attachments #2 through #9.

**Figure 4: Ten-Year Lifecycle Costs ($ millions)***

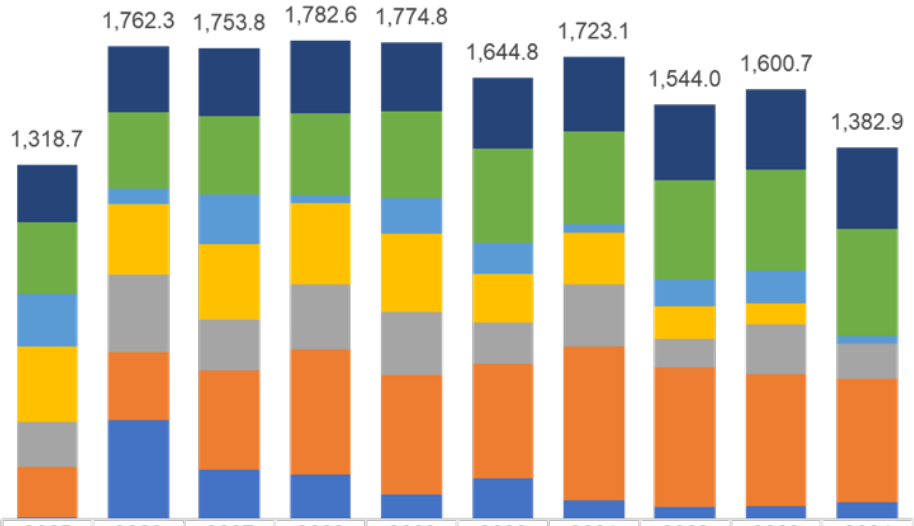



*Operating and Capital may not add to Total due to rounding.

## 8. Financing Strategy

8.1 Figure 5 presents the financing strategy for Regional infrastructure operating and capital costs. The financing strategy leverages user rate revenues, property tax revenues, debenture financing, reserves and reserve funds, senior government funding and development charge revenues and contributions from developers and other partners.

**Figure 5: Operating and Capital Financing Strategy ($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 214.0 | 244.5 | 251.6 | 268.9 | 253.7 | 265.6 | 278.5 | 282.2 | 297.6 | 302.7 |
| User Rates | 265.6 | 284.7 | 293.1 | 308.5 | 324.6 | 351.9 | 343.3 | 367.7 | 378.0 | 397.9 |
| Senior Government Funding | 195.1 | 59.6 | 184.7 | 29.0 | 131.2 | 113.6 | 33.3 | 101.7 | 122.8 | 26.8 |
| Debentures | 281.0 | 262.3 | 280.8 | 299.3 | 291.4 | 180.2 | 190.6 | 120.3 | 74.8 | 0.0 |
| Reserve and Reserve Funds | 167.1 | 287.4 | 190.8 | 242.1 | 234.6 | 153.0 | 232.0 | 106.8 | 185.6 | 132.2 |
| Development Charges | 189.9 | 253.4 | 369.5 | 468.4 | 445.3 | 426.8 | 573.3 | 519.7 | 491.2 | 460.2 |
| Other | 6.2 | 370.2 | 183.8 | 166.5 | 93.5 | 154.1 | 71.4 | 46.0 | 50.7 | 63.4 |
| Total | 1,318.7 | 1,762.3 | 1,753.8 | 1,782.6 | 1,774.8 | 1,644.8 | 1,723.1 | 1,544.0 | 1,600.7 | 1,382.9 |

Notes:

- Other includes contributions from developers and other partners.
- Columns may not add due to rounding.

8.2 Table 6 provides a summary of the Region's key infrastructure financing options. Further details of planned capital investments in 2025 and during the nine-year forecast can be found in the asset class attachments.

**Table 6: Key Regional Financing Sources**

| Funding Source | Purpose |
|---|---|
| Regional Roads Rehabilitation Reserve Fund | Provides funding to address the rehabilitation needs of the road network. |
| Regional Roads Reserve - Growth | Provides property tax funding for the property tax portion of growth-related projects. |
| Vision Zero Initiatives Reserve Fund | Supports projects to meet Regional Council Vision Zero targets. |

| Funding Source | Purpose |
|---|---|
| Regional Bridge Rehabilitation Reserve Fund | Addresses bridge rehabilitation and replacement needs. |
| Water Rate Stabilization Reserve Fund and Sewer Rate Stabilization Reserve Fund | In addition to providing funding to stabilize water and sewer user rates, funds are used for major water and sanitary sewer capital projects and asset management needs. |
| Water Supply and Sanitary Sewerage Asset Management Reserve Funds | Funds high priority capital initiatives related to repair, rehabilitation and replacement of existing water supply and sanitary sewer assets. |
| General Levy Asset Management Reserve Fund | Funds high priority capital initiatives related to repair, rehabilitation and replacement of existing assets (i.e., general purpose needs, such as facilities). |
| Equipment Replacement Reserve | Funding for regional works equipment and fleet replacements. |
| Various Service Area Reserve Funds | Funds rehabilitation, replacement and growth needs for DRT, RDPS and Social Housing. |
| Capital Impact Stabilization Reserve Fund and Capital Project Reserve | Enables contributions towards capital project financing to mitigate impacts on tax levy from major projects, provides capital funding for Regional priorities and ongoing business continuity. |
| Growth Related Infrastructure Reserve Funds (individual reserve funds for various service areas) | Funds to pay for the shortfall in development charge receipts resulting from the development charge freezing, exemptions and discounts introduced through Bill 23, *More Homes Built Faster Act, 2022*, Bill 134 *Affordable Housing and Good Jobs Act, 2023* and related legislation. |
| Development Charges | Funding to pay for infrastructure growth needs. The Region charges development charges for all eligible asset classes to maximize recoveries related to growth infrastructure per the principle that ‘growth pays for growth’ as permitted under the Development Charges Act (DCA) legislation. |

| Funding Source | Purpose |
|---|---|
| Canada Community-Building Fund (formally Federal Gas Tax) and Provincial Gas Tax | Canada Community-Building Funds: source of funding for eligible Regional infrastructure projects.<br>Provincial Gas Tax funds: expanding and improving public transit. |
| User Rates | A portion of annual water and sanitary sewer user rate revenues are dedicated to the highest priority needs. |
| Property Taxes | A portion of annual property tax revenues are utilized to finance upgrades, rehabilitation and the replacement of infrastructure assets for Regional roads, transit and other tax-supported programs. |
| Debt Financing | For large-scale capital projects which may require significant up-front financing over a shorter time horizon, debt financing options provide the ability to distribute the costs over a longer time horizon to current and future users who will benefit from the use of the infrastructure asset. |

8.3 Risks associated with the financial forecast include:

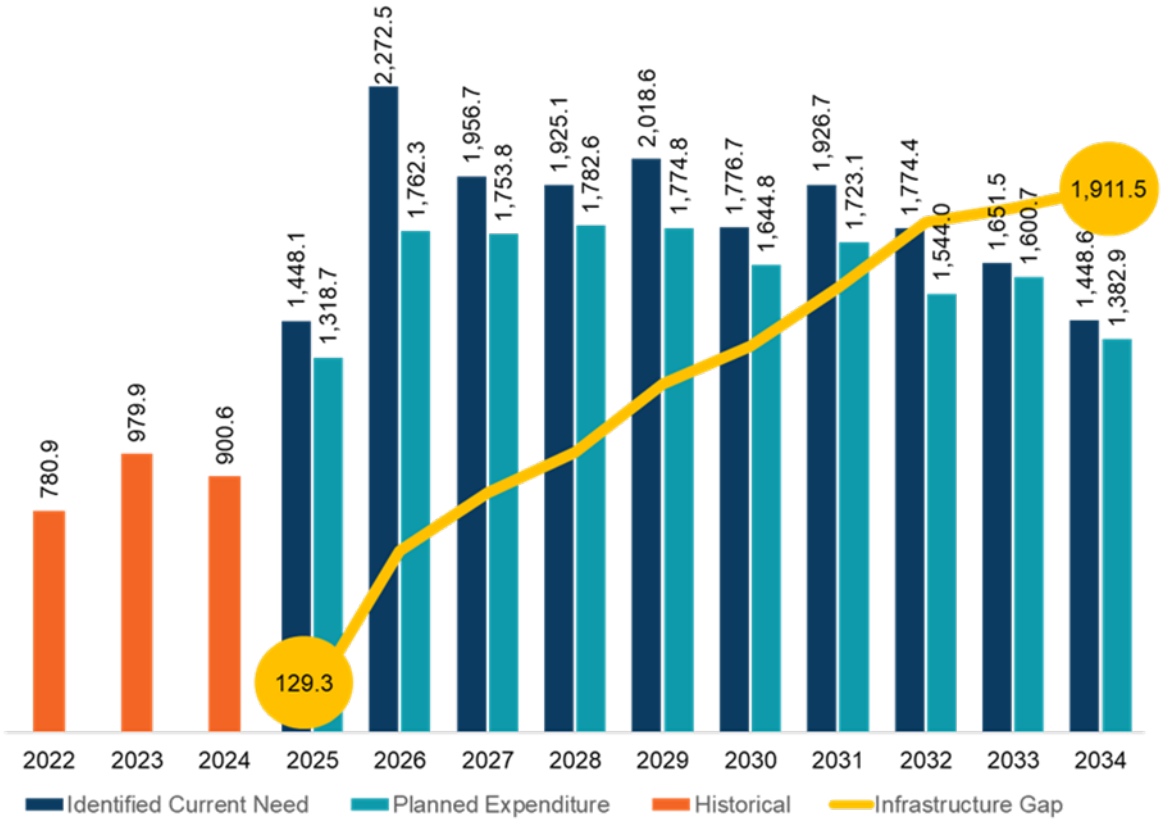
- Development charge revenue forecasts are subject to uncertainty due to fluctuations in the actual level of development achieved. Additionally, evolving legislation in Ontario, such as amendments to the Development Charges Act, may impact the ability of municipalities to collect and allocate these revenues effectively.
- Future provincial and federal funding remains uncertain, as a significant share of the forecasted senior government funding is not secured through agreements. Changes in government priorities, economic conditions, and policy shifts may affect the availability and timing of these funds.
- Interest rate fluctuations will impact the Region’s debt carrying costs throughout the forecast. The Region takes a responsible and sustainable approach to debt financing infrastructure, ensuring compliance with related legislation. This includes aligning borrowing practices with municipal debt limits, maintaining fiscal prudence, and leveraging available funding mechanisms to support long-term financial sustainability.

## 9. Infrastructure Gap Analysis

9.1 As part of the lifecycle costing analysis, staff analysed the current planned operating and capital expenditures and financing plan against projected expenditure and financing needs to meet service levels. Through this analysis, an infrastructure funding gap of $129.3 million in 2025 was identified, growing to $1,911.5 million by 2034 based on planned investments (Figure 6). The infrastructure gap consists of:

- Water Supply and Waste Water system rehabilitation and replacement needs above forecasted capital plan and projected financing ($314.1 million);
- Road rehabilitation requirements above forecasted capital plan and projected financing ($55.1 million);
- Additional financing required to implement Durham Region Transit's capital forecast, as a result of a reduction in anticipated senior government funding and increasing costs associated with electrification ($547.6 million);
- Durham Region Police Service's forecasted facility needs ($852.1 million). Durham Regional Police Service staff and Regional staff are currently working on a multi-year service and financing strategy which will contemplate these facility pressures for Regional Council's consideration in advance of the 2026 budget; and,
- Forecasted facility state of good repair work, for Social Services, Solid Waste Management, and Health facilities, above the Region's 2025 capital budget and nine-year capital forecast ($142.6 million).

**Figure 6: Infrastructure Gap Analysis ($ millions)**




9.2 A significant infrastructure funding gap poses serious challenges for the Region, impacting both the state of repair of existing assets and the ability to accommodate future growth. Insufficient funding could lead to the gradual deterioration of roads, bridges, water and wastewater systems, the public transit system, police and paramedic infrastructure, and public facilities, increasing maintenance costs and reducing service reliability. Residents may experience more frequent service disruptions or delays. Moreover, economic development can stagnate if businesses perceive the municipality's infrastructure as outdated or inadequate to support growth and investment. Without adequate funding, the Region could struggle to meet evolving regulatory standards.

9.3 In addition to challenges related to asset condition, a restricted ability to invest in infrastructure expansion may hinder the municipality’s ability to support population growth. A lack of investment in new infrastructure can lead to congestion, reduced accessibility, and an inability to meet the increasing demands of the community. This could have cascading effects on social equity, affordability, and environmental sustainability, as inadequate infrastructure may limit access to essential services, deter new housing supply, and hinder the transition to greener technologies. Long-term neglect of infrastructure growth could also force the Region into reactive rather than proactive planning, further straining available resources.

9.4 To address these challenges, the municipality will leverage a multi-pronged approach to ensuring the long-term sustainability of infrastructure assets. Conducting further analysis to refine cost projections and evaluate infrastructure needs can help identify cost-saving measures and prioritization strategies. Pursuing additional senior government funding for capital projects can provide financial relief and enable critical investments. Re-evaluating service level targets may allow for more flexible approaches to asset management, aligning expenditures with realistic financial constraints. Additionally, exploring new technologies, innovative processes, and updated policies could help reduce asset lifecycle costs, enhancing efficiency and long-term financial sustainability. These strategies will be incorporated into future asset management plans and annual business plans and budgets for Council's consideration. By taking these proactive steps, the municipality can minimize these risks.

## 10. Risk Assessment

10.1 Staff continuously monitor and assess asset risk including likelihood, impact and the effectiveness of mitigation controls.

10.2 Table 7 includes a sample of identified risks for the Region's assets in achieving its service level standards as well as the mitigation controls to address these risks.

**Table 7: Asset-Related Risks and Mitigation Measures**

| Risk | Existing Controls | Remediation |
|---|---|---|
| Disruption to Water Supply | Maintenance, repair and rehabilitation (e.g., lining and cathodic pipe protection)<br>Studies, inspections, monitoring controls and systems (e.g., leak detection, SCADA alerts)<br>Source water and well head protection | Continue condition assessments and prioritize repair, maintenance, and rehabilitation needs and programs<br>Continue erosion mitigation studies and strategies, monitoring, and use of systems<br>Continue to include prioritized remediation work and system improvements for funding through financial and business planning |

| Risk | Existing Controls | Remediation |
|---|---|---|
| Loss of Utilities and Fuel | Essential services policies and business continuity/emergency plans<br>Standby power, on call service contracts, system redundancies, and re-routing plans<br>Fuel delivery system and water and sewer monitoring systems | Continue programs to ensure facility/depot standby power and fuel storage systems, water and sewer monitoring, service contracts and continuity plans<br>Assess criticality of facilities/depots and continue prioritization and planning<br>Continue implementation of Traffic UPS equipment |
| Major Facility System Failures | Well maintained assets and equipment (i.e., proactive and preventive maintenance programs)<br>Business continuity/emergency plans<br>Standby power, on call service contracts, parts inventory, and system redundancies<br>Capital and financing planning | Continued condition assessments and maintenance and rehabilitation program<br>Continue programs to ensure standby power, fuel storage systems, IT services, service contracts and continuity plans remain stable<br>Prioritize remediation work and continue rehabilitation funding |
| Disruption to Sanitary Sewerage Collection | Asset condition assessments for forcemains and gravity pipes<br>Maintenance, repair and rehabilitation<br>System alerts/controls and emergency response planning<br>Increase contingency through pipe twinning | Continued condition assessments (including larger pipe inspections) and maintenance, repairs and rehabilitation programs and funding through budget process<br>Reassess contingency planning and prioritize needs and available funding<br>Continue with SCADA system upgrades to improve management control during storms |

| Risk | Existing Controls | Remediation |
|---|---|---|
| Sanitary Sewerage Inflow and Infiltration (I/I) | I/I program, flow monitoring equipment and performance assessments during storms<br>Capital investments and system repairs<br>Household drainage surveys and education | Continue to prioritize I/I program strategies<br>Continue to include and prioritize funding through the financial and business planning and budget process |

## 11. Next Steps

11.1 Infrastructure needs identified in this report will inform the 2026 business planning and budget process, capital planning, and departmental 2026 to 2035 business plans and budgets.

11.2 Next steps include:

- Refining data collection processes and analysis to improve asset management planning capabilities and lifecycle costing, to inform future business plans, budgets, capital forecasts, and long-term financial planning strategies;
- Refining the Region's non-core asset inventory;
- Continuing to seek alignment between corporate climate initiatives and asset management processes; and
- Continuing to assess risk, business continuity, asset criticality, and asset reliability.

## 12. Conclusions

12.1 The Asset Management process is a critical element in the Region's business planning, budget and long-term financial planning processes. The Asset Management Plan details the current condition of the Region's assets and forecasts future investment needs for repair, maintenance, and replacements. Suitability of current assets to meet changing service delivery and legislative requirements are addressed through subsequent multi-year service and financing strategies and through the business planning and budget process.

12.2 The Region's 2025 Asset Management Plan complies with the additional reporting requirements for core and non-core assets including the development of financing strategies required under Ontario Regulation 588/17.

12.3 The overall replacement value of the Region's assets is increasing due to growth demands for additional infrastructure and inflationary pressures. The asset class attachments (Attachments #2 through #9) provide additional details on the change in replacement values for each asset class.

12.4 The condition of the Region's assets remained relatively stable year-over-year as a result of preventative maintenance, rehabilitation and timely repairs and replacements with strategic investments planned that will address many assets currently in Very Poor condition.

12.5 As part of continual improvement, the asset management planning processes of data collection, asset assessment, asset and lifecycle analysis and associated financing strategies will continue to be refined and improved.

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| **Water Supply System** | | | | | | |
| Vertical Assets - Treatment, Pumping and Storage | | | | | | |
| Supply Plants and Well Systems | 14.0 | 906.5 | Fair | 14.0 | 1,016.1 | Fair |
| Pumping Stations | 11.0 | 45.4 | Fair | 11.0 | 48.8 | Fair |
| Water Storage Facilities | 14.0 | 100.0 | Good | 14.0 | 107.6 | Good |
| Combined Pumping Station/Storage | 9.0 | 285.0 | Fair | 9.0 | 304.7 | Fair |
| Facilities (Other) | 5.0 | 5.0 | Good | 5.0 | 5.4 | Good |
| Vertical Assets Subtotal | 53.0 | 1,342.0 | Fair | 53.0 | 1,482.7 | Fair |
| Linear Assets - Water Distribution | | | | | | |
| Mains (km) | 2,693.4 | 3,756.1 | Good | 2,733.5 | 3,981.2 | Good |
| Control Valves | 28,537.0 | 307.4 | Good | 29,047.0 | 324.1 | Good |
| Specialty Valves | 712.0 | 22.5 | Good | 722.0 | 23.9 | Good |
| Service Connections | 186,997.0 | 1,126.6 | Good | 188,924.0 | 1,304.3 | Good |
| Hydrants | 17,254.0 | 259.9 | Good | 17,529.0 | 275.1 | Good |
| Fire Lines | 2,070.0 | 29.8 | Good | 2,095.0 | 31.5 | Good |
| Meters | 185,362.0 | 46.1 | Good | 188,075.0 | 46.8 | Good |
| Depots | 1.7 | 25.4 | Poor | 1.7 | 26.4 | Poor |
| Linear Assets Subtotal | | 5,573.8 | Good | | 6,013.4 | Good |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| Fleet | 138.0 | 15.1 | Fair | 125.0 | 13.8 | Fair |
| Equipment | | 30.2 | | | 30.1 | |
| Other Supporting Assets | | | | | | |
| Facilities | 0.4 | 21.5 | Good | 0.4 | 22.4 | Fair |
| Fleet | 0.3 | 0.0 | Fair | 0.3 | 0.0 | Good |
| Equipment | | 4.7 | | | 4.7 | |
| Other Supporting Assets Subtotal | | 26.2 | Good | | 27.1 | Fair |
| **Water Supply System Total** | | **6,987.3** | **Good** | | **7,567.1** | **Good** |
| **Wastewater System** | | | | | | |
| Vertical Assets - Treatment, Pumping and Storage | | | | | | |
| Water Pollution Control Plants | 11.0 | 1,557.9 | Fair | 11.0 | 1,626.0 | Fair |
| Wastewater Pumping Stations | 52.0 | 417.2 | Fair | 52.0 | 449.6 | Fair |
| Wastewater Storage Facilities | 2.0 | 9.5 | Very Good | 2.0 | 10.2 | Very Good |
| Facilities (Other) | 1.0 | 3.3 | Very Good | 1.0 | 3.5 | Very Good |
| Vertical Assets Subtotal | 66.0 | 1,987.9 | Fair | 66.0 | 2,089.4 | Fair |
| Linear Assets - Wastewater Collection | | | | | | |
| Gravity Sewers/Siphons (km) | 2,261.6 | 3,639.6 | Good | 2,293.5 | 3,848.2 | Good |
| Forcemains (km) | 65.5 | 176.3 | Good | 67.8 | 195.7 | Good |
| Maintenance Holes | 32,981.0 | 690.4 | Good | 33,351.0 | 731.4 | Good |
| Service Connections | 183,152.0 | 1,307.4 | Very Good | 185,101.0 | 1,376.8 | Very Good |
| Depots | 1.7 | 25.4 | Poor | 1.7 | 26.4 | Poor |
| Linear Assets Subtotal | | 5,839.2 | Good | | 6,178.5 | Good |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| Fleet | 78.0 | 10.7 | Fair | 74.0 | 11.2 | Good |
| Equipment | | 21.7 | | | 22.9 | |
| Other Supporting Assets | | | | | | |
| Facilities | 0.5 | 22.5 | Good | 0.5 | 23.3 | Fair |
| Fleet | 0.3 | 0.0 | Fair | 0.3 | 0.0 | Good |
| Equipment | | 6.1 | | | 6.1 | |
| Other Supporting Assets Subtotal | | 28.6 | Good | | 29.4 | Fair |
| **Wastewater System Total** | | **7,888.1** | **Good** | | **8,331.5** | **Good** |
| **Transportation System** | | | | | | |
| Roads, Bridges and Culverts | | | | | | |
| Urban (lane km) | 1,103.5 | 1,752.2 | Fair | 1,105.1 | 1,755.4 | Fair |
| Rural (lane km) | 1,346.4 | 2,031.7 | Fair | 1,347.0 | 2,140.0 | Fair |
| Bridges and Culverts (> 3m) | 247.0 | 999.1 | Good | 255.0 | 1,153.4 | Good |
| Roads, Bridges and Culverts Subtotal | | 4,783.0 | Fair | | 5,048.8 | Fair |
| Storm Sewer System | | | | | | |
| Storm Sewer Mains (km) | 335.6 | 745.7 | Fair | 339.4 | 785.0 | Fair |
| Culverts (< 3m) | 31.4 | 57.4 | Fair | 31.6 | 60.1 | Fair |
| Maintenance Holes | 5,309.0 | 46.2 | Fair | 5,362.0 | 48.6 | Fair |
| Catchbasins | 6,208.0 | 54.0 | Fair | 6,249.0 | 56.7 | Fair |
| Outfalls | 491.0 | 1.4 | Fair | 501.0 | 1.6 | Fair |
| Storm Sewer System Subtotal | | 904.8 | Fair | | 952.0 | Fair |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| Traffic Control System | | | | | | |
| Control Signals/ Flashing Beacons | 509.0 | 110.8 | Good | 519.0 | 121.6 | Good |
| Traffic Management Systems | 16.0 | 5.2 | Fair | 19.0 | 4.5 | Fair |
| Communications Infrastructure (km) | 337.9 | 15.8 | Good | 473.6 | 24.9 | Good |
| Regulatory, Warning and Information Signs | 25,952.0 | 4.9 | Very Good | 18,778.0 | 3.3 | Very Good |
| Roadside Protection (km) | 104.2 | 20.9 | Very Good | 122.4 | 23.2 | Very Good |
| Closed-Circuit Television | 127.0 | 0.5 | Poor | 130.0 | 0.5 | Poor |
| Traffic Control System Subtotal | | 158.1 | Good | | 178.0 | Good |
| Facilities | 3.4 | 41.0 | Poor | 3.4 | 42.7 | Poor |
| Fleet | 155.0 | 38.2 | Fair | 148.0 | 37.8 | Fair |
| Equipment | | 8.9 | | | 9.7 | |
| Other Supporting Assets | | | | | | |
| Facilities | 0.3 | 15.3 | Good | 0.3 | 15.5 | Fair |
| Fleet | 0.5 | 0.0 | Fair | 0.5 | 0.0 | Good |
| Equipment | | 8.6 | | | 8.6 | |
| Other Supporting Assets Subtotal | | 23.9 | Good | | 24.1 | Fair |
| **Transportation System Total** | | **5,958.0** | **Fair** | | **6,293.1** | **Fair** |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| **Durham Region Transit** | | | | | | |
| Facilities | 2.0 | 96.3 | Very Good | 2.0 | 100.3 | Very Good |
| Fleet | 182.0 | 121.5 | Good | 201.0 | 196.9 | Fair |
| Bus Pads and Shelters | 2,638.0 | 14.9 | Very Good | 2,541.0 | 14.7 | Very Good |
| Equipment | | 16.8 | | | 17.1 | |
| Other Supporting Assets | | | | | | |
| Facilities | 0.2 | 7.4 | Good | 0.2 | 8.7 | Fair |
| Fleet | 0.6 | 0.0 | Fair | 0.6 | 0.0 | Good |
| Equipment | | 11.2 | | | 11.2 | |
| Other Supporting Assets Subtotal | | 18.6 | Good | | 20.0 | Fair |
| **Durham Region Transit Total** | | **268.1** | **Very Good** | | **349.0** | **Good** |
| **Social Services** | | | | | | |
| Housing Services | | | | | | |
| Facilities | 27.0 | 403.5 | Poor | 28.0 | 441.1 | Poor |
| Fleet | 8.0 | 0.8 | Good | 8.0 | 0.5 | Good |
| Equipment | | 0.5 | | | 1.8 | |
| Housing Services Subtotal | | 404.8 | Poor | | 443.3 | Poor |
| Childrens Services | | | | | | |
| Facilities | 4.0 | 13.0 | Fair | 4.0 | 13.5 | Fair |
| Equipment | | 0.7 | | | 0.7 | |
| Childrens Services Subtotal | | 13.7 | **Fair** | | 14.3 | Fair |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| Long Term Care Facilities | | | | | | |
| Facilities | 4.0 | 372.2 | Good | 4.0 | 387.8 | Good |
| Fleet | 2.0 | 0.2 | Good | 2.0 | 0.2 | Fair |
| Equipment | | 21.9 | | | 23.6 | |
| Long Term Care Facilities Subtotal | | 394.3 | Good | | 411.6 | Good |
| Other Supporting Assets | | | | | | |
| Facilities | 1.2 | 55.9 | Good | 1.2 | 58.1 | Fair |
| Fleet | 2.5 | 0.2 | Fair | 6.5 | 0.5 | Good |
| Equipment | | 30.9 | | | 31.1 | |
| Other Supporting Assets Subtotal | | 87.0 | Good | | 89.8 | Fair |
| **Social Services Total** | | **899.7** | **Fair** | | **959.0** | **Fair** |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| **Solid Waste** | | | | | | |
| Facilities | 7.0 | 373.3 | Very Good | 7.0 | 389.0 | Very Good |
| Fleet | 6.0 | 1.7 | Good | 7.0 | 0.6 | Fair |
| Equipment | | 14.5 | | | 15.0 | |
| Other Supporting Assets | | | | | | |
| Facilities | 0.1 | 4.1 | Good | 0.1 | 4.2 | Fair |
| Fleet | 0.1 | 0.0 | Fair | 0.1 | 0.0 | Good |
| Equipment | | 1.5 | | | 1.5 | |
| Other Supporting Assets Subtotal | | 5.6 | Good | | 5.6 | Fair |
| **Solid Waste Total** | | **395.1** | **Very Good** | | **410.3** | **Very Good** |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| **Health** | | | | | | |
| Public Health | | | | | | |
| Facilities | 0.3 | 6.0 | Very Poor | 0.3 | 6.3 | Very Poor |
| Equipment | | 3.3 | | | 3.9 | |
| Public Health Subtotal | | 9.3 | Very Poor | | 10.2 | Very Poor |
| Paramedic Services | | | | | | |
| Facilities | 9.0 | 47.3 | Very Good | 9.0 | 49.3 | Very Good |
| Fleet | 82.0 | 16.4 | Good | 102.0 | 18.4 | Good |
| Equipment | | 6.4 | | | 9.5 | |
| Paramedic Services Subtotal | | 70.1 | Very Good | | 77.2 | Very Good |
| Other Supporting Assets | | | | | | |
| Facilities | 0.8 | 40.7 | Good | 0.8 | 42.2 | Fair |
| Fleet | 0.8 | 0.1 | Fair | 0.8 | 0.1 | Good |
| Equipment | | 15.3 | | | 15.3 | |
| Other Supporting Assets Subtotal | | 56.1 | Good | | 57.6 | Fair |
| **Health Total** | | **135.5** | **Good** | | **145.0** | **Good** |

# Regional Asset Inventory, Replacement Value and Condition

Provides an overview of Regional assets and their critical considerations

| Asset Service Area | 2023 Inventory | 2023 Replacement Value ($m) | 2023 Condition | 2024 Inventory | 2024 Replacement Value ($m) | 2024 Condition |
|---|---|---|---|---|---|---|
| **Durham Regional Police Service** | | | | | | |
| Facilities | 8.0 | 165.8 | Fair | 9.0 | 199.5 | Good |
| Fleet | 378.0 | 31.0 | Very Good | 377.0 | 30.8 | Good |
| Equipment | | 53.6 | | | 59.7 | |
| Other Supporting Assets | | | | | | |
| Facilities | 0.5 | 24.9 | Good | 0.5 | 25.9 | Fair |
| Other Supporting Assets Subtotal | | 24.9 | Good | | 25.9 | Fair |
| **Durham Regional Police Service Total** | | **275.3** | **Fair** | | **315.9** | **Good** |
| **TOTAL** | | **22,807.2** | **Good** | | **24,370.8** | **Good** |

**Notes:**

1) Columns may not add due to rounding.
2) Some 2023 figures have been restated from those presented in the 2024 Asset Management Plan to reflect final 2023 year-end inventories.
3) The 2023 fleet vehicle counts (and related replacement values) for water supply, wastewater and transportation systems include vehicles that had been replaced and were ready for de-commissioning as at December 31, 2023. Such vehicles are not included in the 2024 inventory information, explaining the decrease between 2023 and 2024.
4) For Durham Region Transit Bus Pads and Shelters, and Traffic Regulatory, Warning and Information Signs, change in inventory between 2023 and 2024 is reflective of improved inventory information collection between the two years, and not necessarily actual change in inventory.



# Water Supply

## Asset Class Report

Replacement Value

**$7,567.1M**

Average Condition

**GOOD**

## Service Level Objectives

To provide a safe and sufficient water supply while complying with all Provincial and Federal Acts and Regulations.

To protect the environment and the quality and quantity of ground and surface water.

To support the coordination of growth and achieve and maintain an optimal condition standard for all existing and new water supply system assets.

- 14 Water Supply Plants and Well Systems
- 11 Water Pumping Stations
- 9 Combined Water Pumping Stations/ Storage Facilities
- 14 Water Storage Facilities
- 5 Other Water Facilities
- 2,734 km watermains
- 29,047 control valves
- 188,924 service connections
- 722 Specialty Valves
- 17,529 Hydrants
- 2,095 Fire Lines
- 188,075 Meters

## 1. Water Supply System Asset Inventory Overview

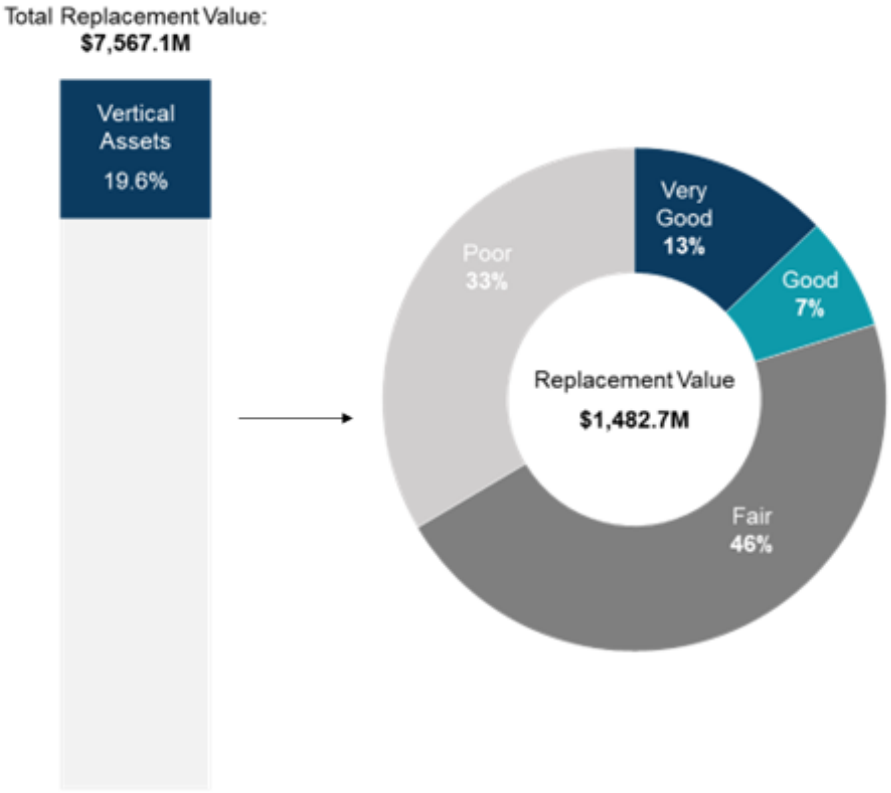
Durham's water supply system assets consist of vertical and linear assets, fleet assets, equipment assets, and other supporting assets. Vertical assets treat, store and pump drinking water and linear assets distribute the water to residents and businesses through pipes. Supporting assets include a portion of the Region's administrative facilities, fleet and equipment that support the Region's water supply system.

## 2. Condition Ratings and Replacement Values

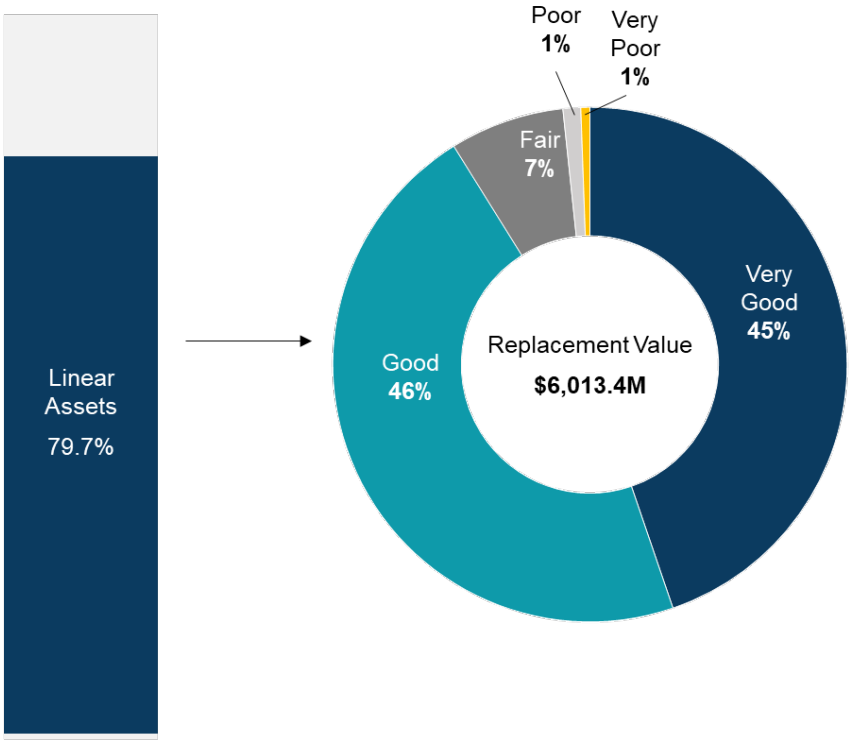
The overall water supply system condition rating in 2024 was Good representing no year-over-year condition change. Condition ratings for linear assets (Good), vertical assets (Fair), fleet (Fair) and other supporting assets (Good) also remained stable year-over-year. Overall replacement values totalled $7,567.1 million, an 8 per cent increase over 2023 primarily a result of inflationary replacement cost increases and increases to linear assets to accommodate growth.

Figure 1 illustrates the condition rating and replacement value of water supply system assets.

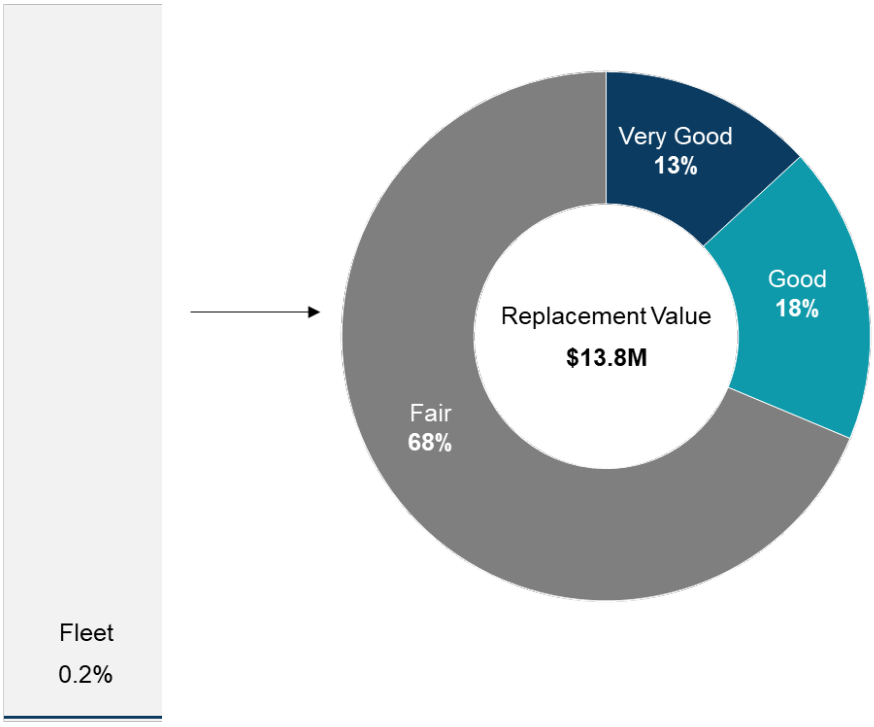
**Figure 1: Water Supply System Assets Condition and Replacement Values***

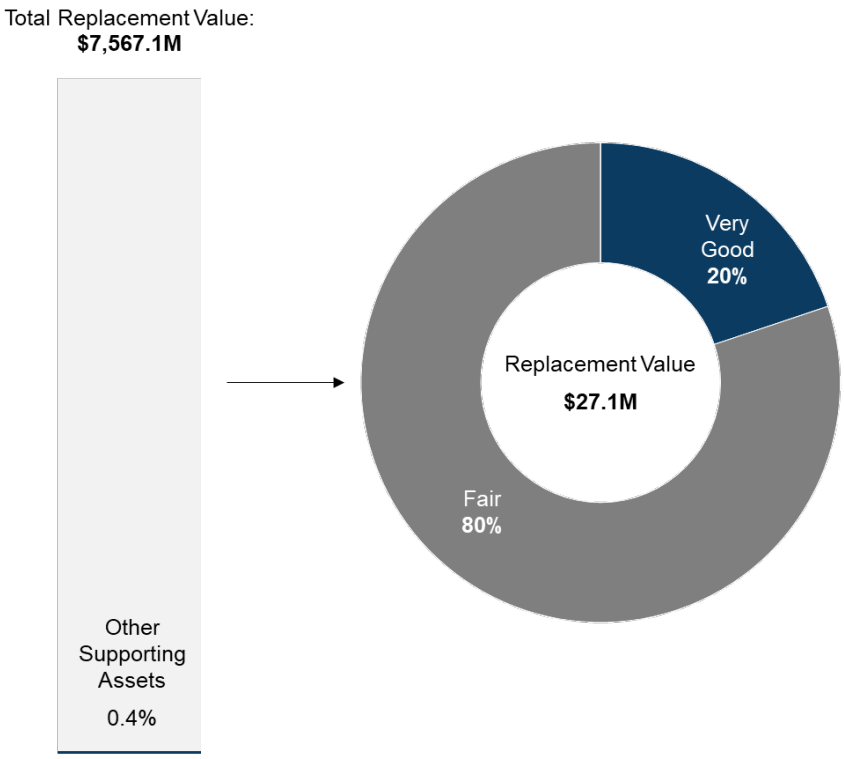


Total Replacement Value:
**$7,567.1M**




Total Replacement Value:
**$7,567.1M**






* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

### 3. Condition Assessment Methods

Table 1 outlines the assessment methods used to determine condition ratings.

