



## **TTC's 2024-2038 Capital Investment Plan: A Review of Unfunded Capital Needs**

**Date:** December 20, 2023  
**To:** TTC Board  
**From:** Chief Financial Officer

### **Summary**

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The Toronto Transit Commission (TTC)'s comprehensive network of bus, streetcar and subway services spans Toronto's 630-square-kilometre geography (and beyond), moving more than 525 million customers annually, pre-pandemic. The TTC is foundational to the mobility network, enabling Toronto's population of 3.02 million to access employment, education, services and social connections through an integrated mass transit network.

At the core of a region of 6.47 million, Toronto generates 26% of Ontario's GDP and 10% of the national GDP annually. The continued success of Toronto as a thriving social and economic hub is contingent on a reliable, frequent, accessible and safe public transit system that creates access to opportunity for everyone.

While the delivery of high-quality service clearly relies on sustainable operating funding to meet current and future demand, service reliability is equally dependent on a steady investment in asset state of good repair (SOGR). The TTC's infrastructure, facilities and fleet relied upon to deliver service range in age from one year old to more than 100 years old. Despite an increase in investment by the City of Toronto under the City Building Fund since 2019, the scale of investment required to address the needs of a system requiring asset renewal are substantial and require predictable, long-term funding streams.

The initial Capital Investment Plan (CIP) in 2019 outlined the results of a comprehensive review of the TTC's SOGR needs and capital requirements necessary to provide transit service that is safe, efficient, reliable, affordable and equitable over a longer-term time horizon. Since then, the CIP has been a rolling plan, updated annually to reflect refined estimates based on capital planning progress made through stage-gating; changes to planned timing or requirements and resultant costs as well as the addition of emergent capital needs due to new priorities or revised SOGR needs based on updated condition assessments.

The 2022-2036 Capital Investment Plan was a major update to the previous CIP iterations, reflecting the progress made since the CIP's inception in 2019. It took a strategic approach to capital investment planning by bringing together project

interdependencies within larger capital programs of investment. It made clear that, if one project was left unfunded, it would jeopardize the larger program. To get the most value from these capital investments, it is essential they proceed in a co-ordinated manner. On this basis, four investment programs with a portfolio of key interdependent projects were introduced in the 2022-2036 CIP.

The result is clarity regarding the TTC's requirements and priorities, which has enabled steadier-state investment in public transit. All three orders of government have clearly acknowledged the central role transit plays in contributing to the economic, environmental, health and social well-being and vitality of the City of Toronto and Region and the necessity for investments to ensure that transit service is safe, reliable, seamless, and adaptable to meeting future change.

Since 2019, the TTC has been the recipient of funding and/or funding commitments totalling more than \$10.6 billion for critical capital projects that otherwise would have remained unfunded. This includes:

- A combined \$1.3 billion in Provincial and Federal matching funding for the Bloor-Yonge Capacity Improvements Project and the TTC's Streetcar Program;
- \$349 million in matching federal funding for the procurement of 340 eBuses and charging infrastructure to support needs to 2025; and;
- The City of Toronto's tax levy increase to raise funds in the City Building Fund with dedicated funding of \$8.95 billion for the TTC's capital needs between 2019 and 2023.

Most recently, the Provincial government has committed to funding \$758 million as its one-third share of the cost of procuring 55 replacement subway trains for Line 2, conditional on matching funds from all three orders of government as part of the terms in the Ontario -Toronto New Funding Agreement. This could translate into a further \$1.516 billion investment in the TTC's subway fleet needs, should matching funding from the Federal government be confirmed.

The purpose of this report is to:

1. Seek the Board's endorsement of the 2024-2038 Capital Investment Plan (CIP) that lays out a 15-year outlook of the TTC's funded and unfunded capital needs in relation to the recommended 10-Year Capital Budget and Plan; and
2. Seek the Board's endorsement of the 2024-2038 Real Estate Investment Plan (REIP), a rolling 15-year strategic roadmap and implementation plan, which outlines the TTC's real estate needs, planning and management initiatives required to deliver capital investments identified in the CIP.

The 2024-2038 Capital Investment Plan totals \$47.855 billion in base capital needs over a 15-year period, of which, \$12.398 billion is funded, leaving \$35.457 billion in unfunded capital needs.

Work completed through the 2024 Budget process, and reflected in the 2024-2038 Capital Investment Plan, continues the evolution of the CIP by:

- Collapsing the "Upholding the State of Good Repair" investment program and connecting the SOGR capital works to the specific mode that they support in the

other three investment programs (i.e. Subway, Bus and Streetcar). These SOGR maintenance requirements represent the essential infrastructure that upholds the safety and reliability of the transit system. In this way, there is clear link between the SOGR work and other investments for each mode;

- Realigning capital projects to establish two new investment programs, “Facility Maintenance” and “Network-Wide Assets”, which indirectly support the broader, integrated network; and,
- Adding a new "TransformTO" investment program specifically to capture the fleet and facility requirements necessary to increase bus service by 70% to meet the Net Zero targets by 2040.

This approach provides a clearer picture of the interdependencies of capital needs. If investments are not made in a coordinated fashion, then:

- Maintenance and replacement will fall further behind and the SOGR Backlog will grow;
- System breakdowns will occur more often, customer trust will fall;
- Costs to fix or replace assets will escalate; and
- Transit reliability will be at risk.

This report provides a detailed review of the unfunded capital needs with a focus on state of good repair unmet needs and the implications on service reliability. Each investment portfolio faces unique constraints, but the results of underfunding are similar.

***Modernizing the Subway and Expanding Capacity*** includes a portfolio of investment planned for modernizing the subway system to replace and upgrade existing aging assets and to support future growth and expansion of the network in the long term. This requires investments for 55 replacement subway trains to enable the installation of Automatic Train Control on Line 2 and a train maintenance and storage facility on Line 1 to accommodate trains for growth and expansion of the network. To maintain the TTC’s existing trains on Line 1, additional subway overhaul funding is required by 2026 for comprehensive refurbishment programs that occur at various intervals of the assets’ life. With the subway network’s signalling, electrical and communications infrastructure over 57 years old in some cases, \$719 million is required to ensure the safe and reliable operation of the existing network. In the absence of additional SOGR funding, service reliability will suffer and could ultimately cease in some areas of the network.

***Transforming and Electrifying Bus Service*** aligns the TTCs bus fleet plan and service planning investments with the necessary asset life cycle replacement based on the age of the fleet and the City’s climate goals. The current Federal matching funding will enable the TTC to meet its electric bus and charging infrastructure requirements to 2025 ***only***. If the planned procurements for electric buses and charging infrastructure post-2025 are not funded, the TTC’s bus service will be significantly impacted and operating expenditures will escalate due to an increase in required maintenance activities. Existing bus overhaul funding is also severely limited requiring additional funding as early as 2025, also calling into question the ability to maintain the existing fleet operational. In a scenario with no procurements to replace aging fleet, service would begin to be impacted as early as 2027. Without additional funding for bus replacement or additional charge points to electrify the bus fleet for Conventional and Wheel Trans services, TTC is not able to meet the climate goals set out in the Green

Fleet plan and the City's Net Zero 2040 strategy. Similarly, not funding transit priority measures identified in the City's RapidTO strategy foregoes the benefits of a faster, more frequent and reliable service, which also contributes to achieving Net Zero climate goals.

The **Supporting a Larger Streetcar Fleet** investment program has benefitted from the CIP. Thanks to investments from the Provincial and Federal governments, the TTC will be receiving 60 additional accessible streetcars to address growth and the facility infrastructure to store and maintain them will be constructed over the next few years. However, the assets that they service runs on are in need of additional funding. Particularly, streetcar overhaul where vehicles are approaching an average age of five years, at which point critical systems need to be replaced requires funding of \$493 million beginning in 2025; overhead power requires \$84 million starting in 2031 while surface track assets are not reaching their intended design life due to increased use, passenger loads, and rail wear limit reductions requires \$276 million starting in 2029.

Without full funding for these programs, asset renewal projects for these aging assets will fall behind, which could lead to restricted speed zones and service disruptions and delays. In the worst case scenario, sections of the network may need to be shut down. If these assets are unavailable, service may be augmented through the use of buses, but that only degrades service in the bus network and increases the strain on the operating budget.

The **Facilities Maintenance** investment program includes garages, yards, carhouses and various other buildings. The TTC has a number of facilities that range in age from one to 100 plus years and play a critical role in supporting one or multiple aspects of the TTCs integrated network. These assets all require facility renewal programs to ensure building assets, such as HVAC, boilers, roofs and structures are functional and maintained in a state of good repair, but can also contribute to achieving Net Zero 2040 through retrofitting to reduce energy consumption. As we proceed through a changing climate and the need to be more environmentally conscientious, these facilities require investment to reduce their carbon footprint while increasing resiliency against extreme weather events. Failing to maintain these assets in a state of good repair could lead to safety issues, works refusals and/or partial to full closure of facilities, which could effect service depending on the facility impacted.

The **Network Wide Assets investment program** does not support a specific mode, but like TTC Facilities Maintenance investment program, they indirectly support the integrated network of transit services. With full funding, the TTC could be on a path towards Net Zero 2040 with an initial investment of \$174 million for the implementation low-carbon building retrofits, and deployment of renewable energy programs, such as solar generation and energy storage systems, while additional funding for the purchase of non-revenue vehicles of \$222 million would increase the efficiency of various user groups largely responsible for the maintenance of TTC assets

Lastly, the transit related actions described in the City's TransformTO Net Zero 2040 Strategy requires \$5.3 billion if the service frequency and associated community-wide emission reduction goals are to be met and is captured in this new **TransformTO** investment program.

