то:	CHAIR AND MEMBERS CORPORATE SERVICES COMMITTEE MEETING ON SEPTEMBER 8, 2020
FROM:	ANNA LISA BARBON MANAGING DIRECTOR, CORPORATE SERVICES AND CITY TREASURER, CHIEF FINANCIAL OFFICER
SUBJECT:	CORPORATE ASSET MANAGEMENT PLAN 2020 REVIEW

RECOMMENDATION

That on the recommendation of the Managing Director, Corporate Services and City Treasurer, Chief Financial Officer and on the advice of the Manager III, Corporate Asset Management, this report with respect to Corporate Asset Management Plan 2020 Review **BE RECEIVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- June 23, 2020 Report to Strategic Priorities and Policy Committee COVID-19 Financial Impacts - Update
- Budget 2020, Additional Investments Business Case #4A and #4B City of London Infrastructure Gap
- August 26, 2019 Report to Strategic Priorities and Policy Committee 2019 Corporate Asset Management Plan
- April 8, 2019, Report to Strategic Priorities and Policy Committee Corporate Asset Management Policy
- January 23, 2018 Report to Corporate Services Committee Corporate Asset Management Plan 2017 Review

STRATEGIC PLAN 2019-2023

Council's 2019-2023 Strategic Plan for the City of London identifies 'Building a Sustainable City' and 'Leading in Public Service' as strategic areas of focus. The Corporate Asset Management Plan Review Report supports these strategic area of focus via the strategic priority "London's infrastructure is built, maintained, and operated to meet the long-term needs of our community" which includes 'Maintain or increase levels of service', 'Manage the infrastructure gap for all assets', and 'Increase access to information to support community decision making' as strategic priorities. Respectively these strategies are ensuring the decisions for City's finances are transparent and well planned to keep costs as low as possible with the intention to limit the burden on current and future rate payers.

BACKGROUND

The City of London released its second Corporate Asset Management Plan (CAM Plan) in 2019. It describes current asset management practices and plans to secure the service of reliable infrastructure in the future. The Plan is consistent with federal and provincial funding requirements. The Plan also incorporates requirements subsequent to Ontario passing the *Infrastructure for Jobs and Prosperity Act, 2015*, which resulted in the Ontario Regulation (O.Reg 588/17): Asset Management Planning for Municipal Infrastructure, going into effect January 1, 2018. The 2019 CAM Plan is in compliance with phase two of O.Reg 588/17, for directly owned City assets. This compliance is ahead of the phase

two deadline for July 1, 2023, and incorporates some components of the phase three deadline for July 1, 2024.

This report implements recommendations in the City's 2019 Corporate Asset Management Plan, mainly, recommendation #4 "monitor the progress of the Corporate Asset Management Plan". This is consistent with O. Reg 588/17 requiring that annual progress reviews be prepared by July 1, 2025 (or one year after Phase Three of O. Reg 588/17 is implemented). It also continues the practice of reporting and monitoring Transportation's infrastructure gap, which has been the greatest percentage since the City first quantified the infrastructure gap in its 2013 State of Infrastructure Report.

This year's scope of work for the CAM Plan review has expanded over past years to include:

- A 2-page summary Report Card (Listed in Appendix A) that includes State of Infrastructure updates (i.e. Inventory, Replacement Value, and Condition), Infrastructure Gap, and Level of Service overview.
- The Report Card is mainly developed for the core municipal infrastructure as defined by O.Reg 588/17 and some additional services that have a large Infrastructure gap including:
 - a) Transportation (Roadways, Structures, and Traffic);
 - b) Wastewater (Stormwater and Sanitary);
 - c) Water;
 - d) Recreation;
 - e) Parks; and
 - f) Corporate Facilities.
- Updates to the City's infrastructure gap given the budget revisions during the Multi-Year Budget Process, 2020 Assessment Growth funding allocation, and deferred capital projects resulting from the COVID-19 pandemic;
- Update on how City services are meeting the preliminary level of service targets, relative to metrics updated from the 2019 CAM Plan; and
- Provide commentary and progress on the seven recommendations listed in the 2019 CAM Plan.

The information presented in this report is based on the best currently available data for asset inventory, condition and degradation curve data, along with funding as proposed in the approved 2020-2023 capital budget and 2024-2029 capital and reserve fund forecast.

COVID-19 Impacts

The novel coronavirus (COVID-19) continues to cause unprecedented health, social and economic challenges locally, nationally, and globally. The financial consequences of COVID-19 to the City of London continue to be experienced and are likely to continue into the foreseeable future as outlined in June 23 SPPC Report. The SPPC report identified a list of capital projects to be delayed in 2020 due to the COVID-19 pandemic. It is also outlined that the City of London's Multi-Year Budget additional investment case #4 (City of London Infrastructure Gap # 4 – Part B) has \$750,000 of funding deferred to 2021.

Additionally, the financial impact of COVID-19 resulted in delaying the allocation for the annual assessment growth funding and only half of the requested amount was allocated as of August 2020 (from \$2.24 million to \$1.12 million). The remaining assessment growth allocation will be reviewed in the fall as part of the full year budget monitoring and year end projections.

Future annual reviews and CAM Plan updates will have greater clarity on any additional financial impacts.

2020 CORPORATE ASSET MANAGEMENT PLAN REVIEW

The City's assets have approximately \$21.3 billion in replacement value in 2020 which increased from the \$20.1 billion estimated in the 2019 CAM Plan, this excludes agencies, boards and commissions. While City assets are generally in "Good" condition, investment needs for infrastructure exist. An optimal amount of funding is required to manage current and future asset risks. The difference between the optimal amount and available budget is the infrastructure gap.

The City has a growing infrastructure gap as outlined in the latest CAM Plan 2019. This is resulting from lifecycle renewal budgets being less than the identified optimal expenditure required to maintain current levels of service for City services within the CAM scope. Mitigating the infrastructure gap and its projected growth, to achieve sustainability, requires either an increase in infrastructure investments or a reduction in the number of services or levels of services that the City provides. The recommendation from the 2019 CAM Plan was to increase funding to mitigate the growth of the City's infrastructure gap over a 25-year timeframe. Despite the additional funding received during the Multi-Year Budget, the infrastructure gap is expected to grow but at a reduced rate as outlined in Figure 2.

The analysis concludes that over the next decade, the City of London projects spending will be in excess of \$1.8 billion to address its lifecycle assets in the scope of the CAM Plan. This level of expenditure will result in an infrastructure investment gap of roughly **\$635.0 million** over the cumulative 10-year period of 2020-2029, as seen in Table 1, which represents 2.98% of the \$21.3 billion asset base.

Cumulative 10 Gap as a % of CAM Plan Replacement Current Year Infrastructure Replacement (Year) Value Condition Gap Value 2020 \$21.3 billion Good \$635.0 million 2.98% \$20.1 billion \$568.8 million 2019 Good 2.82% Trend

Table 1 – 2020 CAM Plan Review Key Findings

As listed in Figure 1, approximately 51.8% of the gap is from Transportation (\$326 million). Parks approximates 4.7% of the gap (\$29.7 million), Recreation approximates 19.5% of the gap (\$124 million), and Corporate Facilities approximates 4.8% (\$30.7 million). Further details on the gap for these services can be found in Appendix A.