**Table 1: Water Supply System Condition Assessment Methods**

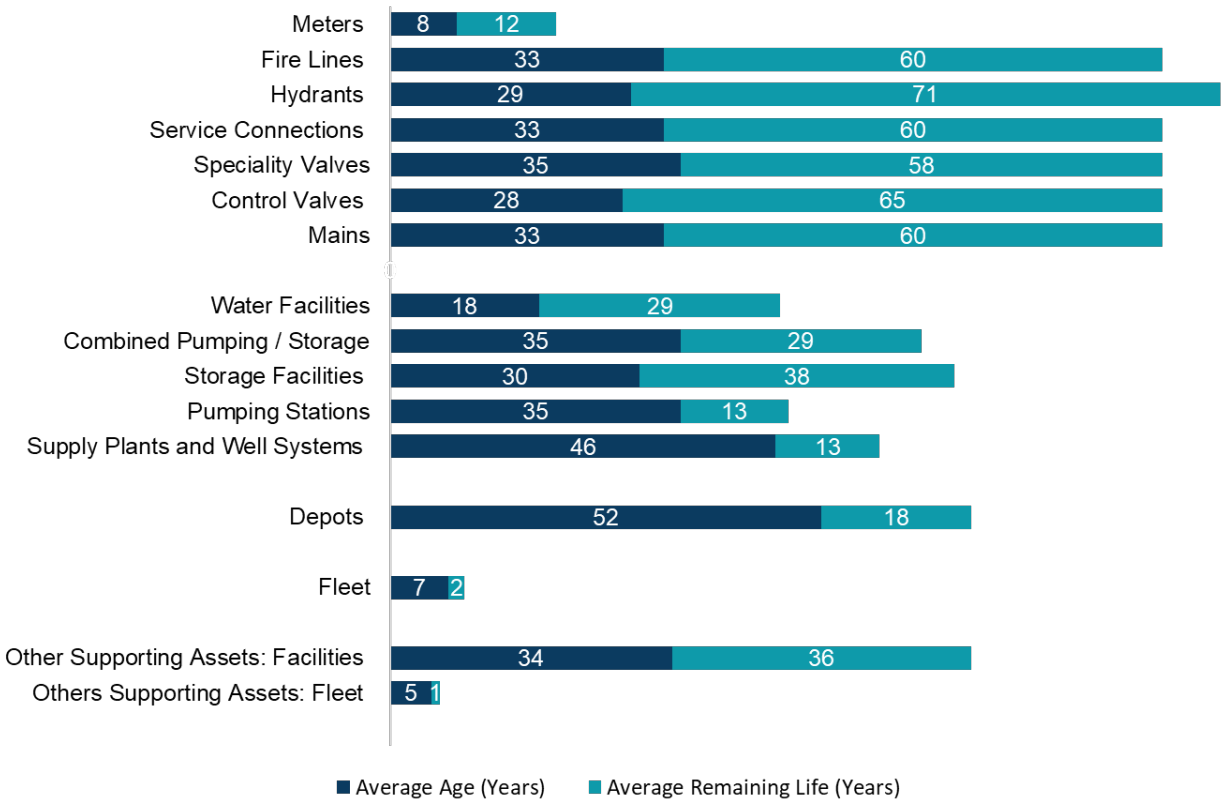
| Asset Class | Assessment Methods |
|---|---|
| Plants, pumping stations, wells and reservoirs | Regular monitoring of assets and collection of asset data to determine current condition grades. This process encompasses both qualitative and quantitative information gathered from inspections across various design disciplines (structural, mechanical, electrical, architectural, instrumentation, process, etc.). Through a comprehensive evaluation of an asset's visual and physical conditions, performance characteristics, failure risks and impacts, level of service requirements, legislative changes, and operational efficiency, condition assessments provide crucial information for effective asset management throughout the lifecycle. Analysis of inspection data helps identify whether an asset requires preventative maintenance, rehabilitation, or replacement to ensure it meets its expected lifespan, complies with regulations, and delivers optimal performance. This establishes a baseline for monitoring and maintaining the performance of water supply system and wastewater assets over time. |

| Asset Class | Assessment Methods |
|---|---|
| | Comprehensive asset management allows municipalities to make informed decisions for future investments and allows teams to prioritize repairs and rehabilitation with more accuracy. Condition assessment results inform the capital budget and nine-year forecast. |
| Water towers/standpipes | Annual site-specific inspections per legislated requirements. |
| Watermains | Consideration of the number of watermain breaks, break rate, pipe material, age, maintenance concerns and issues, lining type, and cathodic protection. |
| Fire lines, hydrants and water meters | Condition rating is based on age. |
| Control valves, service connections and specialty valves | Condition rating is based on the connected watermain condition scores. |
| Fleet | Mileage and vehicle inspection. |
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method for assess the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |

## 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining asset life of water system assets. Overall, the water system is relatively young as evidenced by generally significant remaining useful life.

**Figure 2: Water Supply System Average Age and Remaining Useful Life**




## 5. Levels of Service and Performance Measurement

Service level objectives and performance targets are set through Council approved master plans, studies, policies and procedures, as well as through departmental studies and regulatory and/or compliance guidelines. Table 2 provides examples of key plans, studies, policies, procedures, and regulations that inform water and wastewater systems service levels and have implications for asset lifecycle costs.

**Table 2: Plans, Studies, Policies, Procedures, Regulations that Inform Service Levels**

| Regional Plans, Studies, Policies, & Procedures |
|---|
| • Region of Durham By-laws:<br>  ○ Water Supply System By-law<br>  ○ Regional Backflow Prevention By-law<br>  ○ Sewer Use By-law<br>  ○ Service Connection Cleaning By-law<br>  ○ Water Pollution Control System and Storm Sewer System By-law<br>• Applicable Local Area Municipality By-laws related to noise and anti-idling<br>• Service Levels for Water and Wastewater Operations<br>• Region of Durham Design Standards and Specifications |

## Regulatory Compliance Requirements and Guidelines

- Canadian Environmental Protection Act
- Environmental Protection Act of Ontario
- Technical Standards and Safety Act
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  - R.R.O. 1990, Reg. 903: Wells
  - Ontario Regulation 223/07 Environmental Penalties
  - Ontario Regulation 387/04 Water Taking and Transfer
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Detailed service level descriptions and targets are outlined in the Community Levels of Service, Technical Levels of Service and Performance Measures sections that follow.

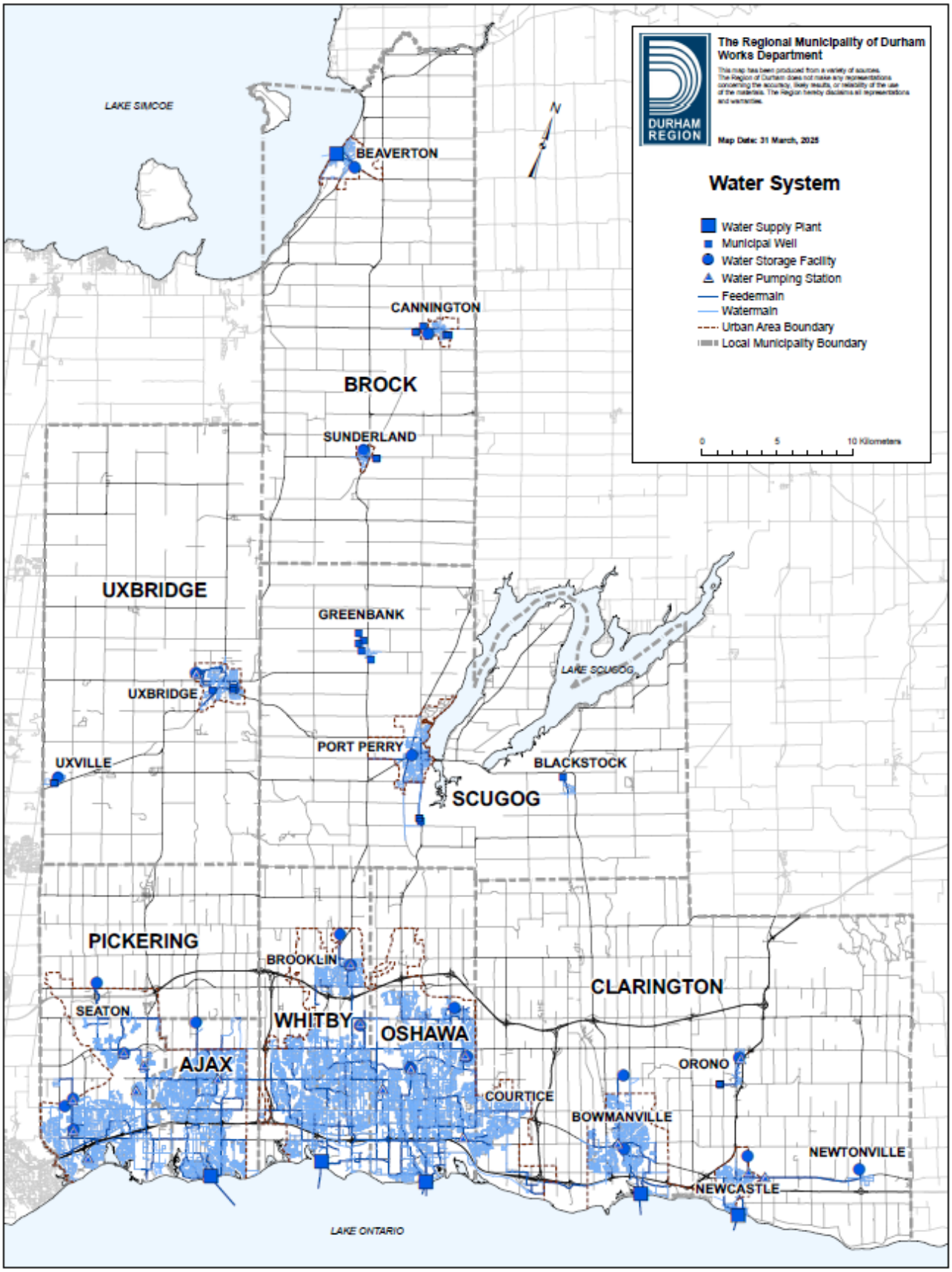
## 6. Community Levels of Service

Community levels of service provide qualitative descriptions of service reliability, service standards and service scope as required by Ontario Regulation 588/17.

**Table 3: Community Levels of Service**

| Criteria | Description |
|---|---|
| Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system. | Approximately 95 per cent of Durham's municipal tap water comes from Lake Ontario, with the remaining from underground sources (wells) and Lake Simcoe for the Beaverton area. Map 1 identifies the areas that are connected to the Region of Durham’s water supply system. |
| Description, which may include maps, of the user groups or areas of the municipality that have fire flow. | Proximity to a hydrant is a benefit of being connected to the water supply system for fire protection. There are 17,529 fire hydrants in Durham Region. There is 100 per cent fire flow in the Region of Durham with 92 per cent of residents having direct supply from hydrants. |
| Description of boil water advisories and service interruptions. | Boil water advisories can be issued due to adverse water quality testing results or suspected contaminants. They protect water users from potential health risks. Due to the Region’s rigorous and thorough water treatment and testing process, there were zero boil advisory days in 2024. |

**Map 1: Durham Region's Water Supply and Fire Flow System**



## 7. Technical Levels of Service

Ontario Regulation 588/17 includes a list of required technical metrics for water supply systems as shown in Table 4.

**Table 4: Technical Service Levels per Ontario Regulation 588/17**

| Technical Metric | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Percentage of Properties Connected to the Region's Water Supply System | 100 per cent of Properties with Proximity to a Watermain to be Connected | 99% | 99% | 99% |
| Measures the percentage of properties connected to the Region's treated water supply system. Only properties within an Urban Boundary can be potentially connected to a water system. Durham has a number of properties in rural areas. | | | | |
| Percentage of Properties Where Fire Flow is Available | 100 per cent of Properties with Proximity to a Watermain have Fire Flow | 100% | 100% | 100% |
| This measure tracks the percentage of properties that have fire flow in the Region. Any property in proximity to a watermain has fire flow through hydrants. | | | | |
| Service Interruptions due to Watermain breaks | 0.00 per cent | 0.00% | 0.00% | 0.00% |
| The number of connection-days per year where service is disrupted due to watermain breaks compared to the total number of properties connected to the municipal water system. | | | | |
| Boil Water Advisory Days | Zero days annually | 0 | 0 | 0 |
| The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system. | | | | |

## 8. Performance Measures

Beyond community service levels and technical reporting requirements of Ontario Regulation 588/17, a number of performance metrics are being tracked to measure how well assets are meeting service level objectives.

**Table 5: Performance Measures**

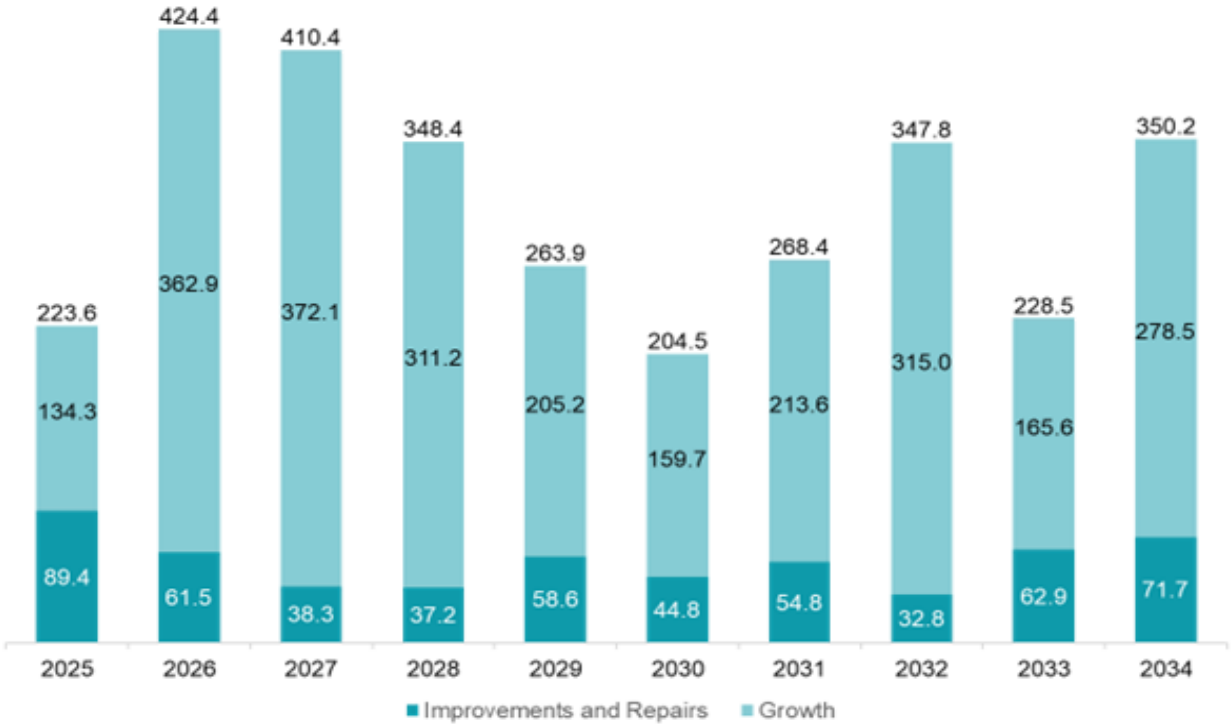
| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Condition Index Rating | 0.2 per cent of linear assets rated as very poor | 0.62% | 0.61% | 0.43% |
| Measure identifies the per cent of linear assets (watermains, hydrants, valves, service connections, fire lines and water meters) rated as "Very Poor" calculated on total replacement value of these assets. | | | | |
| Non-Revenue Water | Reduce non-revenue water by 0.5 per cent annually | 14.00% | 16.26% | 14.13% |
| Measures non-revenue water as a percentage of total water treated. Non-revenue water is a total of unbilled authorized consumption, apparent losses and real losses. Examples of each type are as follows:<br>• Unbilled Authorized = flushing hydrants at dead ends, in new developments or following replacement or repair of hydrant.<br>• Apparent Losses = unauthorized consumption like water theft at hydrants and customer metering inaccuracies.<br>• Real Losses = leakage on mains and service connections, overflows at water storage facilities and at point of customer metering. | | | | |
| Valves Inspected | 100 per cent of line valves ≥300mm every 2 years | 96% | 78% | 92% |
| | 100 per cent of line valves <300mm every 6 years | 94% | 90% | 90% |
| Percent of valves inspected per current Durham Service Levels. The purpose is to ensure all valves are operational when required for use and to minimize water losses. | | | | |
| Hydrants Inspected | 100 per cent of hydrants inspected annually | 99% | 98% | 98% |
| Measures the percentage of hydrants inspected annually per Durham Service Level. The goal is to ensure sufficient, reliable service for fire protection. | | | | |
| Condition Index Rating | 0 per cent of vertical assets rated as very poor | 0.00% | 0.00% | 0.00% |
| Measure identifies the percentage of plants (including wells, pumping stations and water storage facilities) rated very poor. The condition percentage is based on replacement value rather than number of sites. | | | | |

| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Compliance to Drinking Water Standards and MECP Regulatory Requirements | 100 per cent compliance of drinking water test results annually | 99.84% | 99.95% | 99.91% |
| Measures compliance to MECP drinking water standards using number of drinking water test results within standards (Ontario Regulation 169/03 microbiological tests only) / total number of drinking water tests performed at the plants and on the distribution system. Purpose is to ensure a safe water source for all residents of Durham. Microbiological tests on commissioned and operating systems including any tests carried out in addition to Regulatory requirements. | | | | |
| Back-up power capabilities | 100 per cent of plants, wells, and pumping stations with back up generators | 87% | 87% | 78% |
| | 100 per cent of generators newer than 30 years in age | 70% | 62% | 59% |
| Ensure that all plants, wells and pumping stations' back-up power generators are no older than 30 years. Portable generators used at maintenance hole-type pumping stations and those too small to house a generator are not included in the calculation. The age measure is calculated using only the number of existing generators currently in place. | | | | |
| Mainline Valves in Operable Condition | 100 per cent of valves in operable condition | 99% | 99% | 99% |
| This measures the percent of valves that are found to be operable during annual inspections. The Region strives to keep all valves operable, and schedules required valve repairs as soon as possible. | | | | |

## 9. Water Supply System Capital Forecast

Major capital investments for the water supply system identified through the 2025 business plans and budget process (rehabilitation and growth) total $223.6 million for 2025 and $2,846.5 million over the 2026 to 2034 forecast period.

**Figure 3: Water Supply System Capital Forecast ($ millions)***




*Improvements and Repairs and Growth may not add to Total due to rounding.

The 2025 Water Supply Capital Budget includes $41.5 million in linear betterments and replacements (watermains, valves, connections). For water supply buildings and plant equipment (vertical assets), there is approximately $41.9 million approved in the 2025 Water Supply Capital Budget to address asset management needs.

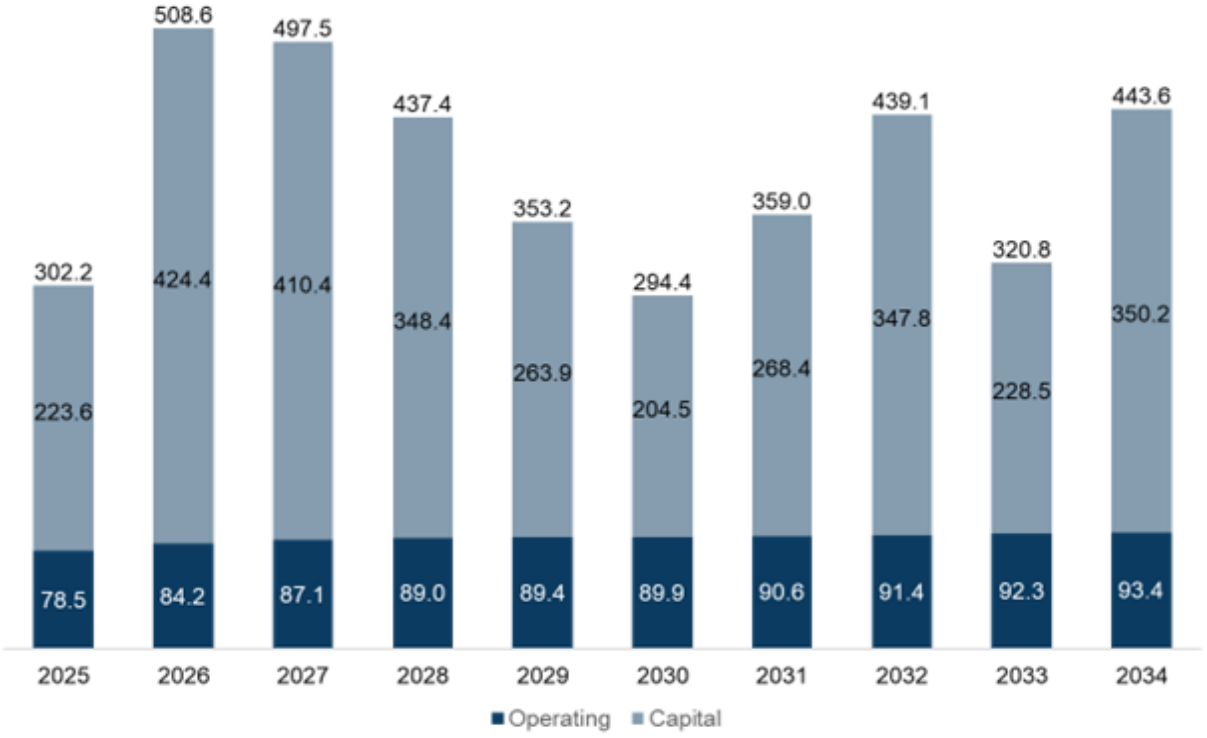
Capital investments in water supply assets to meet growth needs totals approximately $134.3 million in 2025 and $2,383.8 million over the 2026 to 2034 forecast period.

## 10. Lifecycle Costing

Water Supply System maintenance and rehabilitation lifecycle activities aim to extend the useful life of linear and vertical assets and improve service delivery. For some linear assets such as cast iron and ductile iron watermains, there are activities that can be done to slow deterioration and extend the useful life.

Figure 4 illustrates the projected capital and maintenance lifecycle costs for the water supply system asset class.

**Figure 4: Lifecycle Costs Water Supply Operating and Capital ($ millions)***




*Operating and Capital may not add to Total due to rounding.

## 11. Lifecycle Activities

In the past, cement lining was used to improve water flow and quality as well as reduce internal pipe corrosion. The structural lining technology that is used by the Region now provides the same benefits but also renews the pipe to an almost new condition. Cathodic protection is used extensively throughout the Region to slow external corrosion on iron watermains. These rehabilitation methods have the benefit of improving the condition of the watermains while limiting the amount of disruption to residents and the cost to rate payers.

Full pipe replacement is preferred when the watermain condition is in very poor condition or when there is an opportunity to coordinate with other infrastructure work such as road reconstruction or sanitary sewer replacement.

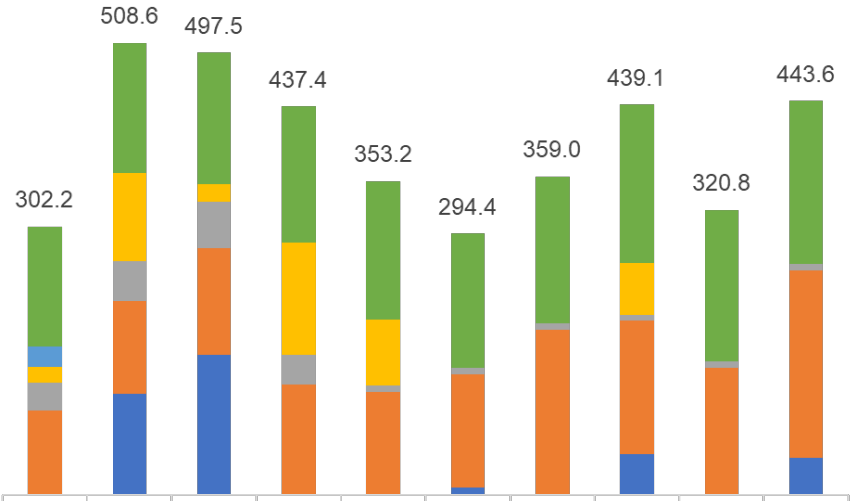
For vertical water system assets, lifecycle activities are informed by detailed site-specific condition assessments as well as by Operations and Facilities staff knowledge of issues as they attend the various sites regularly. The detailed inspections inform rehabilitation and renewal activities and forecast investment needs over the long-term.

In addition to repair and maintenance activities, other ongoing operating expenditures are required to ensure water assets can meet service levels. Some examples include gas and fuel, utilities, chemicals, fleet rentals and overhead costs (e.g., office staff, training, software, etc.).

## 12. Financing Strategy

Figure 5 presents the financing strategy for the Water Supply System operating and capital costs. The financing strategy leverages user rate revenues, debenture financing, reserves and reserve funds, senior government funding, development charge revenues, and contributions from developers and other partners. A discussion of risks related to these financing sources, for all Regional services can be found in the detailed asset management report.

**Figure 5: Water Supply System Operating and Capital Financing Strategy ($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| User rates | 135.1 | 146.3 | 147.8 | 153.4 | 155.9 | 151.7 | 165.2 | 178.6 | 170.6 | 183.7 |
| Senior Government Funding | 23.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Debentures | 18.0 | 99.0 | 20.0 | 126.0 | 74.0 | 0.0 | 0.0 | 58.0 | 0.0 | 0.0 |
| Reserves and Reserve Funds | 31.0 | 45.0 | 52.0 | 34.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Development Charges | 95.0 | 104.0 | 120.0 | 124.0 | 116.0 | 127.0 | 186.0 | 150.0 | 143.0 | 211.0 |
| Other | 0.0 | 114.0 | 158.0 | 0.0 | 0.0 | 9.0 | 0.0 | 46.0 | 0.0 | 42.0 |
| Total | 302.2 | 508.6 | 497.5 | 437.4 | 353.2 | 294.4 | 359.0 | 439.1 | 320.8 | 443.6 |

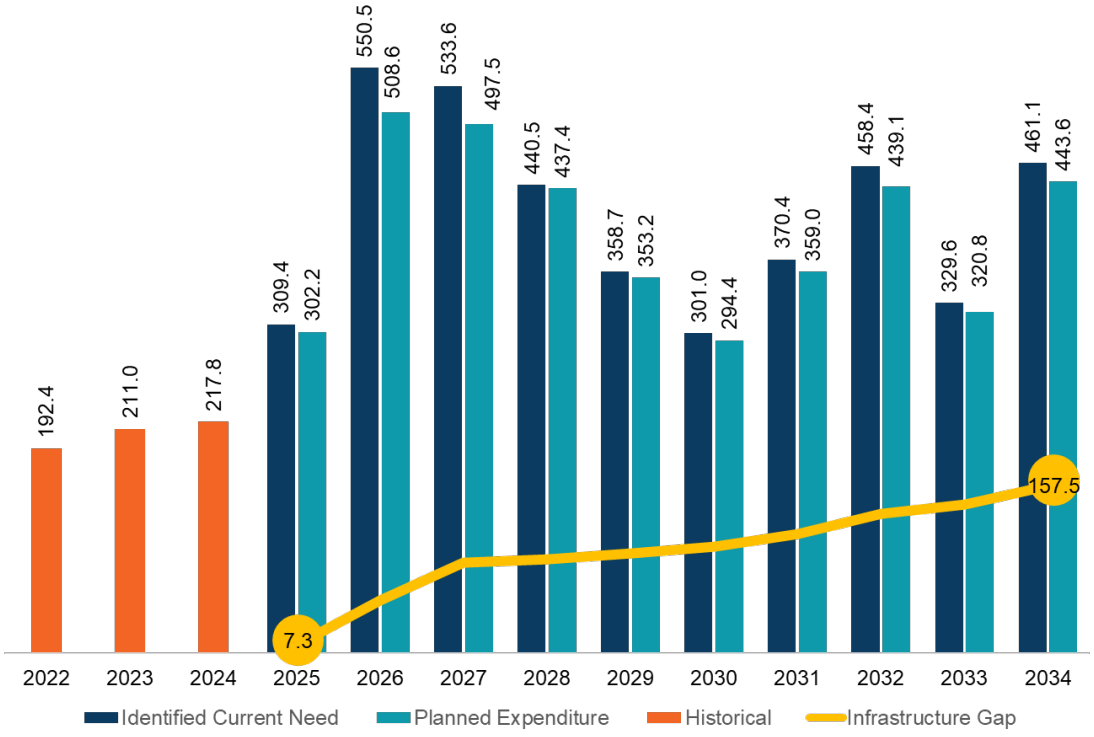
Notes:

- Other includes contributions from developers and other partners.
- Columns may not add due to rounding.

## 13. Lifecycle Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure needs to meet service levels. An infrastructure gap refers to the difference between forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 6). In 2025, the Water Supply System infrastructure gap is estimated at $7.3 million. Based on currently planned expenditures, this infrastructure is estimated to grow to $157.5 million by 2034. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets.

**Figure 6: Water Supply System: Lifecycle Gap Analysis ($ millions)**




The identified current need reflects accelerating replacements for some non-urgent linear projects. Not accelerating these projects may result in increased repair and maintenance work which is balanced with cost savings to rate payers and ensuring full value is extracted from assets by avoiding premature replacement. It is important to note that the planned total expenditure poses no health and safety risk or material impacts to service as compared to the identified current need scenario.

Staff will continue to monitor funding needs and refine identification and assessment processes. Moving forward, staff will be further refining lifecycle costing analysis and data collection for both linear and vertical water supply assets that will be reported in future asset management plans.

## 14. Climate Change

The Durham Region Corporate Climate Action Plan has set targets to achieve net-zero GHG emissions by 2045. The corporate GHG inventory includes emissions produced to treat, store and pump water as well as non-energy GHG emissions associated with water management operations.

A changing climate can put additional pressures on systems through extreme weather events that necessitate proactive measures and modifications to system design. Climate adaptation will continue to be addressed through the business planning, budget and long-term financial planning processes to ensure a proactive approach.

Updates regarding the Region's overall progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 15. Risk Assessment

Regional staff investigate potential risks to water supply system assets on an ongoing basis, considering probability, potential consequences and suitability of risk mitigation controls. Table 6 highlights some key identified risks as well as ongoing and new mitigation measures.

**Table 6: Water Supply Systems Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Loss of external utilities | Standby generation assessments, options analysis and implementation.<br>Uninterrupted Power Supply (UPS) systems and upgrades.<br>Update depot-specific contingency plans and training programs.<br>Essential services policies, contingency plans, and continuity plans.<br>Capital redundancy and work around programs. (e.g., twinning, looping, etc.). |
| Disruption to water supply and water quantity losses | Maintenance and infrastructure rehabilitation and replacement programs.<br>Inspections, risk assessments and source water protection practices.<br>Capital redundancy and continuity programs (e.g., twinning, looping, etc.).<br>Engineering, hydrology, design and erosion mitigation studies and strategies.<br>Water meter replacement and funding strategy.<br>Wellhead protection and management program.<br>Cement lining and cathodic pipe protection strategy.<br>Bulk water dispensing strategy.<br>Leak detection program.<br>SCADA alerts and controls. |

| Risk | Mitigation |
| --- | --- |
| Potential for water contamination | Regional source water protection plans and wellhead protection programs.<br>Water quality testing and SCADA alerts and controls.<br>Lead pipe strategy.<br>Sewer Use By-law and Backflow Prevention Program and By-law.<br>Maintain effective emergency, contingency, and continuity plans.<br>Spill control procedures.<br>Maintenance and infrastructure rehabilitation and replacement programs. |



# Wastewater System

## Asset Class Report

| Replacement Value | Average Condition |
|---|---|
| **$8,331.5M** | **GOOD** |

## Service Level Objectives

To provide safe and reliable wastewater collection and treatment for all Durham residents, businesses and industries.

To protect the environment, improve the quality of effluent discharged, and comply with all Provincial and Federal Acts and Regulations.

To support the coordination of growth and maintain an optimal condition standard for all existing and new sanitary sewerage system assets.

- 11 Water Pollution Control Plants
- 52 Pumping Stations
- 3 Other Wastewater Facilities
- 2,294 km Gravity Sewers
- 68 km Forcemains
- 33,351 Maintenance Holes
- 185,101 Service Connections

## 1. Wastewater System Asset Inventory Overview

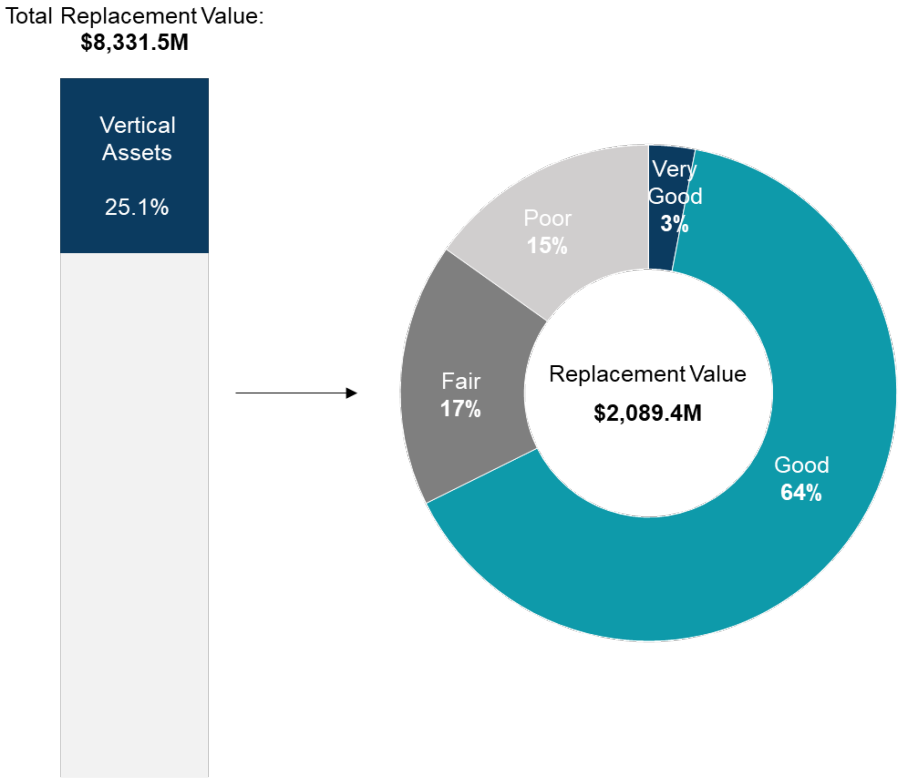
Durham Region's wastewater system consists of vertical and linear assets, fleet assets, equipment assets and other supporting assets. Vertical assets refer to facilities that treat and pump sanitary sewage and store excess sewage while linear assets collect sanitary sewage and provide a piped route from customers to the treatment plants. Supporting assets include a portion of the Region's administrative facilities, fleet and equipment that support the Region's wastewater system.

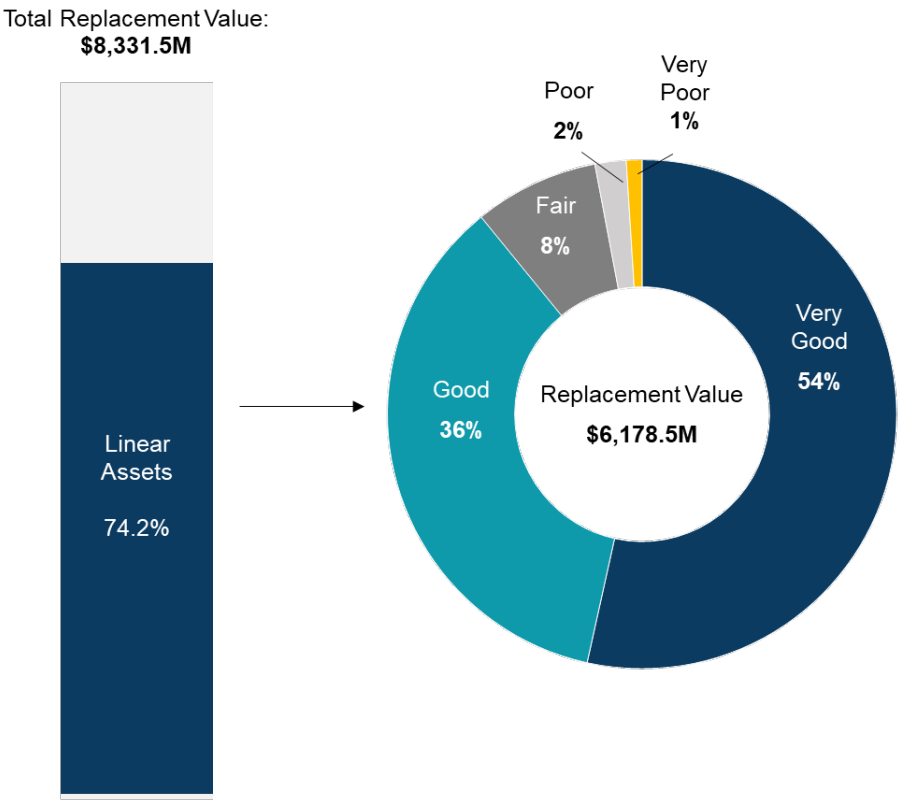
## 2. Condition Ratings and Replacement Values

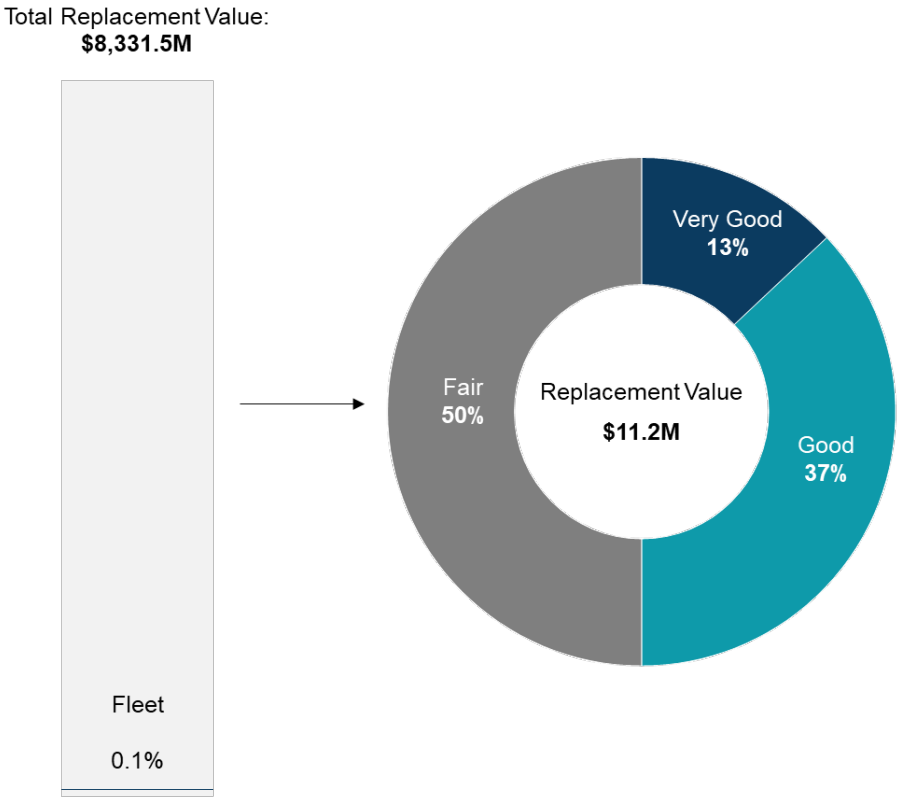
The overall condition rating for wastewater systems remained Good in 2024, representing no year-over-year condition change. Condition ratings for linear assets (Good) remained stable as did vertical assets (Fair) in 2024 compared to 2023. Overall replacement values ($8,331.5 million) increased 5.6 per cent over 2023 primarily as a result of inflationary replacement cost increases and increases to linear assets to accommodate growth.

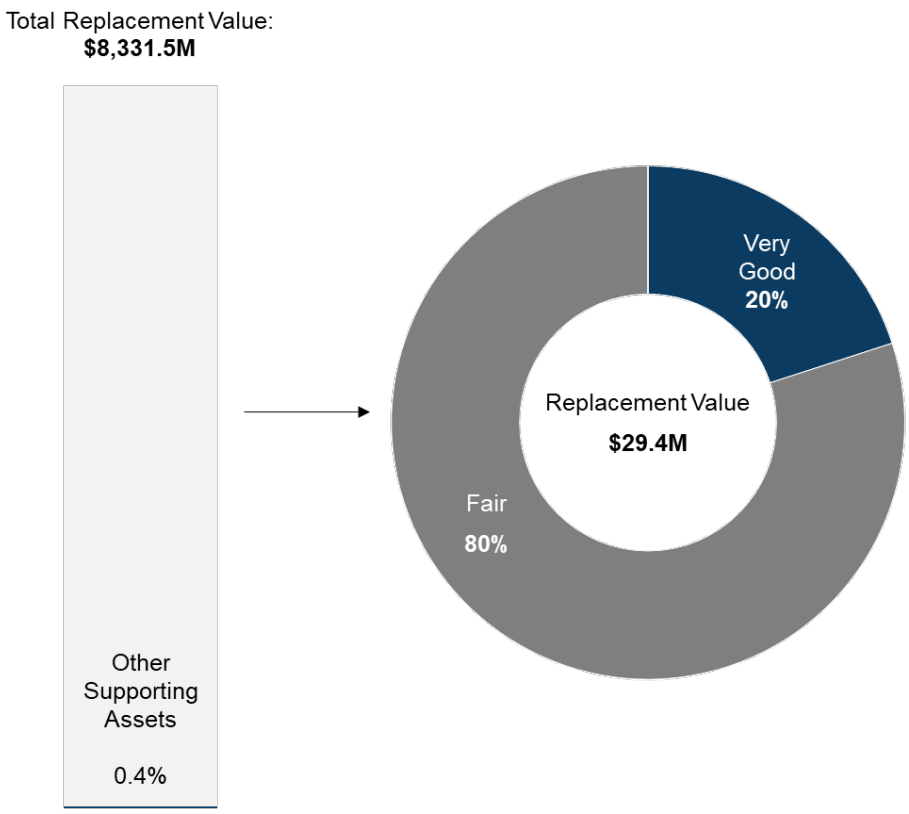
Figure 1 below illustrates the condition rating and replacement value of wastewater assets.