Progress has been made during the 2024 Budget process to advance funding for some key, previously unfunded priorities by maximizing existing funding sources and leveraging opportunities from funding partners. Advancing these priorities are critical to maintaining a safe, reliable, accessible and integrated transit system to move riders today and ensuring there is capacity and agility to respond to and support customer demand based on expected population growth and transit expansion plans.

Due to unfunded capital needs to address ageing infrastructure, systems and vehicles, the SOGR backlog continues to rise and failure to continue to increase investment will result in further deterioration of existing assets, putting the system safety and reliability at risk due to possible failure.

The funding required to address the TTC's unmet capital needs is significant. The necessary funding to ensure the TTC's continued viability today and adaptability in the future is an investment that will accrue economic, environmental, health and social benefits that not only contribute to the vitality and well-being of Toronto but also for the GTA, Province of Ontario and Canada, as outlined in The Value of Transit Interim Findings presentation on this agenda.

The full benefits of public transit are at risk in the absence of a sustainable, long-term funding model for public transit, which ensures the TTC can sustain a safe, accessible and reliable integrated transit system.

## **Recommendations**

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It is recommended that the TTC Board:

1. Endorse the TTC 2024-2038 Capital Investment Plan of \$47.855 billion, as outlined in Appendix B of this report; and
2. Endorse the TTC 2024-2038 Real Estate Investment Plan Update, including the implementation timeline, as outlined in Appendix D of this report.

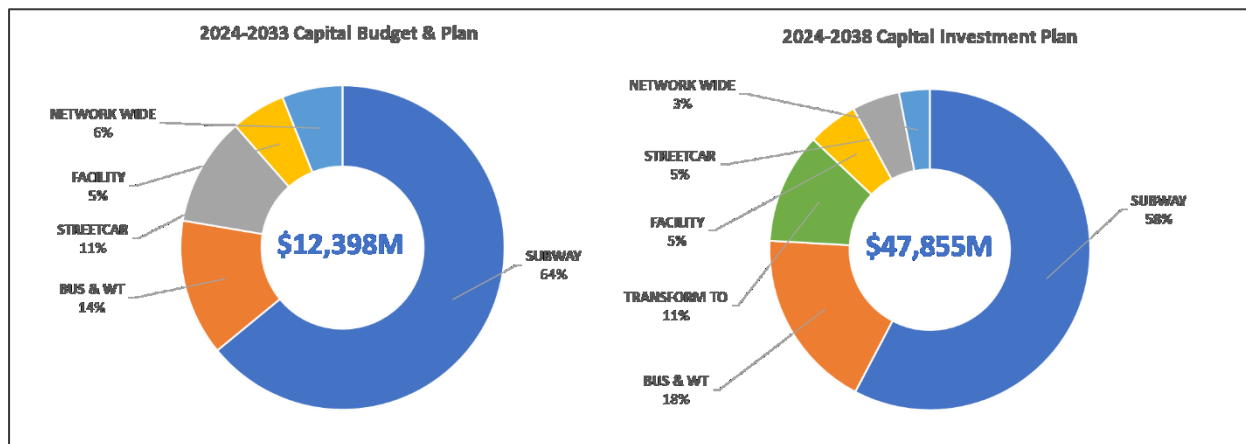
## **Financial Summary**

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### **2024-2038 Capital Investment Plan**

The 2024-2038 Capital Investment Plan totals \$47.855 billion in base capital needs over a 15-year period. The following chart summarizes the TTC's 10-Year Capital Budget and Plan and 15-Year CIP by mode.

**Chart 1: 2024-2038 Capital Investment Plan**



**Table 1: 2024-2038 Capital Investment Plan**

INVESTMENT PROGRAM \$ MILLIONS	FUNDED	UNFUNDED	TOTAL CIP	% SPLIT	
				FUNDED	UNFUNDED
Modernizing the Subway & Expanding Capacity	7,942.7	19,670.3	27,613.0	29%	71%
Transforming & Electrifying Bus Service	1,686.9	7,018.3	8,705.2	19%	81%
Supporting a Larger Streetcar Fleet	1,343.1	964.3	2,307.4	58%	42%
Facility Maintenance	674.7	1,740.5	2,415.2	28%	72%
Network Wide Assets	750.3	724.5	1,474.8	51%	49%
TransformTO	-	5,339.8	5,339.8	0%	100%
<b>TOTAL</b>	<b>12,397.7</b>	<b>35,457.7</b>	<b>47,855.4</b>	<b>26%</b>	<b>74%</b>

Given this is a rolling plan, the CIP is updated annually to reflect refined estimates based on capital planning progress made through stage gating; changes to planned timing or requirements and resultant costs as well as the addition of emergent capital needs due to new priorities or revised SOGR needs based on updated condition assessments. As a result, the 2024-2038 CIP is approximately \$9.809 billion higher than the \$38.045 billion presented in the 2023-2037 CIP. Table 2 below provides a summary of the changes to the 10-year and 15-year Capital Investment Plans since the last Capital Investment Plan update.

**Table 2: 2023 vs. 2024 Capital Investment Plan Comparison**

Description (\$ Millions)	2023-2037			2024-2038			Change		
	Years 1-10	Years 11-15	15 Year Total	Years 1-10	Years 11-15	15 Year Total	Years 1-10	Years 11-15	15 Year Total
Total Funded	12,491.2	0.0	12,491.2	12,397.7	0.0	12,397.7	-93.5	0.0	-93.5
Total Unfunded	11,760.7	13,794.0	25,554.7	17,915.7	17,542.0	35,457.7	6,155.0	3,748.0	9,903.0
<b>Total CIP</b>	<b>24,251.9</b>	<b>13,794.0</b>	<b>38,045.9</b>	<b>30,313.4</b>	<b>17,542.0</b>	<b>47,855.4</b>	<b>6,061.5</b>	<b>3,748.0</b>	<b>9,809.5</b>

The most significant increase to the CIP is the addition of the fleet and facility requirements to meet the goals as set out in TransformTO, which sum up to \$5.3 billion to increase bus service frequency by 70% over 2016 service levels, by 2040. However, all costing estimates are Stage Gate 0 placeholders to be refined and confirmed through

studies and stage gate approvals. The CIP does not yet include estimates for the cost to increase streetcar or subway service frequency.

Other notable increases to the CIP, mostly due to refined estimates and/or expected cost escalation, are attributable to the Subway Car Purchases, Conventional and Wheel-Trans Bus Purchases, Bus Charging Systems, Subway Car Overhaul and Lines 1 and 2 Platform Edge Doors capital projects.

The 2024-2038 CIP summary by mode and funding status is detailed in Appendix B.

## **Real Estate Investment Plan Update**

In recognition that the TTC's real estate portfolio is large and complex, and that real estate needs are a critical interdependency for the implementation of the TTC's capital works, the TTC's first ever 15-year REIP was established in 2022. The TTC Board endorsed the REIP's guiding principles, implementation plan and timelines over the REIP's 15-year planning horizon. As a result, the REIP's implementation action plan is structured to include all TTC programs and initiatives that have a direct impact on the TTC's real estate portfolio.

In 2023, the acquisition of a number of properties for the Easier Access Phase III program was completed, including satisfying property requirements for Spadina, Warden and Islington stations, and the jurisdictional transfer of 21 Pleasant Avenue to the City of Toronto was initiated to support future City-building opportunities. The 2024 update to the REIP identifies additional property needs in support of the Line 1 and Line 2 Capacity Enhancement programs, bus electrification and operation initiatives, and expanded projects to continue supporting larger City-building objectives.

Appendix D provides an overview and update of the TTC's Real Estate Investment Plan requirements and implementation plan to support the TTC's 10-Year Capital Plan and 15-Year Outlook.

## **The Economic Benefits of Investing in Transit**

In 2022, the TTC partnered with the University of Toronto's Mobility Network to undertake an analysis of economic and other benefits resulting from investment in the transit network. In 2023, the economic modelling was updated to reflect the 2023 Capital Investment Plan. The work is ongoing, key economic metrics based on interim findings report show that investment in TTC operations and capital works translate into:

- Every dollar invested would add an additional \$0.81 dollars in GDP, generating a value added impact resulting in an increase in profit, taxes and spending on labour;
- Every dollar invested would create the equivalent of \$2.14 of economic activity (Gross Output); and,
- Every \$1 million invested creates 13 new jobs.

**Table 3: Economic Benefits of the Staff Recommended 2024 Budget**

	TTC Investment	Value Added	Gross Output	Jobs Impact
2024-2033 Capital Budget and Plan	\$12.4 B	\$12.6 B	\$31.6 B	186,000
Unfunded Portion of CIP	\$35.5 B	\$36.2 B	\$90.5 B	532,500
2024 15-Year CIP	\$47.9 B	\$48.9B	\$122.1 B	718,500

Based on Table 3, approval of the recommended 10-year Capital Budget and Plan will add \$12.6 billion in additional GDP, \$31.6 billion in economic activity (gross output) and over 186,000 jobs.

If the TTC were to secure additional funding for the unfunded priorities alone, as outline in Table 3, these investments would spur an additional \$36.2 billion in GDP, \$90.5 billion in economic activity and over 532,000 additional jobs.

As per Table 3 above, if the 15-year Capital Investment Plan were to be fully funded it would add \$48.9 billion in GDP, create \$122.1 billion in economic activity and add over 718,000 jobs over the 15-year time horizon.