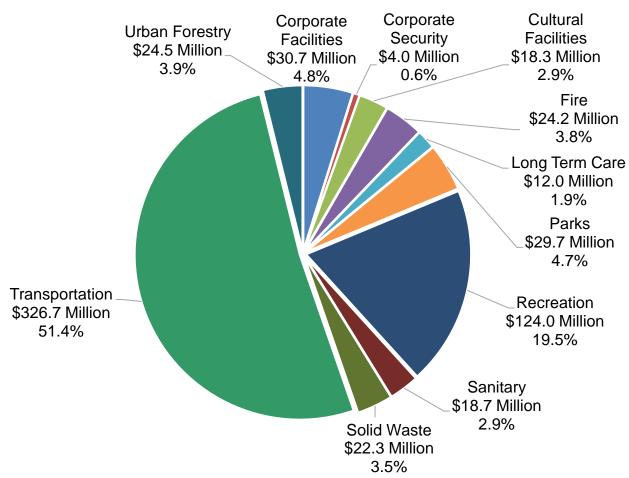


Figure 1 –10 Year Infrastructure Gap Breakdown by Services

Infrastructure Gap Comparison

Figure 2 illustrates the projected 2014 and 2019 CAM Plan infrastructure gap and the 2020 infrastructure gap curve with the adopted infrastructure gap mitigation strategies. The strategies adopted through 2020-2023 Multi-Year budget period to mitigate the 2019 projected infrastructure gap had contributed to the reduction of the actual assessed gap in 2020. The analysis shows that the forecasted cumulative 10 year infrastructure gap calculated in the 2019 CAM Plan, which was approximately \$568.8 million, is reduced by roughly \$25 million which shows the significance of the recommended mitigation strategies. The majority of the reduction is happening between the years of 2020-2023 in the Multi-Year budget period, and continuously adopting similar mitigation strategies will contribute to future reduction in the City's infrastructure gap.

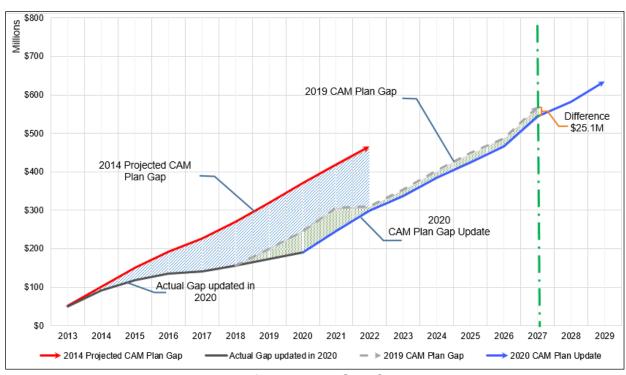


Figure 2 – Infrastructure Gap Comparisons

This annual review has not been comprehensively updated for the needs for all services within the Corporate Asset Management Scope. However, this update represents more than 85% of the assets included in the 2019 CAM Plan, based on their replacement values. In instances where the updated needs information could not be readily obtained, a projection of needs based on the 2019 CAM Plan were used.

Preliminary Level of Service (LOS) Metrics

The City of London defines its Level of Service (LOS) by understanding and quantifying the value that customers place of services and making customer requirements central to our planning processes. The LOS framework development process follows three main stages as detailed in Figure 3 and summarized below:

- a) Stage one: Establish LOS baseline (2019 CAM Plan)
 - i. Start-up
 - ii. Develop metrics and performances
- b) Stage two: Conduct periodic review (2020 CAM Plan update)
- c) Stage three: Future implementation
 - i. Identify financial relationships
 - ii. Seek public engagement
 - iii. Monitor and review

The initial development of LOS metrics and establishing a baseline for performance was documented in the 2019 CAM Plan. Stage two includes collecting and updating various Level of Service metrics for 2019 data, adjusted targets, and monitoring progress. Future implementations will include linking key LOS metrics with financial data to help identify the cost of providing these services and the cost to achieve the targets, seek public feedback to establish proposed Levels of Service, and monitor & review progress.

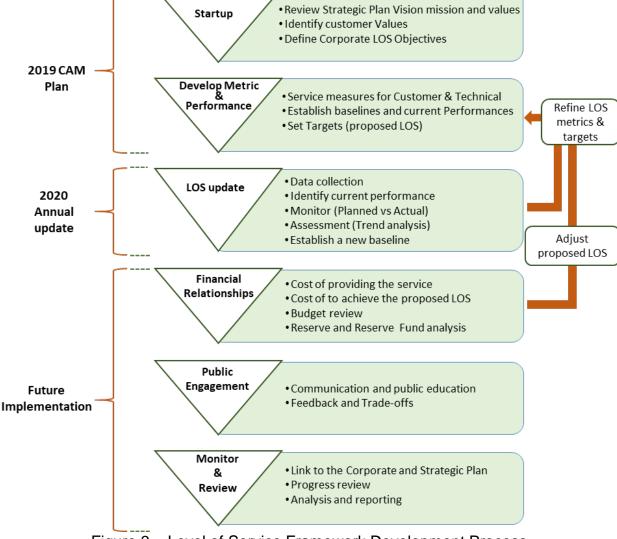


Figure 3 – Level of Service Framework Development Process

The 2020 CAM Plan Review process included a Level of Service metric update for 2019 data. Each service area provided an update to their level of service metrics (in the customer value category). Customer Values measure the perception of what the service is worth to the public versus any possible alternatives. Table 2 below outlines the description and scope of each Customer Value category:

Table 2 - Customer Value Descriptions

Customer Value Category	Description
Customer Service/ Public Education	A diversity of metrics that cover the performance assessment of the service provision. Metrics consist of descriptions for customer surveys, scope, and magnitude of services using maps, values/numbers, percentages and/or images. Examples include number of lane-kilometers of roads versus square kilometers of land area, or % of properties where fire flow is available.
Cost Efficient	Assess the service performance in terms providing the maximum feasible outcomes out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a % of current replacement value, etc.
Accessibility	Include metrics related to accessibility and whether the service is provided to the greatest extent possible of all people, regardless of their age and ability. Examples include FADS and/or AODA compliancy, % of sidewalks with tree cover, % of population less than 800m walk to a park, etc.
Legislative/ Safety	Covers performance assessment of the service related to safety and compliancy with acts and/or codes. Also includes metrics regulated and legislated by a legislature related to the specific service. Examples include % of legislated MTO safety inspections met, % of facility components annually inspected, etc.
Reliability/ Availability	Includes metrics related to the availability of service such as percent of the time when an asset is available and operating properly. It could also be related to reliability such as condition of assets or number of unplanned amenity closures/use restrictions per year.
Quality	Includes metrics related to the assessment of the quality of the services provided, such as the condition of the assets, quality rating systems, or measuring the quality of the service on a technical basis using a multi-criteria quality rating systems.
Environmental Stewardship/ Sustainability	Includes metrics related to the assessment of service provision in a sustainable and environmental stewardship practices. The aim is to minimize the impact of infrastructure on the environment. Examples include % of streetlights with LED or low energy fixtures, Annual natural gas consumption per square foot, number or type of Low Impact Development (LID) technologies implemented (rain gardens and bioswales), etc.