**Figure 1: Wastewater Assets Condition and Replacement Values**




Total Replacement Value:
$8,331.5M
Linear Assets
74.2%
Poor
2%
Very Poor
1%
Fair
8%
Very Good
54%
Good
36%
Replacement Value
$6,178.5M


Total Replacement Value:
$8,331.5M
Fleet
0.1%
Very Good
13%
Fair
50%
Good
37%
Replacement Value
$11.2M




* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

## 3. Condition Assessment Methods

Table 1 outlines the assessment methods used to determine condition ratings.

**Table 1: Wastewater System Condition Assessment Methods**

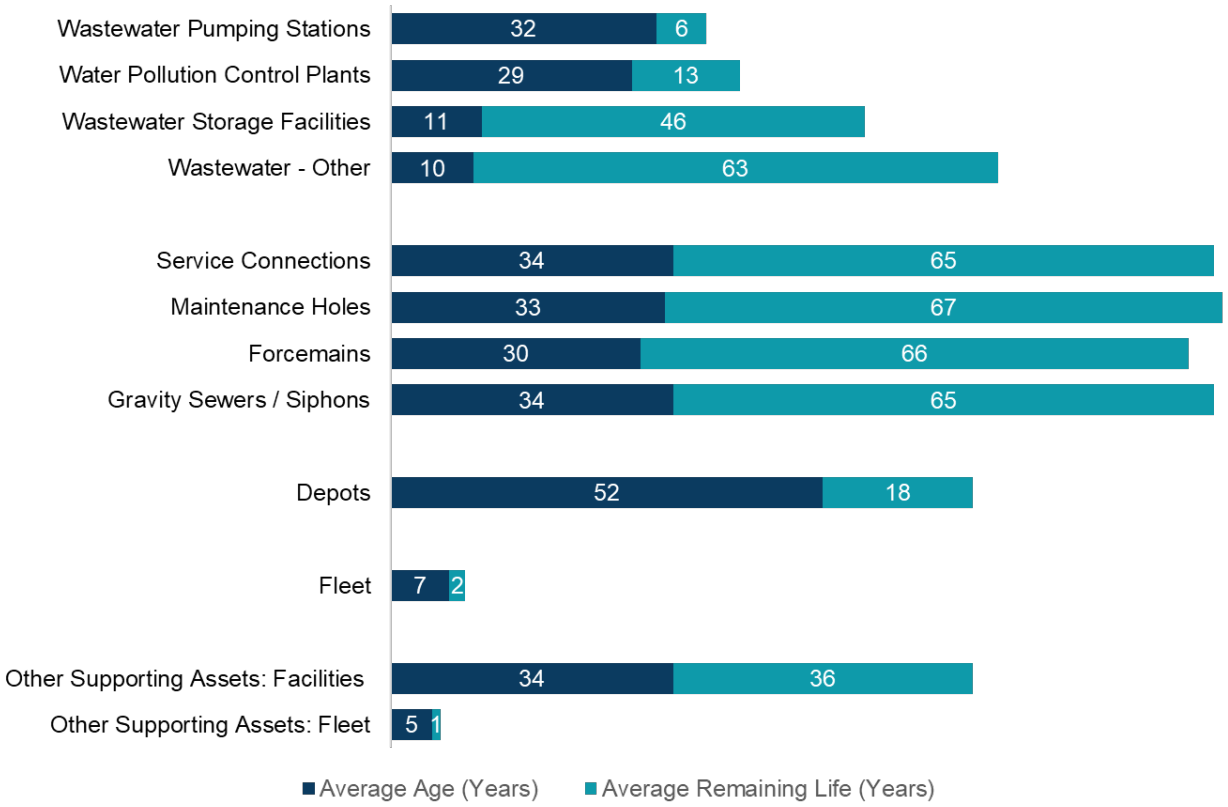
| Asset Class | Assessment Methods |
|---|---|
| Plants, Pumping Stations and Storage | Regular monitoring of assets and collection of asset data to determine current condition grades. This process encompasses both qualitative and quantitative information gathered from inspections across various design disciplines (structural, mechanical, electrical, architectural, instrumentation, process, etc.). Through a comprehensive evaluation of an asset's visual and physical conditions, performance characteristics, failure risks and impacts, level of service requirements, legislative changes, and operational efficiency, condition assessments provide crucial information for effective asset management throughout the lifecycle. Analysis of inspection data helps identify whether an asset requires preventative maintenance, rehabilitation, or replacement to ensure it meets its expected lifespan, complies with regulations, and delivers optimal performance. This establishes a baseline |

| Asset Class | Assessment Methods |
|---|---|
| | for monitoring and maintaining the performance of water and wastewater assets over time. Comprehensive asset management allows municipalities to make informed decisions for future investments and allows teams to prioritize repairs and rehabilitation with more accuracy. Condition assessment results inform the capital budget and nine-year forecast. |
| Gravity Sanitary Sewers and Forcemains | Structural grade score from CCTV inspections, material type, age of the pipe and any concerns or issues from Maintenance Operations are used to compile a score for each pipe segment.<br>Forcemains also use break history in scoring. |
| Maintenance Holes and Chambers | Infrastructure age. |
| Service Connections | Assigned same score as the gravity sewer they are connected to. |
| Fleet | Mileage and vehicle inspection. |
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method to assess the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |

## 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining asset life of wastewater system. Overall, the wastewater system is relatively young as evidenced by generally significant remaining useful life.

**Figure 2: Wastewater System Average Age and Remaining Useful Life**

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Service level objectives and performance targets are set through Council approved master plans, studies, policies and procedures, as well as through departmental studies and regulatory and/or compliance guidelines. Table 2 provides examples of key plans, studies, policies, procedures, and regulations that inform water and wastewater systems service levels and have implications for asset lifecycle costs.

**Table 2: Plans, Studies, Policies, Procedures, Regulations that Inform Service Levels**

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Detailed service level descriptions and targets are outlined in the Community Level of Service, Technical Levels of Service and Performance Measures subsections that follow.

## 6. Community Levels of Service

Community levels of service provide qualitative descriptions of service reliability, service standards and service scope as required in Ontario Regulation 588/17.

**Table 3: Community Levels of Service**

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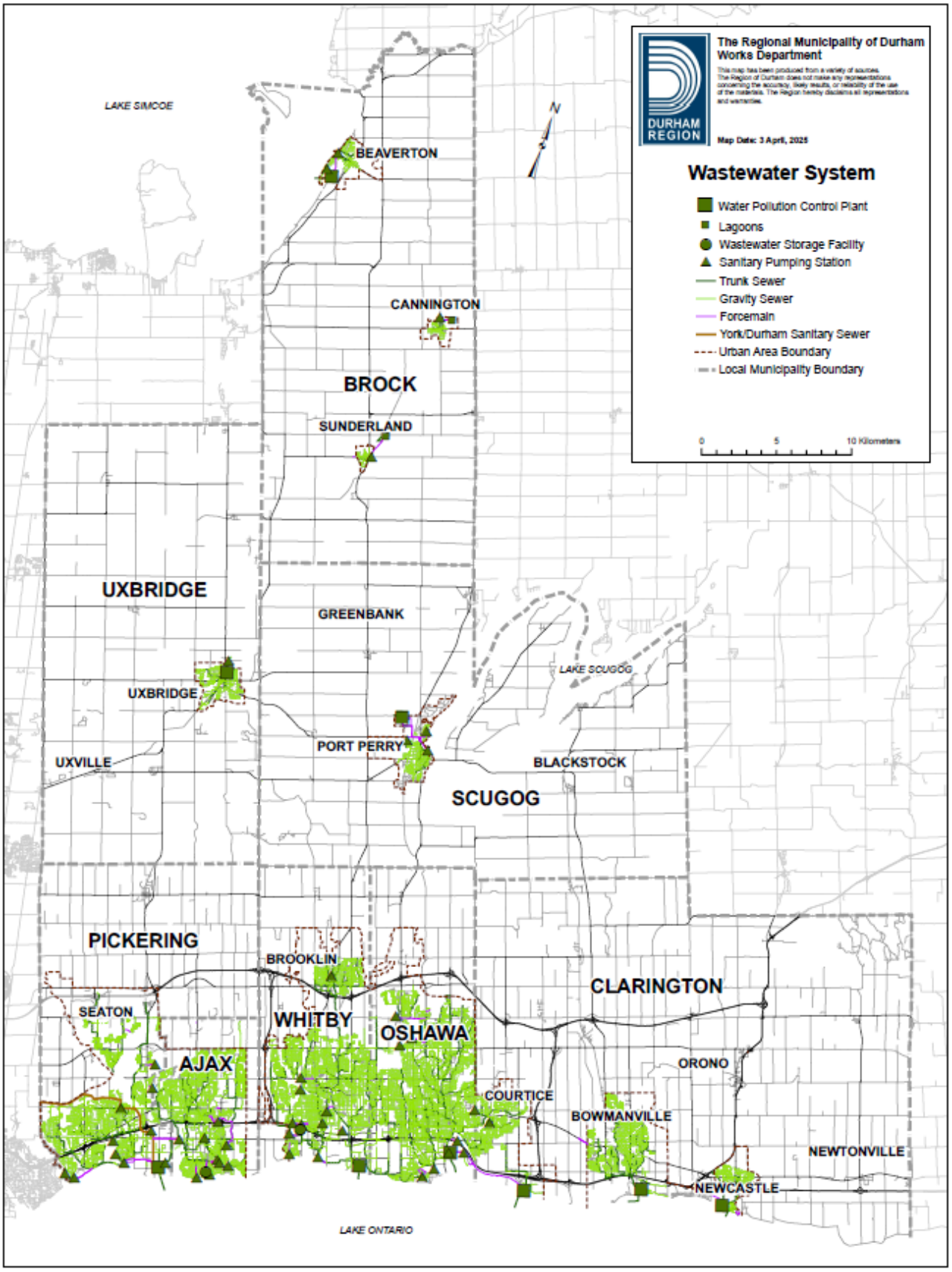
|---|---|
| Description, which may include maps of areas of the municipality that are connected to the wastewater system. | Refer to Map 1. |
| Description of how stormwater can get into sanitary sewers in the wastewater system, causing sewage to overflow into streets or backup into homes. | Infiltration can occur at poor joints in the pipe or at lids of maintenance holes along the sewer system. In older neighbourhoods, the foundation drains are connected to the sewer system. |

| Criteria | Description |
|---|---|
| Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described above. | Annual inflow and infiltration reduction program to continue identifying potential stormwater entry points in the wastewater system.<br><br>Additional flow monitoring work on key sewers on selected sanitary sewers to identify cross connections from the storm drainage system and rainwater downspouts.<br><br>Prohibiting the connection of foundation drains to the wastewater system for new builds and educating the public on disconnecting existing foundation drains.<br><br>Backflow prevention program on all water services that could pose a hazard to the municipal drinking water system. |
| Description of the effluent (treated sewage liquid) that is discharged from sewage treatment plants. | The Region's sanitary sewage is treated in accordance with Ministry of the Environment, Conservation and Parks effluent quality regulations. Effluent undergoes full unit processes as per each plant's Environmental Compliance Approval before being discharged into the plant's approved receiving water body. |

## Map 1: Map of Durham Region Wastewater System



## 7. Technical Levels of Service

Ontario Regulation 588/17 includes a list of required technical metrics for wastewater systems as shown in Table 4.

**Table 4: Technical Service Levels per Ontario Regulation 588/17**

| Technical Metric | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Percentage of Properties connected to Region's Wastewater System | 100 per cent of Properties with Proximity to a Sanitary Sewer to be Connected | 99% | 99% | 99% |
| Measures the percentage of properties in proximity to a sanitary sewer that are connected to Durham's wastewater system. Only properties within an Urban Boundary can be potentially connected to a sewage system. Durham has a number of properties in rural areas. | | | | |
| Number of Effluent Violations Per Year to Total Number of Properties Connected to Region's Wastewater System | 0 per cent of Effluent Violations to Properties Connected to Region's Wastewater System | 0% | 0% | 0% |
| This measures the percentage of effluent violations compared to the total number of properties connected to the Region's wastewater system. | | | | |
| Number of Wastewater Backups to Total Number of Properties Connected to Region's Wastewater System | 0 per cent of Wastewater Backups to Properties Connected to Region's Wastewater System | 0% | 0% | 0% |
| This measures the percentage of wastewater backups compared to the total number of properties connected to the Region's wastewater system. | | | | |

## 8. Performance Measures

Beyond community service levels and technical reporting requirements of Ontario Regulation 588/17, a number of performance metrics are being tracked to measure how well assets are meeting service level objectives.

**Table 5: Performance Measures**

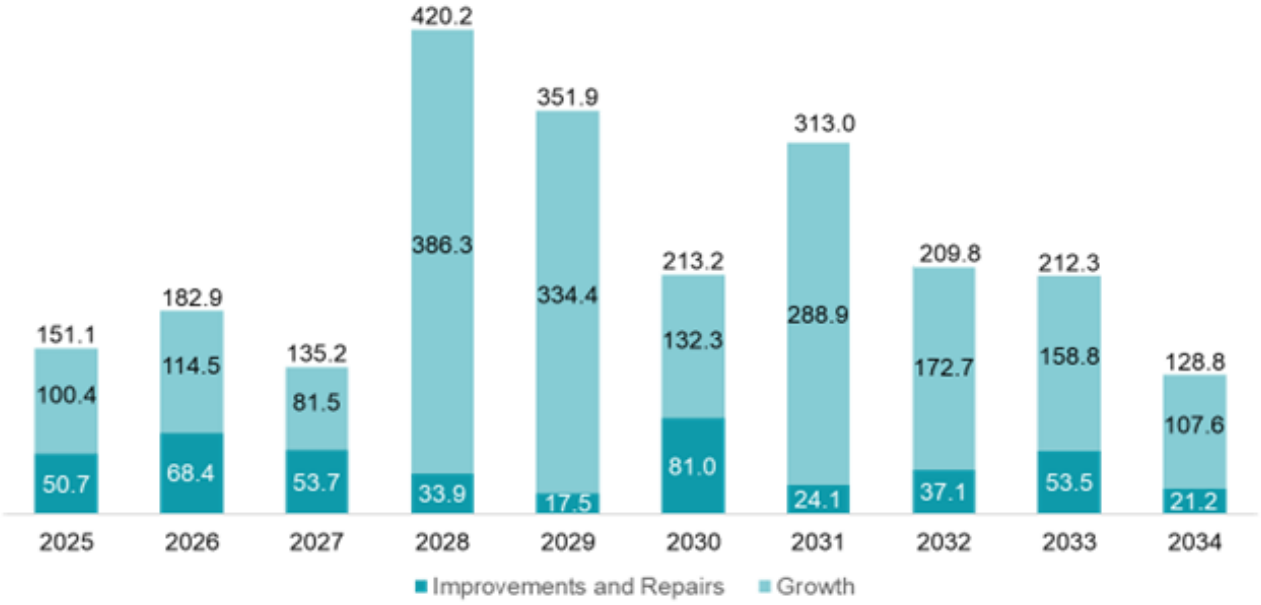
| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Condition Index Rating | 0.1 per cent of linear assets rated as very poor | 0.63% | 0.63% | 0.63% |
| Measure identifies the percentage of sewer system (gravity, forcemains, maintenance holes, chambers and service connections) rated as “Very Poor” calculated on the total replacement value of these assets. Condition scoring factors include material type of pipe, remaining service life, CCTV inspection score and Operational staff input. | | | | |
| Mainline Sewer Inspections | 10 per cent of sanitary sewers inspected by CCTV per year | 8.19% | 8.22% | 6.76% |
| Measures percentage of sanitary sewers inspected by CCTV every year as per Durham Service Levels. The target is 10 per cent of gravity sewers only (not including siphons) per year so a number of 10 per cent or greater in the above chart is meeting the target. The procedure provides a report on the condition of gravity sewers (preventative inspection). Based on the results, a full replacement or a repair/ rehabilitation is scheduled as required. | | | | |
| Sanitary Maintenance Hole Inspections | 50 per cent of maintenance holes inspected annually | 44% | 44% | 44% |
| Measures the percentage of maintenance holes inspected on a two-year cycle as per Durham Service Levels. The target is 50 per cent inspected each year. It is a preventative maintenance procedure which validates condition. | | | | |
| Mainline Sewer Cleanings | 50 per cent of ≤375mm diameter sewers cleaned annually | 39% | 50% | 42% |
| Measures percentage of sewers cleaned based on size as per Durham Service Levels. A value in the chart above of 50 per cent indicates that the target has been met for the gravity pipes 375 mm diameter and less. This is a maintenance program that can reduce the number of sewer blockages and emergency type calls. | | | | |
| Condition Index Rating | 0 per cent of vertical assets rated as very poor | 0.00% | 0.00% | 0.00% |
| Measure identifies the percentage of plants, pumping stations and sewage storage facilities which are rated “Very Poor”. A high-level assessment completed by plant operations staff for the process equipment and facilities staff for the building condition is used for scoring until a detailed condition inspection can be done at that location. It is anticipated that detailed condition assessments of all facilities will be done over the next 5 to 7 years. The condition percentage is calculated on replacement value not number of sites. | | | | |

| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Odour Complaints | 0 valid odour complaints per year | 0 | 0 | 16 |
| Odour complaints can be indicative of the operating process at the sewerage treatment plants. The annual target for this measure is zero valid odour complaints from the public. | | | | |
| Compliance with MECP Regulatory Requirements | 0 per cent wastewater by-passed treatment annually | 0.02% | 0.00% | 0.13% |
| Measures the percentage of untreated wastewater in accordance with wastewater by-passes as reported to the MECP (numerator) as a share of total megalitres of treated wastewater plus estimated megalitres of untreated wastewater (denominator). | | | | |
| Back up Power Capabilities | 100 per cent of plants and pumping stations with back-up generators | 98% | 98% | 100% |
| | 100 per cent of generators newer than 30 years in age | 62% | 60% | 57% |
| Ensure that all plants (lagoons not included) and pumping stations have a back up power generator that is no older than 30 years. Only pumping stations that can house a generator are included in the calculation. Portable generators can be used at the other locations. The age measure is calculated using only the number of existing generators currently in place. | | | | |

## 9. Wastewater System Capital Forecast

Major capital investments for wastewater services identified through the 2025 business planning and budget process (improvements and repairs and growth) total $151.1 million for 2025 and $2,167.4 million over the 2026 to 2034 forecast period.

**Figure 3: Wastewater System Capital Forecast ($ millions)***




*Improvements and Repairs and Growth may not add to Total due to rounding.

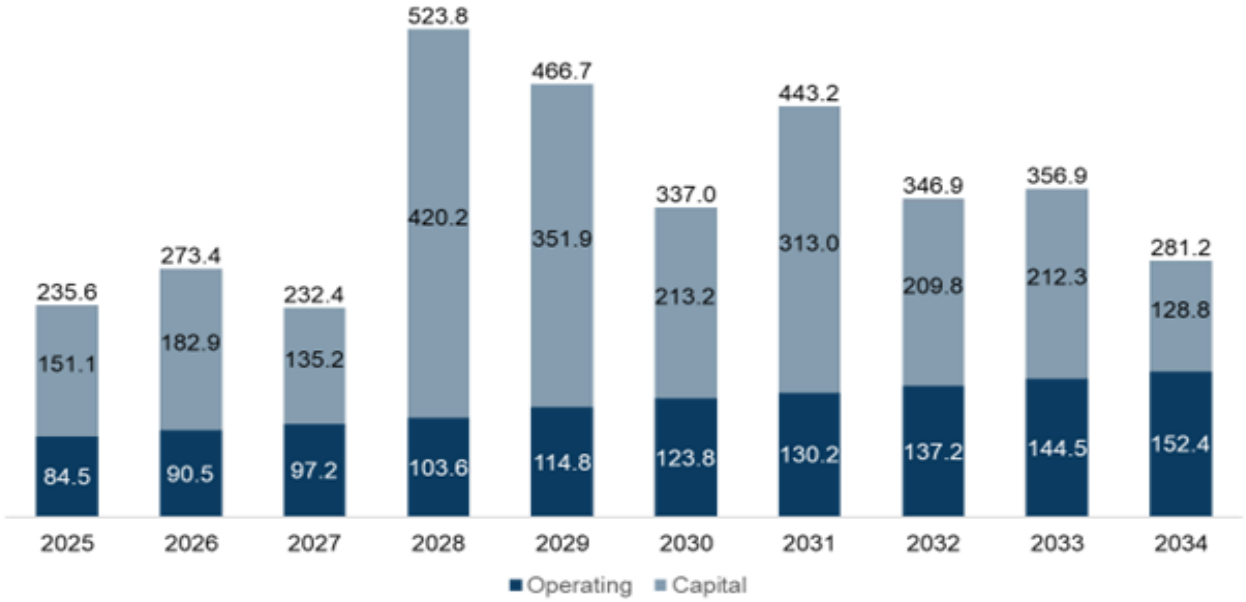
The 2025 Sanitary Sewerage Systems Business Plans and Budget includes $10.3 million to address the priority sewer linear assets in poor or very poor condition and $58.4 million to address asset management needs in wastewater system vertical assets.

## 10. Lifecycle Costing

Wastewater system maintenance and rehabilitation lifecycle activities aim to extend the useful life of linear and vertical assets and improve service delivery. For linear assets these renewal activities include pipe liners, ream and seal technology, and pipe segment replacements.

Figure 4 illustrates capital and maintenance lifecycle costs for the Wastewater asset class.

**Figure 4: Lifecycle Costs Wastewater System Operating and Capital ($ millions)***




*Operating and Capital may not add to Total due to rounding.

Total operating lifecycle expenditures for wastewater systems total $1,178.6 million over the 2025 Budget and nine-year forecast period (2026 to 2034) while capital expenditures total $2,318.5 million over this period.

## 11. Lifecycle Activities

Full replacements are preferred when the linear asset condition is in Very Poor condition, or when there is an opportunity to coordinate with other infrastructure work such as road reconstruction or watermain replacement for cost savings.

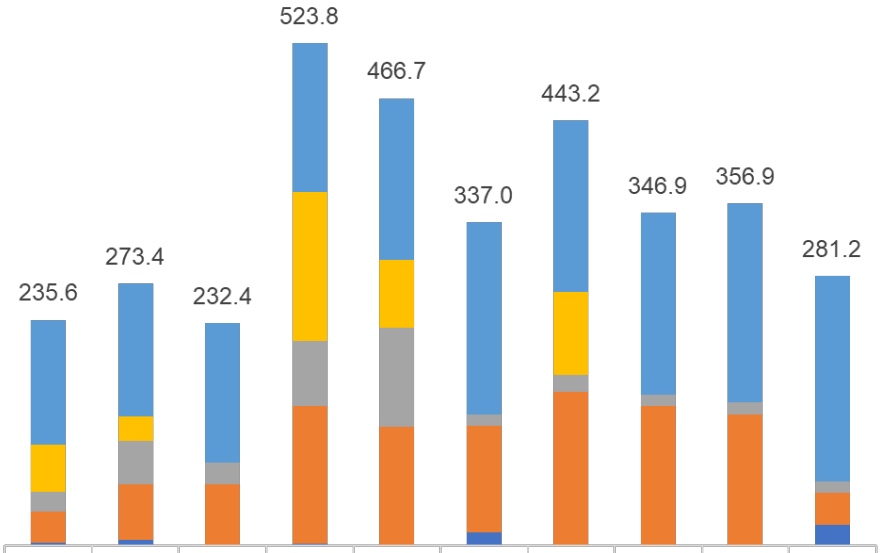
For vertical sewage system assets, lifecycle activities are informed by detailed site-specific condition assessments as well as by Operations and Facilities staff knowledge of issues by attending the various sites regularly. The detailed inspections inform rehabilitation and renewal activities and forecast investment needs over the long-term.

In addition to repair and maintenance activities, other ongoing operating expenditures are required to ensure wastewater assets can meet service levels. Some examples include gas and fuel, utilities, chemicals, fleet rentals and overhead costs (e.g., office staff, training, software, etc.).

## 12. Financing Strategy

Figure 5 presents the financing strategy for Wastewater System operating and capital costs. The financing strategy leverages user rate revenues, debenture financing, reserves and reserve funds, development charge revenues, and contributions from developers and other partners. A discussion of risks related to these financing sources, for all Regional services can be found in the detailed asset management report.

**Figure 5: Wastewater System Operating and Capital Financing Strategy ($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| User Rates | 130.5 | 138.4 | 145.3 | 155.1 | 168.7 | 200.2 | 178.1 | 189.1 | 207.4 | 214.2 |
| Debentures | 49.1 | 26.2 | 0.0 | 154.8 | 71.0 | 0.0 | 86.6 | 0.0 | 0.0 | 0.0 |
| Reserve and Reserve Funds | 20.3 | 44.6 | 22.6 | 68.1 | 102.7 | 11.4 | 18.5 | 12.0 | 12.4 | 12.2 |
| Development Charges | 33.0 | 58.5 | 64.5 | 143.9 | 124.2 | 111.0 | 160.0 | 145.8 | 135.6 | 33.5 |
| Other | 2.7 | 5.8 | 0.0 | 2.0 | 0.0 | 14.4 | 0.0 | 0.0 | 1.5 | 21.4 |
| Total | 235.6 | 273.4 | 232.4 | 523.8 | 466.7 | 337.0 | 443.2 | 346.9 | 356.9 | 281.2 |

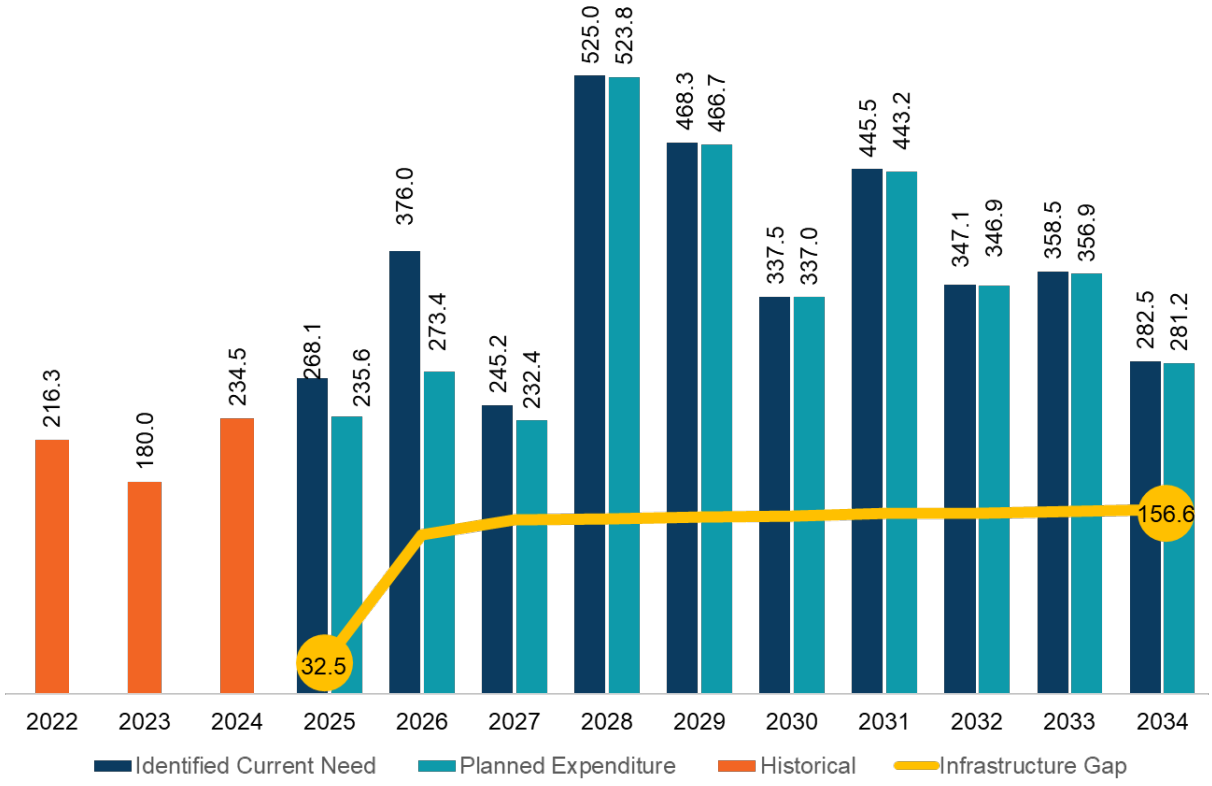
Notes:

- Other includes contributions from developers and other partners.
- Columns may not add due to rounding.

## 13. Lifecycle Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure needs to meet service levels. An infrastructure gap refers to the difference between forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 6). In 2025, the Wastewater System infrastructure gap is estimated at $32.5 million. Based on currently planned expenditures this infrastructure gap is estimated to grow to $156.6 million by 2034. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets.

**Figure 6: Wastewater System: Lifecycle Gap Analysis ($ millions)**




The identified current need primarily reflects earlier replacements for some non-urgent linear projects. Not accelerating these projects, may result in increased repair and maintenance work. It is important to note that the planned expenditure investment level poses no health and safety risk or material impacts to service as compared to the identified current need scenario.

Staff will continue to monitor funding needs and refine identification and assessment processes. Moving forward, staff will be further refining lifecycle costing analysis and data collection for both linear and vertical wastewater assets that will be reported in future asset management plans.

## 14. Climate Change

The Durham Region Corporate Climate Action Plan has set targets to achieve net-zero GHG emissions by 2045. The corporate GHG inventory includes emissions produced to pump and treat wastewater as well as non-energy GHG emissions associated with wastewater management operations.

A changing climate can put additional pressures on systems through extreme weather events that necessitate proactive measures and modifications to system design.

Climate adaptation will continue to be addressed through the business planning, budget and long-term financial planning processes to ensure a proactive approach.

Updates regarding the Region's overall progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 15. Risk Assessment

Regional staff investigate potential risks to wastewater system assets on an ongoing basis. Table 6 highlights some high impact potential risks as well as ongoing and new risk mitigation measures.

**Table 6: Wastewater Systems Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Broken forcemain/trunk sanitary sewer | Pipe twinning capital program to increase forcemain redundancy.<br>SCADA system alerts, controls and improvements.<br>Maintain emergency, contingency re-routing and continuity plans.<br>Forcemain condition assessment pilot project.<br>Inspection and asset repairs, maintenance, and replacements.<br>Sanitary sewer CIPP lining program. |
| Wastewater inflow and infiltration (I&I) | Gather data to understand performance during extreme storms.<br>System repairs, proactive maintenance, and capital investments.<br>Monitor flows, conduct household drainage surveys and I&I education.<br>Minimize on-site water retention. |
| Disruptions to wastewater treatment services (e.g., extended loss of power) | Maintain emergency, contingency and continuity plans.<br>Ensure adequate stand-by power and UPS as needed.<br>On-call service contracts.<br>SCADA alerts, response, communication and control.<br>Repairs, preventative maintenance and rehabilitation investments. |

| Risk | Mitigation |
|---|---|
| Potential contamination of adjacent drinking water sources | Source Water Protection Plan implementation.<br>Phosphorous Reduction Strategy.<br>Effluent Requirements.<br>Sewer Use By-law.<br>SCADA alerts, response, communication and control.<br>Monitor and ensure adequate capacity at all facilities.<br>Vertical and linear condition assessments.<br>Plant upgrades/ replacements.<br>Capital improvements and effluent improvements.<br>Maintain emergency, contingency and continuity plans. |



# Transportation System

## Asset Class Report

| Replacement Value | Average Condition |
|---|---|
| **$6,293.1M** | **FAIR** |

## Service Level Objectives

Achieve and maintain an acceptable condition standard for all Regional transportation assets.

Regional roads will be continuous and connected.

Regional roads will be reliable, functional, and serve all modes and users as appropriate and feasible within the context of each project.

Regional roads will be expanded and grow with the Region to provide capacity for users.

Continue to plan asset management infrastructure investments that recognize service impacts.

- 2,452 lane km Road Network
- 255 Bridges and Culverts >3m
- 12,112 Storm Appurtenances
- 371 km Storm Mains and Culverts
- 19 Traffic Management Systems
- 19,297 Signs, Signals or Beacons
- 473.6 km Communication Infrastructure
- 122 km Roadside Protection
- 130 CCTV Cameras
- 148 Vehicles
- 3+ Facilities

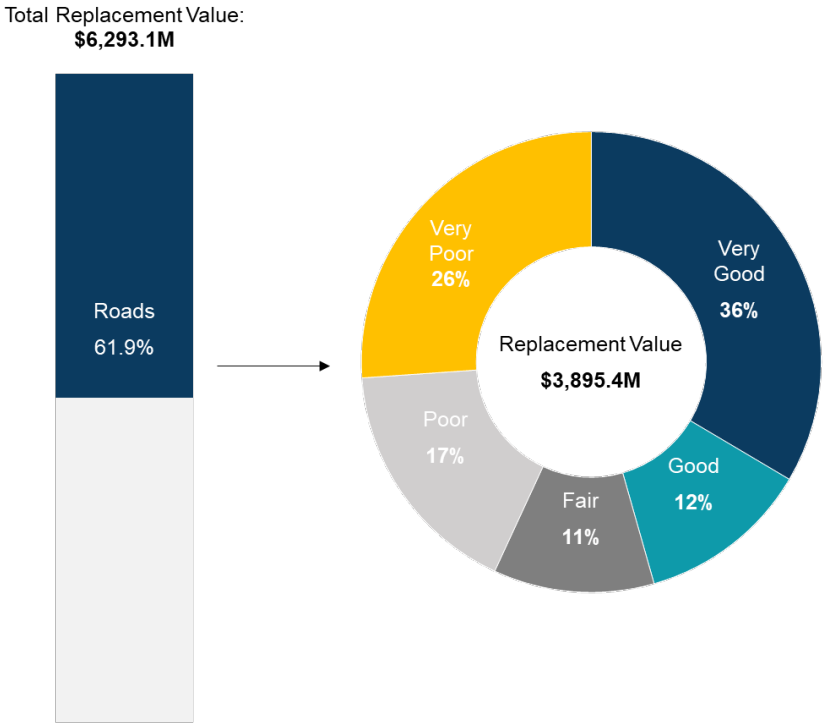
## 1. Transportation System Assets Overview

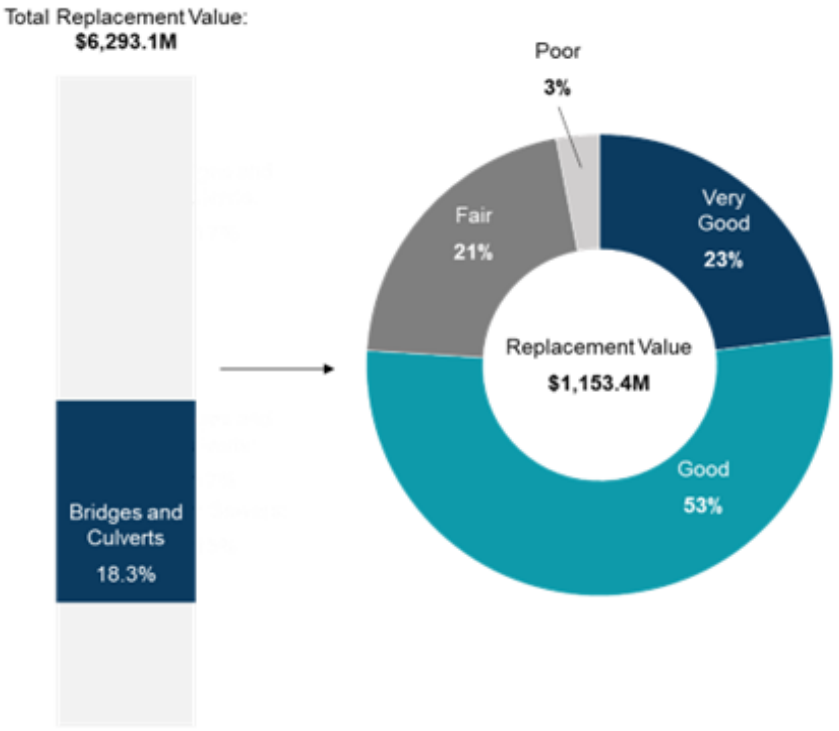
Durham's transportation system assets include a network of urban and rural arterial road segments (including bus only and cycling lanes), bridges, culverts, infrastructure to capture storm water flows from Regional roads, traffic control, safety systems, facilities, fleet assets, equipment assets and other supporting assets. Supporting assets include a portion of the Region's administrative facilities, fleet and equipment that support the Region's transportation system.

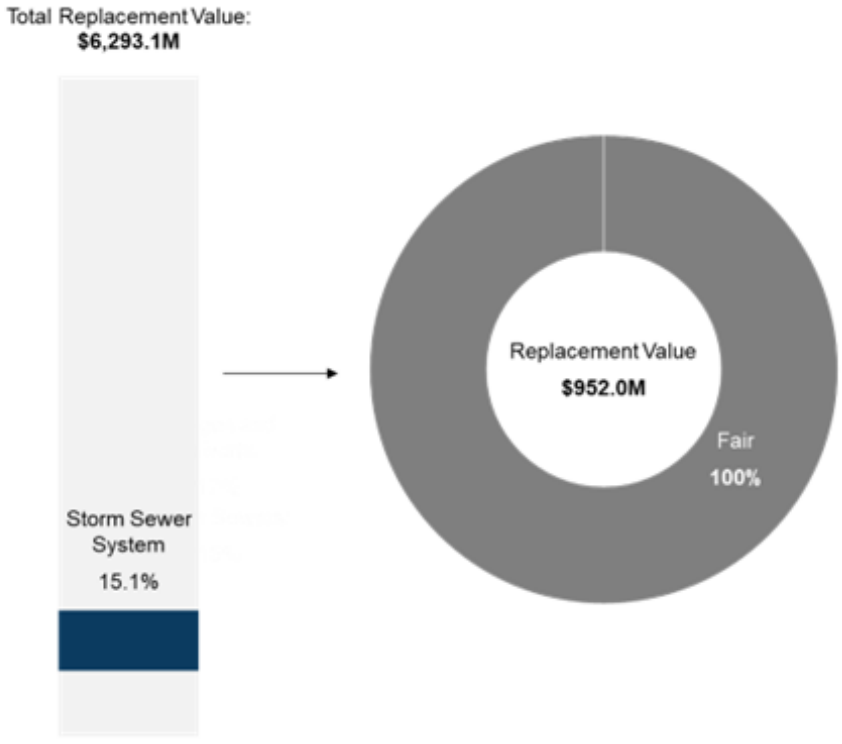
## 2. Condition Ratings and Replacement Values

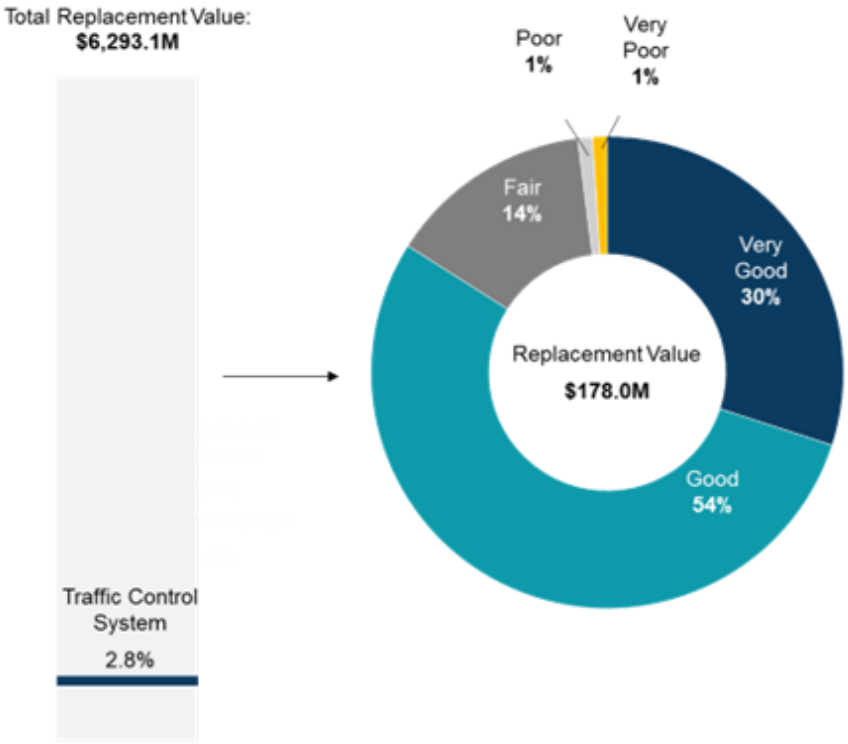
The Transportation asset class has an overall condition rating of Fair comprised of the road network (Fair), bridges and culverts (Good), storm sewers (Fair), and traffic control (Good), Facilities (Poor), Fleet (Fair) and Other Supporting Assets (Good). Condition ratings have remained stable year-over-year for Transportation asset classes.