Interim findings will be presented by professors from the University of Toronto at the December 20 TTC Board Meeting, with a final report and findings to be delivered later in 2024.

**Equity/Accessibility Matters**

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The TTC is an important contributor to creating access to opportunity and the conditions for an inclusive Toronto. The TTC serves a diverse customer base, reflective of the diversity of Toronto and the Region. Pre-pandemic, the TTC served approximately 525 million customer trips a year. The geographic coverage and seamless integration of the TTC’s multi-modal system enables the TTC to serve equity-deserving communities across Toronto. TTC customers are diverse and use the system at different rates. For example, of the 3.2 million average weekday boardings pre-COVID:

- 27% were youth (15-24)
- 53% live in apartments
- 34% are not employed
- 24% make less than \$40,000
- 23% make more than \$100,000
- 32% do not own a car
- 58% identify as female
- 55% may be visible minorities

For many, public transit is a primary mode of mobility. During the pandemic, when ridership was at its lowest (88% decline), the TTC continued to carry approximately, 200,000 daily revenue rides. Three key customer groups continued to rely on the TTC during this period: people with low income, women, and shift workers.



The TTC is strongly committed to making Toronto's transit system barrier-free and accessible so that all customers can enjoy the freedom, independence and flexibility to travel anywhere on the public transit system, regardless of ability.

One of the cornerstones of the Capital Investment Plan is accessibility, ensuring the customer journey is easy and barrier-free, regardless of accessibility needs. The 2024-2038 Capital Budget and Plan provides full funding of \$525.1 million to complete the TTC's Easier Access Program, which is underway to make all subway stations accessible with elevators, wide fare-gates and automatic sliding doors.

It also provides funding for several improvements elsewhere across the transit system, including Warden and Islington stations, low-floor streetcars, accessible buses and new Wheel-Trans fleet, as well as a making additional bus and streetcar stops accessible.

## **Decision History**

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In January 2019, the TTC introduced a supplemental report entitled *Making Headway: Capital Investments to Keep Transit Moving*. This report outlined the results of a comprehensive review of the TTC's state of good repair needs and capital requirements necessary to provide transit service that is safe, efficient, reliable, affordable and equitable over a longer-term time horizon

Since the initial report in 2019, the CIP has been updated annually to reflect refined estimates based on capital planning progress made through stage gating; changes to planned timing or requirements and resultant costs as well as the addition of emergent capital needs due to new priorities or revised SOGR needs based on updated condition assessments.

Appendix A documents the chronology of decisions and approvals that chronicles the evolution of the CIP, its value and the progress made since its inception in additional funding that has been secured.

## **Issue Background**

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Toronto is the fourth largest city in North America with a population of more than three million residents and is forecasted to grow to more than four million residents by 2046. As Canada's largest city, Toronto produces approximately 26% of Ontario's GDP, accounting for 10% of Canada's GDP. Toronto is consistently ranked as one of the greatest cities in the world to live, visit and do business.

To support a growing Toronto and Region, the TTC provides a necessary service, through its three subway lines, 9 streetcar lines, more than 160 bus routes and a paratransit (Wheel-Trans) service. The movement of people is critical to a growing region, enabling residents to access employment, education and services. Pre-pandemic, the TTC provided more than 525 million rides annually (2019), and as of November 2023, the TTC has provided over 358 million revenue rides year to date.

Through provision of a high-quality public transit service, the TTC has the potential to contribute to broader environmental, social, public health and economic goals of

the City of Toronto, Province of Ontario and Government of Canada. In the first phase of findings, as presented in the 2023 Budget process, the TTC's importance can be demonstrated by the following analysis conducted by the University of Toronto on the benefits from investments made in the TTC's capital plan:

- There is an additional \$2.40 of economic activity for every dollar invested (gross output).
- There are 15 new jobs created for every \$1 million invested with 89% of economic benefits generated by TTC investments remaining within Ontario (52% of that being in the GTA), while a further 11% is realized nationally.
- State of Good Repair (SOGR) investments also provide positive economic benefits, matching those of expansion projects and enabling infrastructure to meet current service demands.

The TTC also plays an important role in meeting environmental, social and public health goals. For example:

- Public transit is key to addressing congestion. To replace the capacity on the Line 1 Yonge-University Subway, Toronto would need to build the equivalent of eight-to-nine Gardiner Expressways to move the same amount of people.
- Shifting users from private vehicle to public transit is anticipated to reduce greenhouse gas (GHG) emissions and improve air quality. For example, personal travel emissions are reduced by 79% when taking the TTC instead of a car. Additionally, the TTC's Green Bus Program will reduce 165,000 tonnes of emissions per year once fully completed.
- Studies from comparator North American cities demonstrate that public health outcomes, such as obesity, stroke, traffic accidents, exposure to air pollutants and physical activity all improved when there is access to transit.

Investment in the TTC is an investment in the success of Toronto. Realizing the full benefits of public transit are at risk in the absence of a sustainable, long-term funding model for public transit, which ensures the TTC can sustain a safe, accessible and reliable integrated transit system.

The TTC Board will receive a presentation from the University of Toronto, at its December 20, 2023 meeting on the interim findings of a second phase of research on the benefits of investing in the TTC.

The delivery of high-quality service relies on sustainable operating funding to meet current and future demand. Service reliability is also dependent on a steady investment in asset state of good repair. The TTC has an expansive asset inventory valued at more than \$25 billion that is required for the delivery of transit service. The TTC's infrastructure, facilities and fleet range in age from one year old to more than 100 years old. Subway trains operating on Line 2 are nearly 30 years old, and a large part of the subway network is approaching 70 years old. The TTC's fleet needs to be maintained to ensure service reliability and facilities need to be rehabilitated to extend their useful life, accommodate new standards and requirements and systems need to be modernized.

The TTC's capital program is largely driven by the cost of maintaining these physical assets in a state of good repair. Managing the accumulated State of Good Repair (SOGR) Backlog is a key priority for the TTC in order to ensure that current assets are able to support the delivery of safe, reliable and seamless transit services to its customers.

Historically, capital funding has been constrained by the City's debt affordability while Provincial and Federal funding has centered on programs with targeted eligibility criteria and outcomes. As a result, the TTC's unmet capital needs have continued to grow.

In an effort to gain predictable and sustainable funding for the TTC's unfunded capital needs, a 15-Year Capital Investment Plan was developed that identified the TTC's capital requirements over a 15-year planning horizon to guide capital planning, priority-setting and advocacy with funding partners for critical investments.

#### TTC Facilities History

- 1921 Roncesvalles Carhouse
- 1921 Russell Carhouse
- 1924 Hillcrest Complex
- 1954 Davisville Carhouse
- 1955 Birchmount Garage
- 1958 McBrien Building
- 1966 Greenwood Carhouse
- 1966 Queensway Garage
- 1966 Subway and Keele Yard
- 1976 Wilson Carhouse and Garage
- 1980 Lakeshore Bus Garage
- 1983 Malvern Garage
- 1985 McCowan Carhouse, Yard and Substation
- 1988 Arrow Road Bus Garage
- 2001 Eglinton Bus Garage
- 2008 Mount Dennis Bus Garage
- 2015 Leslie Barns
- 2021 McNicoll Bus Garage
- 2022 Kipling (Future) Bus Garage

### The Benefits of the Capital Investment Plan:

In January 2019, the TTC introduced a Capital Investment Plan entitled Making Headway: Capital Investments to Keep Transit Moving. This report outlined the results of a comprehensive review of the TTC's state of good repair needs and capital requirements necessary to provide transit service that is safe, efficient, reliable, affordable and equitable over a longer-term time horizon.

The 15-Year Capital Investment Plan (CIP) presented the TTC's state-of-good-repair needs by mode required for asset lifecycle replacement and capital requirements to increase transit capacity and support future ridership growth. The CIP, for the first time, outlined the TTC's capital needs across all of its asset categories over a 15-year period, requiring a \$33.5 billion investment between 2019 and 2033, of which \$23.7 billion was unfunded due to limited sources of funding.

The Capital Investment Plan has provided:

- Awareness and a comprehensive understanding of the TTC's required capital needs;
- A clear view of required capital investments over the next 15 years;
- Increased focus on the criticality of state of good repair funding to ensure service reliability and projects to improve ridership capacity and support growth;
- A distinction between what capital requirements are funded versus unfunded;
- The value of investing and the risks of failing to invest; and
- A multi-year planning tool that forms the basis for the annual capital budgeting process.

As a rolling plan, the CIP is updated annually to reflect refined estimates based on capital planning progress made through stage-gating; changes to planned timing or requirements and resultant costs as well as the addition of emergent capital needs due to new priorities or revised SOGR needs based on updated condition assessments.

The CIP has produced results that have benefitted the TTC, its customers and the city of Toronto at large. Since 2019, the TTC has been the recipient of funding and/or funding commitments totalling more than \$10.6 billion for critical capital projects that otherwise would have remained unfunded. This includes a combined \$1.3 billion in matching funding from the Federal and Provincial governments for the Bloor-Yonge Capacity Improvements project and the TTC's Streetcar Program; \$349 million in matching Federal funding for the procurement of 340 eBuses and charging infrastructure to support needs to 2025, and most significantly, the City of Toronto's tax levy increase to raise funds in the City Building Fund that has committed to dedicated funding of \$8.95 billion for TTC's capital needs between 2019 and 2023.