Each Customer Value category is assigned a status indicator to help define progress towards implementation. The four status indicators are:

- 'Meeting Targets', action is ongoing or completed annually; action is in progress and is on target to be complete by the target end date;
- 'Not Meeting Targets', LOS target is not achieved or expected to be significantly delayed;
- 'Risk of Not Meeting Targets' LOS metric has been flagged as possibility of not being achieved by the target end date;
- 'Not Assessed' / 'Not in Scope' has been added for those instances where the service area was unable to provide an update during this reporting period or the customer value has no metric for the specific services.

The listings in Tables 3 and 4 are still considered preliminary – at this time not every service has metrics related to each customer value, or there is insufficient data available to perform a comprehensive update. These metrics will be expanded upon in future years with the intent to refine and report in the next CAM Plan full update in 2023. A high-level overview is provided below for "Customer Values" that are not meeting targets or are at risk of not meeting targets.

Table 3 - Level of Service Targets Summary Results

Targets Assessment	Customer Service	Cost Efficient	Accessible	Legislative/ Safety	Reliability/ Availability	Quality	Environmental Stewardship/ Sustainability	Total
Meeting	9	13	4	8	9	6	9	58
Targets	(90.0%)	(86.6%)	(66.6%)	(88.9%)	(75.0%)	(60.0%)	(75.0%)	(78.4%)
Risk of Not Meeting Targets	0 (0%)	1 (6.7%)	1 (16.7%)	1 (11.1%)	0 (0%)	1 (10.0%)	0 (0%)	4 (5.4%)
Not Meeting	1	1	0	0	1	0	0	3
Targets	(10.0%)	(6.7%)	(0%)	(0%)	(8.3%)	(0%)	(0%)	(4.0%)
Not	0 (0%)	0	1	0	2	3	3	9
Assessed		(0%)	(16.7%)	(0%)	(16.7%)	(30.0%)	(25.0%)	(12.2%)
Total	10	15	6	9	12	10	12	74
	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)

Not Meeting Targets Assessment

Transportation Reliability/Availability metric is not meeting targets as a large percentage of freeways, secondary collectors, and local road segments are not meeting desired condition targets and showing signs of further deterioration.

Urban Forestry is not meeting cost efficient target as the Woodlands current reinvestment rate has decreased. It suggests the Woodlands infrastructure gap will increase at current levels of funding.

Corporate Security & Emergency Management is not meeting target for Customer Service as the number of days spent training or educating decreased in 2019 – approximately 40 days compared to a typical 46 to 49 days per year.

Risk of Not Meeting Targets Assessment

Transportation accessible customer values are at risk of not meeting target due to the large number of existing streets without sidewalks in contrast to London Plan policies requiring sidewalks on all streets and requests received from the public. Progress on cycling facility implementation identified in the Cycling Master Plan is also desired to be quicker.

Transportation cost efficient customer values are at risk of not meeting targets because roadway and structures annual average investment rates has been static and there is no trend towards the target. Given there is a funding gap with roadways and structures, it suggests the roadways and structures gap will not be materially decreased at current levels of funding.

Urban Forestry is at risk not meeting legislative/safety category targets because the biologically optimal frequency for tree trimming or planned urban forest maintenance target is five years, while the current cycle is at 10 years.

Corporate Facilities Quality category metrics related to condition are showing deterioration and there is a risk of not meeting the target in the future.

Table 4 – 2020 Level of Service Targets

Service	Customer Service/ Public Education	Cost Efficient	Accessible	Legislative/Safety	Reliability/ Availability	Quality	Environmental Stewardship/ Sustainability
Water							
Sanitary							
Stormwater							
Transportation							
Parking							
Solid Waste							
Parks							
Recreation							
Urban Forestry							
Fire							
Long Term Care							
Corporate & Cultural Facilities							
Fleet							
IT							
Corporate Security & Emergency Management							

Legend				
Meeting Targets				
Risk of Not Meeting Targets				
Not Meeting Targets				
Not Assessed				
Not in Scope/ TBD				

REVIEW OF Corporate Asset Management Plan 2019 RECOMMENDATIONS

The Corporate Asset Management Plan 2019 contained seven recommendations resolved by Council in order to strongly support the development of standardized asset management practices in the City of London. The progress and status of these recommendations are described below.

Recommendation 1: Continue to align the Plan with the Corporate Strategic Plan.

• Council's 2019-2023 Strategic Plan for the City of London identifies 'Building a Sustainable City' and 'Leading in Public Service' as strategic areas of focus which are pertinent to Asset Management. These areas include 'Maintain or increase levels of service', 'Manage the infrastructure gap for all assets', and 'Increase access to information to support community decision making' as strategic priorities. Respectively these strategies are ensuring the decisions for City's finances are transparent and well planned to keep costs as low as possible with the intention to limit the burden on current and future rate payers. This 2020 Corporate Asset Management Plan review continues to align with the Corporate Strategic Plan.

Recommendation 2: Continue to advance the Corporate Asset Management Program.

- The Corporate Asset Management program has completed four of its seven units and continues to develop templates and procedures to fully implement the CAM program for all service areas.
- COVID-19 has delayed some of the CAM program implementation timelines due to maintaining minimal operations and delivering essential services across the City. This requirement delayed some tasks and moved all meeting and workshops to online platforms, including:
 - Delaying the Go Live date of the Corporate Asset Management software (Assetic, recently acquired by DudeSolutions) for Transportation Assets.
 - Delaying the implementation of the Risk module of Unit 6 "pilot trials" to start in fall 2020.

Recommendation 3: Enhance the Corporate Asset Management Program.

- CAM Program enhancement continues to form the basis of the approach while exercising flexibility to achieve effective results.
- CAM Section is working with City services to ensure asset databases are comprehensive and identify where improvements can occur.
- Introduction of the CAM Plan Report Card for core services and services that have a large infrastructure gap.
- Embarking on updating various level of service metric using predefined customer values which will ensure compliance with Phase 3 of O.Reg. 588/17.

Recommendation 4: Monitor the Progress of the Corporate Asset Management Plan.

- The 2020 CAM Plan Review assists in monitoring the CAM Plan progress.
- Since the CAM Plan, the City has progressed with its financial strategies, although COVID-19 has impeded the expected advancements.

Recommendation 5: Explore opportunities to incorporate the corporate asset management practices to the Boards & Agencies of the City as appropriate.

 In winter 2020, CAM Section had interviewed several agencies, boards, and commissions, with the expectation to finalize results in spring 2020. However, COVID-19 has curtailed the scope of this work with the priority shifting to crisis management. A maturity assessment workshop has been completed with

- London Public Library, London Middlesex Community Housing (LMCH) and Covent Garden Market. The results of entities interviewed may have to be extrapolated for recommendations on methods to best incorporate Boards, Agencies, and Commissions (as appropriate) into the CAM Program.
- CAM Section has been working closely with London Middlesex Community
 Housing (LMCH) to develop their Asset Management Plan, providing various
 tools, templates, and regular advice to help transfer Asset Management best
 practices and expertise to their staff. LMCH Asset Management Plan will be
 available in the fall of 2020.