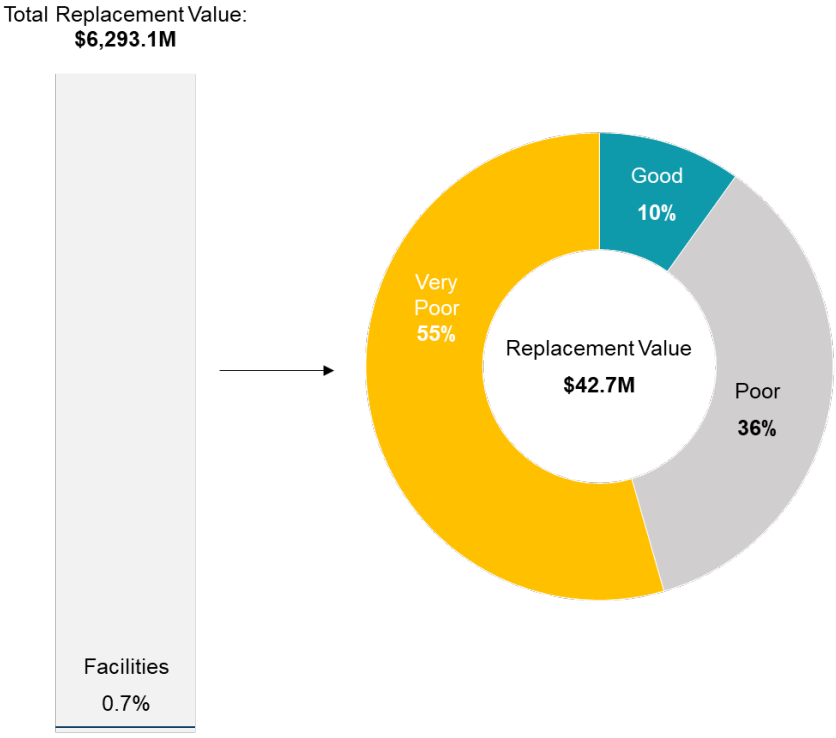
**Figure 1: Transportation Condition and Replacement Values**

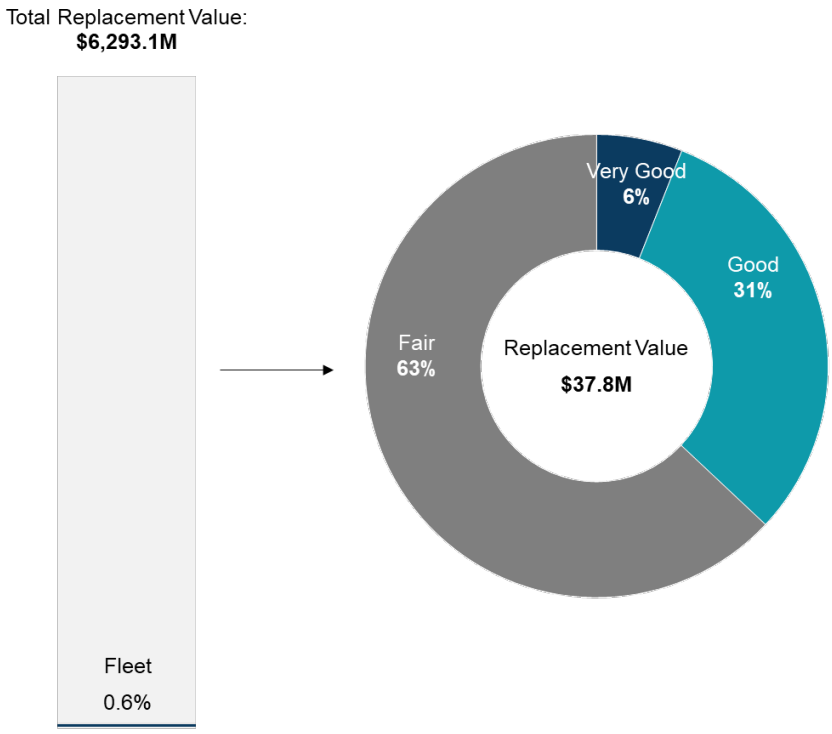


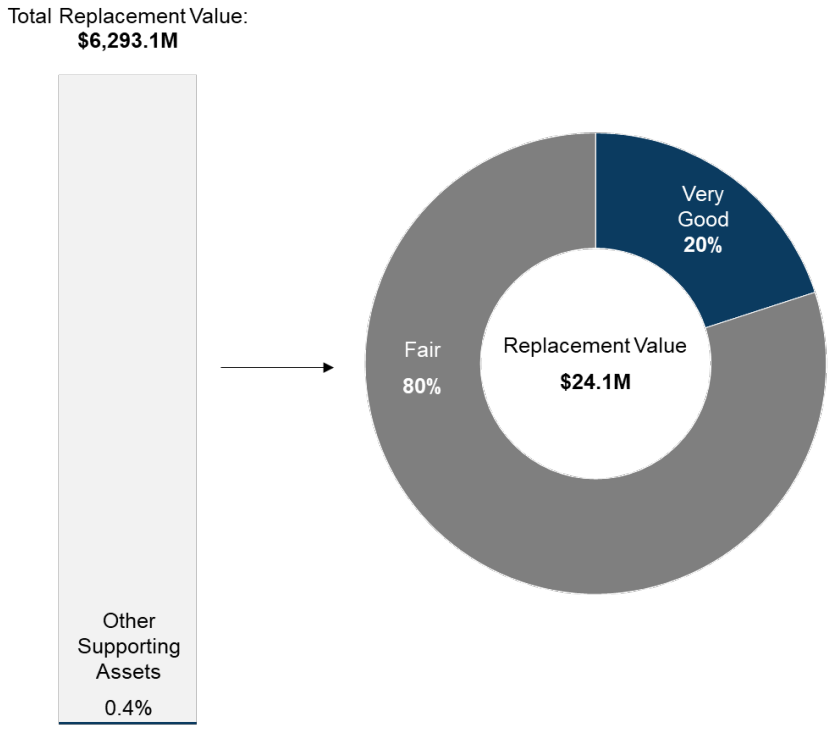

Total Replacement Value:
$6,293.1M
Bridges and Culverts
18.3%
Poor
3%
Very Good
23%
Fair
21%
Replacement Value
$1,153.4M
Good
53%


Total Replacement Value:
$6,293.1M
Storm Sewer System
15.1%
Replacement Value
$952.0M
Fair
100%


Total Replacement Value:
$6,293.1M
Traffic Control System
2.8%
Poor
1%
Very Poor
1%
Fair
14%
Very Good
30%
Replacement Value
$178.0M
Good
54%


Total Replacement Value:
$6,293.1M
Facilities
0.7%
Good
10%
Very Poor
55%
Replacement Value
$42.7M
Poor
36%




* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

Overall replacement value of $6,293.1 million represents an increase of six per cent ($335.1 million) from 2023 to 2024 driven primarily by inflationary increases to construction and material costs, and other minor increases to overall asset inventory.

## 3. Condition Assessment Methods

Table 1 provides details on the assessment methods used to determine the condition of Transportation assets.

**Table 1: Transportation Assets Condition Assessment Methods.**

| Asset Class | Assessment Methods |
|---|---|
| Roads | Typically, the Works Department assesses 50 per cent of the road network annually to generate a Pavement Condition Index (PCI) based on:<br>• Road surface condition (i.e., ride)<br>• Structural adequacy (i.e., distress)<br>The entire road network was assessed in 2023. Subsequently, some segments have had their PCI updated to a PCI of 100 as a result of reconstruction work. It is expected that 100 per cent of the road network will be assessed in 2025 following a review and update of the Region's approach to PCI evaluation. It is noted that future PCI measurements may not be directly comparable to current measurements, due to potential methodology changes.<br>PCI is converted into a condition rating, for the purpose of asset management reporting. |
| Bridges and culverts greater than 3m* | Typically, the Works Department assesses 50 per cent of the bridge and culvert (greater than 3m) inventory annually to generate a Bridge Condition Index (BCI) for each structure. For BCI, each structure element is inspected in accordance with the Ministry of Transportation (MTO) Ontario Structure Inspection Manual 2018. BCI is then calculated using the MTO Bridge Condition Index Manual 2009 and is a weighted average of all structure elements and their conditions.<br>BCI is converted into a condition rating, for the purpose of asset management reporting. |
| Traffic Control Signals | Each signalized intersection is rated based on condition. |

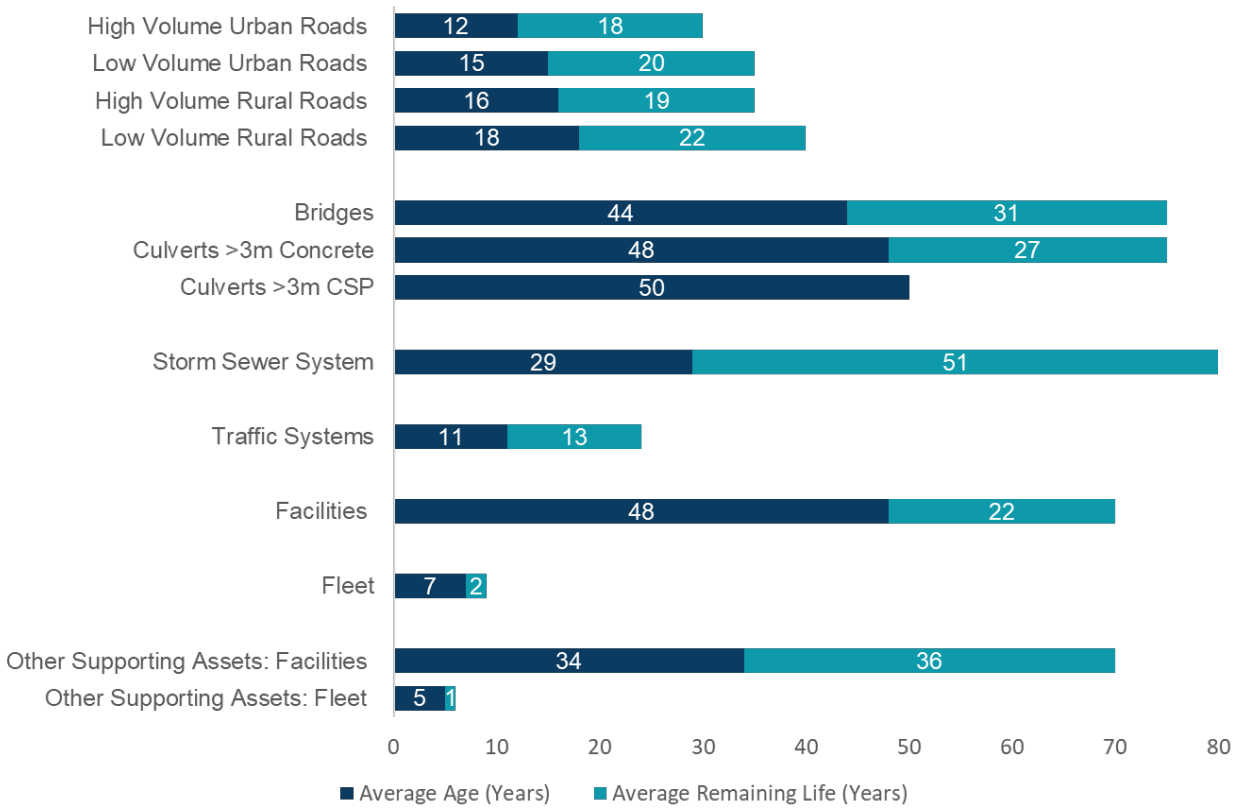
| Asset Class | Assessment Methods |
|---|---|
| Traffic Signs | Visual condition assessments including testing for retro-reflectivity. In 2024, the Region undertook a comprehensive review of network-wide traffic sign inventory and condition. As such, changes in 2024 reporting of traffic sign inventory or condition are primarily driven by an enhancement of information accuracy as opposed to actual changes to infrastructure. |
| Other Traffic Assets | A combination of condition assessments and age-based assessments. |
| Fleet | Mileage and vehicle inspection. |
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method to assess the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |

*BCI is not used to rate or indicate the safety of a bridge or culvert. Any safety issues are immediately reported to the Region by the inspector for immediate action and repair.

### 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining life of the transportation system.

**Figure 2: Transportation System Remaining Useful Life**




## 5. Levels of Service and Performance Measurement

Table 2 outlines the various Regional Council approved master plans, studies, policies and procedures, as well as departmental studies and regulatory and/or compliance guidelines that inform Transportation service level priorities.

**Table 2: Plans, Studies, Policies, Procedures, Regulations that Inform Service Levels**

| Departmental Plans, Studies, Policies, & Procedures |
|---|
| • Transportation Master Plan<br>• Road Maintenance Operations Service Levels<br>• Transportation System Design and Maintenance Standards and Specifications<br>• Salt Management Plan<br>• Traffic and Parking By-law<br>• Intelligent Transportation System Strategic Plan<br>• Sign Inventory and Reflectivity Review<br>• Roadside Protection Inventory Review<br>• Regional Cycling Plan<br>• Vision Zero |

| Regulatory Compliance Guidelines and Requirements |
|---|
| • Minimum Maintenance Standards for Municipal Highways (Ontario Regulation 239/02)<br>• Standards for Bridges (Ontario Regulation 472/10)<br>• Public Transportation and Highway Improvement Act,<br>• Transportation Association of Canada Geometric Design Guide for Canadian Roads<br>• Environmental Assessment Act<br>• Canada Transportation Act<br>• Highway Traffic Act<br>• Ontario Traffic Manuals<br>• Accessibility for Ontarians with Disabilities Act |

Detailed service level descriptions and targets are outlined in the Community Level of Service, Technical Levels of Service and Performance Measures subsections that follow.

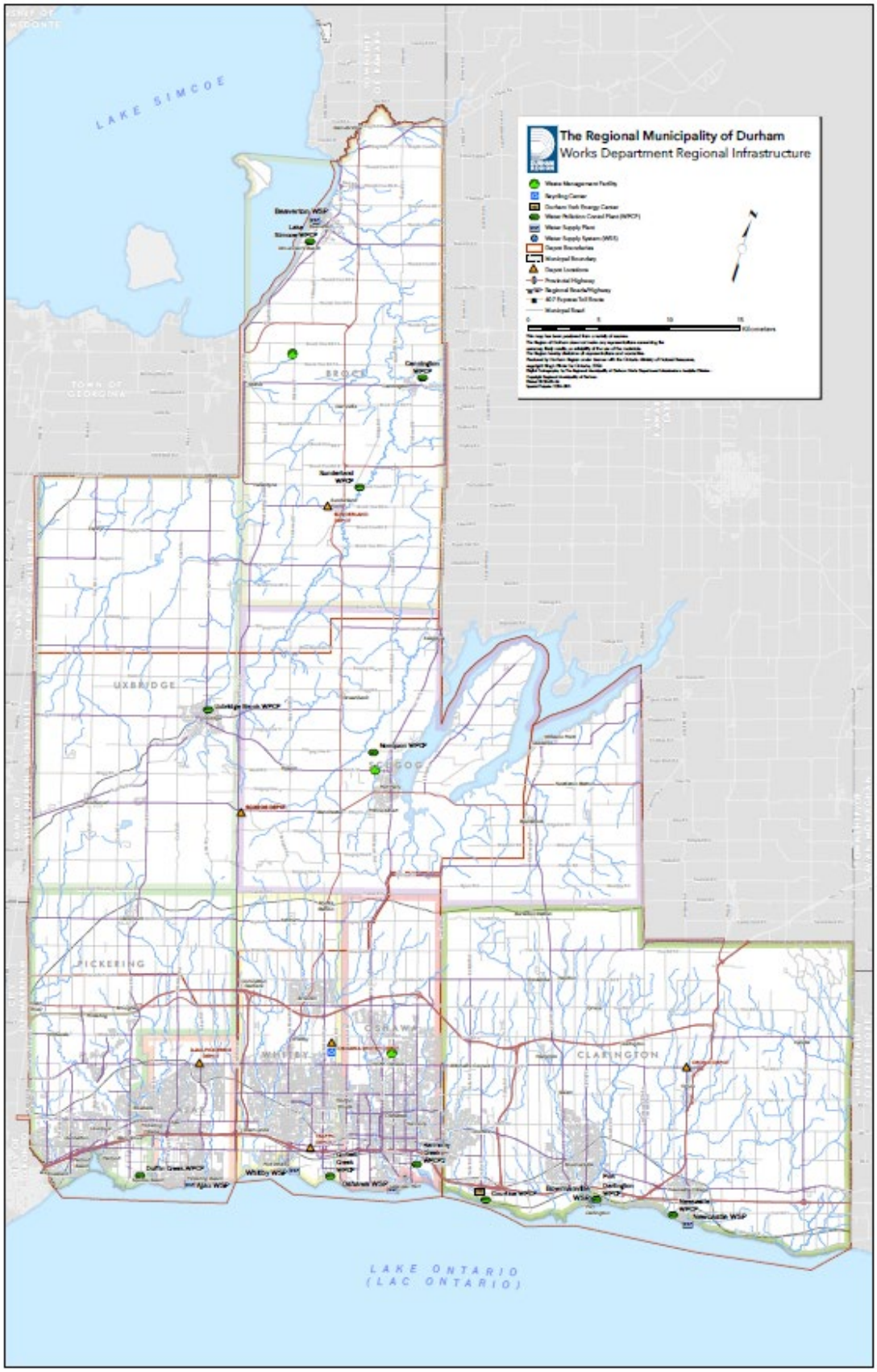
## 6. Community Levels of Service

Community levels of service provide qualitative descriptions of service reliability, service standards and service scope and reporting criteria are mandated in Ontario Regulation 588/17.

**Table 3: Community Levels of Service**

| Criteria | Description |
|---|---|
| Description, which may include maps, of the road network in the municipality and its level of connectivity. | Refer to Map 1. |
| Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system. | Refer to Map 2. |
| Description or images that illustrate the different levels of road class pavement condition. | Refer to Figure 3. |
| Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists). | The Region's bridges and culverts are designed, built and support all vehicular traffic, including motor vehicles, heavy transport vehicles and emergency vehicles. Cyclists and pedestrians are also accommodated where bike lanes, sidewalks and/or multi-use paths are provided on the bridge structures. |
| Description or images of the condition of bridges and how this would affect use of the bridges. | Refer to Figure 4. |
| Description or images of the condition of culverts and how this would affect use of the culverts. | Refer to Figure 4. |

**Map 1: Durham Region Road Network**



## Map 2: Regional Floodplain Potential

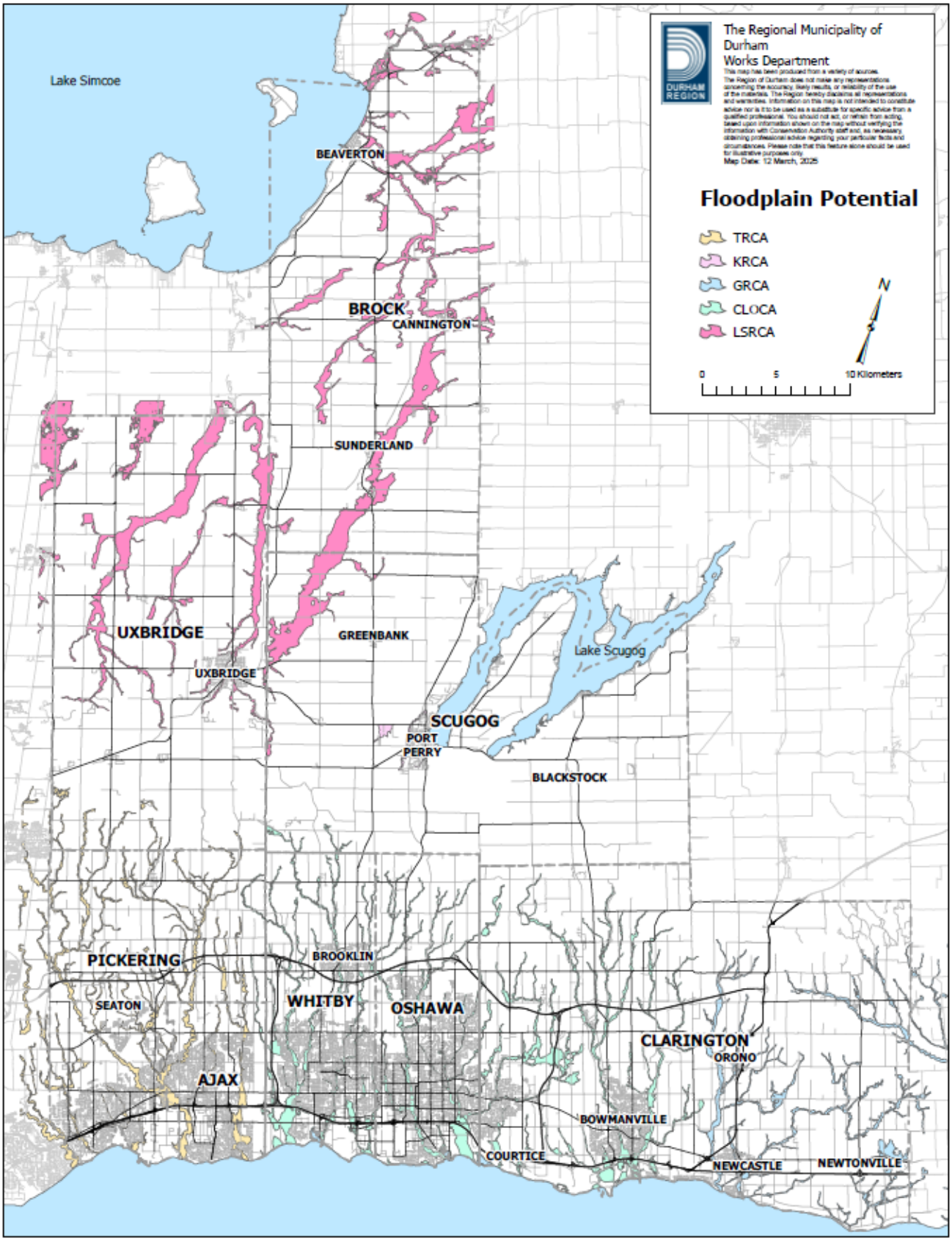


**Figure 3: Regional Road Condition Index Rating**

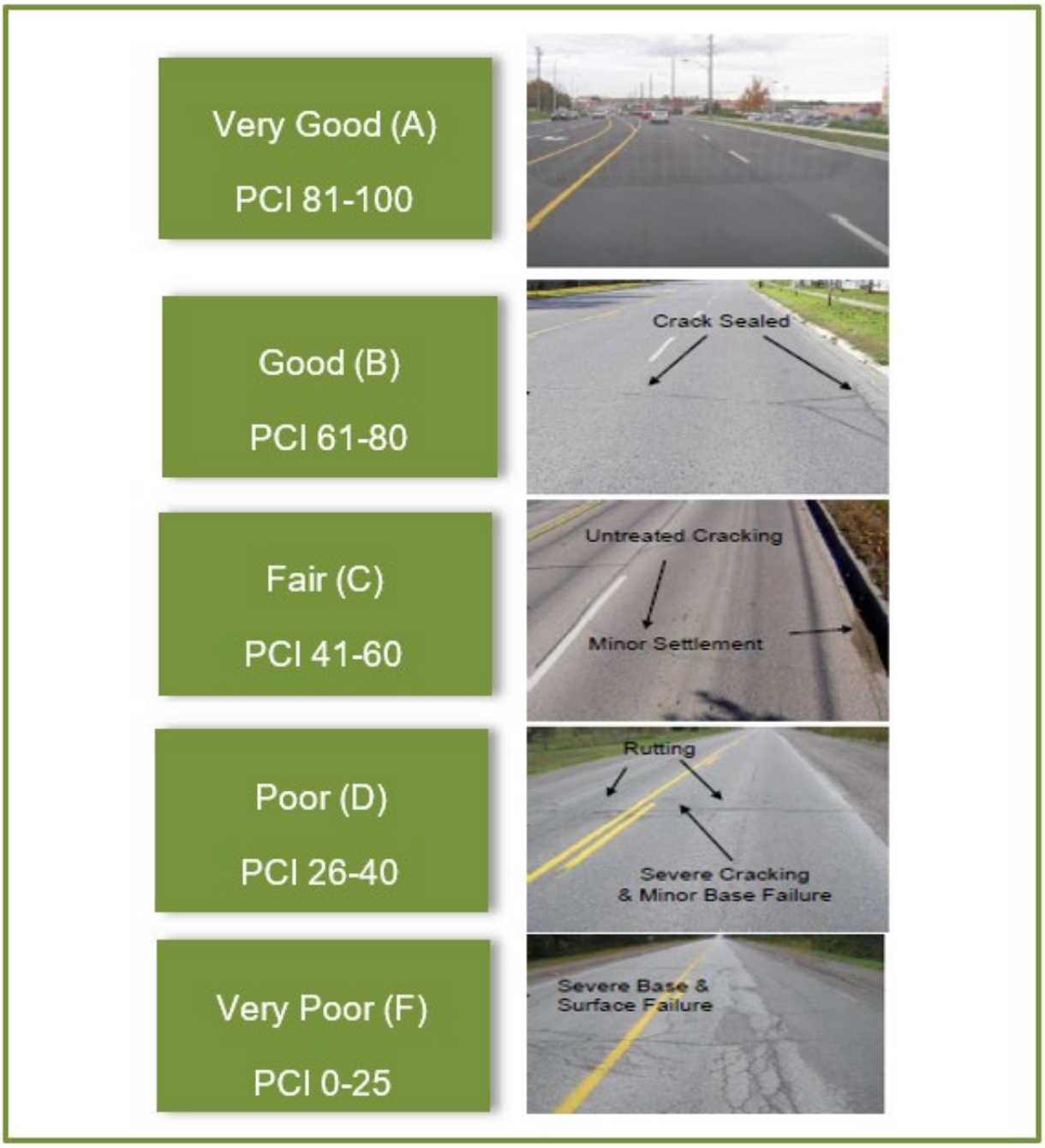


**Figure 4: Structure BCI Condition Ratings**

| Rating | Bridge Condition | Culvert Condition | Description/How Condition Impacts Use |
|---|---|---|---|
| Very Good (BCI 80-100) |  |  | New bridge or culvert, no signs of deterioration, use not affected |
| Good (BCI 70-79) |  |  | Minor signs of deterioration, minor levels of maintenance required, use not affected |
| Fair (BCI 60-69) |  |  | Signs of deterioration, exceeding levels of maintenance, may require load posting |
| Poor (BCI<60) |  |  | Significant deterioration, approaching end of service life, may require load posting |

## 7. Technical Levels of Service

Ontario Regulation 588/17 mandates reporting on prescribed technical metrics for roads, bridges, culverts greater than 3m and stormwater management assets.

**Table 4: Technical Levels of Service per Ontario Regulation 588/17**

| Technical Metric | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Network average pavement condition index (PCI) | Network average PCI rating of 65 | 52.0 | 55.4 | 57.0 |
| PCI summary of every regional road segment in a network-weighted average. PCI is rated between 0 to 100, with 100 being the best condition and 0 being the worst condition. | | | | |
| Number of lane kms of regional roads per Durham's land area ($km^2$). | To achieve a target of 1.1 | 0.97 | 0.97 | 0.97 |
| This measure reports the number of Regional road lane kilometres as a proportion of the size of the Region's land area (2,537 $km^2$). This measure identifies growth in the Regional road network over time relative to its land size. | | | | |
| Weighted average bridge condition index value for structures | Inventory weighted average BCI rating of 70 for bridges | 76.6 | 76.9 | 77.1 |
| | Inventory weighted average BCI rating of 70 for culverts (> 3m) | 74.2 | 74.1 | 75.6 |
| Summary of the weighted average bridge condition index (BCI) value for bridges and culverts greater than 3m. | | | | |
| Number of bridges with loading and dimensional restrictions | To have no bridges with loading or dimensional restrictions | 2 | 2 | 1 |
| This measure summarizes the number of bridges that have loading and/or dimensional restrictions. The target is 0 to ensure the transportation network is fully accessible, functional and available for all users. | | | | |

| Technical Metric | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Number of culverts with loading and dimensional restrictions | To have no culverts with loading or dimensional restrictions | 1 | 0 | 0 |
| This measure summarizes the number of culverts that have loading and/or dimensional restrictions. The target is 0 to ensure the transportation network is fully accessible, functional and available for all users. | | | | |
| Percentage of bridges in the municipality with loading or dimensional restrictions | To have 0% of bridges with loading or dimensional restrictions | 2% | 2% | <1% |
| This measure provides the percentage of the Region's bridges that have a loading or dimensional restriction. The target is 0% to ensure the transportation network is fully accessible, functional and available for all users. | | | | |
| Percentage of culverts in the municipality with loading or dimensional restrictions | To have 0% of culverts with loading or dimensional restrictions | 1% | 0% | 0% |
| This measure provides the percentage of the Region's culverts that have a loading or dimensional restriction. The target is 0% to ensure the transportation network is fully accessible, functional and available for all users. | | | | |
| Percentage of properties in municipality resilient to a 100-year storm | 90% of properties resilient to 100-year storm | N/A | 95% | 94% |
| The percentage of property parcels that fall within a floodplain is used to represent resilience to a 100-year storm. Changes in this percentage between years can be partially attributed to adjustments to calculation methodology. | | | | |
| Percentage of the municipal stormwater management (SWM) system resilient to a 5-year storm | 100 per cent of the SWM system resilient to a 5-year storm | N/A | 98% | 98% |
| These measures will continue to be reviewed and refined for future Asset Management Reports. | | | | |

Note the Region does not have unpaved, collector or local roads and does not report on these technical metrics.

## 8. Performance Measures

Beyond community service levels and technical reporting requirements of Ontario Regulation 588/17, Transportation tracks a number of performance metrics to measure how well assets are meeting service level objectives.

**Table 5: Transportation Performance Measures**

| Performance Measures | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Road Condition Distribution | No more than 25 per cent of Inventory is in Poor to Very Poor Condition | 42% | 44% | 43% |
| Measure identifies percentage of road assets falling into the Poor to Very Poor condition category. Target recognizes that implementation of additional funding generally is phased over time. Condition distribution provides a clearer overall picture rather than just focusing on one asset condition. Current/Baseline measure data is the percentage of total lane kms. | | | | |
| Structure Condition for Bridges and Culverts | 85 per cent of Structures Rated Good to Very Good | 69.9% | 67.6% | 67.5% |
| This measure summarizes the percentage of bridges and culverts that are rated in Good to Very Good condition based on the bridge condition index (BCI) value. | | | | |

## 9. Transportation Capital Forecast

Major capital investments in transportation system infrastructure identified through the 2025 business planning and budget process total $145.9 million and includes:

- $41.7 million for road rehabilitation projects, which represents a $3 million increase in annual investment in road rehabilitation compared to 2024 ($38.7 million) which has been achieved through the $3 million increase to the Roads Rehabilitation Levy approved through the 2025 property tax guideline report.
- $17.0 million for bridge and culvert rehabilitation and replacement projects.
- $4.9 million in capital expenses related to traffic control and improving safety on the Regional road network.

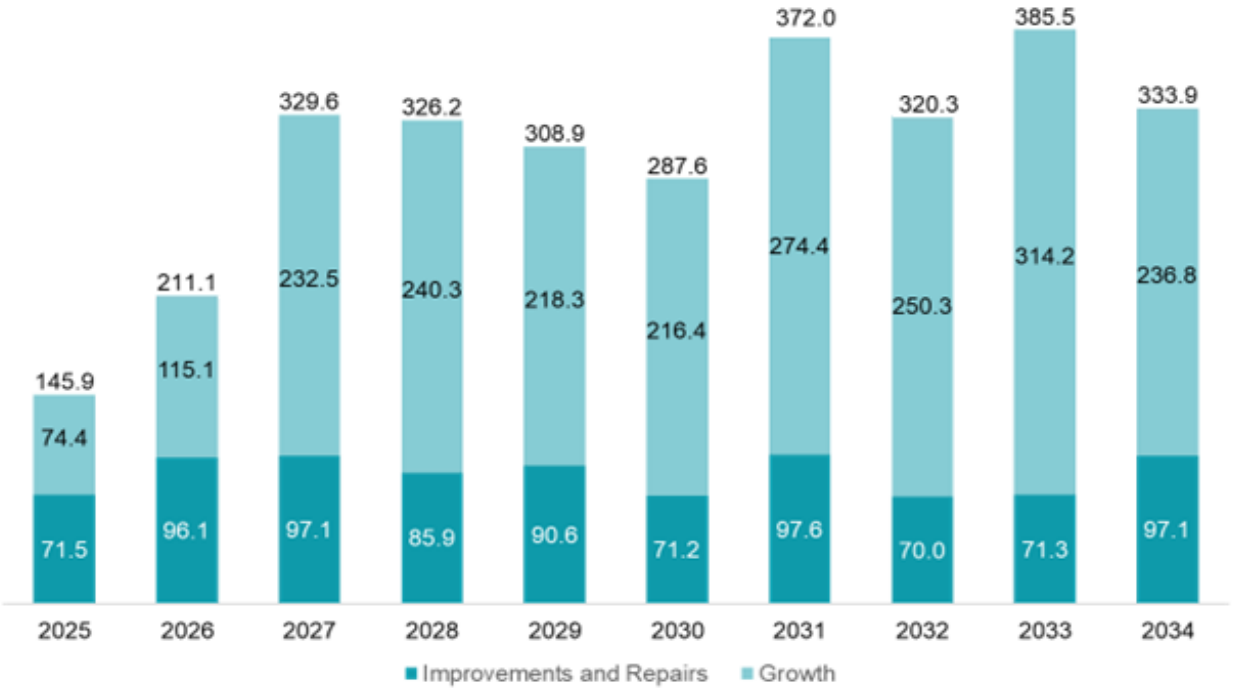
The total transportation capital expenditure over the 2026-2034 forecast period is estimated at $2.88 billion. Key highlights of the forecast include:

- Annual average investment of $47 million throughout the forecast period to increase the average pavement condition of the Region’s road network.

- Approximately $142.3 million in bridge and culvert rehabilitation and replacement expenditures over 2026 to 2034.

- $13.5 million in cycling infill projects over the forecast to support the Regional Cycling Plan.

**Figure 5: Transportation Capital Forecast ($ millions)***



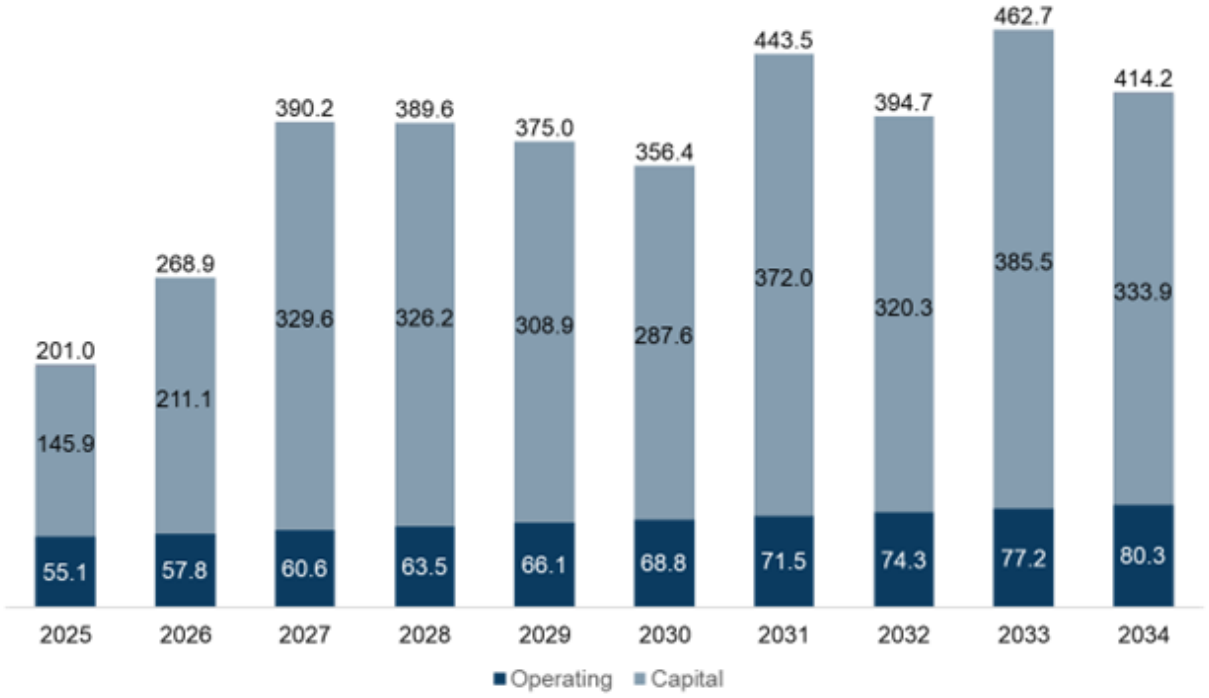

*Improvements and Repairs and Growth may not add to Total due to rounding.

## 10. Lifecycle Costing

Transportation lifecycle activities include capital investments and operating activities required to meet service needs at the lowest cost and risk for Regional roads, bridges, culverts, stormwater management systems assets and traffic systems, and supporting fleet and facilities over their entire useful lives.

Figure 6 illustrates operating and capital lifecycle costs for the Transportation asset class.

**Figure 6: Operating and Capital Lifecycle Costs ($ millions)***



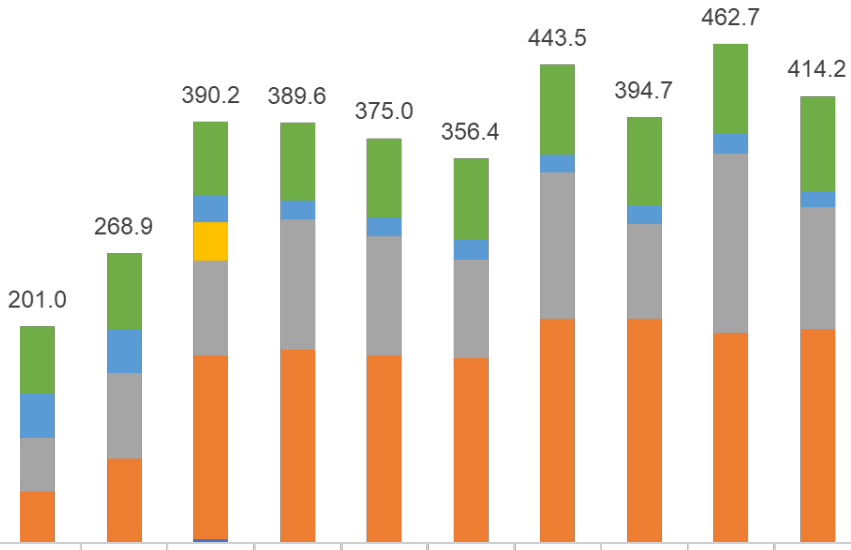

*Operating and Capital may not add to Total due to rounding.

Total operating lifecycle expenditures for Transportation totals $675.2 million over the 2025 Budget and nine-year forecast period (2026 to 2034) while capital expenditures total $3,020.9 million over this period.

## 11. Financing Strategy

Figure 7 illustrates the financing strategy for the Transportation System operating and capital costs. The financing strategy leverages general levy revenues, debenture financing, reserves and reserve funds, senior government funding, development charge revenues, and contributions from developers and other partners. A discussion of risks related to these financing sources, for all Regional services can be found in the detailed asset management report.

**Figure 7: Operating and Capital Financing Strategy**
**($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 62.9 | 70.7 | 68.0 | 71.8 | 73.0 | 75.7 | 83.2 | 81.3 | 83.9 | 87.7 |
| Senior Government Funding | 41.0 | 40.8 | 25.2 | 17.6 | 17.6 | 17.6 | 16.9 | 17.6 | 17.6 | 15.4 |
| Debentures | 0.0 | 0.0 | 34.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Reserve and Reserve Funds | 49.5 | 79.0 | 87.9 | 121.0 | 110.5 | 91.8 | 135.6 | 87.8 | 166.2 | 113.0 |
| Development Charges | 47.6 | 78.5 | 170.6 | 179.2 | 173.9 | 171.3 | 207.8 | 208.0 | 195.0 | 198.1 |
| Other | 0.1 | 0.0 | 3.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 201.0 | 268.9 | 390.2 | 389.6 | 375.0 | 356.4 | 443.5 | 394.7 | 462.7 | 414.2 |

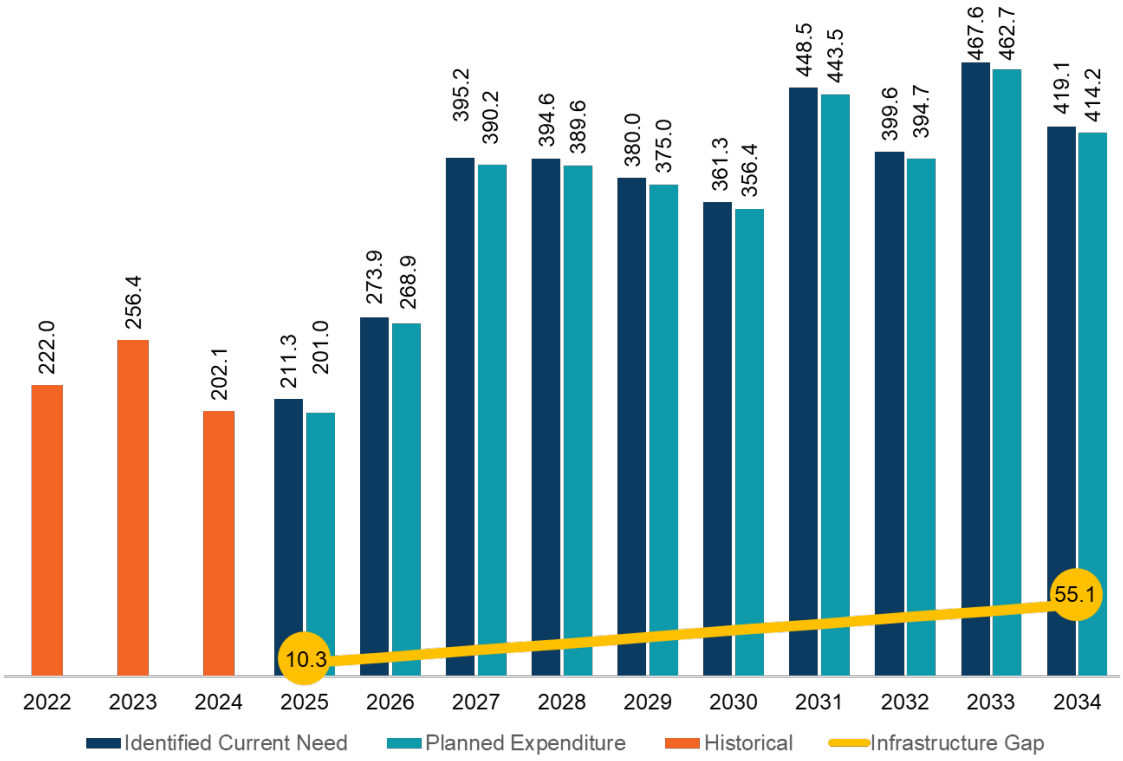
Notes:

- Other includes contributions from partners.
- Columns may not add due to rounding.