Most recently, the Provincial government has committed to funding \$758 million as its one third share of the cost of procuring 55 replacement subway trains for Line 2, conditional on matching funds from all three orders of government as part of the terms in the Ontario -Toronto New Funding Agreement. This could translate into a further \$1.516 billion investment being made in making progress on the TTC's subway fleet needs, should matching funding from the Federal government be confirmed.

Finally, the Federal government has committed to \$3 billion annual national transit funding through the Permanent Transit Fund starting in 2026 and the TTC has participated in ongoing engagement on program design alongside industry partners. The TTC has advocated for advancing funding commitments prior to 2026 and recommended the eligibility of state of good repair projects for funding as part of the program's design.

### **Taking a More Strategic and Integrated Approach to Capital Planning and Priorities**

The 2022-2036 Capital Investment Plan was a major update to the previous CIP iterations, reflecting the progress made since the CIP's inception in 2019. It took a strategic approach to capital investment planning by bringing together project interdependencies within larger capital programs of investment. It made clear that, if one project was left unfunded, it would jeopardize the larger program. In order to get the most value from these capital investments, it is essential that they proceed in a co-ordinated manner. The result is clarity regarding the TTC's requirements and priorities, which has enabled steadier-state investment in public transit.

As part of this same evolution, the TTC also introduced its first ever 15-Year Real Estate Investment Plan (REIP) as a companion document to the 2022 CIP, enabling the TTC to strategically plan, manage and optimize its real estate portfolio. Like the CIP, the REIP identifies funded and unfunded real estate needs over the same 15-year period necessary to meet the TTC's current capital and future growth needs in support of the

TTC's CIP and it too is updated and submitted annually to the Board together with the CIP.

The 2022-2036 CIP identified the TTC's most immediate unfunded priorities under four programmatic areas. Each project within the programmatic areas belongs to a larger program of investment that is essential to providing a safe, accessible, reliable and resilient integrated transit service that can meet current and future demand.

**Table 4: 2022-2036 CIP Investment Programs Unfunded Priorities**

<b>Modernizing the Subway &amp; Expanding Capacity</b>	<b>Funding Required</b>	
Purchase subway trains	\$1.7B	by 2022
Maintenance & Storage Facility	\$2.4B	by 2023
Modify Greenwood Yard	\$95M	by 2023
<b>Transforming &amp; Electrifying Bus Service*</b>		
Purchase electric buses	\$1.6B	by 2022
Purchase Wheel-Trans buses	\$174M	by 2022
Install charging infrastructure	\$509M	by 2022
Implement transit priority measures	\$356M	by 2023
<b>Supporting a Larger Streetcar Fleet</b>		
Renew Russell Carhouse	\$71M	by 2024
Upgrade overhead power	\$19M	by 2023
Maximize Hillcrest Complex	\$3M	by 2023
<b>Upholding the State-of-Good-Repair*</b>		
Scheduled fleet maintenance	\$1.2B	by 2023
Safety and legislative	\$39M	by 2023
System maintenance	\$45M	by 2023
Operational infrastructure	\$135M	by 2023

\*Funding required starting in the year identified with opportunity to phase in multi-year commitments over the 10-year horizon and/or to establish steady-state, predictable funding.

These key priority investment programs have guided the TTC's intergovernmental discussions and its capital planning and budgeting in an effort to advance these critical investments. The 2023 CIP built on the 2022 approach that identified the most critical unfunded priorities in each of the four major programs by ensuring that some of these critical priorities were funded within existing funding capacity while the TTC continued to work with intergovernmental partners to seek funding for others.

Significant progress has been made in securing capital funding and commitments allowing the TTC to enhance subway capacity, procure new streetcars, electrify the bus network, modify facilities; supplement SOGR funding for critical capital works, and the potential procurement of subway trains for Line 2 as a result of these combined efforts. Since 2020, the TTC's 10-year capital funding has doubled. Despite these incremental investments, many key elements of the TTC's 15-Year CIP remain unfunded

## The 2024 Capital Investment Plan: A Focus on State of Good Repair Unfunded Needs

As a matter of process, the TTC's CIP for 2024 has been updated to account for:

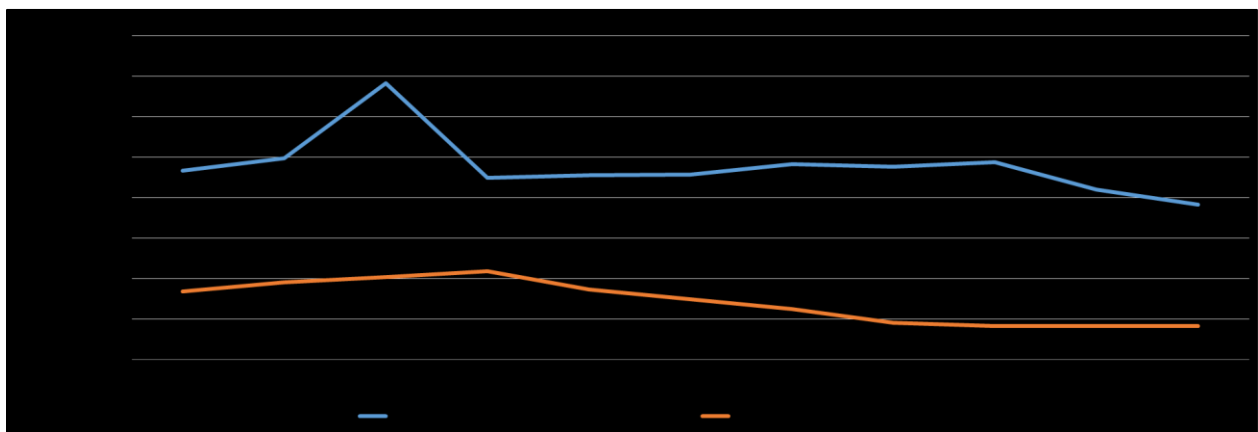
- Refined estimates based on changes to timing of planned investments, capital planning progress made through project life cycle stage gating;
- Estimate updates to account for external economic factors (e.g. inflation, market conditions); and
- Emergent capital needs based on updated asset condition assessments and priorities.

As a result, the updated 2024- 2038 Capital Investment Plan totals \$47.855 million, and based on the staff recommended 2024-2033 Capital Budget and Plan of \$12.398, leaves a balance of \$35.457 that represents unfunded capital needs over the 15-year capital planning time frame.

Despite \$7.2 billion or 58% of funding allocated to SOGR projects in the 2024 10-Year Capital Plan, the TTC's SOGR Backlog will continue to grow as the trend line for the Capital Plan in Chart 2 below shows that ongoing SOGR funding significantly declines beginning in 2026.

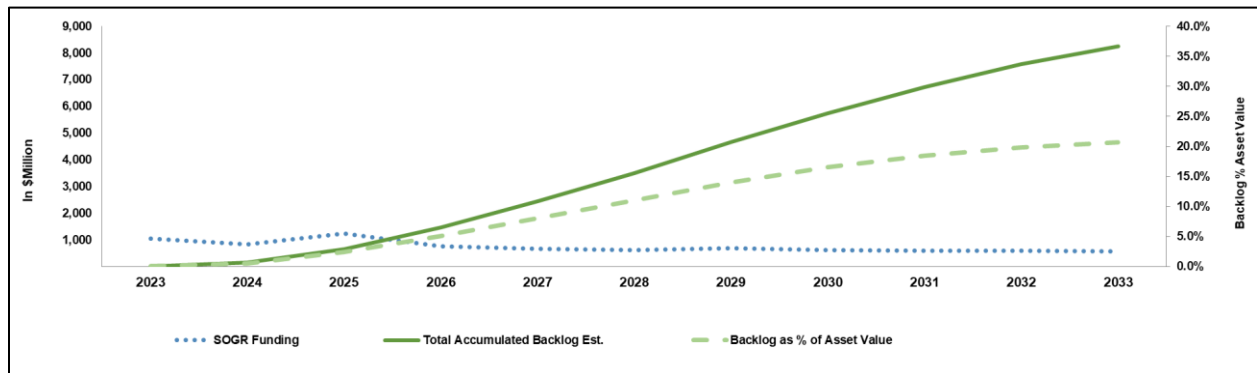
The profiling of ongoing state of good repair capital works over the 10-year period clearly shows a higher level of spending in the first four years of the 2024-2033 capital planning period. Spending peaks at \$465.4 million in 2026, but then begins to decline over the balance of the capital planning horizon, with \$166.10 million planned for 2033, representing a 62% reduction from its peak. Given available funding sources, the higher funding required for the major projects crowd out the funding available for ongoing system state of good repair.

**Chart 2: Major Project's vs Ongoing SOGR Funding**



As a result, starting from 2023, the SOGR backlog will grow from \$16.826 million (or 0.1% of total asset value) to \$8.242 billion (or 20.7% of total asset value) by 2033 if no additional funding for SOGR is provided. Of this amount, \$3.397 billion is attributable to the backlog of SOGR funding for TTC infrastructure and \$4.846 billion is associated with unfunded vehicle replacement and overhaul requirements.

**Chart 3: SOGR Backlog**



More significantly, and as part of the next phase in maturing the TTC’s longer term capital planning, the 2024 CIP’s priority programs have been reorganized so the “Upholding the State of Good Repair” program’s fleet, safety, system and operational maintenance requirements have been assigned to each mode. These SOGR maintenance requirements represent the essential infrastructure that upholds the safety and reliability of the transit system. This approach provides a clearer picture of the interdependencies of capital needs, as they must advance in lockstep because, if one falls behind, the entire system is weakened. If investments are not made, then:

- Maintenance and replacement will fall further behind and the SOGR backlog will grow;
- System breakdowns will occur more often, customer trust will fall;
- Costs to fix assets will escalate; and
- Transit reliability will be at risk.