Recommendation 6: Engage the Public and Community Partners in the Asset Management Process.

- CAM Section has begun the process of working with stakeholders from internal agencies, boards, and commissions to expand the coordination of asset management across the City.
- CAM Section is also working with Asset Management Ontario and other municipalities to produce approximately eight Asset Management videos addressing various topics to help educate the public and raise awareness on Asset Management processes, noting that funding is from Federation of Canadian Municipalities (FCM).

Recommendation 7: Continue to explore opportunities to address the infrastructure gap through various financial strategies.

- With Council's support, the City has made significant strides towards increasing
 the amount of funding available for lifecycle renewal since 2016, when the Capital
 Infrastructure Gap Reserve Fund was first established. In 2019, CAM Section
 submitted an additional investment business case during the Multi-Year Budget
 (Business Case #4 City of London Infrastructure Gap). While the amount received
 did not match the recommended 0.33% incremental tax increase, the amount
 resulted in approximately 0.16% tax increase.
- The Capital Infrastructure Gap Reserve Fund is anticipated to receive \$51.1 million in tax supported contributions during the 2020-2023 period. This reserve fund is a significant source of financing for numerous lifecycle renewal capital projects over the course of the City's 10 year capital plan. As illustrated in Figure 2, when comparing the 2019 CAM Plan projected infrastructure gap to the 2020 updated gap, it indicates the infrastructure gap would have been approximately \$25.2 million greater if not for the Multi-Year budgets approved during winter 2020.
- CAM submitted a 2020 assessment growth business case (2020 Assessment Growth Business Case #24) to ensure adequate on-going lifecycle renewal activities for increased tax-supported infrastructure. Annual assessment growth funding allocations for new infrastructure are based on recommended annual reinvestment rates for applicable infrastructure, as listed in the 2019 CAM Plan.

CONCLUSION

The City of London's Corporate Asset Management Plan continues to meet provincial and federal needs while enabling the City to move towards best practices in asset management, with two out of three phases for O.Reg. 588/17 met for directly owned assets. It is important that progress continues to be made and flexibility exercised as the City progresses towards implementing CAM practices to agencies, boards, and commissions, while using effective standardized asset management practices applying 'state of the art' technologies. This will result in Council having enhanced information on which to base strong and effective decisions.

Acknowledgements

This report was prepared with the help of Nathan de Witt, Ahmed Eweda, and Tricia Badal.

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RECOMMENDED BY:						
ANNA LISA BARBON, CPA, CGA						
MANAGING DIRECTOR, CORPORATE SERVICES AND CITY TREASURER, CHIEF FINANCIAL OFFICER						

Attached Appendix (A) Service Area Report Cards

CC:

Senior leadership Team
Doug MacRae - Director, Roads and Transportation
Scott Mathers - Director, Water and Wastewater
Tim Wellhauser - Division Manager, Facilities
Andrew Macpherson - Division Manager, Parks Planning & Operations
Lynn Loubert - Division Manager, Aquatics & Arenas
Scott Preece - Manager, Recreations Operations (Arenas), Aquatics & Arenas
Kyle Murray - Director, Financial Planning & Business Support
Paul D'Hollander, Manager IV Neighbourhood Operations

Appendix (A) Service Area Report Cards

- Transportation (Roadways, Structures, and Traffic);
- Wastewater (Sanitary);
- Wastewater (Stormwater);
- Water;
- Recreation;
- Parks;
- Corporate Facilities

2020 Corporate Asset Management Plan UpdateTransportation Services





Asset Type	Replacement Value (000's)	Current Condition	10 Year Infrastructure Gap (000's)	Current Reinvestment Rate	Optimal Reinvestment Rate
Roadways	\$2,053,170	Good	\$285,513	1.4%	2.0% to 3.0%**
Structures	\$451,631	Good	\$21,581	1.5%	1.0% to 1.7%**
Traffic	\$256,684	Poor	\$19,568	3.1%	3.5% to 4.5%
Transportation	\$2,761,485	Good	\$326,662*	1.6%	1.8% to 2.7%

^{*} This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.

State of Infrastructure overview

The updated replacement value of the City's transportation assets is \$2.76 Billion. The Replacement values of roadways and structures assets have been updated based on the latest consultant reports (Roadmatrix & Bridge Management System) using 2019 data. Traffic assets inventory is updated and replacement values are calculated using the 2019 CAM Plan unit costs.

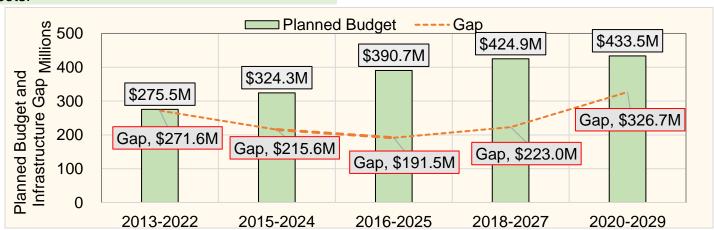
Transportation assets condition is overall good. Condition information has been updated for roads, structures, sidewalks, traffic signals and street light assets.

** Canadian Report Card Recommended Annual Reinvestment Rate.

Infrastructure Gap Overview

Transportation's 10 year infrastructure gap is estimated at approximately \$327M. The table above provide information on the updated Transportation infrastructure funding gap, with detail for Roadways, Structures, and Traffic.

A \$230M in growth-focused provincial funding was recently approved on June, 2020. Although the majority of the funding is growth-focused, it may help reduce the infrastructure gap. However, analyzing the impact of this additional funding will be performed in the future years. Rapid Transit is not part of the budget and analysis



Infrastructure Gap Comparison (Transportation Services)

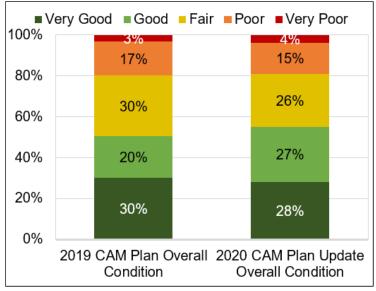
2020 Corporate Asset Management Plan Update Transportation Services



Danaut	Canal
Report	Card

Planned Budget (000's)		Change	Projected 10-year infrastructure gap (000's)		Change	Gap	
Asset Type	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	(000's)	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	(000's)	Assessment
Roadways	\$287,649	\$296,106	\$(8,457)	\$285,513	\$159,627	\$125,886	F
Structures 🐷	\$65,941	\$54,111	\$11,830	\$21,581	\$38,488	\$(16,907)	
Traffic \$\exists\$	\$79,891	\$74,716	\$5,175	\$19,568	\$24,934	\$(5,366)	₩.
Transportation	\$433,481	\$424,933	\$8,548	\$326,662	\$223,049	\$103,613	F

The figure and table above illustrate the infrastructure gap increasing since the 2019 CAM Plan which covered the 10 year period of 2018-2027. The 2020 update indicates that the Transportation infrastructure gap has increased to approximately \$327M. The \$104M increase from the 2019 CAM Plan resulted mainly from Roadway assets. Roadway budgets has decreased around \$8.5M over the 10 year period resulting from the completion of one time project, and requirements have increased by \$136M. Structures gap has decreased by nearly \$17M as the budget has increased by nearly \$12M while requirements have decreased by nearly \$6M. Traffic gap has decreased by approximately \$5M as budgeting has increased.