## 12. Lifecycle Activities and Infrastructure Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure needs and available financing to meet service levels. An infrastructure gap refers to the difference between forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 8). For transportation system infrastructure, the infrastructure gap is estimated at $10.3 million in 2025. This infrastructure gap is estimated to grow to $55.1 million by 2034. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets.

**Figure 8: Transportation: Lifecycle Gap Analysis ($ millions)**




## Roads

Timely road maintenance and rehabilitation lifecycle activities can extend the useful life of a road avoiding costly, premature replacement and improve PCI ratings for the Regional roads network. Figures 9 and 10 illustrate how following rehabilitation and maintenance guidelines can prolong the useful life of a road.

**Figure 9: Preventative Maintenance Impact on Road Replacement (High Volume Urban)**

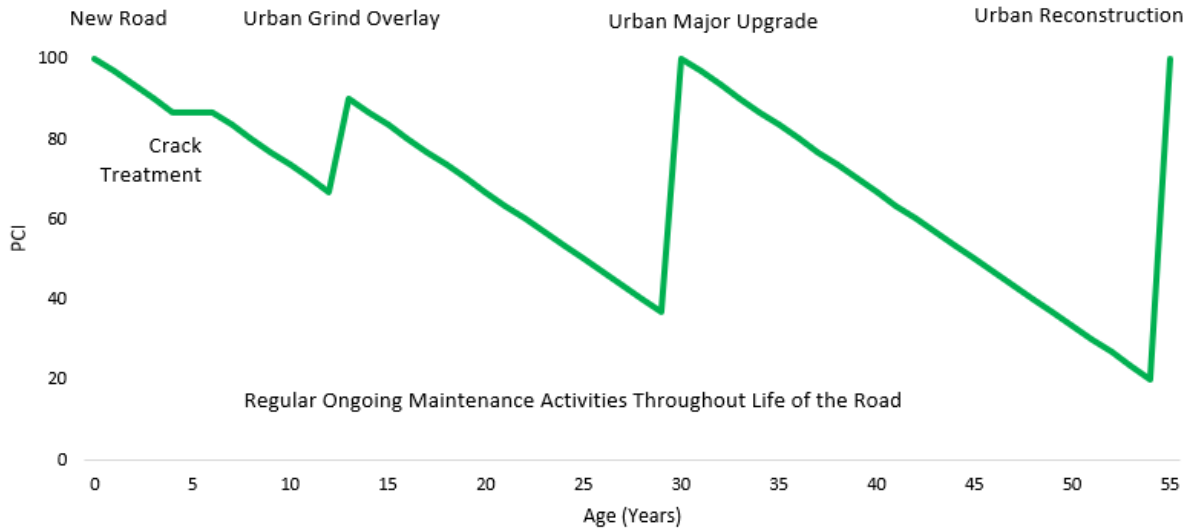
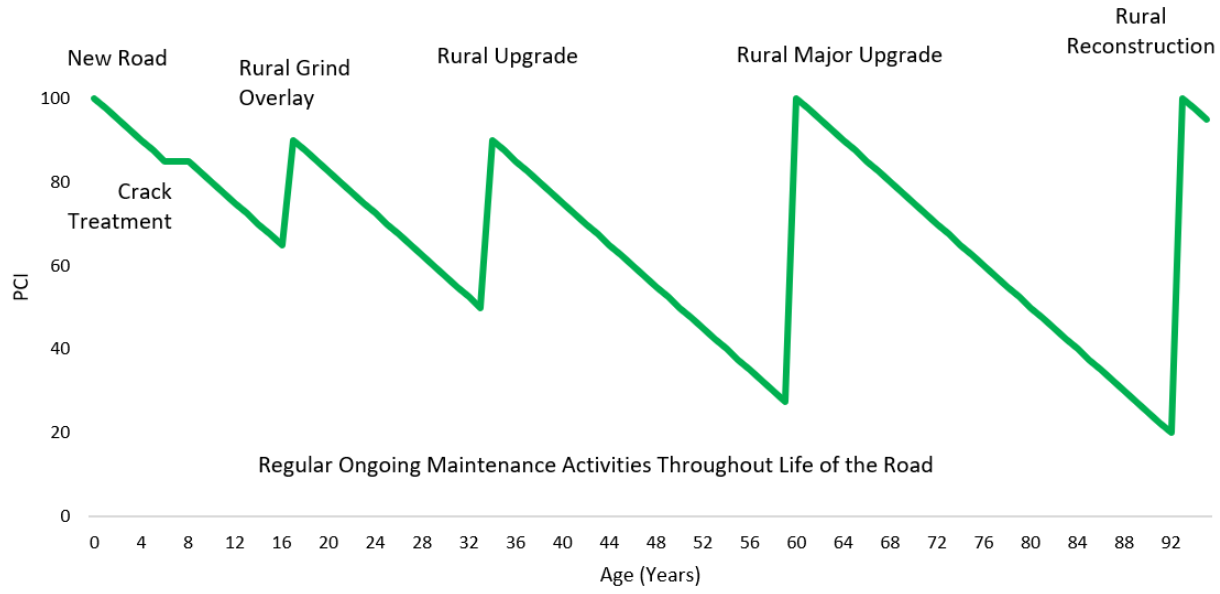


**Figure 10: Preventative Maintenance Impact on Road Replacement (Low Volume Rural Roads)**




The Region uses a road rehabilitation optimization software program, along with road treatment guidelines (Table 6), and the consideration of other factors (e.g., volumes), to determine the timing and type of treatment to be applied within the confines of available funding.

**Table 6: Road Maintenance Guideline**

| Activity | PCI Criteria | PCI Reset |
|---|---|---|
| Rural/Urban Crack Treatment | PCI >80<= 90 | Maintain |
| Rural Grind Overlay | PCI >65<= 75 | 90 |
| Rural Upgrade | PCI >35<= 65 | 90 |
| Rural Major Upgrade | PCI =>20<= 35 | 100 |
| Rural Reconstruction | PCI <20 | 100 |
| Urban Grind Overlay | PCI >45<= 70 | 90 |
| Urban Major Upgrade | PCI >30<= 45 | 100 |
| Urban Reconstruction | PCI<= 30 | 100 |

The exact timing and type of road lifecycle treatment can vary due to car and truck volumes and strategic prioritization decisions. For example, there may be instances where it would be beneficial to allow the pavement condition of a particular road to reach the next suggested treatment type to align timing of rehabilitation works.

In addition to maintenance activities, staff must undertake other ongoing operating activities to ensure that Regional roads deliver their expected levels of service. Some key non-maintenance operating lifecycle activities include winter plowing, roadside dust control, and overhead (payroll, communication expenses, vehicle fuel) at facilities and depots.

Updated modelling suggests that the Region should target an annual investment of $52 million each year for road rehabilitation over the 2025 to 2034 timeframe, in order to increase the network average PCI from 57 to the service level target of 65. This requires an increased investment above the current capital investment forecast of $47 million annually for 2026 to 2034 and will need to be considered as part of future business plans and budgets.

**Bridges and Culverts (greater than 3m)**

The bridges and culverts greater than 3m are inspected biennially, where a Bridge Condition Index (BCI) is calculated that assists in informing which treatment shall be applied to structures to maintain or improve their condition. The BCI is not used to rate or indicate the safety of a bridge or culvert. Any safety issues are immediately reported to the Region by the inspector for immediate action and repair.

The Region’s bridge and culvert maintenance and repair programs are essential to maintaining the Region’s bridge network in a safe and optimal condition and extending their useful life at the lowest cost to taxpayers.

The current approved budget and planned nine-year forecast are meeting service needs for bridges and culverts, as such there is no identified infrastructure funding gap for bridges and culverts.

**Traffic**

The capital traffic program targets and prioritizes annual modernization needs of aging traffic signal equipment (typically traffic signal controllers) to improve reliability, functionality, and operating efficiency.

In addition to capital replacement and improvement activities, staff must undertake operating activities to ensure that the traffic network delivers its expected levels of service. Some operating costs include overhead (payroll, communication expenses, uniforms, software), signal maintenance and systems and a portion of facility costs for 101 Consumers Drive in Whitby.

The planned expenditures deliver traffic signal capital improvements according to forecast and approved schedules which result in improved service over the nine-year forecast period without the risk of premature replacement of assets. It is important to note that the approved budget and forecast poses no health and safety risk as compared to the identified current need scenario.

Going forward, lifecycle costing for Transportation will be refined including refining assumptions to identify needs and further defining traffic service levels. These improvements will be reflected in future asset management reports and lifecycle gap analysis.

## 13. Climate Change

### Climate Mitigation: Transportation Strategies to Reduce GHG Emissions

The Durham Region Corporate Climate Action Plan has set targets to achieve net-zero GHG emissions by 2045. The corporate GHG inventory related to Transportation assets includes emissions associated with Works Depots used to support the operating and maintenance of the Regional Road network and from operating traffic signals. GHG emissions from Transportation assets represent a very small portion of overall corporate emissions.

### Climate Adaptation: Increasing the Resiliency of Transportation Assets

In 2024, staff completed a flood risk assessment to aid in future decision-making and resilience planning. The assessment is now a Federation of Canadian Municipalities (FCM) 2024 Sustainable Communities Awards winner in the Reconciliation and anti-racism, equity and inclusion (AREI) category thanks to its innovative use of a social equity lens to ensure that transportation planning considers the needs of more-vulnerable communities. The Region is now using this risk assessment to help inform asset management priorities and has shared its work to be replicated elsewhere.

Staff continue to assess transportation strategies to mitigate against the impacts of a changing climate and have already integrated several considerations into Regional business plans and budgets.

Risk and climate related mitigation programs for 2025 include:

- Continuation of the Uninterrupted Power Supply (UPS) for traffic signals to ensure backup power for intersections;
- Paved shoulders for rural road construction projects where feasible (as recommended in the Transportation Master Plan);
- Other ongoing traffic initiatives including Intelligent Transportation Systems (ITS) projects, Accessible Pedestrian Signal (APS) installations, and roadway safety program and Durham Vision Zero Program; and
- Implementation of the Region’s Light-Duty Fleet Electrification Plan for corporate light duty fleets

Moving forward, staff will continue to investigate, monitor, and explore ongoing proactive strategies and programs, which help prevent adverse climate impacts to roads and structures including:

- Resilient Asphalt: Monitoring the impacts of climate changes on the performance of asphalt and concrete products used in regional roads construction, with product specifications adjusted as needed to mitigate and enhance materials' performance;

- Adaptive Structures (culverts, bridges and storm sewers): Monitoring of the impacts from increased storm intensity on the capacity and integrity of regional structures;

- Build on flood risk and vulnerability assessment work completed with some Conservation Authorities in 2021 – 2024 to incorporate flood risk data into corporate decision-making that informs capital planning and asset management for critical infrastructure by expanding flood risk assessment work into areas of the Region where significant development is planned over the coming decades;

- Embankment and Erosion Control: Adjusting specifications and design criteria to mitigate erosion. Road shoulders are primed with liquid asphalt and liquid calcium chloride to control dust and erosion with frequent inspections of erosion prone areas; and

- Road Condition Monitoring and Response: State-of-the-art road weather information systems to monitor weather/pavement conditions (e.g. infrared road temperature sensors).

Staff will continue to ensure asset management plans advance long-term and effective responses to climate change.

Updates regarding the Region's overall progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 14. Risk Assessment

Table 7 includes a sample of identified risks for the Region's Transportation assets in achieving its service level standards as well as the mitigation controls to address these risks.

**Table 7: Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Extended power outage | Ensure standby power at traffic intersections and Traffic Operations Centre.<br>Ensure effective emergency, contingency and business continuity plans. |

| Risk | Mitigation |
|---|---|
| Asset structural failures or impacts to asset effectiveness | Optimization of asset life cycles, proactive maintenance and cleaning.<br>Asset Management database, inspections and patrols.<br>Pest control programs (e.g., beaver damage to culverts, bridges).<br>Design considerations for future storm events.<br>Effective emergency, contingency and business continuity plans.<br>Adequate redundancies and proactive detours and closures where required. |
| Extreme wind events and storms beyond existing capacity/response capability affecting roads, structures and sites. | Adequate redundancies and proactive detours and closures where required.<br>Effective emergency, contingency and business continuity plans.<br>Post-storm clean-up protocol, assessments and improvements. |
| An increase in winter freeze-thaw cycles and temperatures at or near 0ºC | Extensive winter control programs (e.g., salt management plan).<br>State-of-the-art weather systems and Roadway Condition Advisory System.<br>Optimization of asset life cycles including proactive maintenance.<br>Design considerations and erosion control (roads, shoulders, structures). |
| Potential for road washouts/ditch flooding and overland flooding that could cause contaminant migration (e.g., road salt, oil, grease) | Optimization of asset life cycles, proactive maintenance and cleaning.<br>Inspections and patrols.<br>Effective emergency, contingency and business continuity plans.<br>Adequate redundancies and proactive detours and closures where required.<br>Design considerations and erosion control (roads, shoulders, structures). |

| Risk | Mitigation |
|---|---|
| Collisions | Design, inspection and maintenance standards.<br>Road signage, roadside protection and inventory assessments.<br>Effective emergency, contingency and business continuity plans.<br>Extensive Winter Control Program (RCAS) and Roadway Event Management System (e.g., speed and condition warnings).<br>Implementation of the Region's Vision Zero Program.<br>Proactive detours and closures where required for safety. |

# Durham Region Transit

## Asset Class Report

| Replacement Value | Average Condition |
|---|---|
| **$349.0M** | **GOOD** |

## Service Level Objectives

Increase ridership and enhance customer experience.

Develop and operate a transit system that is available, consistent, direct, frequent and seamless thereby providing enhanced mobility for Durham Region residents and visitors with an attractive alternative to the personal car.

Increase operational effectiveness through asset management planning for future growth and existing assets.

Maintain an acceptable condition standard for all Regional Transit assets.

- 180 Conventional Buses
- 2 Specialized Buses
- 19 Supervisory Fleet
- 2 Maintenance, Administrative and Bus Storage Facilities
- 2,541 Bus Pads and Shelters

## 1. Durham Region Transit Inventory Overview

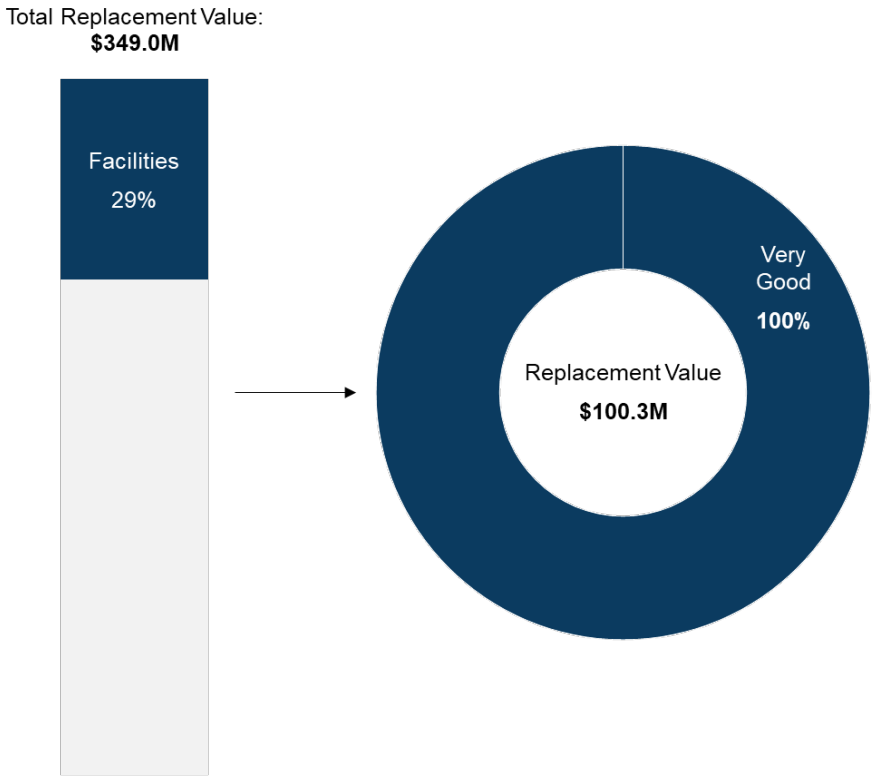
Durham Region Transit (DRT) assets consist of a fleet of revenue vehicles, non-revenue vehicles, facilities, hard surface bus stops and shelters, equipment and other supporting assets. Supporting assets include a portion of the Region's administrative facilities, fleet and equipment that support the DRT.

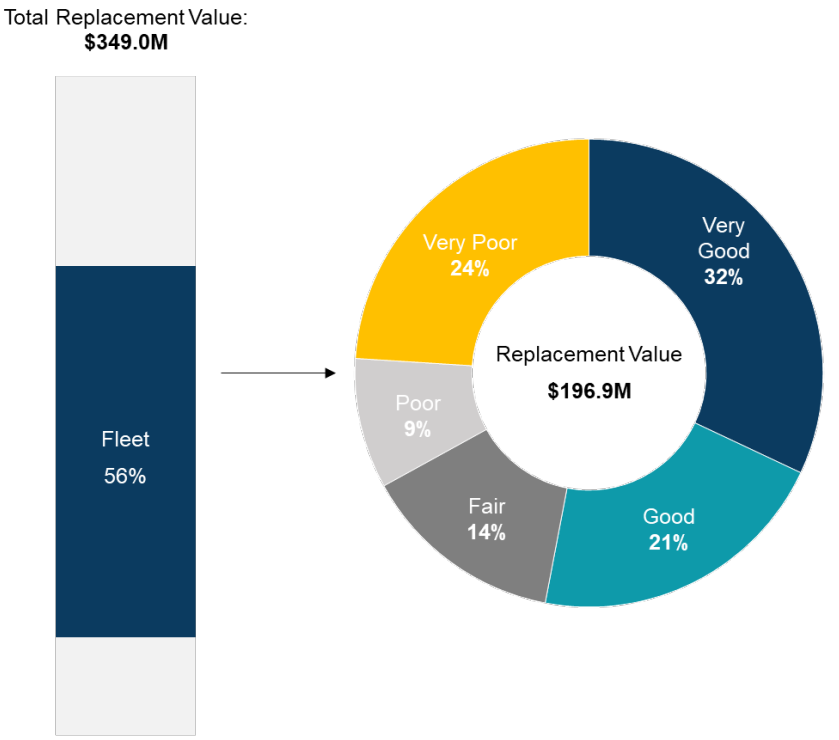
## 2. Condition Ratings and Replacement Values

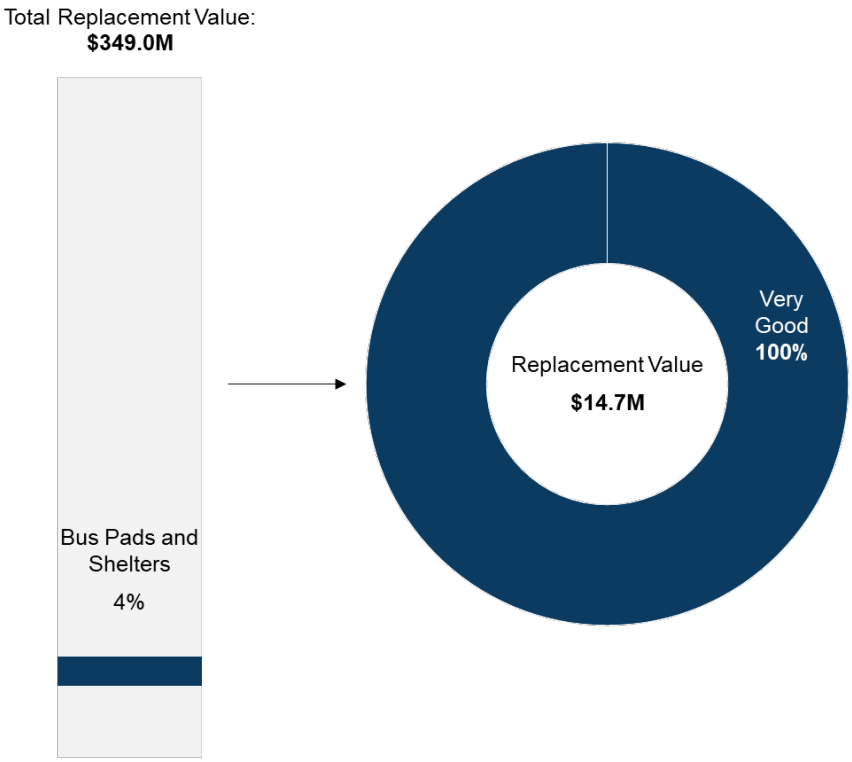
The overall DRT condition rating in 2024 was Good with an overall replacement value of $349.0 million.

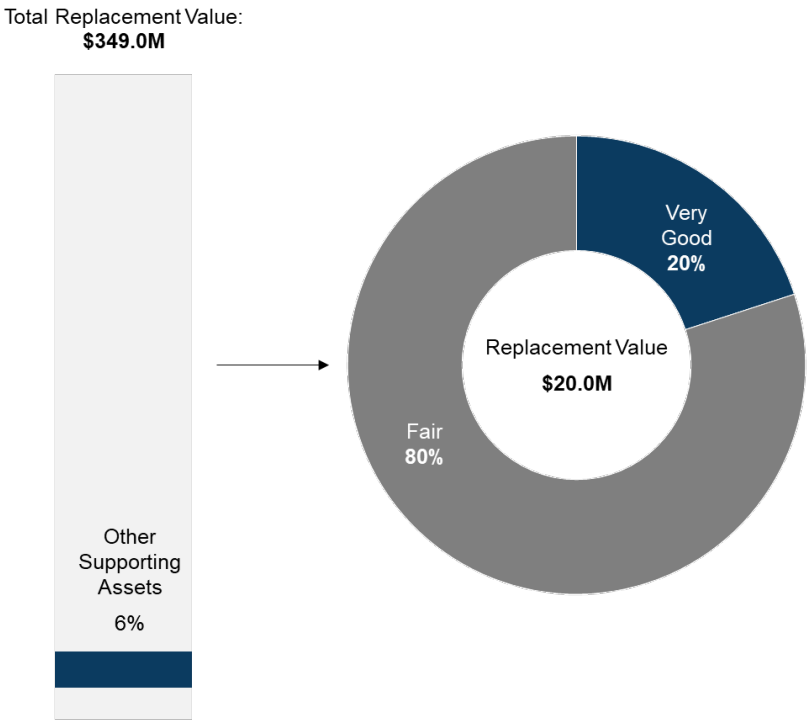
Figure 1 below illustrates the condition rating and replacement value of DRT assets.

**Figure 1: DRT Assets Condition and Replacement Values***




Total Replacement Value:
$349.0M
Fleet
56%
Very Poor
24%
Very
Good
32%
Replacement Value
$196.9M
Poor
9%
Fair
14%
Good
21%


Total Replacement Value:
$349.0M
Bus Pads and
Shelters
4%
Very
Good
100%
Replacement Value
$14.7M




* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

## 3. Condition Assessment Methods

Table 1 outlines the assessment methods used to determine condition ratings.

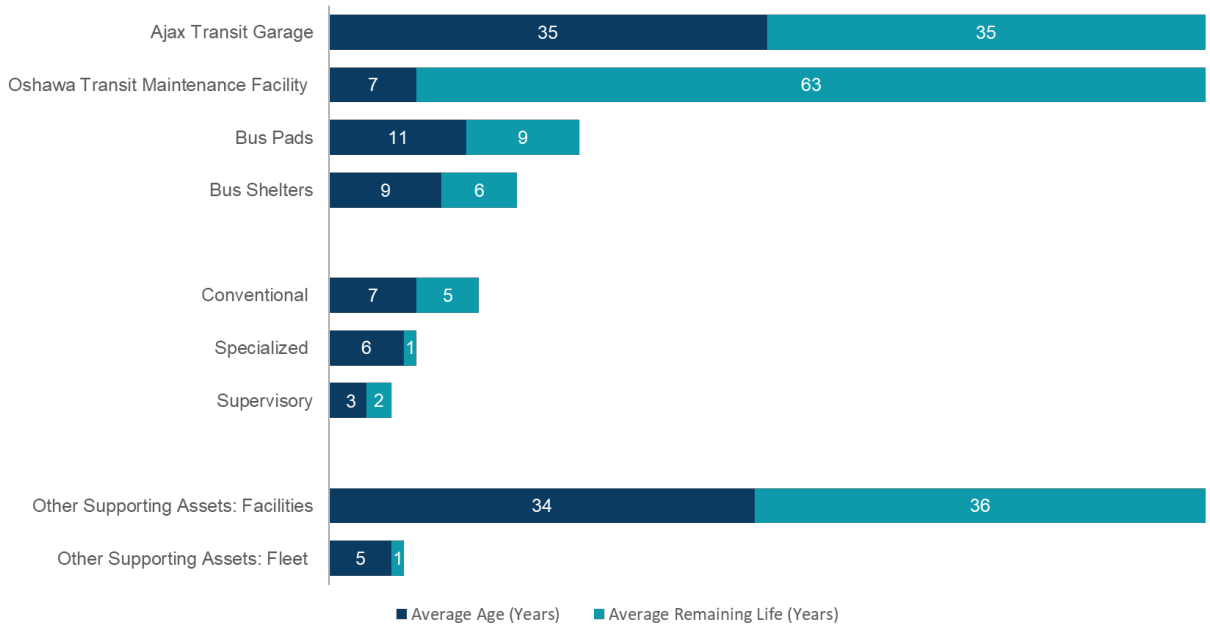
**Table 1: DRT Condition Assessment Methods**

| Asset Class | Assessment Methods |
|---|---|
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method for assessing the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |
| Bus Stop Pads and Shelters | All bus shelters have been installed since 2016 except for 2 older ones which are in good condition. There is no formal method for assessing the condition of bus shelters however, when there is an issue with bus shelters, they are repaired immediately. |
| Fleet | Condition rating criteria is based on mileage. |

## 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining asset life of the DRT storage and maintenance garages and fleet as of December 31, 2024. The Transit Maintenance Facility and the Ajax Transit Garage are relatively young while ongoing maintenance and rehabilitation has resulted in a Very Good rating

**Figure 2: DRT Average Age and Remaining Useful Life**




## 5. Levels of Service and Performance Measurement

Table 2 outlines the various Regional Council approved plans, studies, and policies, as well as regulatory and or compliance guidelines that inform DRT's service level priorities.

**Table 2: Plans, Studies, Polices, Procedures, Regulations that Inform Service Levels**

| Plans, Studies, Policies, & Procedures |
| --- |
| • Transit Service and Financing Strategy (2023 – 2032)<br>• Durham Region Transit Demand Responsive Transit Study<br>• E-Mission Zero Fleet Electrification Plan<br>• Transportation Master Plan<br>• 2025 DRT Business Plans and Budget<br>• Regional Transit 2023 Development Charge Background Study and By-law<br>• Facility Needs Study<br>• Durham Standard which provides a green development standard of net zero facilities for new construction and major facility retrofits for Region-owned facilities (and leased facilities where appropriate) |
| **Regulatory Compliance Requirements and Guidelines** |
| • Ministry of Transportation Periodic Mandatory Commercial Vehicle Inspections (PMCVI)<br>• Motor Vehicle Inspection Station Licencing & Standards<br>• Public Transportation and Highway Improvement Act<br>• Commercial Vehicle Operators Registration Program (CVOR)<br>• Motor Vehicle Repair Standards<br>• Truck and Bus National Safety Code<br>• Ontario Building Code Standards<br>• Accessibility for Ontarians with Disabilities Act (AODA)<br>• Environmental Assessment Act<br>• Ontario Fire Code |

## 6. Technical Service Levels and Performance Measures

Asset management staff have identified key asset-related technical service levels and performance measures as noted in Table 3.

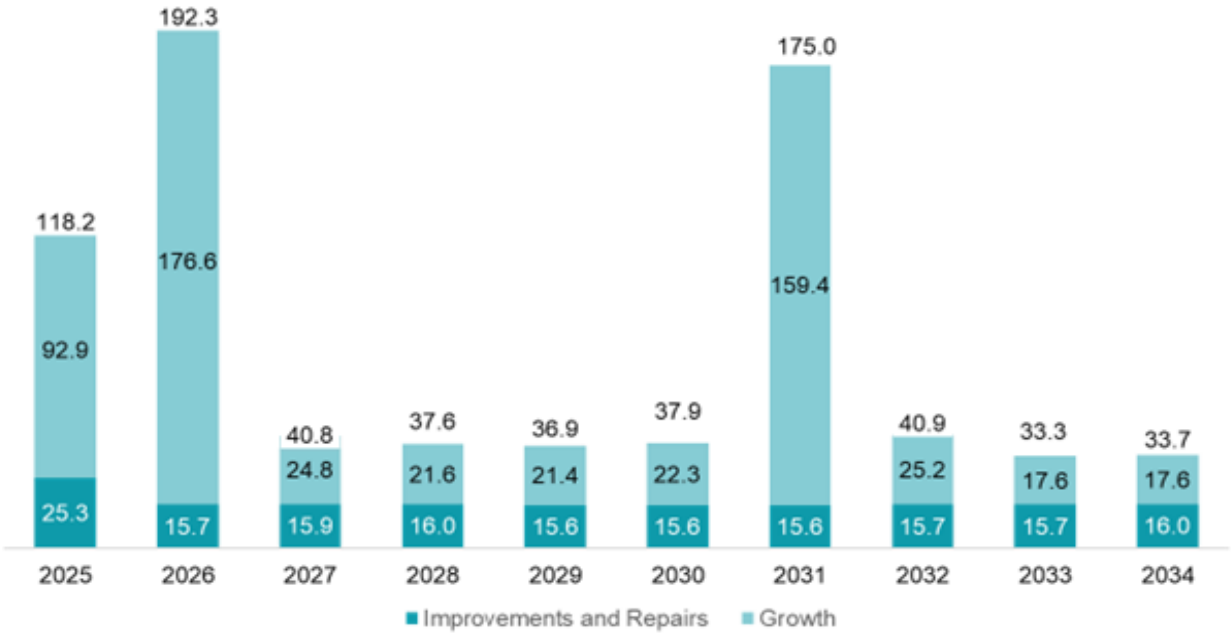
**Table 3: DRT Performance Measures**

| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Average Conventional Fleet Age | Maintain Average Age of Conventional Fleet at 7 years of age | 7.3 | 7.2 | 6.9 |
| This performance measure captures the average age of the conventional bus fleet. | | | | |
| Percentage of Conventional Fleet Exceeding 12 Year Useful Life | To allow no more than 10 per cent of conventional bus fleet to exceed 12 years of age or older | 10.7% | 14.0% | 18.9% |
| This performance measure identifies the percentage of conventional bus fleet which is 12 years of age or older. Buses aged 11.5 to 12 years old are considered 12 years old, for the purpose of the metric measurement. Typically, it is acceptable to have a small portion of the fleet exceed its useful life to a threshold of 10 per cent. | | | | |
| Kilometres per litre of Diesel Fuel | To achieve 2.1 kilometres per litre of diesel fuel (among diesel vehicles only) | 2.5 | 2.1 | 2.1 |
| This performance measure captures the fuel economy of DRT's conventional fleet by calculating the number of kilometres that is achieved for each litre of diesel fuel. Target is based on industry standards. | | | | |
| Facility Condition | <10% of facility replacement value rated as either Poor or Very Poor (excluding supporting facilities) | 16.8% | 0.0% | 0.0% |
| % of facilities with completed BCA | 100% of facilities to have a completed BCA in the past 10-years | 66.7% | 100% | 100% |

## 7. DRT Capital Forecast

Major capital investments for DRT identified through the 2025 business plans and budget process total $118.2 million for 2025 and $628.4 million over the 2026 to 2034 forecast period.

**Figure 3: Durham Region Transit Capital Forecast ($ millions)***




*Improvements and Repairs and Growth may not add to Total due to rounding.

The 2025 DRT Business Plans and Budget include the following significant capital projects:

- 19 40-foot buses to be delivered in 2027 including:
  - 6 battery electric buses to replace current diesel buses ($10.1 million, including outfitting costs),
  - 12 battery electric buses required to grow the fleet for service expansion ($20.7 million, including outfitting costs),
  - 1 diesel bus required to grow the fleet for service expansion ($1.1 million)
- Refurbishment of four diesel buses ($1.2 million);
- Distribution Network Capacity Infrastructure ($1.1 million) and Distribution Energy Resources which includes small-scale energy systems including both energy generation technologies and energy storage systems ($6.6 million);
- Electrical vehicle charging infrastructure and related equipment ($2.4 million for heavy duty vehicles and $1.75 million for light/medium duty vehicles);

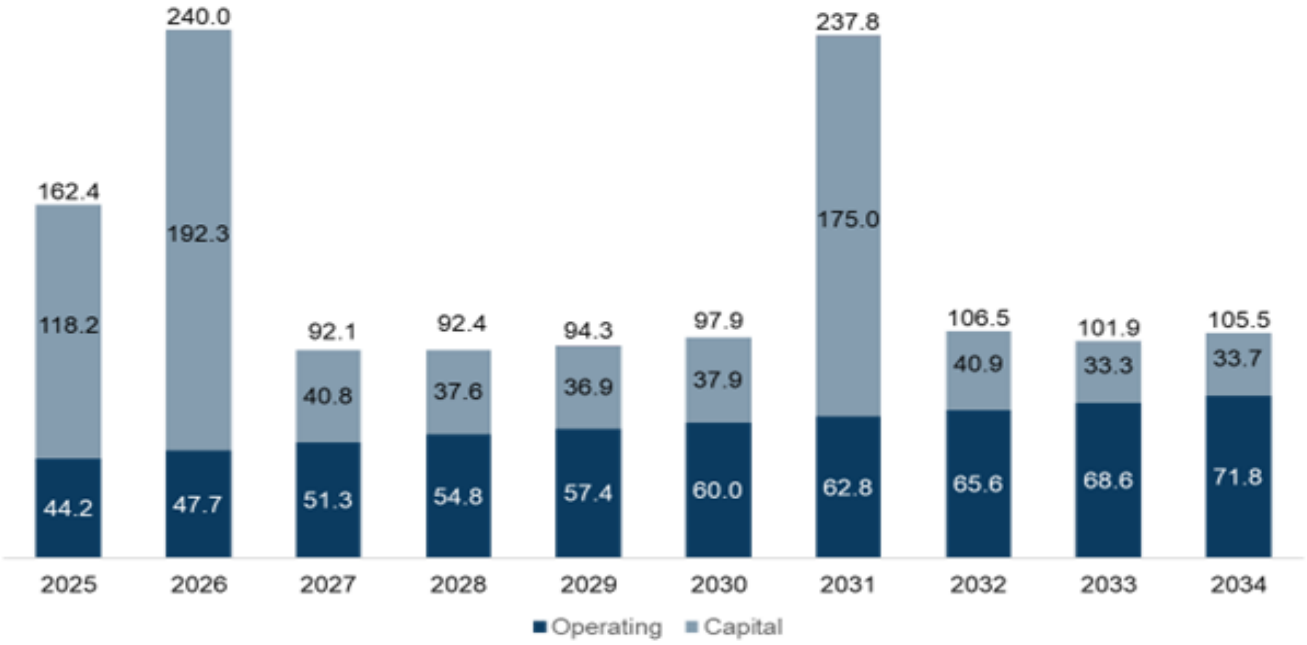
- Further design expenses for Durham Region Transit's New Indoor Bus Storage/Servicing Facility in north Oshawa to support fleet expansion and electrification ($2 million). Senior government funding for the capital construction costs for this facility will be required to advance this facility;
- Winfield Farms Terminal design work ($2.5 million);
- The reconstruction of the Raleigh storage facility ($65.6 million). Staff are currently reviewing the scope and budget for this project; and
- Installation of security gates ($1.2 million).

## 8. Lifecycle

Durham Region Transit's maintenance and rehabilitation lifecycle activities aim to extend the useful life of assets and improve service delivery.

Figure 4 illustrates capital and maintenance lifecycle costs for DRT.

**Figure 4: Lifecycle Costs Durham Region Transit Operating and Capital ($ millions)***




*Operating and Capital may not add to Total due to rounding.

**Fleet Maintenance and Repairs**

Vehicle deterioration occurs by component, rather than holistically. DRT maintains the condition of its fleet assets using a three phased approach:

- Annual review of major powertrain components on a bus-by-bus basis.
- A preventative maintenance schedule based on manufacturers' recommendations and a semi-annual vehicle safety inspection process as regulated by the Ontario Ministry of Transportation.
- Required unscheduled repairs and running repairs.

Fleet preventative maintenance is scheduled when kilometres reach prescribed targets. Kilometers are tracked through nightly recording of kilometers driven for each bus into the fuel reporting software, which is then transferred to Maximo, the Region's maintenance management workorder software system.

**Table 4: Preventative Maintenance Schedules for DRT Conventional Fleet**

| Inspection Type | KMs |
|---|---|
| A Inspection | Every 10,000 km |
| B Inspection | Every 20,000 km |
| C Inspection | Every 40,000 km |
| D Inspection | Every 80,000 km |

DRT targets an expected useful life of twelve years for conventional buses after which point a bus can require significant structural refurbishment and becomes more costly to repair. Both maintenance costs and bus reliability can be impacted as a bus nears the end of its useful life and eventually, the bus will become a spare and used only when necessary.

**Facilities Maintenance and Repairs**

Facilities deteriorate by component rather than as a whole. Staff in the Facilities area of the Works Department undertake maintenance, repair and rehabilitation activities for these components at optimal times to allow the assets to provide service levels at the lowest risk in the most cost-effective manner.

Maintenance and replacement decisions are informed through the information in the Region's maintenance management workorder software system and Ameresco, the Region's capital asset management workorder planning software system (CAMPs). Facility staff can better identify and refine forecasted future repair, maintenance, and

rehabilitation needs and subsequent cost estimates based on the recording and tracking of past treatments, current condition ratings and needs, useful life, changing compliance, building and energy codes, modernization and return on investment.

Table 5 provides a summary of some useful life guidelines for facility components, which provides some broad time frames for when replacements could potentially occur. Changing compliance, building and energy codes, modernization, return on investment and other specific needs of DRT are also considerations in facility infrastructure decisions.

**Table 5: Building Elements' Useful Life**

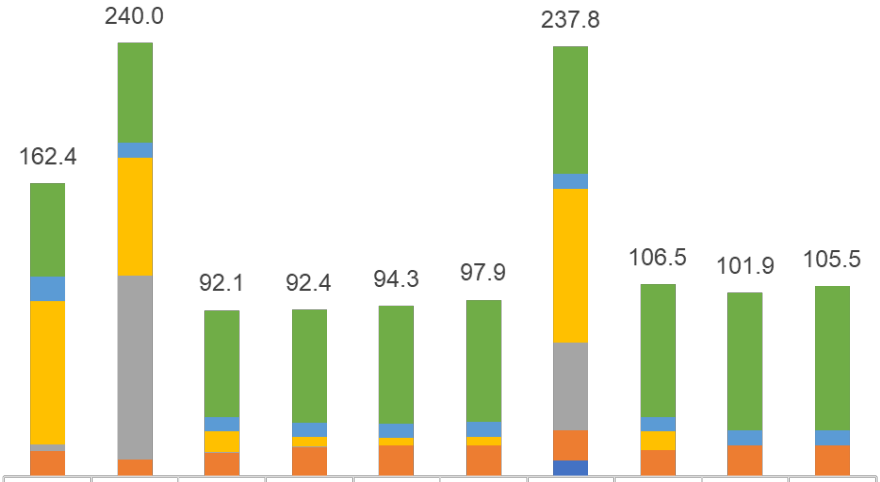
| Less than 10 Years | 12 to 20 Years | 25 to 50 Years | Over 50 Years |
|---|---|---|---|
| Interior Finishes | Building Envelope | Mechanical<br>Electrical<br>Plumbing<br>Elevators | Structure |

## 9. Financing Strategy

Figure 5 presents the financing strategy for the transit infrastructure operating and capital costs. The financing strategy leverages property tax revenues, debenture financing, reserves and reserve funds, senior government funding, development charge revenues and contributions from developers and other partners.