This report provides a detailed review of the unfunded capital needs with a focus on state of good repair unmet needs and the implications on service reliability.

**Comments**

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**Funding Progress Update for Priority Unfunded Projects**

Since 2019, the City of Toronto has committed funding to invest an incremental \$8.95 billion in the TTC transit system mostly through the implementation of a City Building Fund levy. Of this amount, 70% or \$6.3 billion is allocated directly to the subway network (\$5.46 billion) and other SOGR (\$857.7 million) that supports the integrated subway network. The balance of funding supports other key elements of the multi-modal network. This reflects the City’s commitment to increased investment in TTC state of good repair under the Toronto-Ontario Transit Partnership Preliminary Agreement (2019).

The TTC is also the beneficiary of \$1.3 billion in Provincial and Federal matching funding for the Bloor-Yonge Capacity Improvements Project and the TTC’s Streetcar Program, as well \$349 million in matching Federal funding for the procurement of 340

eBuses and charging infrastructure to support needs to 2025, bringing the total incremental investment since 2019 to \$10.6 billion.

Most recently, the Provincial government has committed to funding \$758 million as its one-third share of the cost of procuring 55 replacement subway trains for Line 2, conditional on matching funds from all three orders of government as part of the terms in the Ontario-Toronto New Funding Agreement. This could translate into a further \$1.516 billion investment being made in making progress on the TTC’s subway fleet needs, should matching funding from the Federal government become available.

As a result, the TTC has made progress in funding key projects within the four investment programs as indicated by those amounts highlighted in green on Table 4 on the following page:

**Table 5: Investment Programs – Unfunded Priorities**

Investment Program	2022 CIP	Funding Required		Timing
		2023 CIP	2024 CIP	
<b>Modernizing the Subway &amp; Expanding Capacity</b>				
Purchase subway trains	\$1.7B	\$1.7B	\$2.3B	Q1 2024
Maintenance & Storage Facility	\$2.1B	\$2.4B	\$3.1B	2026
Modify Greenwood Yard	\$95M	-	-	Funded
<b>Transforming &amp; Electrifying Bus Service*</b>				
Purchase electric buses	\$1.6B	\$1.3B	\$2.7B	2024
Purchase Wheel-Trans buses	\$174M	\$174M	\$168M	2025
Install charging infrastructure	\$468M	\$434M	\$763M	2024
Implement transit priority measures	\$356M	\$356M	\$255M	2025
<b>Supporting a Larger Streetcar Fleet</b>				
Renew Russell Carhouse	\$71M	-	-	Funded
Upgrade overhead power	\$19M	\$19M	\$16M	2031
Maximize Hillcrest Complex	\$3M	-	-	Funded
<b>Upholding the State-of-Good-Repair*</b>				
Scheduled fleet maintenance	\$1.2B	\$1.2B	\$743M	2025
Safety & legislative	\$39M	\$39M	\$58M	2024
System maintenance	\$7M	\$45M	\$53M	2024
Operational infrastructure	\$119M	\$135M	\$191M	2025

\*Funding required starting in the year identified with opportunity to phase in multi-year commitments over the 10-year horizon and/or to establish steady-state, predictable funding.

With Line 2 subway fleet nearing the end of its lifecycle, funding for the procurement of new subway trains has been a critical priority for the TTC. The 2024-2033 Capital Budget and Plan includes funding for the TTC’s one-third share of the subway train procurement to ensure readiness to proceed given that the Province has committed \$758 million towards the 55 replacement trains on Line 2, pending an equal commitment from the Federal government. The scope of work to modify Greenwood Yard is also fully funded as is ATC for Line 2.

Matching funding from the Federal government of \$349 million in support of the TTC’s Green Bus Program has also been secured, enabling the TTC to procure 340 electric buses and install 248 charge points to support its needs to 2025.



As for the streetcar network, Provincial funding for the 60 additional accessible streetcars and Hillcrest Facility modifications has moved these off the priority list. However, Russell Carhouse Modifications and a study on maximizing the use for the Hillcrest Complex are funded, enabling the TTC to ensure the new streetcars have the storage and maintenance available. Given the criticality of Overhead Power assets in relation to the safe and reliable delivery of the TTCs streetcar service, efforts were made in the 2024 Budget process to accelerate and reprioritize funding for this program. Steady state funding has been provided through the 10-year period. Only \$16 million of the \$84 million remains unfunded and not until 2031 is a shortfall apparent.

To uphold the state of good repair, some of the Scheduled Fleet Maintenance programs have added funding in the back half of the Capital Plan, but \$743 million of the CIP remains unfunded. Additionally, progress has been made in the remaining SOGR programs to address cost escalation for in-flight projects and emergent issues. However, given current debt affordability constraints, funds have been repurposed from within the existing available sources reprioritized from other projects within the Capital Plan.

**2024-2038 Capital Investment Plan**

This version of the CIP takes the existing investment programs a step further and links critical SOGR programs in the “Upholding the State of Good Repair” program above to the modes that they support. This provides a clearer picture of the investments required to support each mode. In the cases where projects cannot be linked directly to a mode, two new investment programs, Facilities Maintenance and Network Wide Assets, have been established to capture these capital projects that support the broader, integrated network. Finally, costs for the TTC related to TransformTO fleet and facility requirements have also been added as a unique investment program.

Table 6 below provides an overview of the CIP’s updated investment programs and the percentage split between funded and unfunded amounts.

**Table 6: 2024-2038 Capital Investment Plan**

INVESTMENT PROGRAM \$ MILLIONS	FUNDED	UNFUNDED	TOTAL CIP	% SPLIT	
				FUNDED	UNFUNDED
Modernizing the Subway & Expanding Capacity	7,942.7	19,670.3	27,613.0	29%	71%
Transforming & Electrifying Bus Service	1,686.9	7,018.3	8,705.2	19%	81%
Supporting a Larger Streetcar Fleet	1,343.1	964.3	2,307.4	58%	42%
Facility Maintenance	674.7	1,740.5	2,415.2	28%	72%
Network Wide Assets	750.3	724.5	1,474.8	51%	49%
TransformTO	-	5,339.8	5,339.8	0%	100%
<b>TOTAL</b>	<b>12,397.7</b>	<b>35,457.7</b>	<b>47,855.4</b>	<b>26%</b>	<b>74%</b>

## Modernizing the Subway and Expanding Capacity

A portfolio of projects are required to modernize the subway system in order to replace existing aging assets and to support future growth and expansion of the network in the long term. Specifically, Lines 1 and 2 Capacity Enhancement, Bloor-Yonge Capacity Improvements (BYCI) and the Line 2 Automatic Train Control (ATC) projects are underway to address these needs. BYCI and Line 2 ATC are fully funded projects in the 10-Year Capital Budget and Plan and subsequent annual budget process will recommend the new 10th year be added as funded to ensure continuity of the projects. With respect to the Lines 1 and 2 Capacity Enhancement projects as well as a number of other critical subway SOGR project, a significant portion of the CIP remains unfunded.

Table 7 below summarizes the key investments along with the SOGR programs necessary to support the TTC's subway system.

**Table 7: Modernizing the Subway and Expanding Capacity Funding Requirements**

PORTFOLIO (\$ Millions)	2024-2038 CAPITAL INVESTMENT PLAN					FUNDING REQUIRED BY
	FUNDED	CIP UNFUNDED			TOTAL CIP	
		2024-2033	POST	TOTAL		
<b>Modernizing the Subway &amp; Expanding Capacity:</b>						
Purchase of Subway Cars	918.8	1,833.1	471.8	2,305.0	3,223.8	Q1 2024
Line 2 Automatic Train Control	593.3	-	273.5	273.5	866.9	Post 2033
Line 2 Capacity Enhancements	872.9	150.6	1,647.7	1,798.3	2,671.2	2028
Line 1 Capacity Enhancements (Includes TMSF)	1,028.8	3,000.5	2,164.8	5,165.3	6,194.1	2026
Line 2 Maintenance & Storage Facility	2.5	1,758.5	1,856.9	3,615.4	3,617.9	2030
Platform Edge Doors	-	252.0	3,848.0	4,100.0	4,100.0	TBD
Bloor-Yonge Capacity Improvements	1,182.9	-	252.2	252.2	1,435.1	Post 2033
Various Subway Projects	37.1	136.4	-	136.4	173.6	
<b>TOTAL</b>	<b>4,636.3</b>	<b>7,131.2</b>	<b>10,515.0</b>	<b>17,646.2</b>	<b>22,282.5</b>	
<b>Upholding the State-of-Good-Repair:</b>						
Subway Car Overhaul	460.2	115.7	137.1	252.8	713.0	2026
Signals / Electrical / Communications	513.2	394.6	325.0	719.5	1,232.7	2024
Equipment	226.0	194.8	153.7	348.5	574.5	2025
Bridges & Tunnels	496.3	29.0	257.7	286.7	783.0	2027
Subway Track	338.0	-	197.9	197.9	535.9	Post 2033
Various SOGR Projects	1,272.7	93.1	125.6	218.7	1,491.4	
<b>TOTAL</b>	<b>3,306.4</b>	<b>827.2</b>	<b>1,196.8</b>	<b>2,024.1</b>	<b>5,330.5</b>	
<b>TOTAL SUBWAY PROJECTS</b>	<b>7,942.7</b>	<b>7,958.5</b>	<b>11,711.8</b>	<b>19,670.3</b>	<b>27,613.0</b>	

Note: Total project cost for Platform Edge Doors and Line 2 Capacity Enhancements projects are captured in the 15-Year CIP, however, expenditures will go beyond 2038

At the November 22, 2023 TTC Board meeting, the New Subway Train Procurement and Implications for Line 2 Modernization and Future Growth report highlighted the importance of procuring replacement trains for Line 2, the benefits of Line 2 ATC, and the need for 25 growth trains on Line 1 as well as a new Train Maintenance and Storage Facility to support future maintenance activities of an expanded fleet.