2019 CAM Plan vs. 2020 CAM Plan Update Condition

The 2020 CAM Plan update lists the overall condition of the Transportation assets in Good condition. Compared to the CAM Plan 2019, there is no big change in the overall condition; however condition distribution shows more assets in Very Poor condition as seen in the figure. Asset replacement values and the 10 year requirements have increased because of the rise in construction and restoration costs of infrastructure. The infrastructure gap is expected to increase in the next 10 years, causing an anticipated deterioration in the overall condition of Transportation Assets. More budget is required in order to maintain the current level of service.

Customer Value	Level of Service Overall Assessment
Accessible	Risk of Not Meeting Targets
Cost Efficient	Risk of Not Meeting Targets
Environmental Stewardship	Meeting Targets
Reliable	Not Meeting Targets
Customer Service	Meeting Targets

Preliminary Level of Service Update

Accessible is at risk of not meeting target due to the large number of existing streets without sidewalks in contrast to London Plan policies requiring sidewalks on all streets and requests received from the public. Cycling facility implementation progress, identified in the Cycling Master Plan, is also desired to be quicker. Cost Efficient: Combined annual average investment rate of Roadways and Structures has been static with no trend towards the target.

Reliable: Many metrics related to condition of assets are showing deterioration and not meeting targets.

2020 Corporate Asset Management Plan Update Wastewater - Sanitary Service





Asset Type	Replacement Value (000's)	Current Condition	10 Year Infrastructure Gap (000's)	Current Reinvestment Rate	Optimal Reinvestment Rate
Collection	\$4,120,570	Good	No Gap Identified	0.6%	2.0% to 3.0%**
Treatment	\$1,024,550	Fair	\$80,642*	0.4%	1.8% to 2.0%**
Wastewater Sanitary	\$5,145,120	Good	\$18,660	0.5%	1.0% to 1.4%**

^{*} This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.

Infrastructure Gap Overview

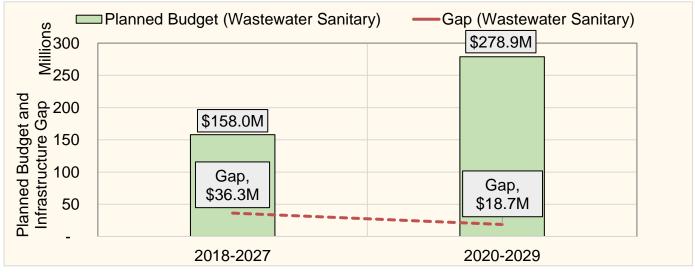
Reinvestment Rate.

State of Infrastructure overview

The updated replacement value of the City's Wastewater Sanitary assets is \$5.15 Billion. Replacement Values and Condition information are updated for the 'Collection' asset type (sanitary sewer pipes). Sewer pipes represent the bulk of the value of the sanitary asset base and are rated in Good condition based on information collected from the City's sewer inspection program. Wastewater Treatment Plants and Pump Stations condition were not updated since the 2019 CAM Plan and remains in Fair to poor conditions. The overall condition of Wastewater Sanitary is good.

Overall Wastewater Sanitary 10 year infrastructure gap is calculated at approximately \$18.6M. A further breakdown of this gap shows that the Sanitary Collection gap is calculated at \$nil while Wastewater Treatment gap still exists at approximately \$80 million. This Wastewater Treatment gap is expected to be reduced by drawing down from existing reserve funds and transferring excess funding from the Sanitary Collection network budgets.

** Canadian Report Card Recommended Annual



Infrastructure Gap Comparison (Wastewater – Sanitary Service)

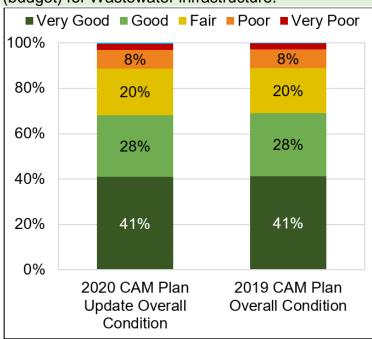
2020 Corporate Asset Management Plan Update **Wastewater - Sanitary Service**



	33000
ort Card	London

Planned Budget (000's)		Change	•	Projected 10-year infrastructure gap (000's)		Gap	
Asset Type	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	(000's)	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	Change (000's)	Assessment
Collection	\$240,441	\$128,053	\$112,388	_	_	_	\Leftrightarrow
Treatment	\$38,472	\$29,907	\$8,565	\$80,642	\$82,931	\$(2,289)	15
Wastewater Sanitary	\$278,913	\$157,960	\$120,953	\$18,660	\$36,280	\$(17,620)	13

The figure and table above illustrate the change in infrastructure gap projection since the 2019 CAM Plan which covered the 10 year period of 2018-2027. This 2020 update, indicates that the Wastewater Sanitary gap is forecasted to decrease to 18.6 million, which is driven by the increase in planned investments (budget) for Wastewater infrastructure.



2019 CAM Plan vs. 2020 CAM Plan Update Condition

According to the 2020 CAM Plan update, the overall condition profile is generally 'Good' condition. Compared to the CAM Plan 2019, the condition has generally stayed the same. Given the extensive Wastewater Sanitary collection network, it is difficult to materially change the condition profile within a year Wastewater or two. The overall Sanitary infrastructure gap is reduced to \$18.6 million over the next 10 years. Continued and increased investment in Wastewater Sanitary infrastructure is needed in order maintain accepted levels of service and to ensure public safety.

Customer Value	Level of Service Overall Assessment
Cost Efficient	Meeting Targets
Environmental Stewardship	Meeting Targets
Reliable	Meeting Targets
Customer Service	Meeting Targets

Preliminary Level of Service Update

The current performance of the updated Level of service metrics have shown that they meet targets.

2020 Corporate Asset Management Plan Update Wastewater - Stormwater Service





Asset Type	Replacement Value (000's)	Current Condition	10 Year Infrastructure Gap (000's)	Current Reinvestment Rate	Optimal Reinvestment Rate
Conveyance	\$4,059,601	Good	No Gap Identified*	0.4%	1.0% to 1.3%**
Management A	\$571,817	Very Good	\$8,158*	1.3%	1.7 to 2.0%**
Wastewater Stormwater	\$4,631,418	Good	No Gap Identified*	0.5%	1.0% to 1.4%**

^{*} This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.