A discussion of risks related to these financing sources, for all Regional services can be found in the detailed asset management report.

**Figure 5: Operating and Capital Financing Strategy**
**($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 51.6 | 55.4 | 58.8 | 62.4 | 64.9 | 67.6 | 70.3 | 73.2 | 76.3 | 79.8 |
| Senior Government Funding | 13.9 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| Debentures | 79.1 | 65.2 | 11.6 | 5.2 | 3.8 | 4.8 | 85.0 | 10.6 | 0.0 | 0.0 |
| Reserve and Reserve Funds | 3.9 | 101.6 | 0.4 | 0.3 | 0.0 | 0.0 | 48.5 | 0.0 | 0.0 | 0.0 |
| Development Charges | 14.0 | 9.7 | 13.2 | 16.4 | 17.6 | 17.5 | 16.9 | 14.6 | 17.6 | 17.6 |
| Other | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.0 | 0.0 | 0.0 | 0.0 |
| Total | 162.4 | 240.0 | 92.1 | 92.4 | 94.3 | 97.9 | 237.8 | 106.5 | 101.9 | 105.5 |

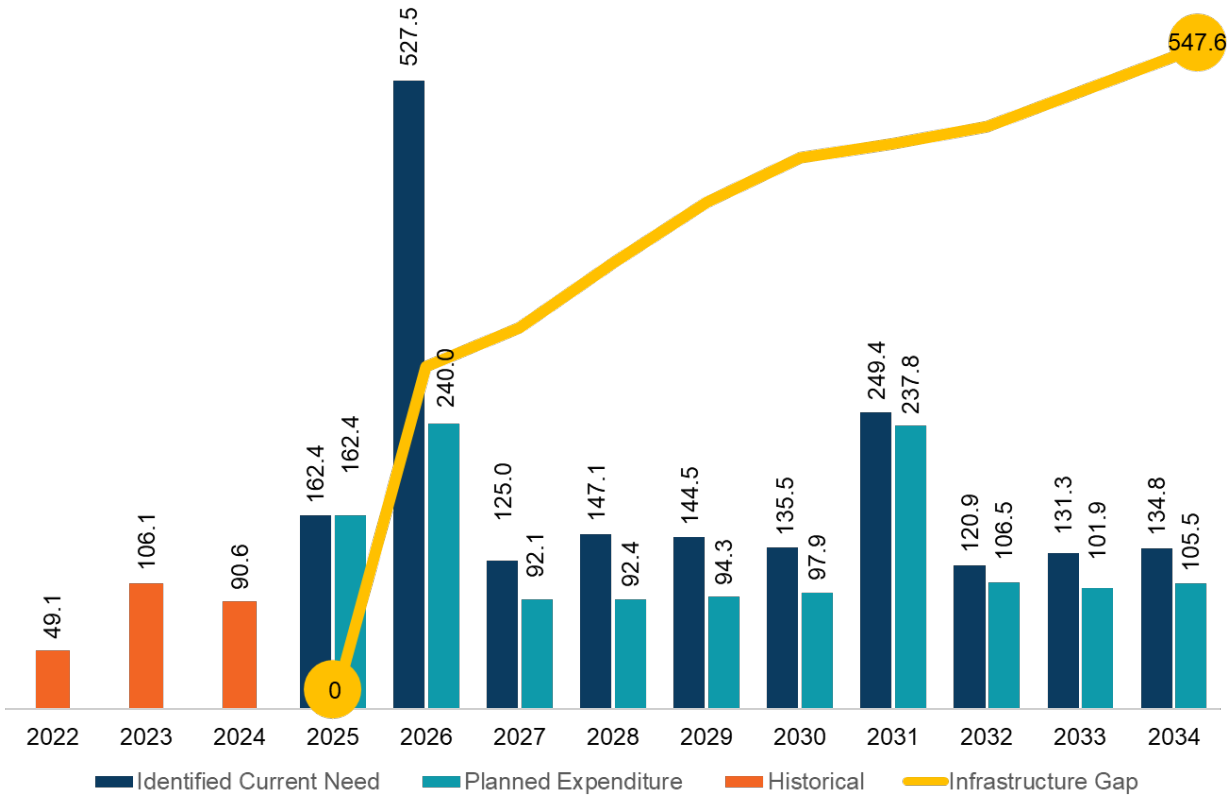
Notes:

- Other includes contributions from developers and other partners.
- Columns may not add due to rounding.

## 10. Infrastructure Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure needs and available financing to meet service levels. An infrastructure gap refers to the difference between forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 6). For transit system infrastructure, the infrastructure gap is estimated at $0 million in 2025. This infrastructure gap is estimated to grow to $547.6 million in 2034. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets.

**Figure 6: Lifecycle Gap Analysis ($ millions)**




## 11. Climate Change

### Climate Mitigation: DRT Strategies to Reduce GHG Emissions

The Durham Region Corporate Climate Action Plan has set targets to achieve net-zero GHG emissions by 2045.

DRT's E-Mission Zero Fleet Electrification Plan outlined DRT's approach to transitioning all vehicles to zero greenhouse gas tailpipe emission alternatives by 2037 with a focus on battery electric technologies. The plan is aligned with the Region's Climate Change Action Plan (CCAP) and the 2020-2024 Strategic Plan.

Implementation of Durham Region Transit's fleet electrification plan continues to advance in alignment with the Transit Service and Financing Strategy (2023 – 2032) and available financing.

While transit's share of the overall corporate carbon footprint may increase as the DRT fleet expands, DRT continues to explore and implement strategies to make transit an attractive alternative to personal vehicles to support community GHG reductions.

**Climate Adaptation: Increasing the Resiliency of DRT Assets**

The current focus of DRT climate adaptation work includes ensuring effective and up-to-date emergency, contingency and business continuity plans, in addition to adequate standby power and redundancies (e.g., spare parts and vehicles). DRT is also expanding bus shelters, which will increase protection against the potential impacts of a changing climate (e.g., a higher frequency of extreme storms) in addition to the usual impacts of cold and ice related to winter weather.

Climate adaptation will continue to be addressed through the Region's business planning cycle, including risk management, asset management and long-term financial planning processes to ensure a proactive approach.

Updates regarding the Region's progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 12. Risk Assessment

Regional staff analyze potential risks to DRT's assets on an ongoing basis. Table 6 highlights some high impact potential risks and ongoing and planned risk mitigation measures.

**Table 6: DRT Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Chargeable Equipment Failure (e.g., engine and/or transmission failure, emission control systems) | Preventative maintenance, repairs, replacements and proper storage of vehicles and equipment.<br>Inspections and maintenance of operational and compliance standards.<br>Inventories of critical parts and spare vehicles and re-scheduling/re-routing.<br>Maintenance protocols and warranties.<br>Driver training and protocols. |
| Loss of External Utilities or Fuel | Maintain effective up-to-date emergency, contingency and continuity plans.<br>Ensure adequate standby power at DRT facilities and other Region Facilities.<br>Development of fuel shortage plans.<br>Essential services policies and procedures. |

| Risk | Mitigation |
|---|---|
| Vehicle Collision | Supervisory investigation.<br>Driver screening, training and recertification programs.<br>Compliance and licensing standards.<br>MTO specified procedures inspection audit of Driver Certification Program by Internal Audit Division.<br>Maintain effective emergency and contingency plans. |
| Security Breach<br>(e.g., theft, vandalism, terrorism) | On-site/on-bus safety systems and protocols including on-board surveillance system.<br>Geographical Positioning System technology on buses and other vehicles.<br>Durham Region Transit Security Strategy.<br>Maintain effective up-to-date emergency, contingency and continuity plans. |
| Weather Related (e.g., winter ice/cold and more frequent freeze-thaw cycles) | Winter control program (e.g., vehicle, shelter and facility warming and/or de-icing and snow removal etc.).<br>In-bus water/ice slip hazard identification and mitigation.<br>Asset management – preventative maintenance (e.g., in-bus HVAC).<br>Post-storm clean-up.<br>Condition audits and inspections.<br>Maintain effective up-to-date emergency, contingency and continuity plans. |



# Social Services

## Asset Class Report

| Replacement Value | Average Condition |
|---|---|
| **$959.0M** | **FAIR** |

## Service Level Objectives

Take care of people by providing high-quality programs and human services that meet the needs of Durham residents at all stages of their lives

- 28 Housing Facilities
- 4 Childcare Centers
- 4 Long-Term Care Facilities
- 10 Fleet Vehicles

### 1. Social Services Department Inventory Overview

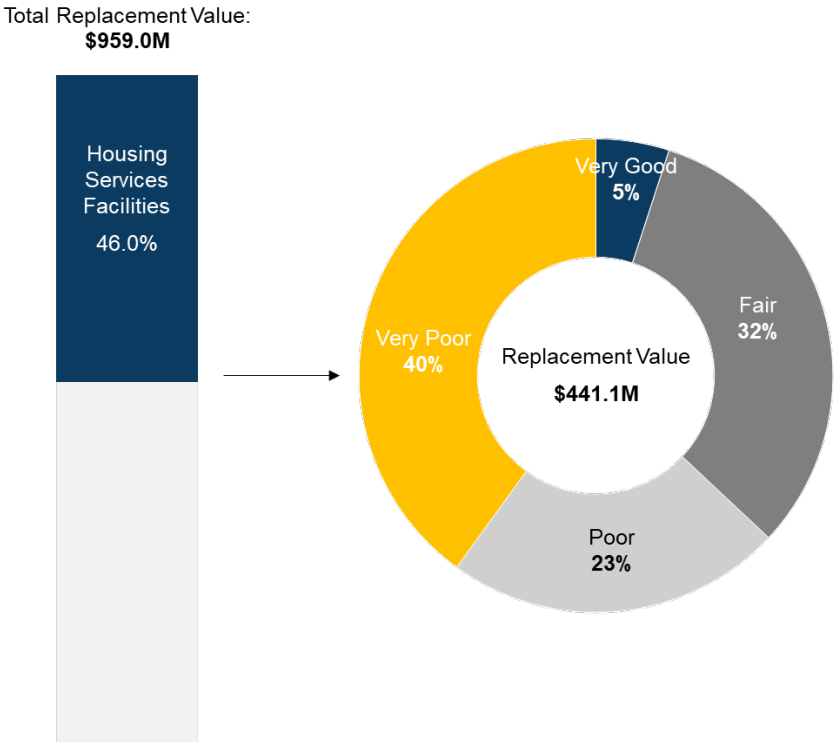
The Social Service's Department provides direction and management of facilities, vehicles, equipment and other supporting assets for the delivery of Housing Services, Childrens Services and Long-term Care Services for Seniors. Supporting assets include a portion of the Region's administrative facilities, fleet and equipment that support social services.

## 2. Condition Ratings and Replacement Values

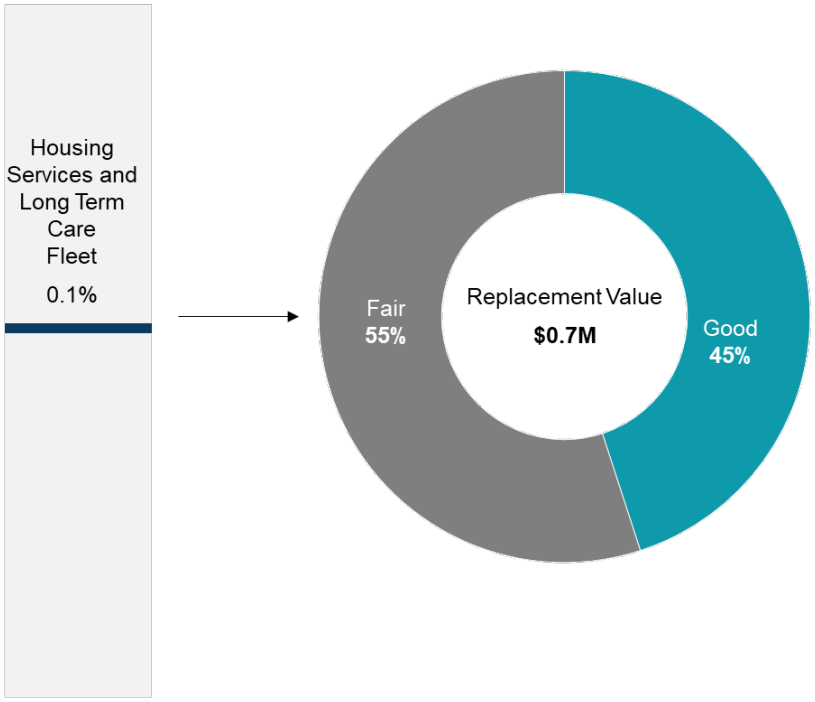
The overall rating in 2024 was Fair with an overall replacement value of $959.0 million.

Figure 1 illustrates the condition rating and replacement value of Social Services assets.

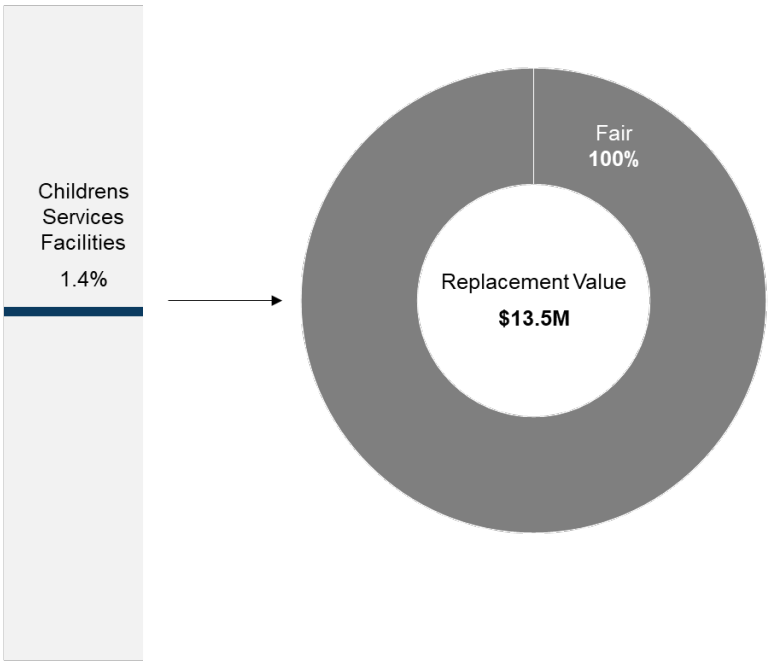
**Figure 1: Assets Condition and Replacement Values***

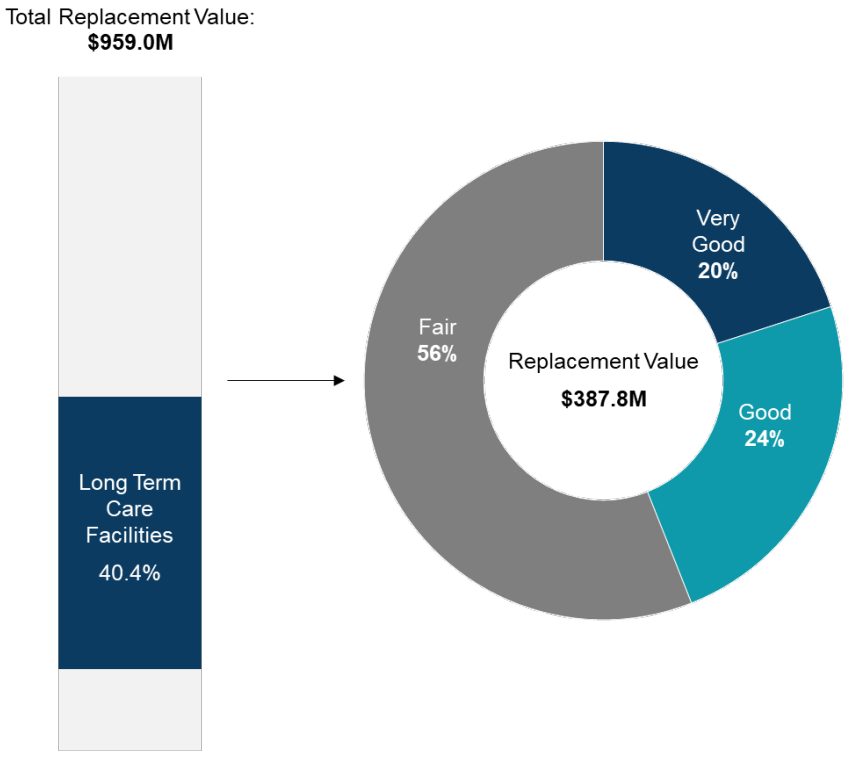


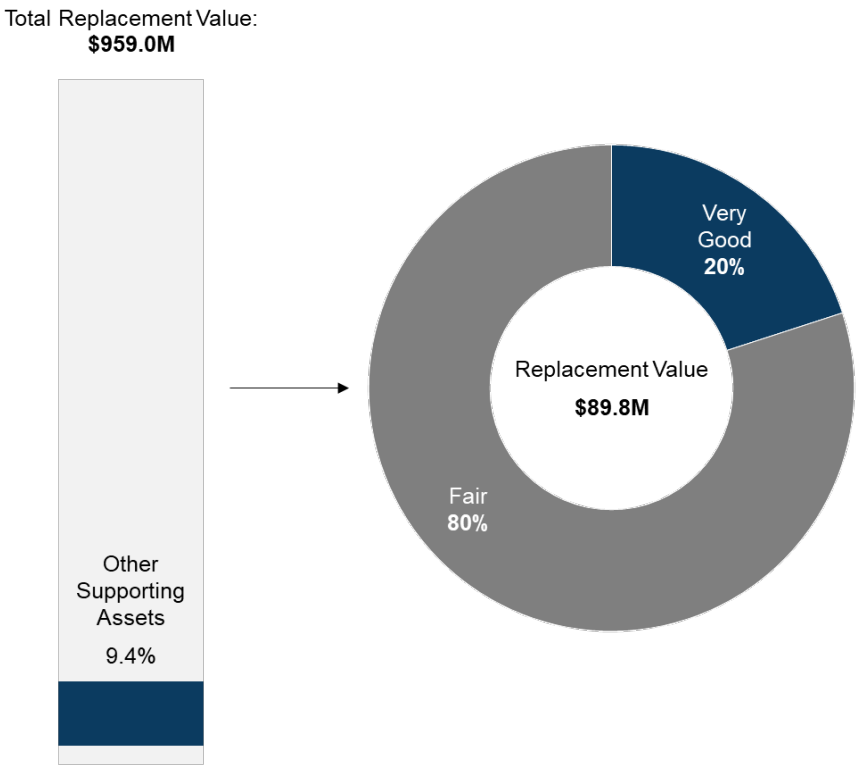
Total Replacement Value:
**$959.0M**




Total Replacement Value:
**$959.0M**






* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

## 3. Condition Assessment Methods

Table 1 outlines the assessment methods used to determine condition ratings.

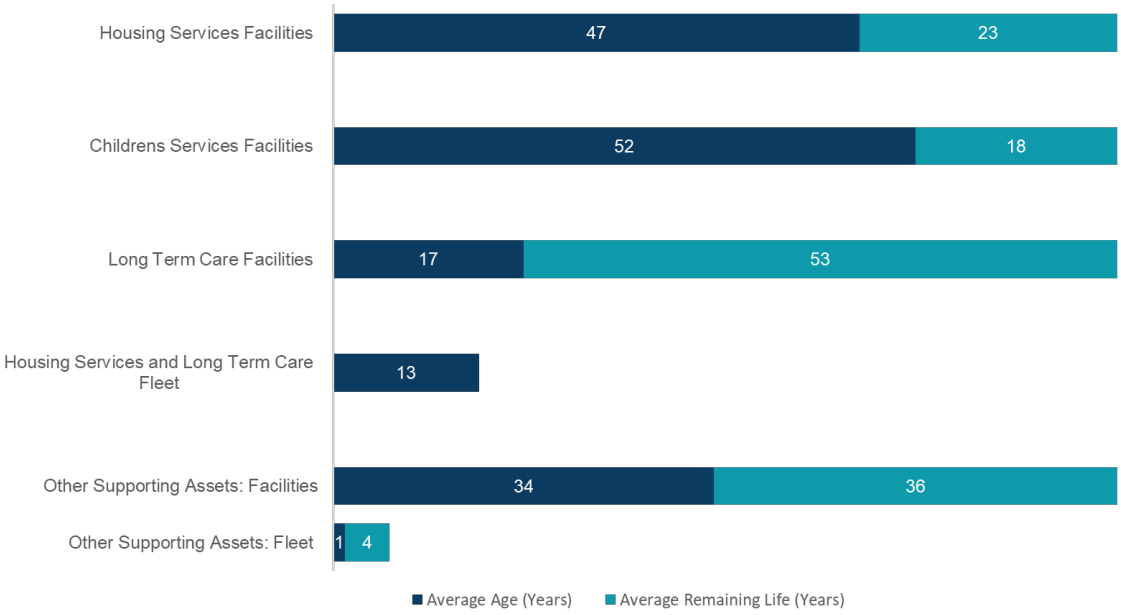
**Table 1: Condition Assessment Methods**

| Asset Class | Assessment Methods |
|---|---|
| Fleet | Mileage, vehicle inspection |
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method for assessing the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |

## 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining asset life of the Social Services assets.

**Figure 2: Average Age and Remaining Useful Life**



## 5. Levels of Service and Performance Measurement

Service level objectives and performance targets are set through Regional Council and approved plans, studies, policies and procedures, as well as through regulatory and/or compliance guidelines.

**Table 2: Plans, Studies, Policies, Procedures, Regulations that Inform Service Levels**

| Regional Plans, Studies, Policies, & Procedures |
|---|
| • At Home in Durham<br>• Housing and Homelessness Service and Financing Strategy (2025 – 2034)<br>• 2023 to 2027 Early Learning and Child Care Service Plan<br>• Annual Business Plans and Budgets<br>• Durham Region's Strategic Plan |

| Regulatory Compliance Requirements and Guidelines |
|---|
| • Child Care and Early Years Act, 2014<br>• Long-Term Care Homes Act, 2007<br>• Fixing Long Term Care Act, 2021<br>• Various provincial legislation, agreements and guidelines |

## 6. Technical Service Levels and Performance Measures

Asset management staff have identified key asset-related technical service levels and performance measures as noted in Table 3.

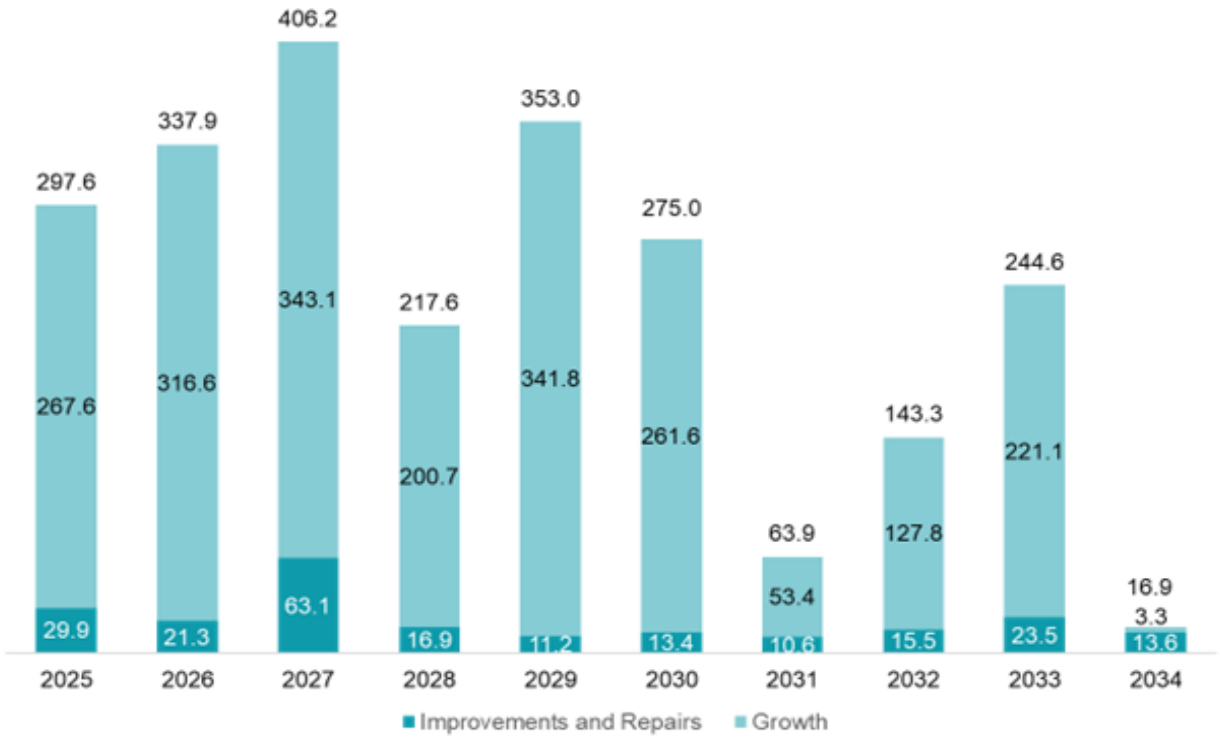
**Table 3: Performance Measures**

| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Facility Condition | <10% of facility replacement value rated as either Poor or Very Poor (excluding supporting facilities) | 48.2% | 26.3% | 33.1% |
| % of facilities with completed BCA | 100% of facilities to have a completed BCA in the past 10-years | 0% | 14.2% | 100% |

## 7. Social Services Capital Forecast

Major capital investments for Social Services assets identified through the 2025 business plans and budget process and Housing and Homelessness Service and Financing Study (2025 to 2034) total $297.6 million for 2025 and $2,058.5 million over the 2026 to 2034 forecast period.

**Figure 3: Capital Forecast ($ millions)***




*Improvements and Repairs and Growth may not add to Total due to rounding.

The capital plan of the Housing and Homelessness Service and Financing Strategy, totalling $2,225.8 million over 2025 to 2034 includes:

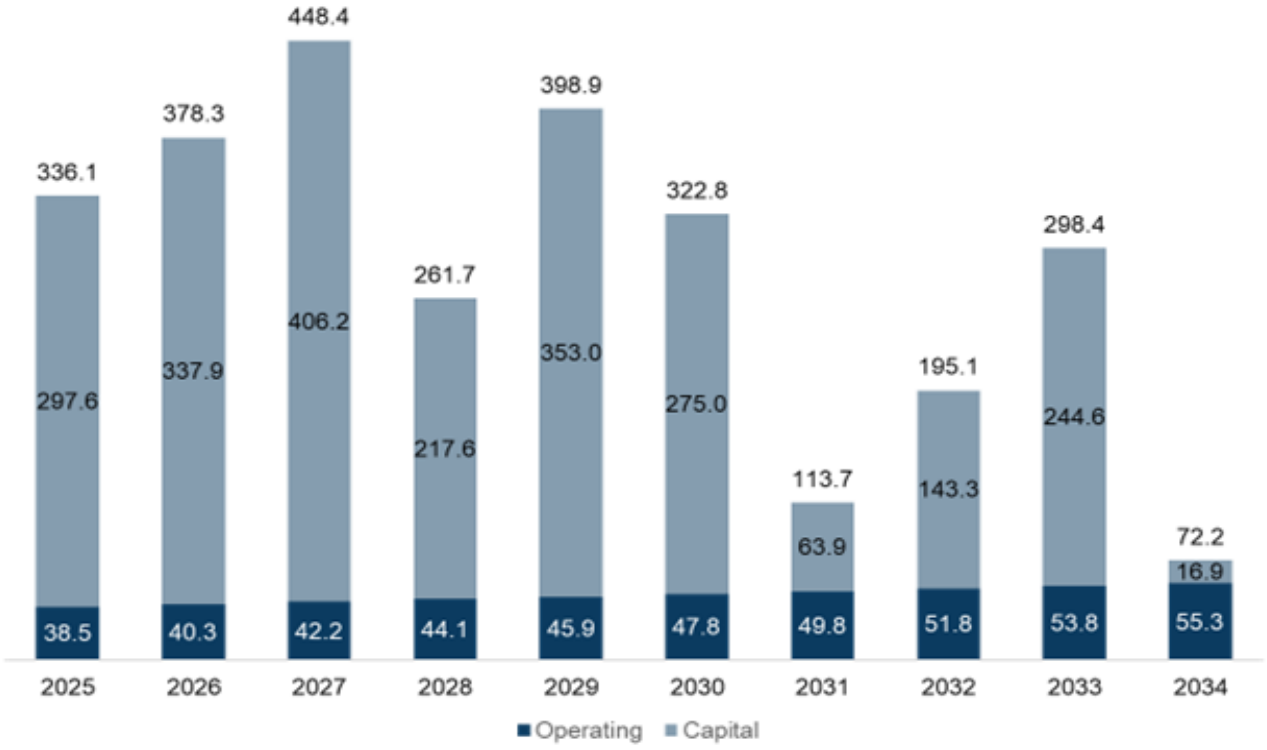
- Expenses associated with the redevelopment of Durham Regional Local Housing Corporation (DRLHC) properties, the acquisition of new properties, and the development of new sites. Among the capital projects included in the forecast, some are expected to be delivered by third-party partners, on Regionally-owned land while others will be delivered and operated by the Region.
- A base investment in state of good repair work at DRLHC sites, increasing by five percent each year throughout the forecast, from $5.3 million in 2025 to $8.2 million by 2034. In addition, major energy efficiency retrofit projects (that also include asset management work) are included in years 2025 ($13.4 million for 315 Colborne Street West in Whitby) and 2027 ($32.5 million for 1910 Faylee Crescent in Pickering and 850 Green Street in Whitby).
- Capital expenses associated with the development of 70 supportive housing units has also been included in 2025 estimated at $46.4 million pending confirmation of federal funding for the total capital costs.

## 8. Lifecycle

Maintenance and rehabilitation lifecycle activities aim to extend the useful life of assets and improve service delivery.

Figure 4 illustrates capital and maintenance lifecycle costs for the Social Services assets.

**Figure 4: Lifecycle Costs Operating and Capital ($ millions)***



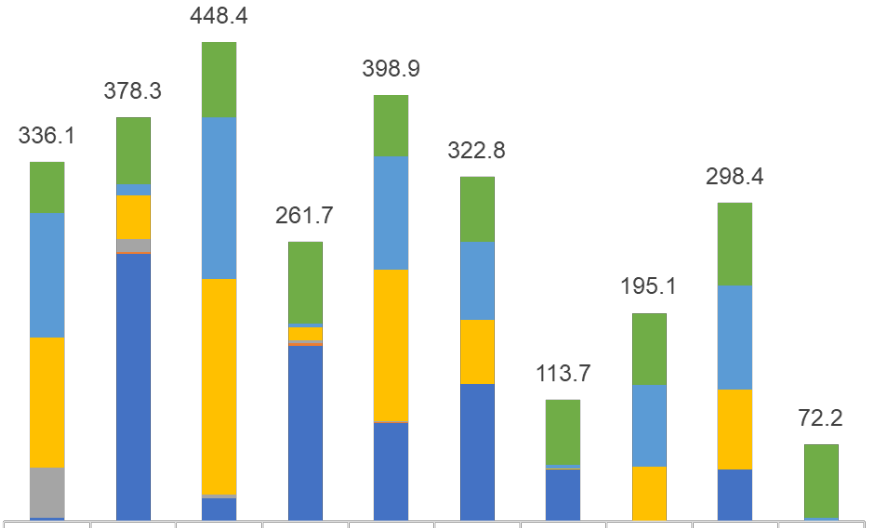

*Operating and Capital may not add to Total due to rounding.

## 9. Financing Strategy

Figure 5 presents the financing strategy for Social Services operating and capital infrastructure costs. The financing strategy leverages property tax revenues, debenture financing, reserves and reserve funds, development charges and senior government funding.

A discussion of risks related to these financing sources, for all Regional services can be found in the detailed asset management report.

**Figure 5: Operating and Capital Financing Strategy**
**($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 47.0 | 62.4 | 70.0 | 76.2 | 57.3 | 61.2 | 60.5 | 67.3 | 77.3 | 68.8 |
| Senior Government Funding | 116.9 | 10.4 | 151.4 | 3.3 | 105.6 | 72.9 | 3.3 | 76.1 | 97.2 | 3.3 |
| Debentures | 121.7 | 41.1 | 202.0 | 12.6 | 142.0 | 59.6 | 0.7 | 51.7 | 74.8 | 0.0 |
| Reserve and Reserve Funds | 47.2 | 12.1 | 2.9 | 2.6 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Development Charges | 0.0 | 1.8 | 0.0 | 2.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | 3.4 | 250.4 | 22.1 | 164.5 | 92.3 | 129.2 | 49.2 | 0.0 | 49.2 | 0.0 |
| Total | 336.1 | 378.3 | 448.4 | 261.7 | 398.9 | 322.8 | 113.7 | 195.1 | 298.4 | 72.2 |

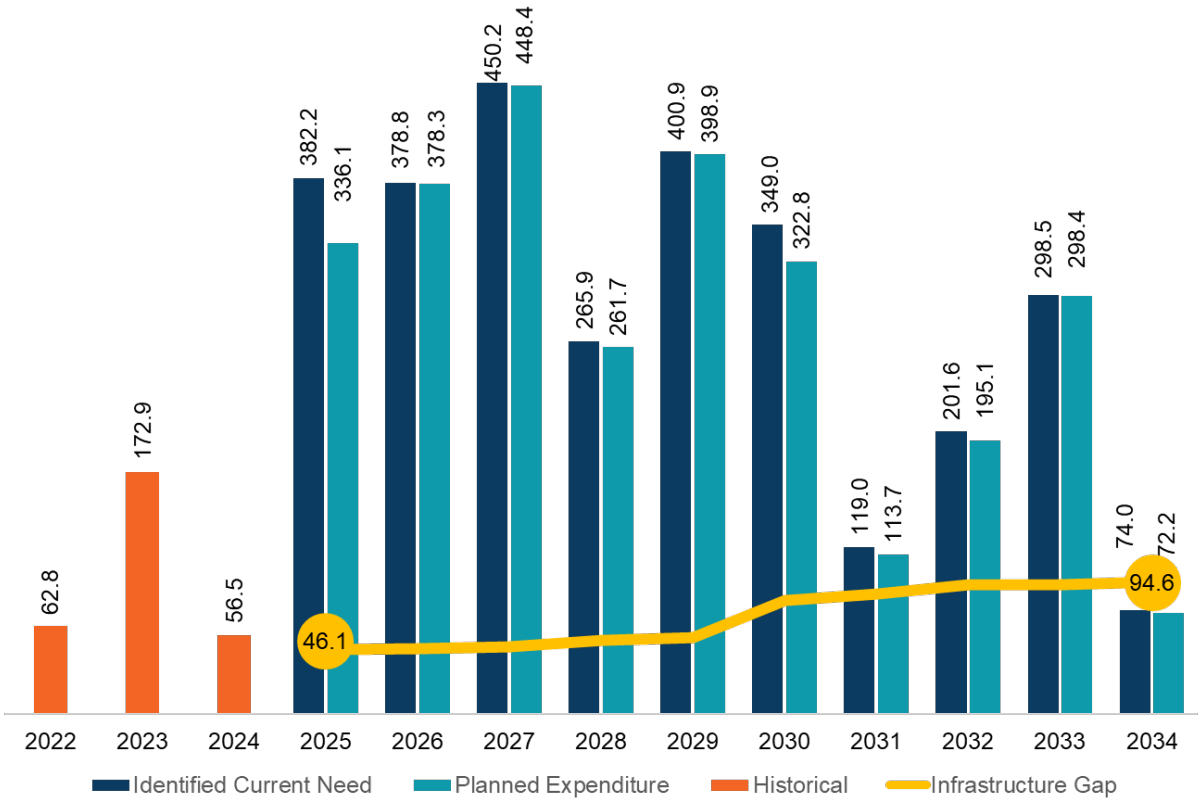
Notes:

- Other includes contributions from developers and other partners.
- Columns may not add due to rounding.

## 10. Infrastructure Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure needs and available financing to meet service levels. An infrastructure gap refers to the difference between forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 6). For Social Services infrastructure, an infrastructure gap related to Long Term Care and Children's Services facilities maintenance and rehabilitation is estimated at $46.1 million in 2025. The infrastructure gap for these facilities is estimated to grow to $94.6 million in 2034. This infrastructure gap will be larger if the senior government funding projected in the Housing and Homelessness Service and Financing Strategy (2025 to 2034) to support the Region's housing redevelopment program is not confirmed. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets.

**Figure 6: Lifecycle Gap Analysis ($ millions)**




## 11. Climate Change

Supporting Council's declaration of a climate change emergency in 2019, the Region continues to integrate a climate lens into the annual business planning and budget process to align corporate capital and operating plans with achieving the Region's greenhouse gas reduction target of net zero by 2045. The Durham Standard provides a green development standard of net zero facilities for new construction and major facility retrofits for Region-owned facilities (and leased facilities where appropriate).

Staff will continue to identify and evaluate opportunities to advance deep energy retrofits of the Social Services facilities over the capital forecast. The completion of the Greenhouse Gas Reduction Pathway Feasibility Studies will further support this work and position the Region to pursue outside funding opportunities.

In addition, staff will advance the implementation of the Region's Light Duty Fleet Electrification Strategy where operationally feasible.

Updates regarding the Region's progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 12. Risk Assessment

Table 4 includes a sample of identified risks for the Region's fleet and facilities in achieving its service level standards as well as the mitigation controls identified to address these risks.

**Table 4: Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Loss of Fuel | Maintain effective and up-to-date emergency, contingency and continuity plans.<br>Ensure adequate standby power.<br>Essential services policies and procedures.<br>Audit of fuel purchasing cards.<br>Fuel deliveries and re-routed programs/services and redundancies.<br>Mobile services and on-call service contracts. |
| Security Breaches and Theft | Onsite safety systems and protocols (e.g., surveillance, patrols, fencing, emergency training, policies and plans).<br>Geographical Positioning System technology on vehicles.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |
| Vehicle Accidents | Supervisory oversight.<br>Compliance and licensing standards.<br>Maintain effective emergency and contingency plans. |
| Equipment Failures | Preventative maintenance and capital replacement programs and plans.<br>External service contracts.<br>Safety codes, warranties and guidelines.<br>Inspections, checklists and accreditations.<br>Proper equipment and vehicle storage.<br>Fleet maintenance re-scheduling and redundancies (e.g., spare vehicles and parts inventory). |

| Risk | Mitigation |
| --- | --- |
| Winter ice/cold and more frequent freeze-thaw cycles | Slip hazard identification and mitigation.<br>Inspections.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |


# Solid Waste

## Asset Class Report

| Replacement Value | Average Condition |
|---|---|
| **$410.3M** | **VERY GOOD** |

## Service Level Objectives

Responsible for the collection, processing and disposal of garbage and compost, the collection of special waste such as electronic and household hazardous waste, and the operation of the Durham York Energy Centre

- 7 Facilities
- 7 Fleet Vehicles

### 1. Solid Waste Management Inventory Overview

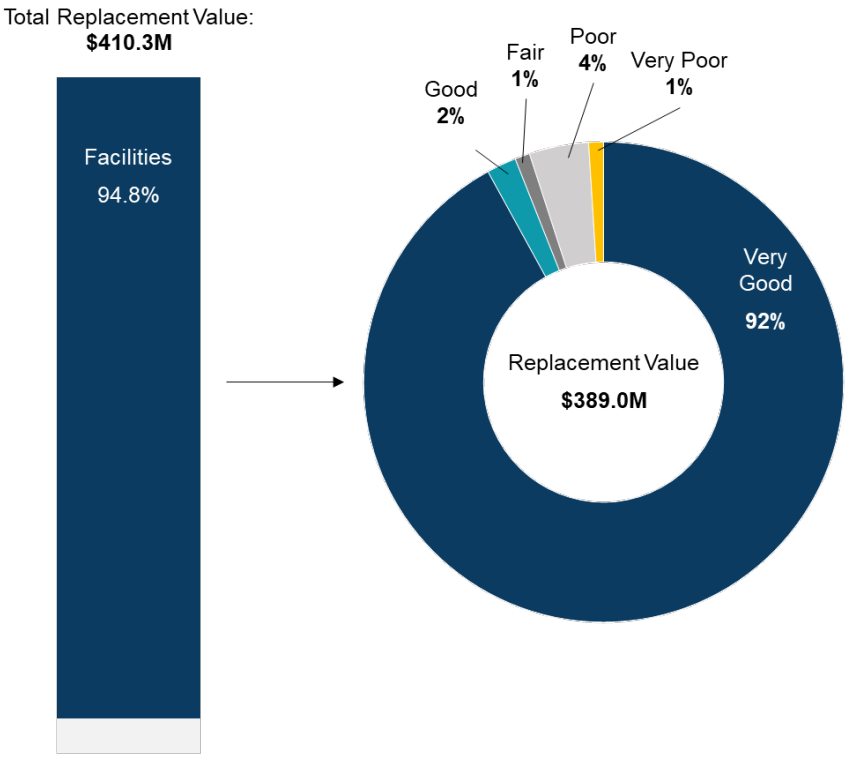
Solid Waste Management operates a series of facilities, fleet, equipment and associated supporting assets. Supporting assets include a portion of the Region's administrative facilities, fleet and equipment that support solid waste management services.