Modernization of Line 2 is dependent on the procurement of subway trains, as it is not recommended to implement ATC-enabled technology on the existing T1 fleet. ATC implementation is also necessary to achieve higher capacity, improved reliability and to

unlock the opportunity for Platform Edge Doors on Line 2 in the longer term. Establishing a base train contract for Line 2 trains further enables the TTC to procure Line 1 growth trains and provide options for Metrolinx to purchase trains for the Yonge North Subway Extension (YNSE) and Scarborough Subway Extension (SSE).

Investment in new trains for Line 2 and Line 1 is also a prerequisite to supporting future capacity enhancements, as well as unlocking the benefit of the Provincial expansion projects. The base order of 55 trains enables a procurement to be structured with options to address future growth and expansion requirements, subject to funding being confirmed for additional trains. This procurement strategy achieves opportunities for improved unit pricing through economies of scale, and ensures the expansion fleet is compatible with the TTC's fleet and infrastructure. Metrolinx is responsible for the full cost of the 15 trains for the YNSE and the SSE

As approved by the Board with the recommendations of the New Subway Train Procurement and Implications for Line 2 Modernization and Future Growth report, through the 2024 Budget process, the 10-Year Capital Plan and 15-Year CIP to reflect the estimates for the subway train procurement Scenario 1 planning assumptions, which assumes full funding commitments are made to advance the subway train procurement in 2024. In order to implement Line 2 modernization, one-third matching funding for Line 2 subway trains is required, which the Province has committed up to \$758 million for the 55 replacement trains on line 2, pending a matching contribution from the Federal government. If funding is approved for Line 1 growth trains, funding will also be required for the Line 1 Train Maintenance and Storage Facility to proceed.

Any further incremental delays for the procurement will result in higher procurement costs, additional SOGR, and life-extension (sunk) costs as well as lost ridership revenues. Further, potential socio-economic benefits (travel time saved, increased reliability, new economic activity) will be foregone by transit riders and the broader economy. Full funding commitments are required as soon as possible to reinstate the train RFP to minimize the cost of investment and mitigate risks to the subway system.

### *Upholding the State-of-Good-Repair: Subway*

#### *Subway Car Overhaul*

Due to the uncertainty in timing to replace the T1 vehicles with new trains, there are now two key activities required for the existing fleet:

- An extension of the SOGR program for trains as they continue operating past end-of-life starting in 2026; and
- Advancing planning and development of a T1 10-Year Life Extension Overhaul (LEO) program in event it is necessary to extend the train life up to 40 years.

As the T1 fleet approaches its 30-year design life, many systems on the fleet are obsolete with implications for effective maintenance and repair. Furthermore, the T1 trains are not recommended to be equipped with modern technologies, such as ATC and therefore prevent ATC being operationalized on Line 2 until the last T1 train is removed. As a result, the CIP has prioritized funding to implement a 30-Year State of

Good Repair program for the full fleet of Line 2's T1 trains at a preliminary estimated cost of \$163 million.

If full funding for the T1 replacement fleet procurement is not secured by Q1 2025, additional SOGR interventions are required to keep the T1 fleet safe, reliable, and operational:

- Further SOGR program extension to 35 years; and
- 10 year LEO program

The costs of these provisional programs are not included in the CIP.

The Capital Plan also includes partial funding of \$233 million over the 10-year period for the ongoing SOGR maintenance of the TR subway fleet. To ensure the TR subway car fleet is maintained in a state of good repair, comprehensive refurbishment programs are scheduled at various intervals of the assets life. This program incorporates work recommended by the Original Equipment Manufacturer/Car Builder and through TTC service experience. To fully fund the TR fleet overhaul program, the CIP identifies an incremental funding requirement of \$253 million over the 15-year period.

Funding is required by 2026 to ensure TR Subway Car fleet is safe and reliable. Deferral of this project could result in degraded reliability, a decline in availability, increased risk of failure with safety implications, higher maintenance costs, and poor customer service on Lines 1 and 4 as vehicles may not reach their design life.

Moreover, stable, long-term funding is required to establish reliable supply chains for long-lead-time materials in support of this program. Interruptions in funding can result in delayed procurement and material delivery, reduced productivity and work stoppages, and degraded vehicle reliability and availability.

### *Signals*

Signals, electrical and communications assets within the subway system are critical for the continuous, safe and reliable service delivered by TTC subway trains. Signal systems control the movement on the subway lines to ensure all trains keep a safe distance between each other, electrical assets feed the power to the system, and communications assets provide a direct link between operators, Transit Control, platforms, and emergency services. In many cases, if one of these assets were to fail, service cannot operate.

The Line 2 fixed-block system has been in service in most sections for 57 years (commissioned between 1966 and 1980). A number of SOGR programs have been implemented, which have either replaced or refurbished much of the replaceable signalling system assets, contributing to a life extension of 27 years past current design life. The most recent condition assessment conducted in 2019 has informed SOGR planning up to 2035 and requirements identified in the TTC's 15-Year CIP. **The scope of the SOGR program has been defined on the basis that ATC implementation would occur concurrently.** The signalling SOGR program is a top priority to ensure

continuous subway corridor availability, current passenger-carrying capacity, and compliance with industry standards and safety.

**Table 8: Line 2 Signalling System Age**

Section	In Service Date	End-of-Design-Life	Current Age (2023)	Projected Age at Replacement (2035)*	Projected Age at Replacement (2040)**
Keele to Woodbine	1966	1996	57	69	74
Keele to Islington & Woodbine to Warden	1968	1998	55	67	72
Islington to Kipling & Warden to Kennedy	1980	2010	43	55	60
*Assumption: ATC cutover achieved by 2035 under NST scenario 1 and 2.					
** Assumption: ATC cutover can be achieved by 2040 under NST scenario 3 (under review)					

A delay in the train procurement directly impacts the ability to operationalize ATC on Line 2, requiring the existing fixed-block system to be maintained. Current challenges of the signalling infrastructure include, but are not limited to, expected deterioration of cabling, component obsolescence and discontinuation of parts. A feasibility study will be completed to determine scope and one-time costs required to keep the current signal system in operation, but given its age, it should be replaced. However, ATC should only be installed if the T1 trains operating on Line 2 are replaced.

*Electrical*

From substations to track and everything in between, TTC operates a complex traction power distribution system, which provides the electrical power to move subway trains. While these assets have ongoing funding in the Capital Plan, the present levels are insufficient given the rate at which the assets should be replaced. Critical SOGR projects with funding shortfalls of approximately \$319 million in the CIP include, but is not limited to, Substation Electrical Rebuild, Cable Replacement, Subway Station Breaker Replacement, and Uninterruptable Power Supply Replacement.

Priority Locations	
Substation	• York Mills
Electrical Rebuild	• Sheppard • Wilson
Replace LV Feeder Cables	• Lawrence • Glenayr • Casa Loma
Cable Replacement	• St Andrew to St George • Islington to Royal York
Replace Subway Station Breakers	• Davisville • Bathurst • Islington
UPS Replacement	• Bayview • Bessarion • Leslie

The TTC operates multiple substations that have outdoor electrical switchgear enclosures. The reliability of the substation equipment is critical for our daily operations and revenue service. Some of this equipment was originally installed in the 1940s and 1950s. The Cable Replacement program designed to replace deteriorated or damaged cabling throughout the tunnels to ensure safe and continuous delivery of power to the network. Subway station breakers control various station equipment such as

communication systems, escalators, elevators, fans, lighting and critical emergency lighting. These breakers are becoming unreliable due to age, wear and tear. Backup power systems (UPS, Inverters, Motor Alternator/DC) that provide emergency power to stations, shops, car-houses and buildings during power outages. Typically these backup power systems have a life cycle of 10-to-15 years. However, many of the existing units are 20-plus years old and are becoming unreliable.

The maintenance and repair of this equipment is difficult, as often the necessary spare parts are not available. In addition, due to recent inflation in pricing of parts over the last few years, the equipment is not being replaced at the appropriate pace in relation to the asset age and condition. As the assets deteriorate, so to does the reliability of the network. The pressure on the operating budget also rises as maintenance activities increase in the absence of a fully funded capital replacement program.

### *Communications*

Communication systems have a vital role in the day-to-day operation of the TTC and includes, but is not limited to:

- Transit Control Centre Network
- Radio Systems
- Operations Local Area Network
- Emergency Trip System
- Supervisory Control and Data Acquisition (SCADA) Systems
- Permanent Work Area Warning System
- CCTV System
- Train Door Monitoring System
- Public Address System
- Passenger Assistance Intercom
- Elevator/Escalator Remote Monitoring System
- Fire Signal Receiving Systems

Much like the electrical assets in the subway system, communications assets are old and showing signs of deterioration. If one or more of these systems fail, it can lead to service disruptions and/or closures. Funding is required to advance the SOGR programs for these assets to ensure service reliability.