State of Infrastructure overview

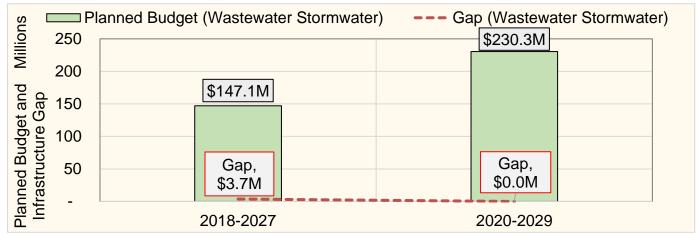
The updated replacement value of the City's Stormwater assets is \$4.63 Billion. Replacement value has been updated for Conveyance (storm sewer main). The majority of Stormwater Management assets has been updated for condition and replacement value except dykes, municipal drains and waterways.

Stormwater continue progress with improving their data quality by updating Management assets in the City GIS database.

** Canadian Report Card Recommended Annual Reinvestment Rate.

Infrastructure Gap Overview

As a result of budget approved during the 2020-2023 multiyear budget process, Stormwater overall gap is eliminated. A further breakdown of this gap shows that the Stormwater Conveyance gap has been eliminated while there is an increase in the projected Stormwater management assets gap to approximately \$8 million. This Stormwater management gap is expected to be mitigated by drawing down from existing reserve funds and transferring excess funding from the conveyance network budgets. While Current reinvestment rate still below the recommended optimal reinvestment targets, the overall planned budget has increased which is considered a positive sign.



Infrastructure Gap Comparison (Wastewater – Stormwater Service)

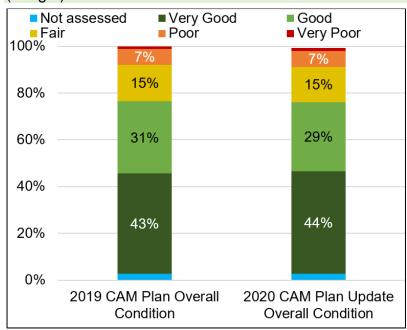
2020 Corporate Asset Management Plan Update Wastewater - Stormwater Service





	Planned Bu	Planned Budget (000's)		Projected 10-year infrastructure gap (000's)		Change	Gap
Asset Type	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	Change (000's)	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	(000's)	Assessment
Conveyance 🗏	\$158,259	\$90,252	\$68,007	-	\$592	\$(592)	F
Management 4	\$72,080	\$56,892	\$15,188	\$8,158	\$3,160	\$4,998	1
Wastewater Stormwater	\$230,339	\$147,144	\$83,195	-	\$3,752	\$(3,752)	5

The figure and table above illustrate the change in infrastructure gap projection since the 2019 CAM Plan which covered the 10 year period of 2018-2027. This 2020 update indicates that the Stormwater infrastructure gap is forecasted to be eliminated, which is driven by the increase in planned investments (budget) for Stormwater infrastructure.



2019 CAM Plan vs. 2020 CAM Plan Update Condition

According to the 2020 CAM Plan update, the overall condition profile is generally 'Good' condition. Compared to the CAM Plan 2019, the condition has generally stayed the same. Given the extensive stormwater main network, it is difficult to materially change the condition profile within a year or two. The overall Stormwater infrastructure gap is expected to be eliminated in the next 10 years.

Customer Value	Level of Service Overall
Cost Efficient	Meeting Targets
Environmental Stewardship	Meeting Targets
Reliable	Meeting Targets
Customer Service	Meeting Targets

Preliminary Level of Service Update

The current performance of the updated Level of service metrics have shown that they meet targets.

2020 Corporate Asset Management Plan Update Water Service





Asset Typ	ре	Replacement Value (000's)	Current Condition	10 Year Infrastructure Gap (000's)	Current Reinvestment Rate	Optimal Reinvestment Rate
Linear	Ī	\$6,061,426	Good	No Gap Identified	0.5%	1.0% to 1.5%*
Water Meters	9	\$35,466	Good	No Gap Identified	5.7%	5.0%
Water Facilities		\$167,094	Good	No Gap Identified	3.1%	1.7% to 2.5%*
Water Assets		\$6,263,986	Good	No Gap Identified	0.6%	1.0% to 1.5%*

^{*} Canadian Report Card Recommended Annual Reinvestment Rate.

State of Infrastructure overview

The water infrastructure is grouped into Water Linear (pipes and appurtenances), Water meters and Water Facilities (pumping stations, bulkwater stations, storage reservoirs, and wells). The updated replacement value of the City's water assets is \$6.26 Billion. This replacement value has been updated for water meters and linear infrastructure.

Water linear condition is based on 2019 CAM Plan information, water meter condition value has been updated, but there is no new condition reports for Water facilities. The overall water assets condition is "Good".

Infrastructure Gap Overview

There is no identified 10 year infrastructure gap for the Water assets. The table above provides information on updated Water infrastructure funding, the current and optimum reinvestment rates, with detail for linear, water meters, and water facilities assets.

Current reinvestment rates have increased but they are still below targeted optimal reinvestment rates recommended by the Canadian Infrastructure Report Card for water infrastructure. However water System is in relatively good shape which allows it to continue providing a plentiful, high quality, and reliable water supply to Londoners.



Infrastructure Gap Comparison (Water Service)

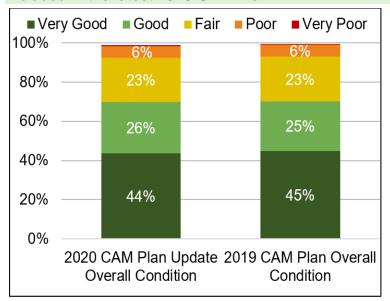
2020 Corporate Asset Management Plan Update Water Service



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	Planned Bu	dget (000's)	. 01	Projected infrastructure	•		
Asset Type	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	Change (000's)	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	Change (000's)	Gap Assessment
Linear 坑	\$305,675	\$254,273	\$51,402	-	-	-	
Water Meters	\$20,290	\$15,600	\$4,690	-	-	-	\Leftrightarrow
Water Facilities	\$52,438	\$20,278	\$32,160	-	-	-	
Water Assets	\$378,403	\$290,151	\$88,252	-	-	-	

The City is addressing its water infrastructure needs by continuing proactive management techniques like targeted renewal, regular inspection, condition assessment and the use of trenchless technologies. Further use of these technologies will help manage the water network over the long term. Water projected 10 year budget has increased during the 2020-2023 multiyear budget process compared to the projections included in the latest 2019 CAM Plan.



2019 CAM Plan vs. 2020 CAM Plan Update Condition

Water assets are overall in Good condition, indicating that they meet current needs, but are aging. The condition profile is virtually the same between 2019 CAM Plan and 2020 CAM Plan update. Given the extensive water network and the long life spans of the pipes, it is difficult to materially change the condition profile within a year or two. Over the past decades, there has been consistent investment in renewing water infrastructure and expanding our system in a sustainable way.

Customer Value	Level of Service Overall Assessment
Cost Efficient	Meeting Targets
Environmental Stewardship	Meeting Targets
Reliable	Meeting Targets
Safety	Meeting Targets
Quality	Meeting Targets
Customer Service	Meeting Targets

Preliminary Level of Service Update

The current performance of the updated Level of service metrics have shown that they meet targets.