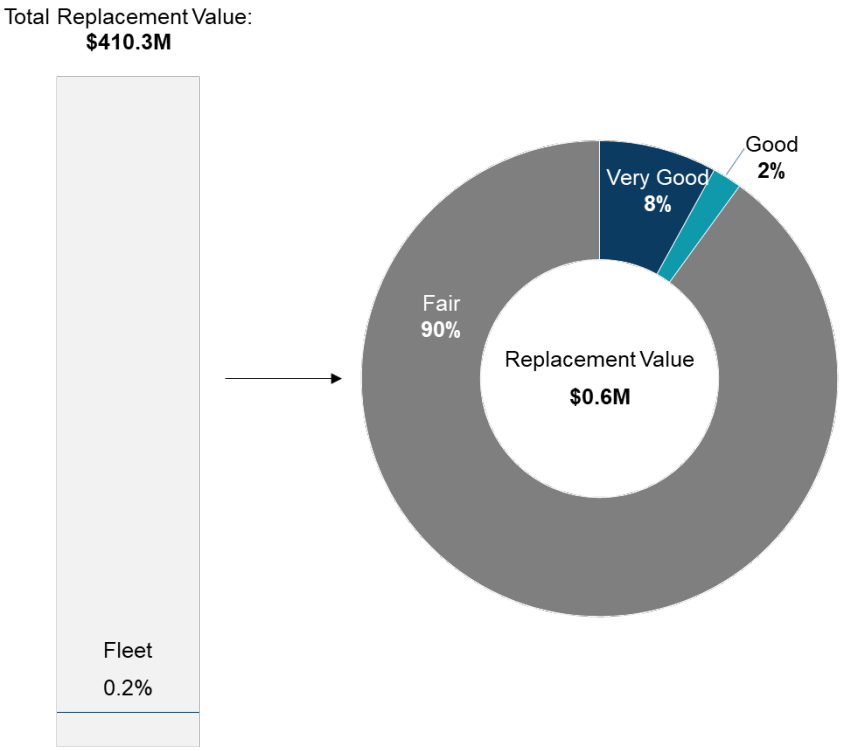
## 2. Condition Ratings and Replacement Values

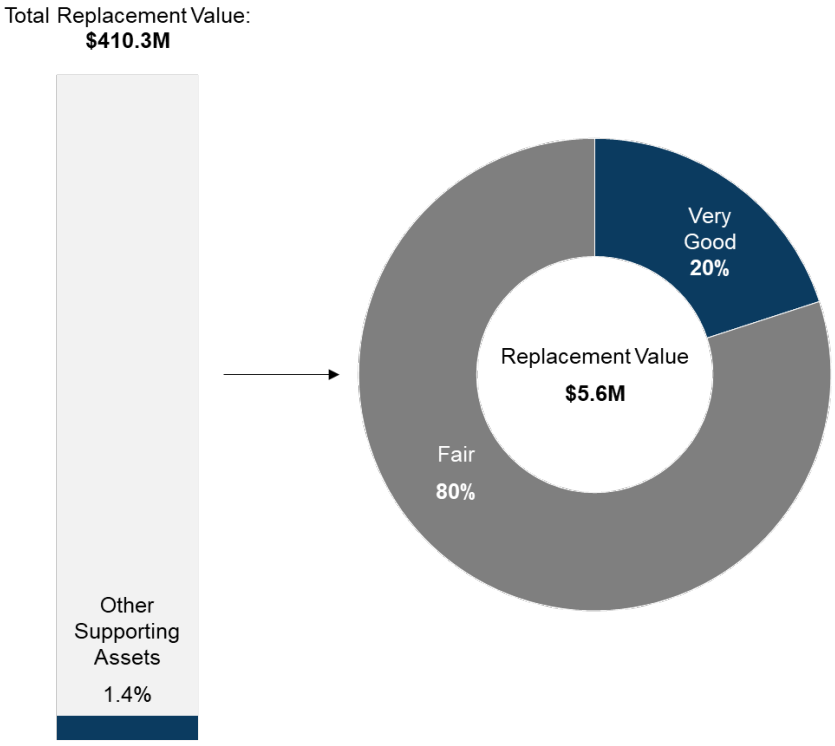
The overall rating in 2024 was Very Good with an overall replacement value $410.3 million.

Figure 1 illustrates the condition rating and replacement value of Solid Waste Management assets.

**Figure 1: Assets Condition and Replacement Values***






* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

## 3. Condition Assessment Methods

Table 1 outlines the assessment methods used to determine condition ratings.

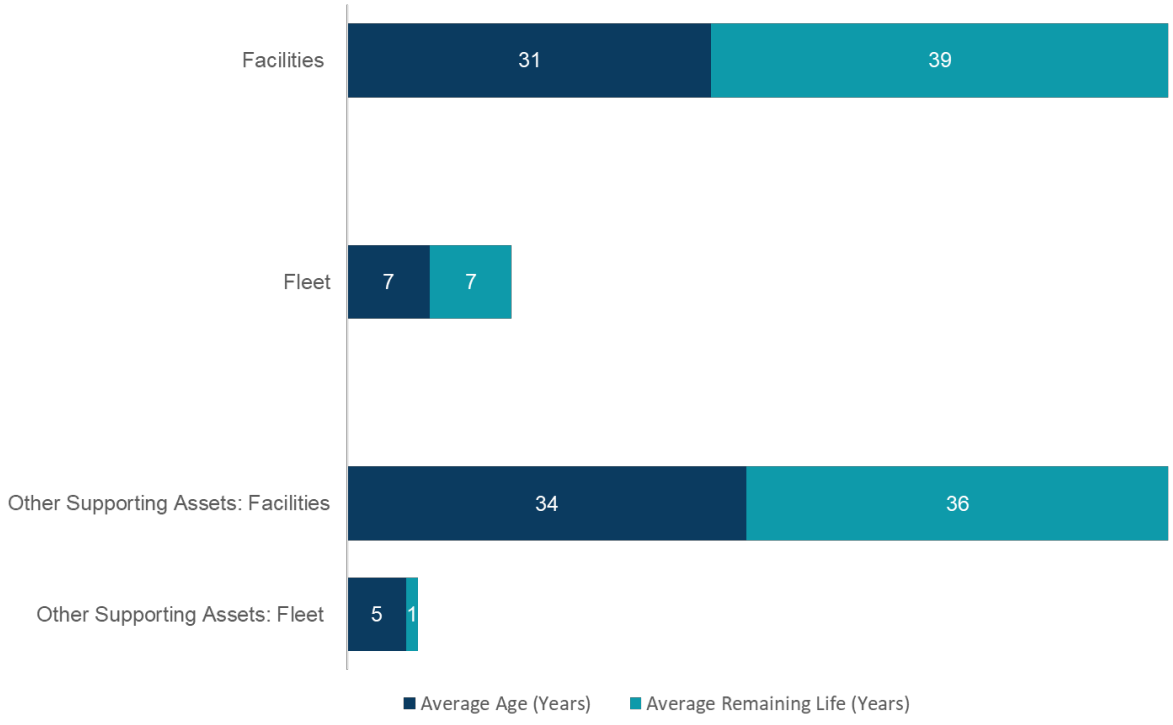
**Table 1: Condition Assessment Methods**

| Asset Class | Assessment Methods |
|---|---|
| Fleet | Mileage, vehicle inspection |
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method for assessing the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |

## 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining asset life of assets.

**Figure 2: Average Age and Remaining Useful Life**



## 5. Levels of Service and Performance Measurement

Service level objectives and performance targets are set through Regional Council, approved plans, studies, policies and procedures, as well as through regulatory and/or compliance guidelines.

**Table 2: Plans, Studies, Policies, Procedures, Regulations that Inform Service Levels**

| Regional Plans, Studies, Policies, & Procedures |
|---|
| • Region's Long-term Waste Management Strategy<br>• Region's Corporate Climate Change Action Plan<br>• Durham Standard<br>• Annual Business Plans and Budgets<br>• Durham Region's Strategic Plan |

| Regulatory Compliance Requirements and Guidelines |
|---|
| • Environmental Protection Act, 1990<br>• Ontario Regulation 347<br>• Extended Producer's Responsibility<br>• Various provincial legislation, agreements and guidelines |

## 6. Technical Service Levels and Performance Measures

Asset management staff have identified key asset-related technical service levels and performance measures as noted in Table 3.

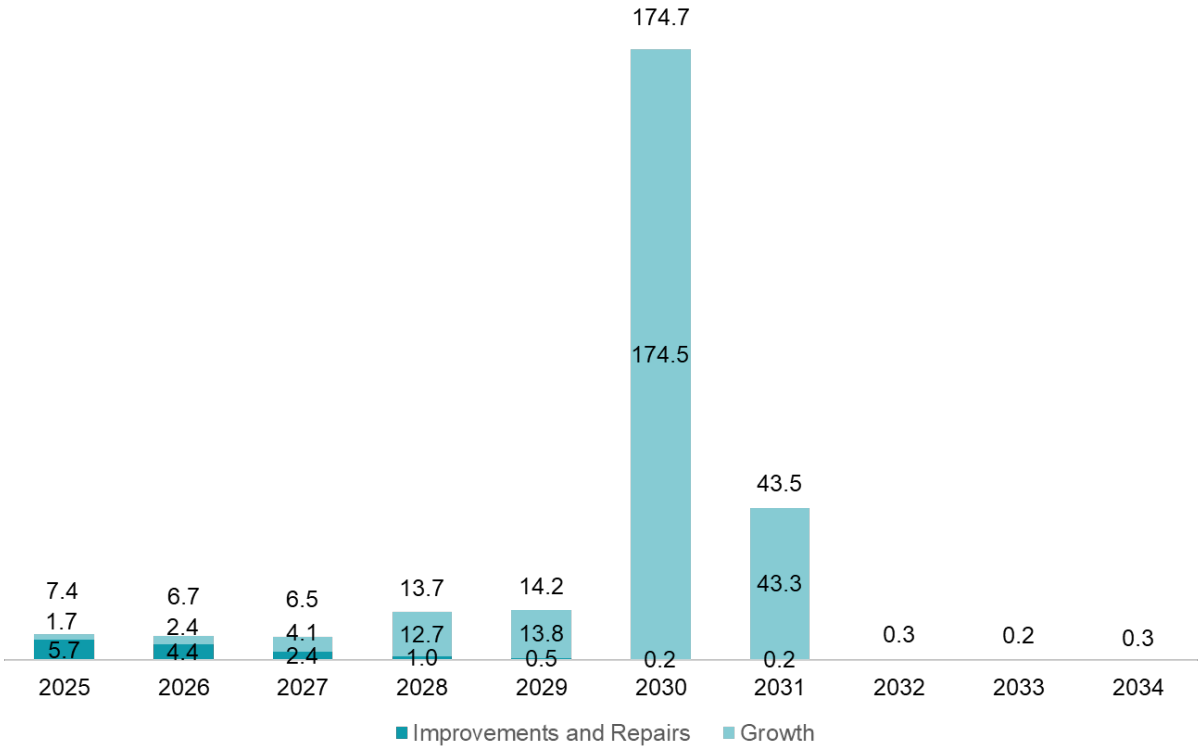
**Table 3: Performance Measures**

| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Facility Condition | <10% of facility replacement value rated as either Poor or Very Poor (excluding supporting facilities) | 0.8% | 4.6% | 4.6% |
| % of facilities with completed BCA | 100% of facilities to have a completed BCA within the past 10 years | 14.3% | 42.9% | 100% |

## 7. Solid Waste Management Capital Forecast

Major capital investments for Solid Waste Management assets identified through the 2025 business plans and budget process (rehabilitation and growth) total $7.4 million for 2025 and $260.2 million over the 2026 to 2034 forecast period.

**Figure 3: Capital Forecast ($ millions)***




*Improvements and Repairs and Growth may not add to Total due to rounding.

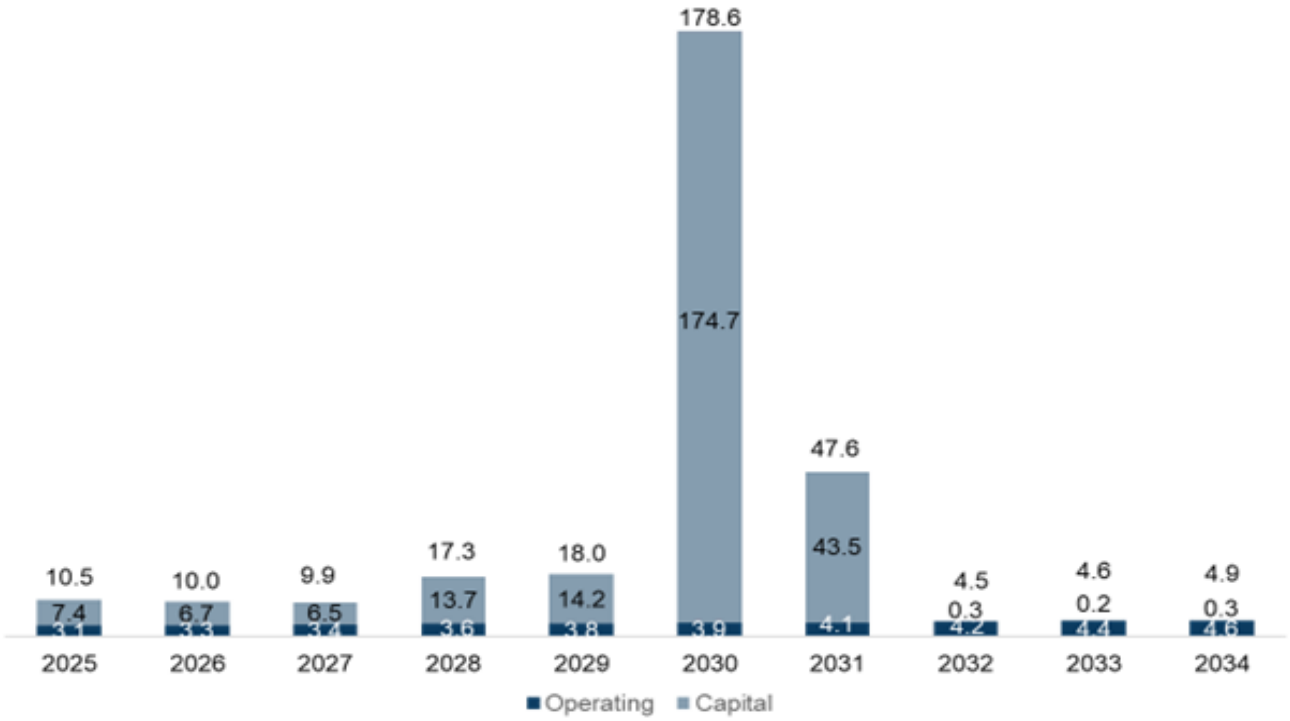
The 2030 capital forecast includes a provision for a Mixed Waste Pre-sort and Anerobic Digestion Facility. This project is subject to additional business case analysis, review and Council consideration.

## 8. Lifecycle

Maintenance and rehabilitation lifecycle activities aim to extend the useful life of assets and improve service delivery.

Figure 4 illustrates capital and maintenance lifecycle costs for Solid Waste assets.

**Figure 4: Lifecycle Costs Operating and Capital ($ millions)***




*Operating and Capital may not add to Total due to rounding.

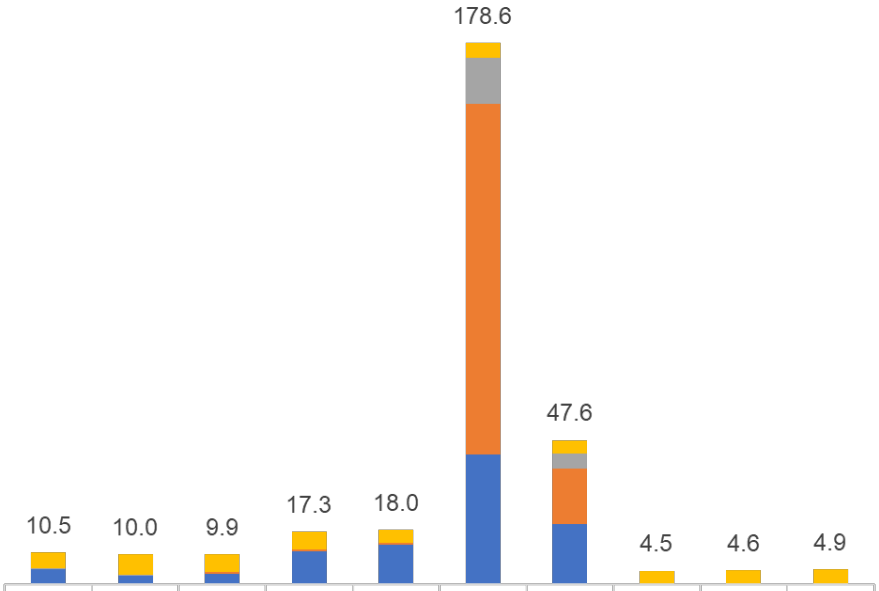
Total operating lifecycle expenditures for Solid Waste Management assets total $38.3 million over the 2025 Budget and nine-year forecast period (2026 to 2034) while capital expenditures total $267.6 million over this period.

## 9. Financing Strategy

Figure 5 presents the financing strategy for Solid Waste Management operating and capital infrastructure costs. The financing strategy leverages property tax revenues, debenture financing, reserves and reserve funds, and senior government funding.

A discussion of risks related to these financing sources, for all Regional services can be found in the detailed asset management report.

**Figure 5: Operating and Capital Financing Strategy ($ millions)**



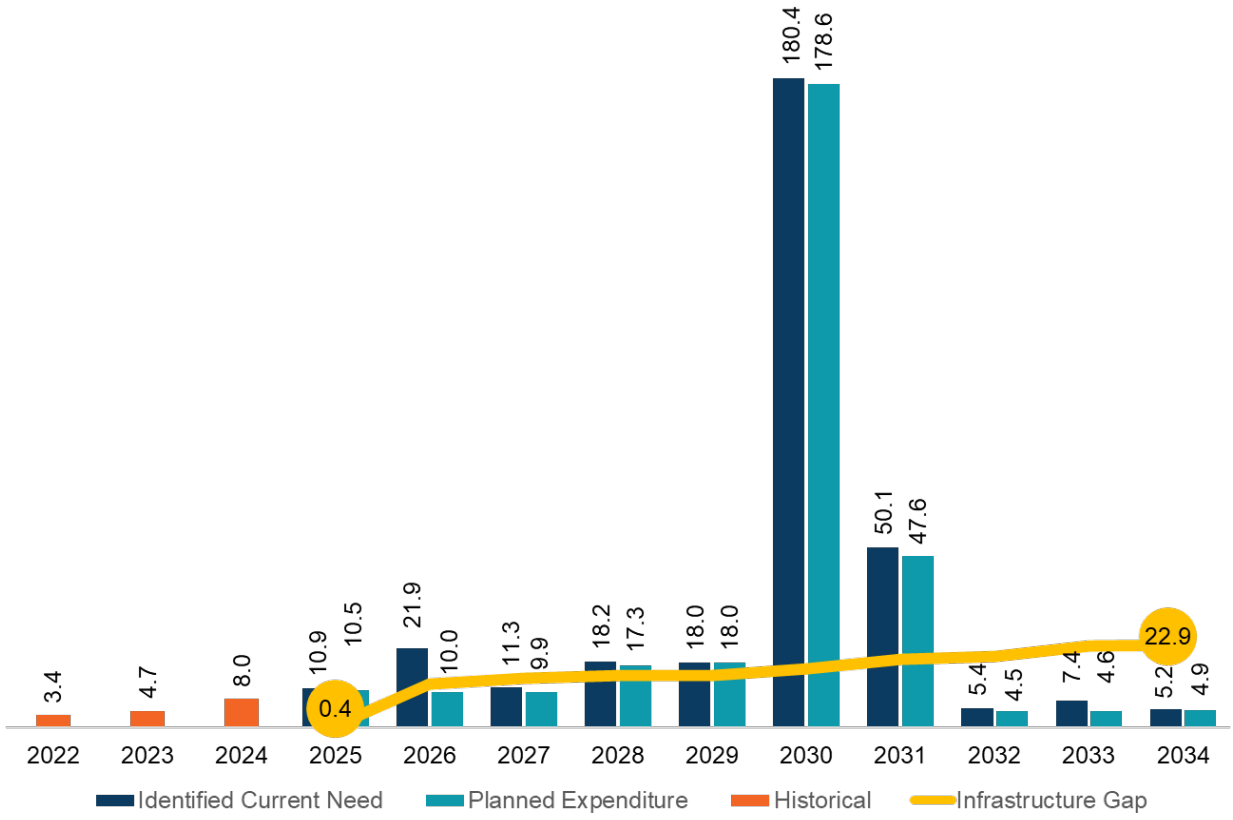

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 5.3 | 6.7 | 5.8 | 5.9 | 4.2 | 5.1 | 4.3 | 4.5 | 4.6 | 4.9 |
| Senior Government Funding | 0.1 | 0.4 | 0.0 | 0.0 | 0.0 | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 |
| Debentures | 0.0 | 0.0 | 0.5 | 0.7 | 0.6 | 115.8 | 18.3 | 0.0 | 0.0 | 0.0 |
| Reserve and Reserve Funds | 5.1 | 2.9 | 3.6 | 10.8 | 13.2 | 42.7 | 20.0 | 0.0 | 0.0 | 0.0 |
| Total | 10.5 | 10.0 | 9.9 | 17.3 | 18.0 | 178.6 | 47.6 | 4.5 | 4.6 | 4.9 |

Note: Columns may not add due to rounding

## 10. Infrastructure Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure needs and available financing to meet service levels. An infrastructure gap refers to the difference between forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 6). For Solid Waste Management infrastructure, the infrastructure gap is estimated at $0.4 million in 2025. Over the 2025 to 2034 timeframe, the infrastructure gap is estimated to grow to $22.9 million in 2034. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets.

**Figure 6: Lifecycle Gap Analysis ($ millions)**




## 11. Climate Change

Supporting Council's declaration of a climate change emergency in 2019, the Region continues to integrate a climate lens into the annual business planning and budget process to align corporate capital and operating plans with achieving the Region's greenhouse gas reduction target of net zero by 2045. The Durham Standard provides a green development standard of net zero facilities for new construction and major facility retrofits for Region-owned facilities (and leased facilities where appropriate).

In addition, staff will advance the implementation of the Region's Light Duty Fleet Electrification Strategy where operationally feasible.

Updates regarding the Region's progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 12. Risk Assessment

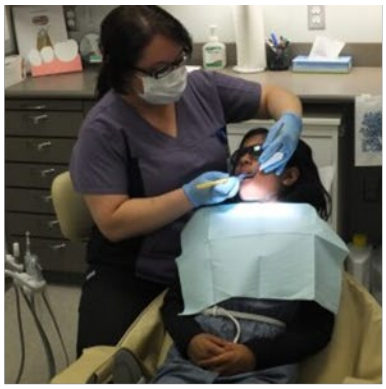
Table 4 includes a sample of identified risks for the Region's fleet and facilities in achieving its service level standards as well as the mitigation controls identified to address these risks.

**Table 4: Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Loss of Fuel | Maintain effective and up-to-date emergency, contingency and continuity plans.<br>Ensure adequate standby power.<br>Essential services policies and procedures.<br>Audit of fuel purchasing cards.<br>Fuel deliveries and re-routed programs/services and redundancies.<br>Mobile services and on-call service contracts. |
| Security Breaches and Theft | Onsite safety systems and protocols (e.g., surveillance, patrols, fencing, emergency training, policies and plans).<br>Geographical Positioning System technology on vehicles.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |
| Vehicle Accidents | Supervisory oversight.<br>Compliance and licensing standards.<br>Maintain effective emergency and contingency plans. |
| Equipment Failures | Preventative maintenance and capital replacement programs and plans.<br>External service contracts.<br>Safety codes, warranties and guidelines.<br>Inspections, checklists and accreditations.<br>Proper equipment and vehicle storage.<br>Fleet maintenance re-scheduling and redundancies (e.g. spare vehicles and parts inventory). |

| Risk | Mitigation |
| --- | --- |
| Winter ice/cold and more frequent freeze-thaw cycles | Slip hazard identification and mitigation.<br>Inspections.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |





# Health Department

## Asset Class Report

Replacement Value

**$145.0M**

Average Condition

**GOOD**

## Service Level Objectives

Protects and promotes the health of Durham Region residents through the delivery of public health and paramedic programs and services

- 102 Ambulances and other Paramedic Service Vehicles
- 9 Paramedic Stations
- Shared Public Health Facility

### 1. Health Department Inventory Overview

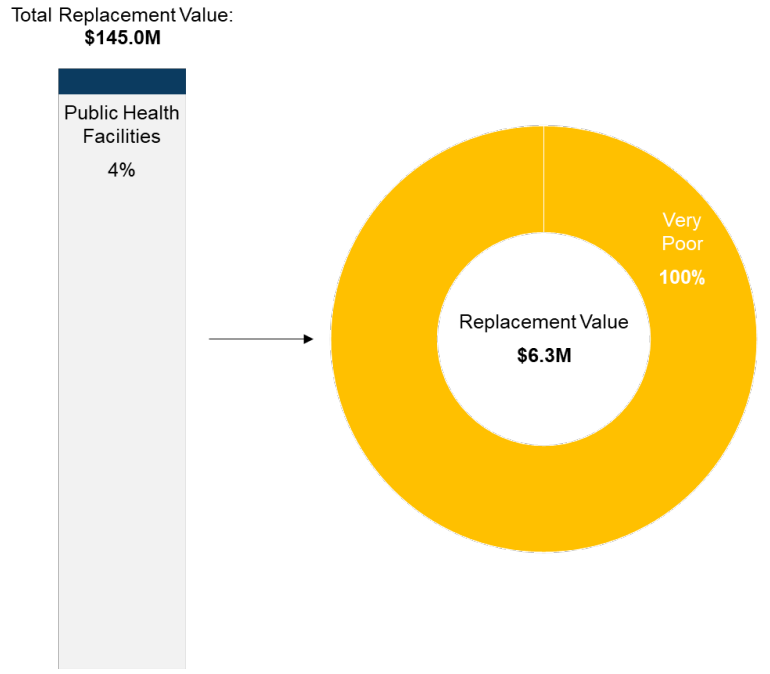
The Health Department provides direction and management of vehicles, facilities and equipment and other supporting services for Public Health services and Region of Durham Paramedic Services (RDPS). Supporting assets include a portion of the Region's administrative facilities, fleet and equipment that supports the Health Department.

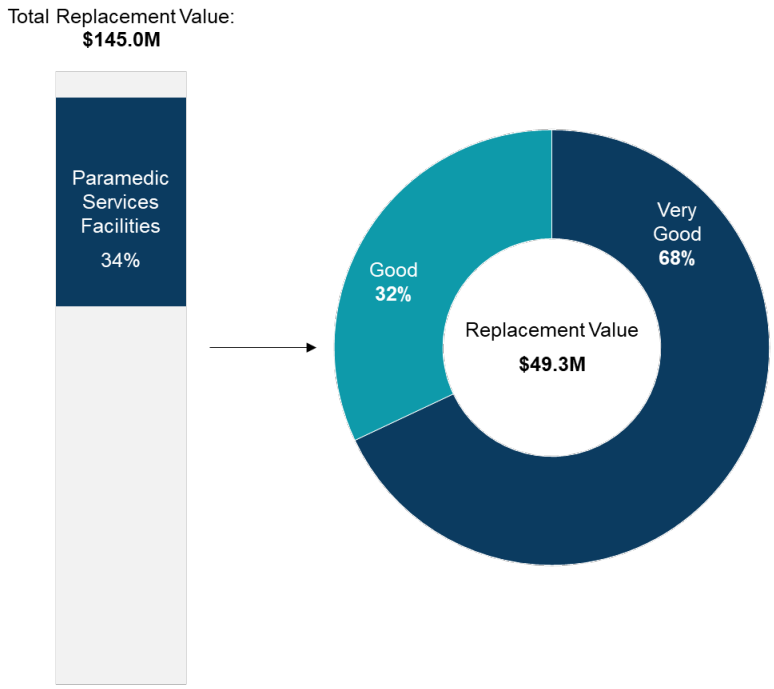
## 2. Condition Ratings and Replacement Values

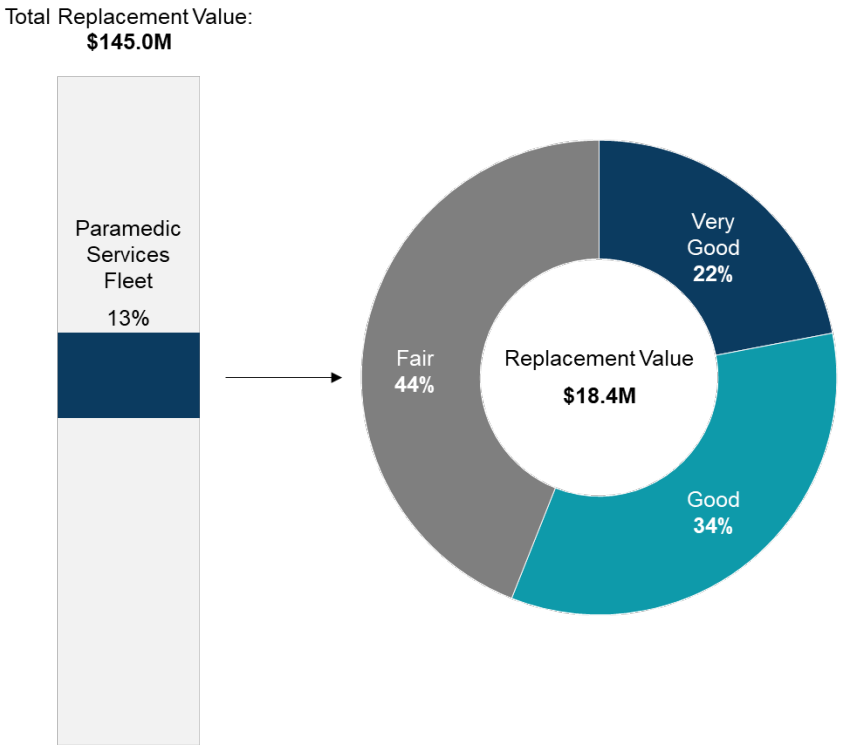
The overall rating in 2024 was Good with an overall replacement value of $145.0 million.

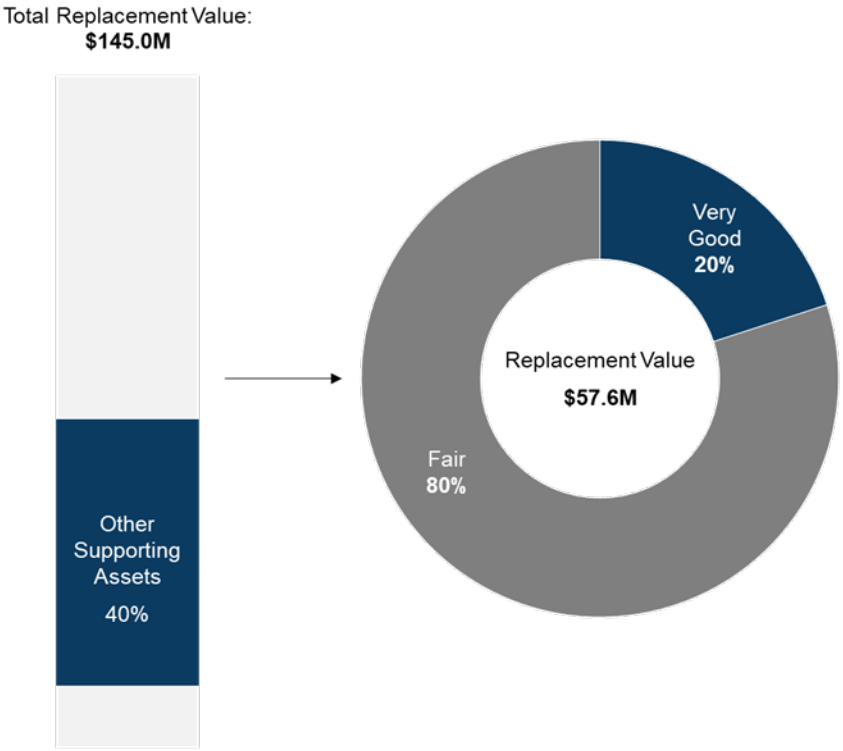
Figure 1 illustrates the condition rating and replacement value of the Health Department assets.

**Figure 1: Assets Condition and Replacement Values***






* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

## 3. Condition Assessment Methods

Table 1 outlines the assessment methods used to determine condition ratings.

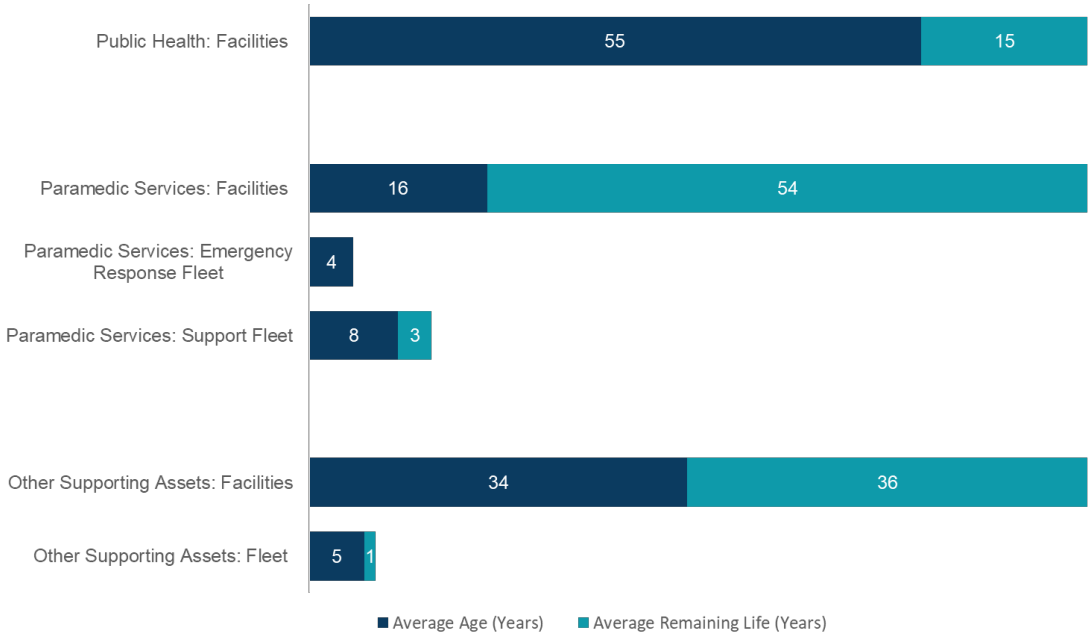
**Table 1: Condition Assessment Methods**

| Asset Class | Assessment Methods |
|---|---|
| Fleet | Mileage, vehicle inspection |
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method for assessing the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |

## 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining asset life of assets.

**Figure 2: Average Age and Remaining Useful Life**




## 5. Levels of Service and Performance Measurement

Table 2 outlines the various Region Council approved plans, studies, and policies, as well as regulatory and/or compliance guidelines that inform the Health Department's service level priorities.

**Table 2: Plans, Studies, Policies, Procedures, Regulations that Inform Service Levels**

| Regional Plans, Studies, Policies, & Procedures |
|---|
| • 2023 – 2032 Region of Durham Paramedic Services Service and Financing Strategy<br>• Annual Business Plans and Budgets<br>• Durham Region's Strategic Plan |

| Regulatory Compliance Requirements and Guidelines |
|---|
| • Child Care and Early Years Act, 2014<br>• Immunization of School Pupils Act, 1990<br>• Ambulance Act, 1990<br>• Ontario Public Health Standards<br>• Various provincial requirements |

## 6. Technical Service Levels and Performance Measures

Asset management staff have identified key asset-related technical service levels and performance measures as noted in Table 3.

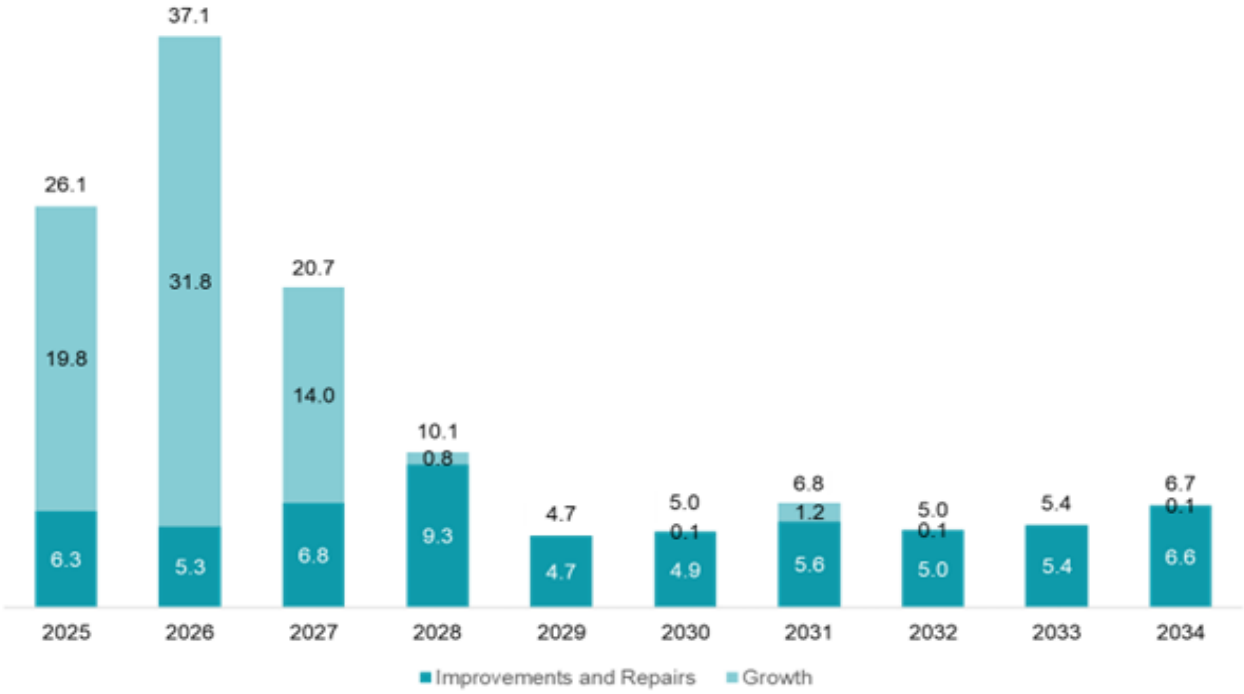
**Table 3: Performance Measures**

| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Facility Condition | <10% of facility replacement value rated as either Poor or Very Poor (excluding supporting facilities) | 11.3% | 11.3% | 11.3% |
| % of facilities with completed BCA | 100% of facilities to have a completed BCA within the past 10 years | 90% | 90% | 100% |

## 7. Capital Forecast

Major capital investments in Health assets identified through the 2025 business plans and budget process (rehabilitation and growth) total $26.1 million for 2025 and $101.6 million over 2026 to 2034 forecast period.

**Figure 3: Capital Forecast ($ millions)***




*Improvements and Repairs and Growth may not add to Total due to rounding.

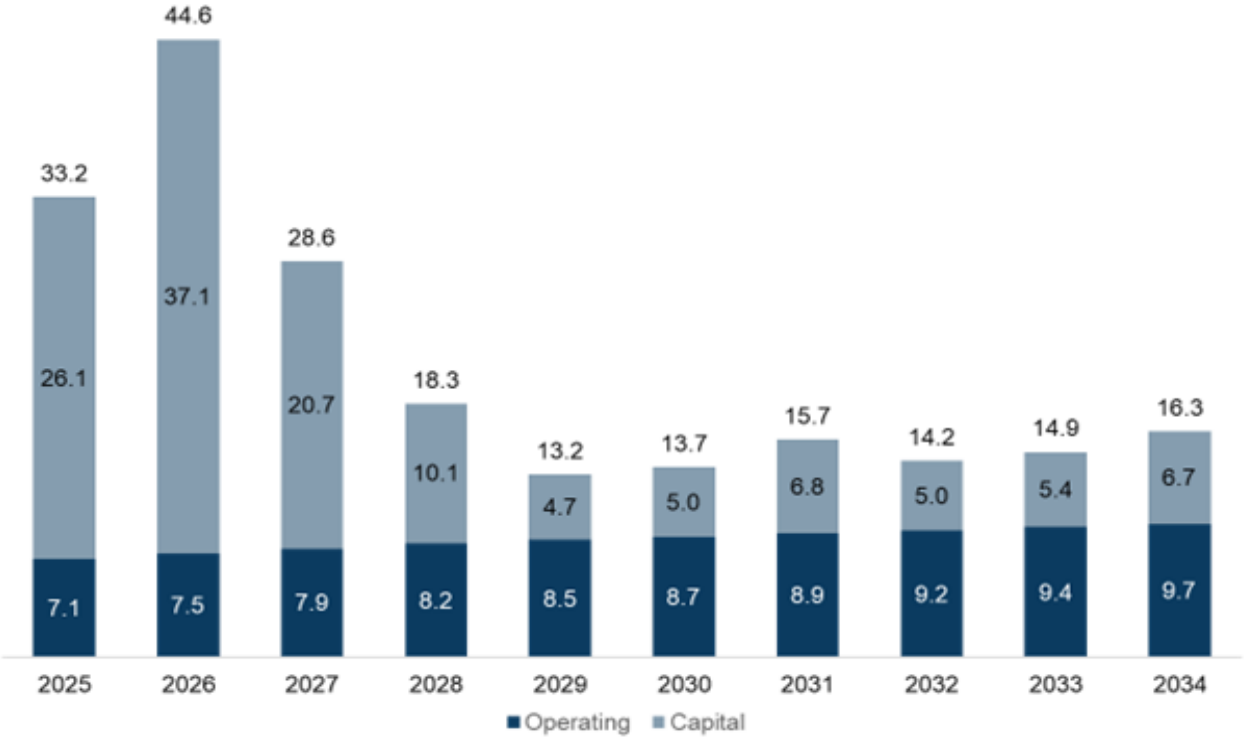
The 2025 capital budget and nine year capital forecast is informed and aligned with the 10-year Region of Durham Paramedic Services Service and Financing Strategy (2023 – 2032) and includes increased investment in repairs and improvements at the Region's existing paramedic stations as well as investments in new paramedic stations to meet the needs of the community.