In total, Signals/Electrical/Communications assets require approximately \$720 million incremental funding over the 15-Year CIP timeframe.

## Equipment

Within a majority of TTC stations are escalators and elevators to ensure accessibility for all types of riders. Across the system, the TTC has over 330 escalators and over 160 elevators. As the Easier Access Phase III program progresses, more of these assets will be added.

Based on the recommended design life, eight elevators and 10 escalators are required to be overhauled per year, with an additional four escalator replacements required on an annual basis to achieve a steady state of good repair. Current levels of funding fall well short of the steady state SOGR requirements, which has increased the SOGR Backlog. Across the 15-Year CIP, \$348 million is required to ensure these assets are renewed on a consistent basis and the SOGR Backlog is addressed. Failure to address the funding requirements could have the following consequences:

- Aging components requiring additional maintenance, adding pressure to the operating budget.
- Parts obsolescence, which could lead to decreased reliability and increased asset downtime.
- Potential non-compliance with the Accessibility for Ontarians with Disabilities Act.
- Crowding in stations and platforms causing a safety concerns and negatively impacting service delivery and customer experience.

To make progress in this program, investments are required for new subway trains and a train maintenance and storage facility on Line 1. In order to maintain the TTC's existing trains on Line 1, additional subway overhaul funding is required by 2026 for comprehensive refurbishment programs that occur at various intervals of the assets life. With the subway network's signalling, electrical and communications infrastructure over 57 years old in some cases, \$719 million is required to ensure the safe and reliable operation of the existing network. In the absence of additional SOGR funding, service reliability will suffer and could ultimately cease in some areas of the network.

Priority Locations	
Escalator Replacement Program	<ul style="list-style-type: none"> <li>• High Park</li> <li>• Dundas West</li> <li>• Ossington</li> <li>• St George</li> <li>• Bay</li> <li>• Greenwood</li> <li>• Queen's Park</li> <li>• St Patrick</li> <li>• Osgoode</li> <li>• St Andrew</li> <li>• Wellesley</li> <li>• King</li> <li>• Bloor-Yonge</li> </ul>
Elevator Overhaul Program	<ul style="list-style-type: none"> <li>• Queen</li> <li>• Sheppard West</li> <li>• Bathurst</li> <li>• Spadina</li> <li>• Finch</li> <li>• Kipling</li> <li>• Sheppard</li> <li>• Bayview</li> <li>• Bessarion</li> <li>• Leslie</li> <li>• Don Mills</li> </ul>
Subway Escalator Overhaul Program	<ul style="list-style-type: none"> <li>• Queen</li> <li>• College</li> <li>• Dundas</li> <li>• King</li> <li>• Sheppard West</li> <li>• Kennedy</li> <li>• Spadina</li> <li>• Eglinton West</li> <li>• Kipling</li> <li>• Finch</li> <li>• Sheppard</li> <li>• Bayview</li> <li>• Bessarion</li> <li>• Leslie</li> <li>• Don Mills</li> </ul>

## Transforming and Electrifying Bus Service

Aligned with the TTC's Green Fleet Program, the Transforming and Electrifying Bus Service investment program aims to achieve a zero emissions Conventional and Wheel-Trans bus fleet, which will continue to deliver safe and reliable service. It further aligns to the City's RapidTO plan by incorporating transit priority solutions that would improve service reliability. While the 2024-2033 Capital Budget and Plan includes partial funding

to begin a path towards achieving the TTC's goals of transforming and electrifying bus service, \$7 billion remains unfunded in the 2024-2038 CIP.

Table 9 below summarizes the key investments along with the SOGR programs necessary to support the TTC's Bus Network

**Table 9: Transforming and Electrifying Bus Service Funding Requirements**

PORTFOLIO (\$ Millions)	2024-2038 CAPITAL INVESTMENT PLAN					
	FUNDED	CIP UNFUNDED			TOTAL CIP	FUNDING REQUIRED BY
		2024-2033	POST	TOTAL		
<b>Transforming &amp; Electrifying Bus Service:</b>						
Purchase of Hybrid / Electric Buses	681.7	2,669.6	1,349.6	4,019.2	4,700.9	2024
Purchase of Wheel-Trans Buses	27.5	168.2	183.2	351.5	378.9	2025
Install Charging Infrastructure	66.8	763.2	220.7	983.9	1,050.8	2024
Implement Transit Priority Measure	88.7	255.4	7.8	263.1	351.8	2025
10th Bus Garage	5.3	-	463.0	463.0	468.3	Post 2033
<b>TOTAL</b>	<b>869.9</b>	<b>3,856.3</b>	<b>2,224.4</b>	<b>6,080.7</b>	<b>6,950.6</b>	
<b>Upholding the State-of-Good-Repair:</b>						
Bus Overhaul	548.4	252.5	402.7	655.2	1,203.6	2025
SRT Bus Replacement Infrastructure	77.2	55.7	-	55.7	132.9	2024
Equipment	75.2	131.6	10.4	142.0	217.2	2025
Service Planning	15.2	71.3	5.8	77.1	92.3	2026
Various SOGR Projects	100.9	5.1	2.5	7.6	108.5	
<b>TOTAL</b>	<b>816.9</b>	<b>516.3</b>	<b>421.4</b>	<b>937.6</b>	<b>1,754.6</b>	
<b>TOTAL BUS &amp; WT PROJECTS</b>	<b>1,686.9</b>	<b>4,372.6</b>	<b>2,645.7</b>	<b>7,018.3</b>	<b>8,705.2</b>	

*Bus Procurements*

The 2024-2038 CIP includes funding for delivery of the remaining hybrid-electric buses out of the procurement of 336, as well as 340 electric buses and related charging infrastructure. Beyond the current procurements, the Conventional bus fleet plan is largely unfunded. Within the current planning period of 2024-2038, approximately \$4 billion is required for bus procurements as well as \$984 million for bus charging infrastructure.

**Table 10: 2024-2038 Conventional Bus Procurement Plan**

Procurement Plan	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CIP
<b>Funded:</b>																
Hybrid-Electric	110															110
Electric	50	290														340
<b>Funded Total</b>	<b>160</b>	<b>290</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>450</b>
<b>Unfunded:</b>																
Electric		60	170	175	175	165	190	190	190	195	195	195	195	195	195	2485
<b>Unfunded Total</b>	<b>0</b>	<b>60</b>	<b>170</b>	<b>175</b>	<b>175</b>	<b>165</b>	<b>190</b>	<b>190</b>	<b>190</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>2485</b>
<b>Total Fleet Requirements</b>	<b>160</b>	<b>350</b>	<b>170</b>	<b>175</b>	<b>175</b>	<b>165</b>	<b>190</b>	<b>190</b>	<b>190</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>195</b>	<b>2935</b>
<b>Charging Systems:</b>																
Funded	84	154														238
Unfunded		225	106	170	181	114	101	216	112	100	123	62				1510
<b>Total Charging Systems Req.</b>	<b>84</b>	<b>379</b>	<b>106</b>	<b>170</b>	<b>181</b>	<b>114</b>	<b>101</b>	<b>216</b>	<b>112</b>	<b>100</b>	<b>123</b>	<b>62</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1748</b>

If the planned procurements for electric buses and charging infrastructure are not funded, the TTC's bus service will be significantly impacted. In the first few years of absent new procurements, the TTC would be required to keep buses due for retirement



in service longer than recommended, increasing the pressure on the operating budget for necessary maintenance activities. As these buses continue in service beyond their useful life, breakdowns would become more frequent, which would impact the spare ratio and number of buses available to deliver service. With aging buses, parts obsolescence also becomes an issue and the difficulty experienced sourcing key parts may require certain bus types to be retired. Table 11 below reflects the impact on the TTC's bus fleet, assuming no new procurement funding is available and existing fleet are retired as planned.

**Table 11: 2024-2038 Bus Fleet Plan (No Procurements)**

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Opening Balance	1994	1925	2008	2008	1875	1735	1599	1219	967	731	676	676	450	290	0
Retirements	(229)	(207)	0	(133)	(140)	(136)	(380)	(252)	(236)	(55)	0	(226)	(160)	(290)	0
Procurements	160	290	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Change	(69)	83	0	(133)	(140)	(136)	(380)	(252)	(236)	(55)	0	(226)	(160)	(290)	0
<b>Total Fleet Size</b>	<b>1925</b>	<b>2008</b>	<b>2008</b>	<b>1875</b>	<b>1735</b>	<b>1599</b>	<b>1219</b>	<b>967</b>	<b>731</b>	<b>676</b>	<b>676</b>	<b>450</b>	<b>290</b>	<b>0</b>	<b>0</b>
Available Peak Service	1509	1592	1580	1439	1294	1155	770	526	289	231	248	18	(145)	(438)	(443)
Total Maintenance Spares	416	416	428	436	441	444	449	441	442	445	428	432	435	438	443
Planned Service	1625	1625	1665	1704	1728	1747	1773	1730	1734	1750	1766	1784	1802	1818	1844
Variance to Planned Service	(116)	(33)	(85)	(265)	(434)	(592)	(1003)	(1204)	(1445)	(1519)	(1518)	(1766)	(1947)	(2256)	(2287)

Note: Maintenance spare ratio calculated on planned level of service to demonstrate the typical number of buses out of revenue service due to overhaul programs, maintenance, training or service requirements related to capital construction, thus impacting the number of buses available for peak service.