2020 Corporate Asset Management Plan Update Recreation Services





Asset Type	Replacement Value (000's)	Current Condition	10 Year Infrastructure Gap (000's)	Current Reinvestment Rate	Optimal Reinvestment Rate
Recreation Assets	\$331,319	Poor	\$114,136	1.2%	1.7% to 2.5%**
Golf Assets	\$20,324	Poor	\$5,769	0.7%	1.7 to 2.5%**
Senior Centres	\$11,069	Poor	\$4,108	1.6%	1.7% to 2.5%**
Overall Recreation	\$362,712	Poor	\$124,013*	1.2%	1.7% to 2.5%**

^{*} This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.

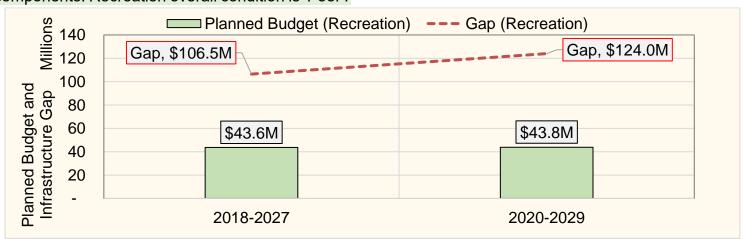
State of Infrastructure overview

The updated replacement value of the City's Recreation Facilities assets is \$363 Million. Replacement values and Condition information have been updated for all asset types including arenas, aquatic centers, community centers, golf, attractions, and senior centers and all facilities site work condition and replacement value. The condition regularly evaluated is through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facilities and their components. Recreation overall condition is 'Poor'.

Infrastructure Gap Overview

Recreation Facilities 10 year infrastructure calculated at approximately \$124 million. Despite the planned capital budget has increased, requirements for arenas and community centres account for the majority of the infrastructure gap increase. The current reinvestment rate are still below the recommended optimal reinvestment rates.

This forecast represent the costs to renew and maintain the serviceability of existing assets, and do not account for growth and the expansion of service to new areas.



Infrastructure Gap Comparison (Recreation Service)

^{**} Canadian Report Card Recommended Annual Reinvestment Rate.

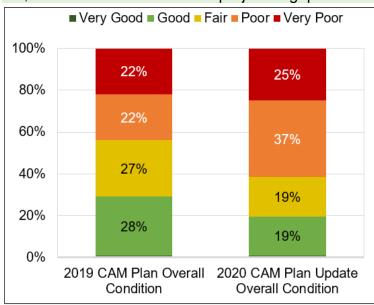
2020 Corporate Asset Management Plan Update Recreation Service



Report Card

	Planned Bu	dget (000's)	Change	Projected 10-year infrastructure gap (000's)		Change	Gap
Asset Type	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	(000's)	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	(000's)	Assessment
Recreation Assets	\$40,558	\$39,983	\$575	\$114,136	\$97,776	\$16,360	F
Golf Assets	\$1,500	\$2,000	\$(500)	\$5,769	\$6,148	\$(379)	1
Senior Centres	\$1,780	\$1,630	\$150	\$4,108	\$2,555	\$1,553	F
Overall Recreation	\$43,838	\$43,613	\$225	\$124,013	\$106,479	\$17,534	F

The figure and table above illustrate the infrastructure gap increasing since the 2019 CAM Plan which covered the 10 year period of 2018-2027. This 2020 update indicates that the Transportation infrastructure gap has increased to approximately \$327M. The figure and table above illustrate the change in infrastructure gap since the 2019 CAM Plan which covered the 10 year period of 2018-2027. This 2020 update indicates that the Recreation Facilities infrastructure gap has increased to approximately \$124 million with an increase of \$17.5 million more than the projected gap in the 2019 CAM Plan.



2019 CAM Plan vs. 2020 CAM Plan Update Condition

According to the 2020 CAM Plan update, the overall condition profile is revised to a generally 'Poor' condition.

Compared to the CAM Plan 2019, the condition has deteriorated from 'Fair' to 'Poor' condition, this is due to the identified infrastructure gap. Additionally, the condition distribution shows more assets in the 'Poor' and 'Very Poor' conditions. The infrastructure gap is expected to increase in the next 10 years, causing an anticipated more deterioration in the overall condition of Recreation Facilities. More Investments are required in order to maintain the current level of service.

Customer Value	Level of Service Overall Assessment
Customer Service	Meeting Targets
Cost Efficiency	Meeting Targets
Accessible	Not Assessed
Reliability/Availability	Not Assessed
Safety	Meeting Targets
Quality	Not Assessed
Environmental Stewardship	Not Assessed

Preliminary Level of Service Update

While there are many metrics that have been updated, there are also some that could not be completed given timing of the report and COVID-19 impact. The overall categories were marked as "Not Assessed" until the majority of these metrics are updated.

Corporate Asset Management - london.ca/cam - 519-661-CITY (2489) x 5442 Email: CAM@london.ca

2020 Corporate Asset Management Plan Update Parks Service





Asset Type	e	Replacement Value (000's)	Current Condition	10 Year Infrastructure Gap (000's)	Current Reinvestment Rate	Optimal Reinvestment Rate
Parks Linear	4	\$100,678	Good	\$14,518	1.5%	5.1%
Parks Amenity	TP	\$53,578	Good	\$4,693	5.3%	6.2%
Parks Facility		\$49,510	Fair	\$9,986	1.7%	1.7% to 2.5%**
Other Parks Assets	Ħ	\$1,569	Not Available	\$475	1.7%	5.0%
Overall Parks	·	\$205,335	Good	\$29,672*	2.5%	3.4% to 4.1%

^{*} This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.

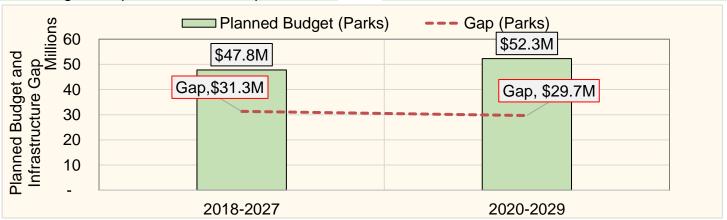
State of Infrastructure overview

The updated replacement value of the City's Parks assets is \$205 Million. Replacement values have been updated for linear, amenity, and facility asset types. Condition information has been updated for Parks Facilities and site work. Parks overall condition is 'Good'. Parks is in process of completing pathway condition assessment using drone technology. This detailed analysis will assist in refining and having more objective condition assessment of the Parks infrastructure in future asset management plan reviews and updates.

Infrastructure Gap Overview

Parks 10 year infrastructure gap is calculated at approximately \$29.7 million largely driven by the needs of the Thames Valley Parkway, multi-use pathway systems and park amenities. Current Reinvestment rates are based on latest multiyear budgets. These current reinvestment rate are still below the recommended optimal reinvestment rates.

This forecast does not account for any costs to improve service, accommodate growth or expand service to new areas or customers.



Infrastructure Gap Comparison (Parks Service)

^{**} Canadian Report Card Recommended Annual Reinvestment Rate.