## 8. Lifecycle

Maintenance and rehabilitation lifecycle activities aim to extend the useful life of assets and improve service delivery.

Figure 4 illustrates capital and maintenance lifecycle costs for Health Department assets.

**Figure 4: Lifecycle Costs Operating and Capital ($ millions)***




*Operating and Capital may not add to Total due to rounding.

Total operating lifecycle expenditures for Health Department infrastructure totals $85.1 million over the 2025 Budget and nine-year forecast period (2026 to 2034) while capital expenditures total $127.7 million over this period.

## 9. RDPS Fleet Lifecycle Management

RDPS has two main vehicle types: emergency response vehicles (ambulances, rapid response vehicles, and emergency support units) and management support vehicles. These vehicle types are managed differently given their use in operations.

The Region has a rigorous preventative maintenance program to keep vehicles in peak working condition while optimizing cost efficiency by ensuring preventative maintenance is completed and avoiding more costly repairs. Preventative maintenance programs for ambulances are delivered in accordance with provincial standards**.**

RDPS uses a staged vehicle deployment approach for ambulances and other emergency response vehicles that balance service demands and maximizes the life of the fleet, where:

- For the first 3 years of a vehicle's life it serves as frontline.
- After 3 years, a vehicle becomes a spare/contingency.
- After 4 years, the vehicle becomes a secondary spare and is mainly utilized in support of contracted event services (e.g., Canadian Tire Motorsport Park, Tribute Communities Centre events).

- After 4.5 years, vehicles are classified as pending decommission and are replaced shortly thereafter subject to annual Business Plans and Budget approvals.

Vehicles demonstrating higher prevalence of mechanical issues and maintenance requirements and/or unusually high kilometres of travel or engine hours are replaced first. Retired rapid response vehicles, command vehicles and management support vehicles are often used administratively as paramedic transport vehicles until such time as they are permanently decommissioned and removed from service. Paramedic transport vehicles are used during shift changes to transport incoming paramedics when on-duty paramedic crews are operationally unable to return to their originating paramedic response station. This is required, for example, for hospital offload delay challenges.

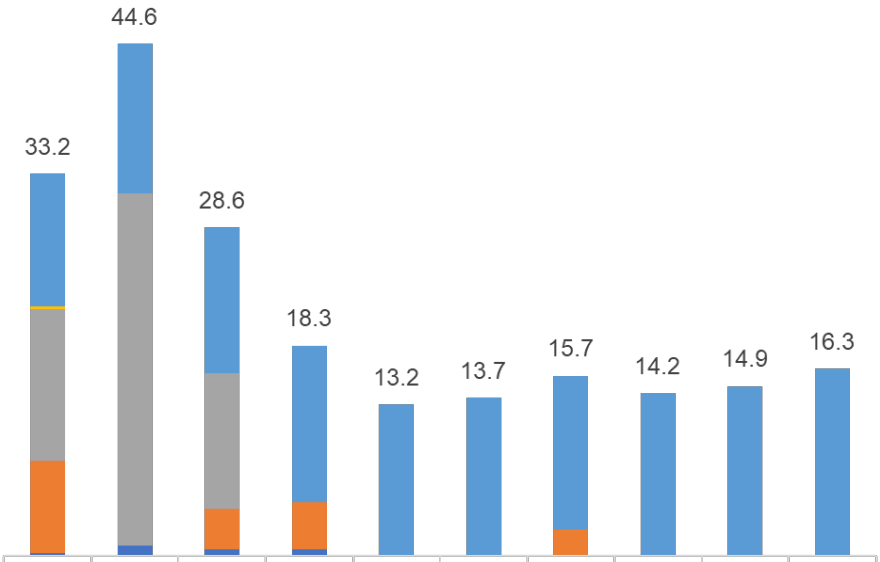
Moving forward, staff will continue refining lifecycle costing analysis and data collection to help inform future asset management plans.

## 10. Financing Strategy

Figure 5 presents the financing strategy for the Health Department's operating and capital infrastructure costs. The financing strategy leverages property tax revenues, debenture financing, reserves and reserve funds, senior government funding, and development charge revenues.

A discussion of risks related to these financing sources, for all Regional services, can be found in the detailed asset management report.

**Figure 5: Operating and Capital Financing Strategy ($ millions)**



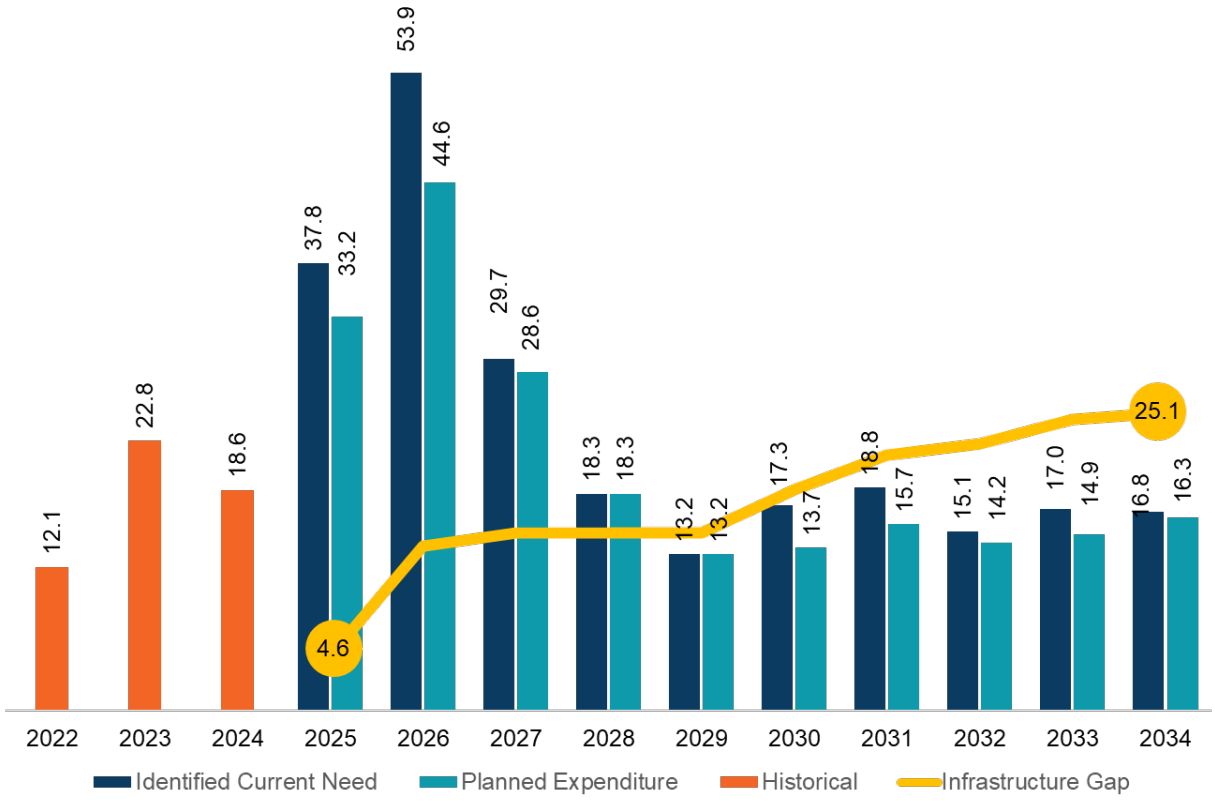

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 11.6 | 13.0 | 12.7 | 13.6 | 13.2 | 13.7 | 13.4 | 14.2 | 14.8 | 16.3 |
| Senior Government Funding | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Debentures | 13.2 | 30.7 | 11.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Reserve and Reserve Funds | 8.0 | 0.0 | 3.5 | 4.1 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 |
| Development Charges | 0.3 | 0.9 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 33.2 | 44.6 | 28.6 | 18.3 | 13.2 | 13.7 | 15.7 | 14.2 | 14.9 | 16.3 |

Columns may not add due to rounding.

## 11. Infrastructure Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure needs and available financing to meet service levels. An infrastructure gap refers to the difference between forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 6). For Health Department infrastructure, the infrastructure gap is estimated at $4.6 million in 2025. Over the 2025 to 2034 timeframe, the total cumulative infrastructure gap is estimated to be $25.1 million. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets.

**Figure 6: Lifecycle Gap Analysis ($ millions)**




## 12. Climate Change

Supporting Council's declaration of a climate change emergency in 2019, the Region continues to integrate a climate lens into the annual business planning and budget process to align corporate capital and operating plans with achieving the Region's greenhouse gas reduction target of net zero by 2045. The Durham Standard provides a green development standard of net zero facilities for new construction and major facility retrofits for Region-owned facilities (and leased facilities where appropriate).

In addition, staff will advance the implementation of the Region's Light Duty Fleet Electrification Strategy where operationally feasible.

Updates regarding the Region's progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 13. Risk Assessment

Table 4 includes a sample of identified risks for the Region's fleet and in achieving its service level standards as well as the mitigation controls identified to address these risks.

**Table 4: Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Loss of Fuel | Maintain effective and up-to-date emergency, contingency and continuity plans.<br>Ensure adequate standby power.<br>Essential services policies and procedures.<br>Audit of fuel purchasing cards.<br>Fuel deliveries and re-routed programs/services and redundancies.<br>Mobile services and on-call service contracts. |
| Security Breaches and Theft | Onsite safety systems and protocols (e.g., surveillance, patrols, fencing, emergency training, policies and plans).<br>Geographical Positioning System technology on vehicles.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |
| Vehicle Accidents | Supervisory oversight.<br>Compliance and licensing standards.<br>Maintain effective emergency and contingency plans. |
| Equipment Failures | Preventative maintenance and capital replacement programs and plans.<br>External service contracts.<br>Safety codes, warranties and guidelines.<br>Inspections, checklists and accreditations.<br>Proper equipment and vehicle storage.<br>Fleet maintenance re-scheduling and redundancies (e.g., spare vehicles and parts inventory). |
| Winter ice/cold and more frequent freeze-thaw cycles | Slip hazard identification and mitigation.<br>Inspections.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |



# Durham Regional Police Service

## Asset Class Report

| Replacement Value | Average Condition |
|---|---|
| **$315.9M** | **Good** |

### Service Level Objectives

Responsible for the delivery of policing services and community support programs to ensure the safety and security of all residents.

- 9 Facilities
- 377 Fleet Vehicles

### 1. Durham Regional Police Service Inventory Overview

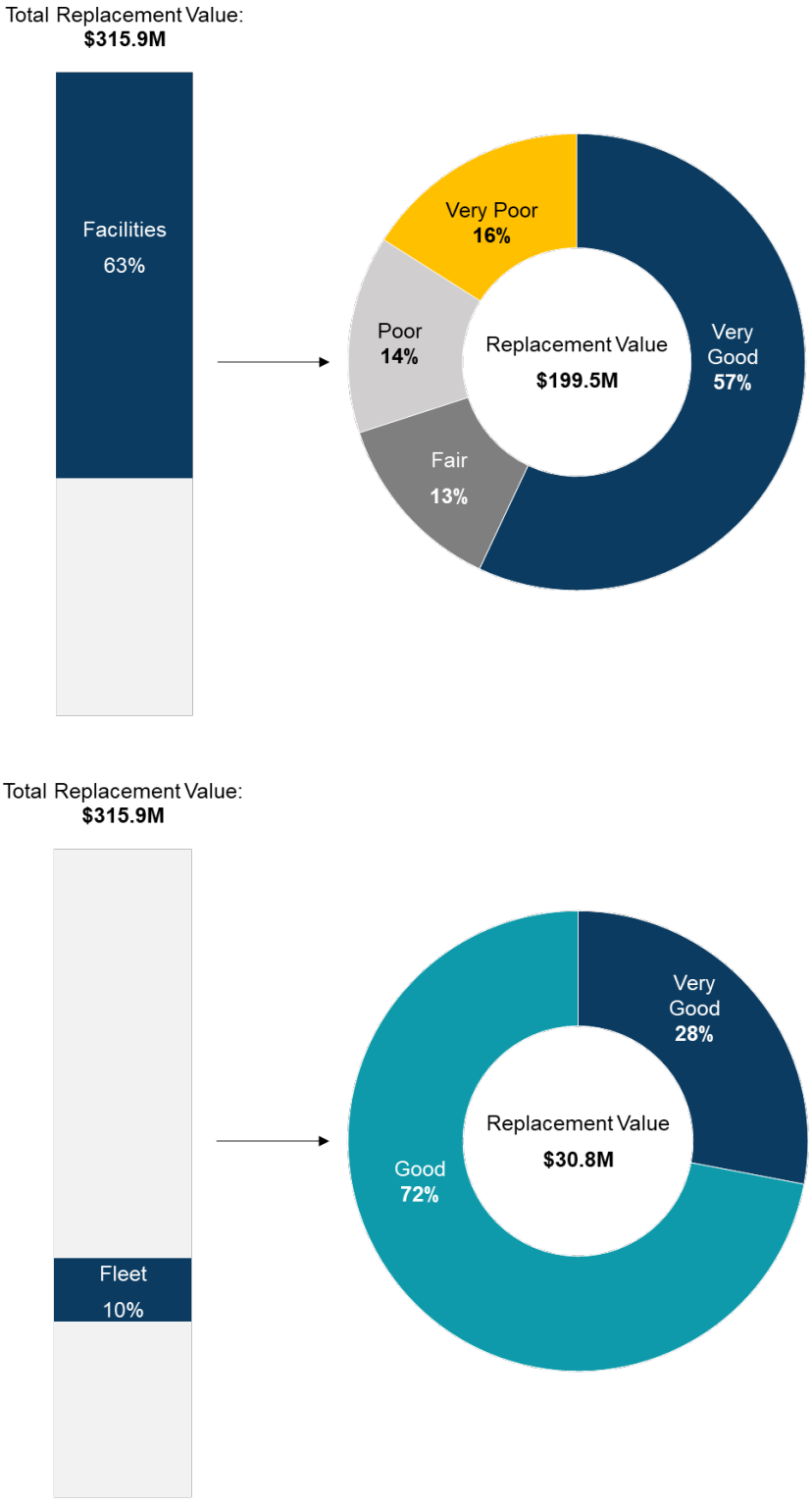
Durham Regional Police Service (DRPS) assets consist of vehicles, facilities, equipment and other supporting assets. Other supporting assets include a portion of the Region's administrative facility that supports the DRPS.

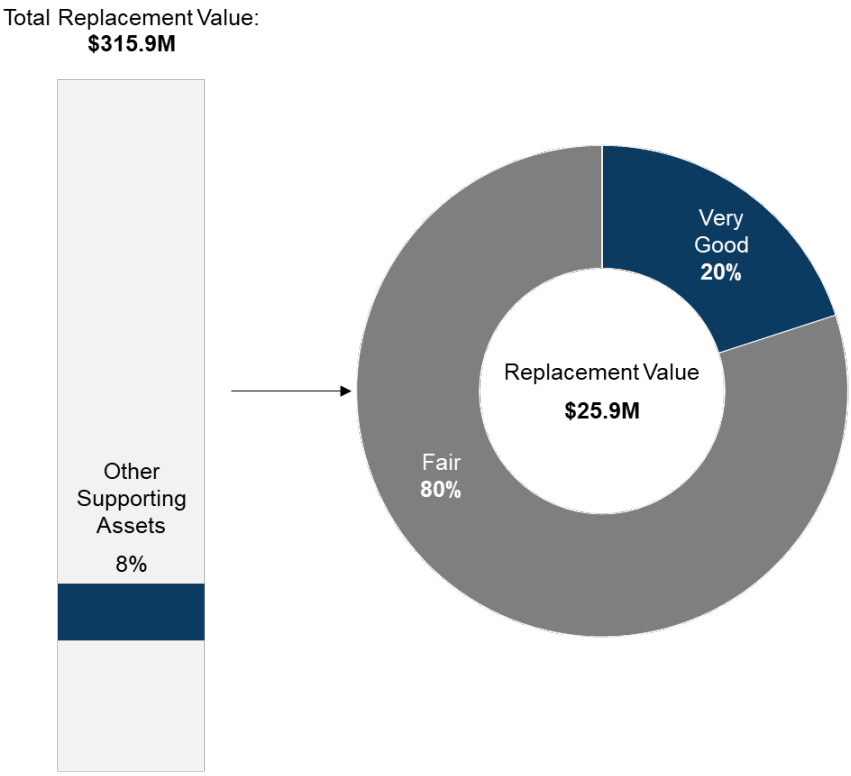
### 2. Condition Ratings and Replacement Values

The overall rating in 2024 was Good with an overall replacement value of $315.9 million. It is important to note that this is an average of the assets combined so newer assets in excellent condition can mask the condition of older assets in less than ideal condition. In addition, this rating does not reflect the suitability of assets for their current usage due to changes in standards or legislative requirements. These important considerations are evaluated through financial planning processes including long-term service and financing strategies and the Region's annual business planning and budget process. It is worth noting that this covers currently owned assets so the financing section does not address increased facility needs.

Figure 1 illustrates the condition rating and replacement value of DRPS assets.

**Figure 1: Assets Condition and Replacement Values***






* Percentages may not add to 100 per cent due to rounding. The condition breakdown does not include the condition for equipment assets as these are pooled assets.

### 3. Condition Assessment Methods

Table 1 outlines the assessment methods used to determine condition ratings.

**Table 1: Condition Assessment Methods**

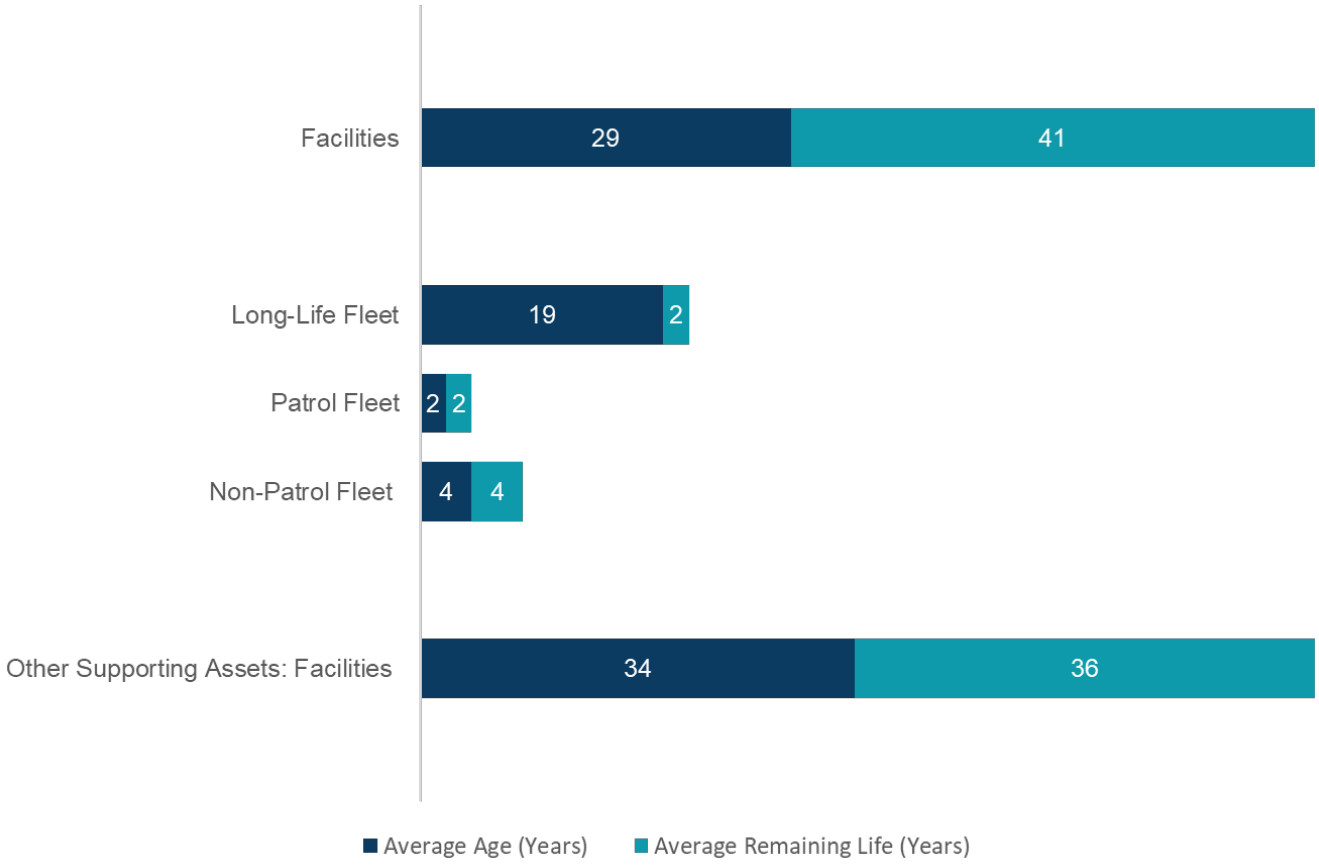
| Asset Class | Assessment Methods |
|---|---|
| Fleet | Age, odometer, ongoing/pending maintenance requirements, and visual assessment for condition factors as per the scale below:<br>• A+ or A++ would be Excellent or “as new” condition, A has minor wear and tear but still in peak operating condition.<br>• B is a mid-life vehicle which, while it may have significant use, is still highly reliable but shows its age with more obvious signs of interior/exterior wear and tear from severe or long service.<br>• C is approaching end of life, due or overdue for replacement based on time, odometer reading, condition or greater emergence of costly maintenance/repair issues and non-safety related component failures. |

| Asset Class | Assessment Methods |
|---|---|
| Facilities | Regional staff employ a Building Condition Assessment (BCA) method for assessing the condition of Regionally-owned facilities. For each facility, a BCA is performed on a 10-year cycle by external consultants. BCAs assess the condition of major building elements, sub-structures, shells, interiors, services and site work. |

## 4. Average Age and Remaining Useful Life

Figure 2 summarizes the average age and remaining asset useful life of assets.

**Figure 2: Average Age and Remaining Useful Life**




## 5. Levels of Service and Performance Measurement

Service level objectives and performance targets are set through Regional Council, approved plans, studies, policies and procedures, as well as through regulatory and/or compliance guidelines.

**Table 2: Plans, Studies, Policies, Procedures, Regulations that Inform Service Levels**

| Plans, Studies, Policies, & Procedures |
|---|
| • Board End Policies<br>• Durham Regional Police Service Annual Report<br>• Durham Regional Police Service Strategic Plan<br>• Annual Business Plans and Budgets<br>• Durham Region's Community Safety and Wellbeing Plan |

| Regulatory Compliance Requirements and Guidelines |
|---|
| • Community Safety and Policing Act (2019)<br>• Highway Traffic Act<br>• Motor Vehicle Inspection Station Licencing and Standards<br>• Motor Vehicle Repair Standards<br>• Various provincial requirements |

## 6. Technical Service Levels and Performance Measures

Asset management staff have identified key asset-related technical service levels and performance measures as noted in Table 3.

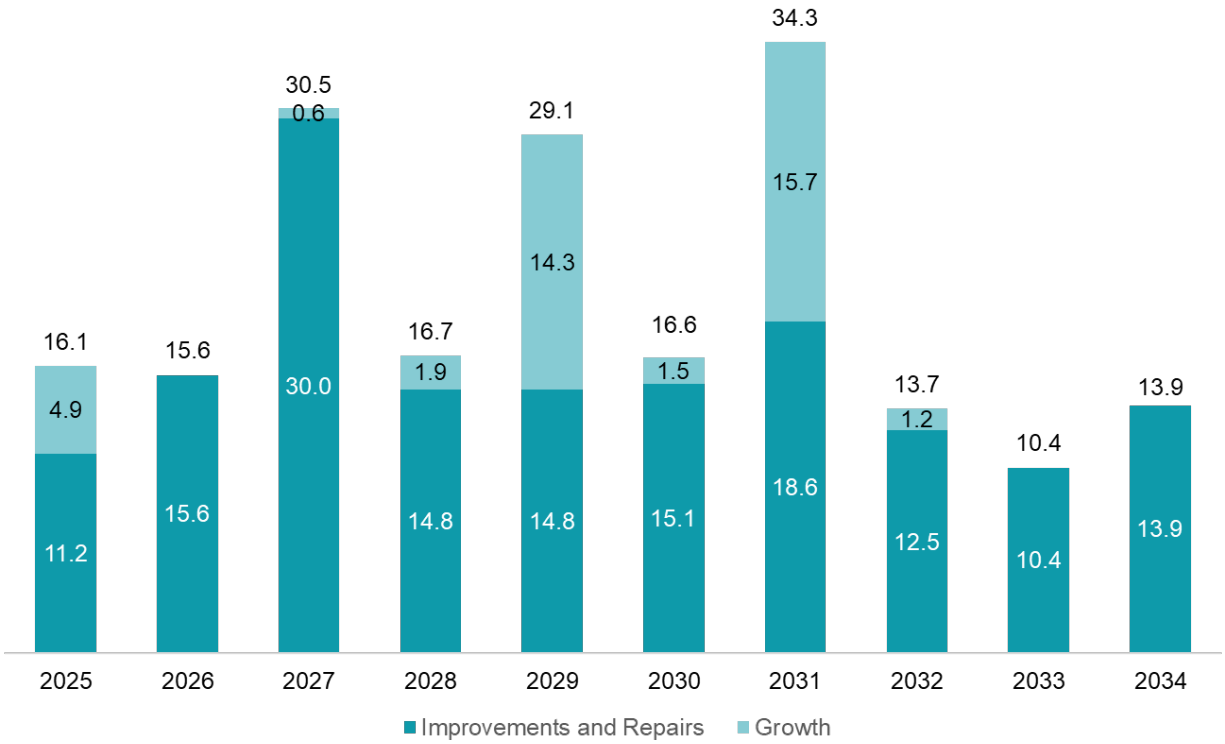
**Table 3: Performance Measures**

| Performance Measure | Target | Year of Measure | | |
|---|---|---|---|---|
| | | 2022 | 2023 | 2024 |
| Facility Condition | <10% of facility replacement value rated as either Poor or Very Poor (excluding supporting facilities) | 34.5% | 34.5% | 29.9% |
| % of facilities with completed BCA | 100% of facilities to have a completed BCA within the past 10 years | 0% | 0% | 100% |

## 7. Capital Forecast

Major capital investments in DRPS assets identified through the 2025 business plans and budget process (rehabilitation and growth) total $16.1 million for 2025 and $180.9 million over the 2026 to 2034 forecast period (Figure 3). This forecast will continue to be refined and informed by updated facility needs through the development of the multi-year service and financing strategy for Durham Regional Police Service.

**Figure 3: Capital Forecast ($ millions)***



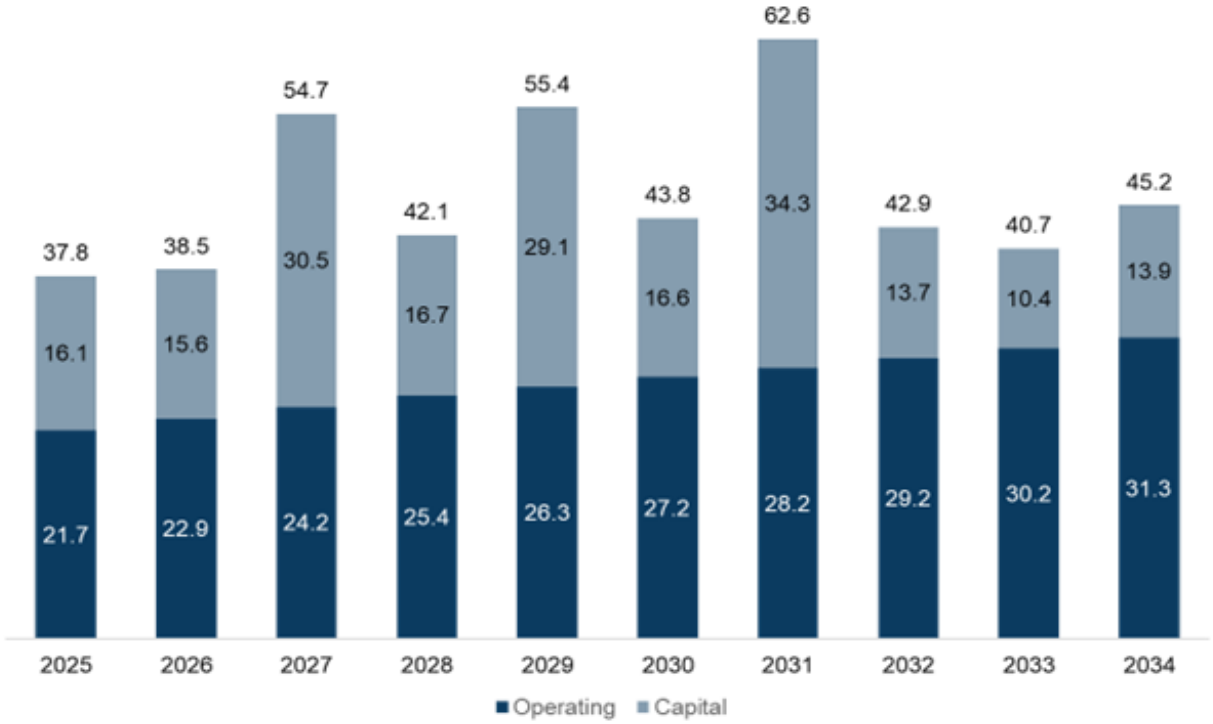

*Improvements and Repairs and Growth may not add to Total due to rounding.

## 8. Lifecycle

Maintenance and rehabilitation lifecycle activities aim to extend the useful life of assets and improve service delivery.

Figure 4 illustrates capital and maintenance lifecycle costs for DRPS assets.

**Figure 4: Lifecycle Costs Operating and Capital ($ millions)***




*Operating and Capital may not add to Total due to rounding.

Total operating lifecycle expenditures for DRPS infrastructure totals $266.6 million over the 2025 Budget and nine-year forecast period (2026 to 2034) while capital expenditures total $197.0 million over this period.

## 9. DRPS Fleet Lifecycle Management

DRPS has a preventative maintenance program to ensure vehicles remain at peak operating condition to minimize the risk of failure and optimize cost efficiency by maintaining versus repairing the fleet. DRPS vehicles are maintained in accordance with guidelines based on manufacturers' service program and duty requirements.

DRPS employs the following fleet replacement criteria:

- Marked patrol automobiles are replaced at the earlier of 5 years of service or 160,000 to 200,000 km;
- Unmarked vehicles are replaced at the earlier of 7 years of service or 170,000 to 200,000 km;
- Heavy duty trucks are replaced at the earlier of 10 years of service or 300,000 km; and
- Long life vehicles are replaced on a 20-30 year schedule.

The replacement schedule ensures that vehicles are available for officers to serve the public, while minimizing the total cost of ownership over their useful life. The kilometres driven and vehicle age do not fully capture the engine wear as cruiser engines idle, often for significant time, while officers are carrying out their duties. Idling can also impact the useful life of the vehicles. This should be captured in future years through the introduction of fleet maintenance telematics.

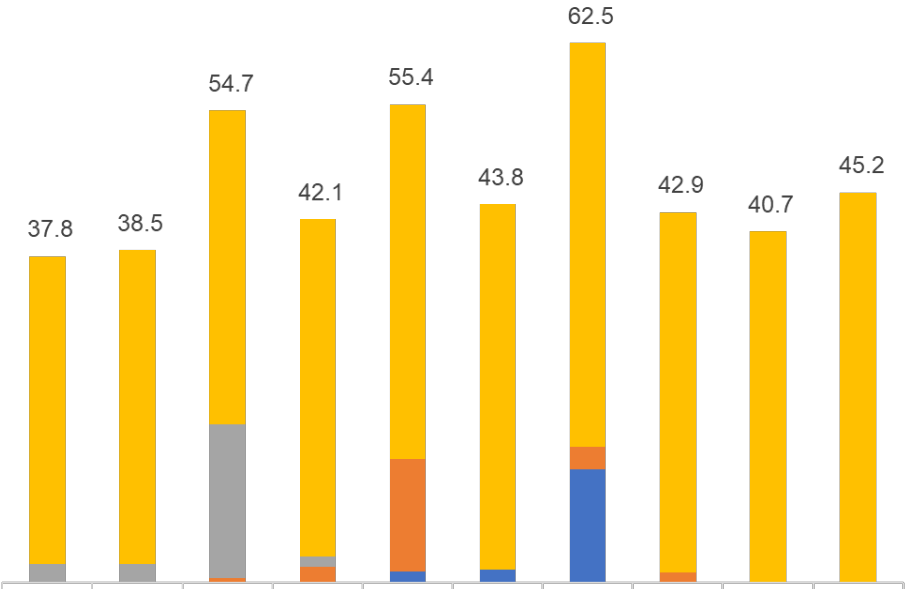
Consistent with the fleet replacement plan for DRPS, the 2025 DRPS Business Plans and Budget includes the replacement of 35 marked patrol vehicles ($2.1 million), three motorcycles ($0.1 million) and 24 unmarked vehicles ($1.5 million) as well as the addition of 17 new marked patrol vehicles ($1.1 million), and 13 new unmarked vehicle ($0.8 million) to respond to growth in service requirements. The cost of the primary response vehicles does not include the transfers of upfit equipment from old to new vehicles or purchase of new equipment (e.g., sirens, light bars, push bars, communication systems, etc.) which forms part of the overall maintenance budget and is required to meet operational requirements and ensure public safety. The nine-year capital forecast (2026 to 2034) includes the projected replacement of 401 marked vehicles ($29.9 million) and 227 unmarked vehicles ($18.0 million).

## 10. Financing Strategy

Figure 5 presents the financing strategy for DRPS infrastructure operating and capital costs. The financing strategy leverages property tax revenues, reserves and reserve funds, development charge revenues and contributions from developers or other partners. The Financing Strategy will continue to be refined and updated based on the multi-year service and financing strategy that Durham Regional Police Service and Regional staff are working on.

A discussion of risks related to these financing sources, for all Regional services, can be found in the detailed asset management report.

**Figure 5: Operating and Capital Financing Strategy**
**($ millions)**




| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Levy | 35.6 | 36.3 | 36.3 | 39.0 | 41.1 | 42.3 | 46.8 | 41.7 | 40.7 | 45.2 |
| Reserves/Reserve Funds | 2.2 | 2.2 | 17.8 | 1.2 | - | - | - | - | - | - |
| Development Charges | - | - | 0.6 | 1.9 | 13.0 | - | 2.5 | 1.2 | - | - |
| Other | - | - | - | - | 1.3 | 1.5 | 13.2 | - | - | - |
| Total | 37.8 | 38.5 | 54.7 | 42.1 | 55.4 | 43.8 | 62.5 | 42.9 | 40.7 | 45.2 |

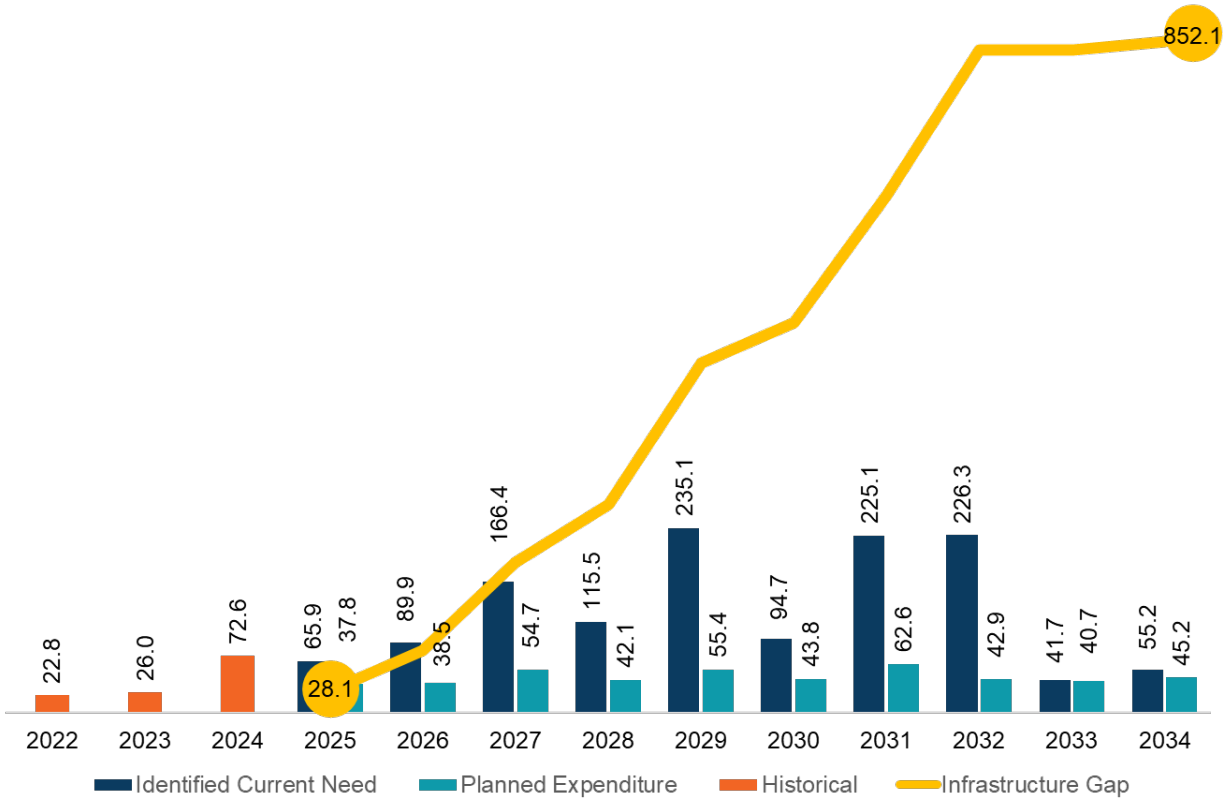
Notes:

- Other includes contributions from developers and other partners.
- Columns may not add due to rounding.

## 11. Infrastructure Gap Analysis

As part of the lifecycle costing analysis, staff analyzed the current planned operating and capital expenditures and financing plan against projected expenditure and financing needs to meet service levels. An infrastructure gap refers to the difference between the forecasted investment and the investment required to maintain or improve service levels towards service level targets (Figure 6). For DRPS infrastructure, the infrastructure gap is estimated at $28.1 million in 2025. Over the 2025 to 2034 timeframe, the total cumulative infrastructure gap is estimated to grow to $852.1 million. A discussion of risks, mitigation strategies and next steps with regards to infrastructure gaps is included in the detailed asset management report, for all Regional assets. This infrastructure gap will be considered as part of the multi-year service and financing strategy for Durham Regional Police Service.

**Figure 6: Lifecycle Gap Analysis ($ millions)**




## 12. Climate Change

Supporting Council's declaration of a climate change emergency in 2019, the Region continues to integrate a climate lens into the annual business planning and budget process to align corporate capital and operating plans with achieving the Region's greenhouse gas reduction target of net zero by 2045. The Durham Standard provided a green development standard of net zero facilities for new construction and major facility retrofits for Region-owned facilities (and leased facilities where appropriate).

In addition, staff are advancing the implementation of the Region's Light Duty Fleet Electrification Strategy where operationally feasible.

Updates regarding the Region's progress towards climate change mitigation and adaptation can be found within its annual Climate Change Progress report (Report #2024-COW-12). The next Climate Change Progress report will be provided to Council later in 2025.

## 13. Risk Assessment

Table 4 includes a sample of identified risks for the Region's fleet in achieving its service level standards as well as the mitigation controls identified to address these risks.

**Table 4: Risk Mitigation Strategies**

| Risk | Mitigation |
|---|---|
| Loss of Fuel | Maintain effective and up-to-date emergency, contingency and continuity plans.<br>Ensure adequate standby power.<br>Essential services policies and procedures.<br>Audit of fuel purchasing cards.<br>Fuel deliveries and re-routed programs/services and redundancies.<br>Mobile services and on-call service contracts. |
| Security Breaches and Theft | Onsite safety systems and protocols (e.g., surveillance, patrols, fencing, emergency training, policies and plans).<br>Geographical Positioning System technology on vehicles.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |
| Vehicle Accidents | Supervisory oversight.<br>Driver screening, training and recertification programs.<br>Compliance and licensing standards.<br>Maintain effective emergency and contingency plans. |
| Equipment Failures | Preventative maintenance and capital replacement programs and plans.<br>External service contracts.<br>Safety codes, warranties and guidelines.<br>Inspections, checklists and accreditations.<br>Proper equipment and vehicle storage.<br>Fleet maintenance re-scheduling and redundancies (e.g., spare vehicles and parts inventory). |
| Winter ice/cold and more frequent freeze-thaw cycles | Slip hazard identification and mitigation.<br>Inspections.<br>Maintain effective and up-to-date emergency, contingency and continuity plans. |