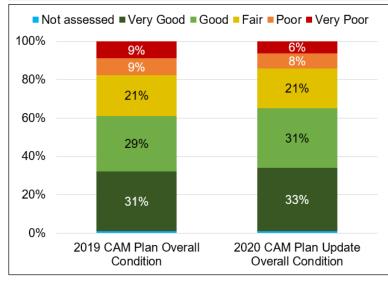
2020 Corporate Asset Management Plan Update Parks Service



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	Planned Budget (000's)			Projected 10-year infrastructure gap (000's)			
Asset Type	2020 CAM Plan Update (2020- 2029)	2019 CAM Plan (2018- 2027)	Change (000's)	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	Change (000's)	Gap Assessment
Parks Linear	\$15,220	\$6,375	\$8,845	\$14,518	\$20,821	(\$6,303)	13
Parks Amenity	\$28,414	\$27,844	\$570	\$9,986	\$7,063	\$2,923	F
Parks Facility	\$8,376	\$12,960	(\$4,584)	\$4,693	\$3,287	\$1,406	7
Other Parks Assets	\$266	\$625	(\$359)	\$475	\$159	\$316	F
Overall Parks	\$52,276	\$47,804	\$4,472	\$29,672	\$31,330	(\$1,658)	1

The figure and table above illustrate the change in infrastructure gap projection since the 2019 CAM Plan which covered the 10 year period of 2018-2027. This 2020 update, indicates that the Parks infrastructure gap is forecasted to reach approximately \$29.7 million with a decrease of \$1.66 million less than the projected gap in the 2019 CAM Plan, which is driven by the increase in planned investments (budget) for parks infrastructure.



2019 CAM Plan vs. 2020 CAM Plan Update Condition

According to the 2020 CAM Plan update, the overall condition profile is revised to a generally 'Good' condition.

Compared to the CAM Plan 2019, the condition has generally stayed the same, with a greater percentage of assets in fair to very good condition. The infrastructure gap is expected to decrease in the next 10 years, but is still nearing \$30 million. Continued and increased investment in park infrastructure is needed in order maintain accepted levels of service and to ensure public safety and accessibility.

Customer Value	Level of Service		
	Overall Assessment		
Customer Service	Meeting Targets		
Cost Efficiency	Meeting Targets		
Accessible	Meeting Targets		
Safety	Meeting Targets		
Quality	Not Assessed		
Reliable	Meeting Targets		
Environmental Stewardship	Meeting Targets		

Preliminary Level of Service Update

Quality: The condition assessment (Quality Rating System) for parks amenities and pathway could not be completed given timing of the report and COVID-19 impact.

Other Customer Values have metrics result meeting targets.

2020 Corporate Asset Management Plan Update

Corporate Facilities Service





Asset Type	Replacement Value (000's)	Current Condition	10 Year Infrastructure Gap (000's)	Current Reinvestment Rate	Optimal Reinvestment Rate
Corporate Facilities	\$257,239	Fair	\$30,737*	5.2%	1.7% to 2.5%**

State of Infrastructure overview

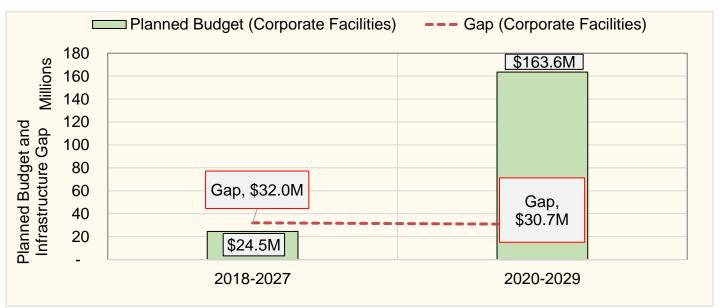
The updated replacement value of the City's Corporate Facilities assets is \$257M. Replacement value has been updated for Corporate Facilities and site work as well as condition values. The assets replacement values have increased due to the rise in construction and restoration costs of infrastructure.

Corporate Facilities overall condition is 'Fair'. Condition information has been updated for office, administrative, storage and operation centers. The condition is regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facilities and their subcomponents.

** Canadian Report Card Recommended Annual Reinvestment Rate.

Infrastructure Gap Overview

Corporate Facilities 10 year infrastructure gap is calculated at approximately \$30.7M. During 2020-2023 Multiyear Budget Council approved service improvement budget of the City's Master Accommodation Plan (\$138.5M over 10 years), this funding will address City Hall requirements. Although this budget is substantial, it is directed to City Hall only and thus infrastructure gaps for other Corporate Facilities still exist. Overall, the gap is approximately \$1M less than the 2019 CAM Plan.



Infrastructure Gap Comparison (Corporate Facilities Service)

^{*} This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.

2020 Corporate Asset Management Plan Update

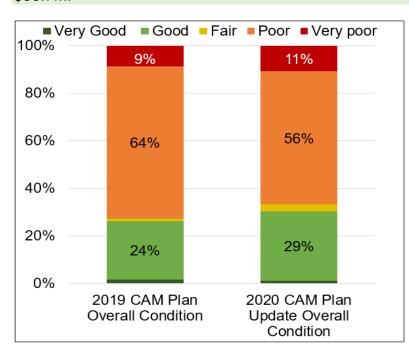
Corporate Facilities Service





	Planned Budget (000's)		Ch a a a a	Projected 10-year infrastructure gap		Ob a re are	0
Asset Type	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	Change (000's)	2020 CAM Plan Update (2020-2029)	2019 CAM Plan (2018-2027)	Change (000's)	Gap Assessment
Corporate Facilities	\$163,558	\$24,530	\$139,028	\$30,737	\$32,036	\$1,299	15

The figure and table above illustrate the change in infrastructure gap projection since the 2019 CAM Plan which covered the 10 year period of 2018-2027. This 2020 update covering the period of 2020-2029 indicates that the Corporate Facilities infrastructure gap has decreased by roughly \$1M to approximately \$30.7M.



2019 CAM Plan vs. 2020 CAM Plan Update Condition

According to the 2020 CAM Plan update, the overall condition of the Corporate Facilities assets is still in 'Fair' condition.

Compared to the 2019 CAM Plan, there is no big change in the overall condition; however condition distribution shows more assets in the 'Good' and 'Very Good' condition.

The infrastructure gap is expected to decrease in the next 10 years, but is still nearing \$31 million. Having infrastructure gap will cause an anticipated deterioration in the overall condition of Corporate Facilities Assets. Continued and increased investment in corporate facilities is required in order to maintain the current level of service.

Customer Value	Level of Service Overall Assessment
Cost Efficient	Meeting Targets
Environmental Stewardship	Not Assessed
Quality	Risk of Not Meeting Targets
Safety	Meeting Targets

Preliminary Level of Service Update

Environmental Stewardship: is "Not Assessed" Next year civic Administration will undergo an in depth energy modeling to normalize all the contributing factors in order to compare the 2020 values to the 2014 baseline to assess if the City has achieved the 10% reduction targets from 2014 baseline.

Quality: metrics related to condition of corporate facilities are showing condition deterioration and there is a risk of not meeting the target in the future.