In a scenario with no procurements to replace aging fleet or additional charge points to support a move towards an all-electric fleet to meet the climate goals set out in the Green Fleet Plan and the City's Net Zero 2040 strategy, service would begin to be impacted as early as 2027. Similar issues exist with the Wheel-Trans bus fleet as funding is only available for the replacement of vehicles to 2026. Impacts due to lack of funding are similar to the conventional bus fleet, where service reliability would diminish due to an increase in breakdowns, which would impact the spare ratio and number of buses available to deliver service.

### *Transit Priority Measures*

Projects aimed at implementing transit priority measures to increase service reliability includes, transit signal priority installation, queue jump lanes, platform modifications and priority bus roadways. In addition to the priority bus roadways included in the TTC's 5-Year Service Plan and the City's Rapid TO plan, the CIP also includes a requirement for a dedicated bus roadway to replace service on the now closed Line 3 SRT. In the absence of full funding for these initiatives, the TTC and its customers would forego the expected benefits of a faster, more frequent and reliable bus service, which would also result in missed opportunities to achieve operating efficiencies.

## *Upholding the State-of-Good-Repair: Bus Overhaul Program*

Just as important as replacing and electrifying fleet as well as enhancing service are the SOGR programs that ensure continuous operation on a daily basis. Key programs in the CIP to that end include Bus Overhauls and significant equipment purchases such as Bus Hoists.

The Bus Overhaul program includes the mid-life rebuild and Scheduled Maintenance Plan (SMP) work. The mid-life rebuild involves the overhaul of major mechanical systems (engine, transmission, suspension and door systems) and the overhaul of key structures within the interior and exterior of the bus. The SMP services air, electrical, mechanical, coolant, ramp and engine components. Annual requirements for the program are driven by the age and use of the fleet.

The Capital Plan includes \$548 million to support this program, but \$655 million over the 15-year planning period remains unfunded. Most significantly, due to debt capacity constraints, approximately \$180 million of the total unfunded requirements is in the first five years of the plan. **If the Bus Overhaul program remains unfunded, the impacts are comparable to a lack of bus procurement funding.** If buses do not go through the mid-life rebuild and/or the SMP, they may be deemed unfit for service and held out until such a time that funds are available to perform the necessary capital maintenance work. If this were to continue for an extended period of time, the spare ratio and buses available would be negatively impacted, which could ultimately lead to a service reduction.

To support the bus overhaul work, the TTC employs a number of different types of bus hoists to raise the vehicles for safe access to perform mid-life overhauls and the SMP. As these hoists near the end of their useful life, they become less reliable, break down and ultimately need to be replaced. The current lack of funding to support the life-cycle replacement of these assets is estimated at \$126 million. If the hoists cannot be replaced and need to be taken out of service, the TTC's capacity to perform scheduled work in the bus overhaul program would be severely impacted, which would only worsen over time.

Ultimately, whether it is a matter of replacing vehicles or equipment at the end of their useful life or shortfalls in the bus overhaul program, a lack of funding will limit the TTC's ability to deliver safe and reliable bus service. If the planned procurements for electric buses and charging infrastructure post-2025 are not funded, TTC's bus service will be significantly impacted as early as 2027, while the strain on bus overhaul funding challenges the ability to maintain the existing fleet operational. Additionally, no funding for bus procurements or transit priorities means the TTC is not able to meet the climate goals set out in the Green Fleet Plan and the City's Net Zero 2040 strategy.

## **Supporting a Larger Streetcar Fleet**

Given the investment from the Federal and Provincial governments of \$180 million each, the TTC is procuring 60 new accessible streetcars in addition to the 204 already in service. The federal contribution is also allocated to making necessary structural and track upgrades to expand the maintenance and storage capabilities at the TTCs

Hillcrest Complex. To further support the streetcar portfolio of assets, the TTC has funded the renovations for the Russell Carhouse to accommodate the service needs of an expanded streetcar fleet.

As a key outcome of the CIP’s linking of interdependent projects, the TTC is well on its way to supporting the capacity requirements of a larger streetcar fleet. However, ensuring that the streetcar network and complimentary assets are maintained in a state of good repair requires an additional \$964 million.

Table 12 below summarizes the key investments along with the SOGR programs necessary to support the TTC’s Streetcar Network.

**Table 12: Supporting a Larger Streetcar Fleet Funding Requirements**

PORTFOLIO (\$ Millions)	2024-2038 CAPITAL INVESTMENT PLAN					
	FUNDED	CIP UNFUNDED			TOTAL CIP	FUNDING REQUIRED BY
		2024-2033	POST	TOTAL		
<b>Supporting a Larger Streetcar Fleet:</b>						
Purchase of Streetcars	325.0	-	-	-	325.0	N/A
Upgrade Overhead Power	94.9	16.2	68.2	84.4	179.3	2031
Hillcrest Maintenance & Storage Facility	140.7	-	-	-	140.7	N/A
Renew Russell Carhouse	158.1	-	-	-	158.1	N/A
Various Streetcar Projects	2.1	2.7	-	2.7	4.8	
<b>TOTAL</b>	<b>720.9</b>	<b>18.9</b>	<b>68.2</b>	<b>87.1</b>	<b>807.9</b>	
<b>Upholding the State-of-Good-Repair:</b>						
Streetcar Overhaul	80.7	374.9	118.1	493.0	573.7	2025
Surface Track	402.7	37.4	238.9	276.3	679.0	2029
Traction Power	60.4	4.5	40.3	44.8	105.2	2024
Transit Shelters & Loops	5.7	36.0	3.3	39.3	45.0	2025
Various SOGR Projects	72.8	7.9	15.9	23.8	96.6	
<b>TOTAL</b>	<b>622.2</b>	<b>460.8</b>	<b>416.5</b>	<b>877.3</b>	<b>1,499.5</b>	
<b>TOTAL STREETCAR PROJECTS</b>	<b>1,343.1</b>	<b>479.7</b>	<b>484.7</b>	<b>964.3</b>	<b>2,307.4</b>	

## Upgrade Overhead Power

This program is dedicated to the complete replacement of the Pantograph Overhead Contact System (OCS) as a necessary action due to critical assets reaching the end of their lifespan. The primary objective is to enhance system reliability by minimizing pantograph damage and reducing service disruptions, resulting in a safer and more dependable streetcar service.

Priority Locations	
Reconstruction of Streetcar Overhead	<ul style="list-style-type: none"><li>• Dundas Street Intersections</li><li>• Spadina Intersections</li><li>• Queen Intersections</li></ul>

It works in conjunction with the Overhead Pole Replacement, and Replace Surface Traction Power Distribution projects, forming a comprehensive effort to restore and uphold the entire streetcar overhead system to a state of good repair.

Given that these assets are essential to the safe and reliable delivery of the TTC's streetcar service, efforts were made in the 2024 Budget process to accelerate and reprioritize funding for this program. Only \$16 million of the unfunded requirements are cashflowed in the 2024-2033 Capital Budget and Plan and not until 2031 is a shortfall apparent.

### *Upholding the State-of-Good-Repair: Streetcar Overhaul*

Similar to the bus overhaul program, debt capacity issues have created a gap in the funded years for the streetcar overhaul program. Of the \$493 million required, approximately \$162 million is cashflowed from 2025 to 2029. This has a direct impact on the SOGR of the streetcar fleet and could lead to overhaul scope reductions/delays, or cause the program to be completely halted - especially since many of the contractual commitments required to ensure availability of materials have long lead times.

**In the absence of overhaul funding, streetcar service would decline in reliability and availability would likely lead to increased operating costs for maintenance, storage and lost efficiencies. Operating expenses would be increased further if parts or all of the streetcar service needs to be supplemented with buses due to lack of available streetcars. However, given the lack of funding for bus replacements beyond 2025, the use of buses is not a viable option.**

Streetcars require tracks to operate. The TTC is responsible for maintaining approximately 90,000 double track metres in length and 83 locations with special (curved) track.



**and some may be fully placed out of service, with key intersections being the most at risk.**

While additional funding for track rehabilitation and replacement work is the most critical need, it should be noted that even when funding is available, the TTC is challenged to undertake the work as planned given the interdependencies track work has with other right of way projects in the city.

While the additional streetcars will be delivered and the infrastructures to store and maintain them will be constructed over the next few years, the assets that they run service on are in need of additional funding. Particularly, Overhead Power, Streetcar Overhaul and Surface Track Replacements. Without full funding for these programs, asset renewal programs could fall behind, which could lead to service disruptions and/or delays. In the worst case scenario, sections of the network may need to be shut down. If these assets are unavailable, service may be augmented through the use of buses, but that only increases the strain on the operating budget and, in particular, puts bus service at risk, especially in the absence of bus replacement funding.

**Facilities Maintenance**

The TTC recently celebrated 100 years as a transit system, and has facilities ranging in age as far back as a century ago. From garages, yards, carhouses to other buildings, each facility plays a critical role in supporting one or multiple aspects of the TTCs integrated network.

The TTC’s capital program for facilities is largely driven by the cost of maintaining these assets in a state-of good repair. It’s critical that staff working in these facilities, whether it be for operational or administrative activities, can do so in a safe manner.

Table 13 below summarizes the key investments, mostly SOGR programs, necessary to support TTC Facilities:

**Table 13 – Facility Maintenance Funding Requirements**

PORTFOLIO (\$ Millions)	2024-2038 CAPITAL INVESTMENT PLAN					
	FUNDED	CIP UNFUNDED			TOTAL CIP	FUNDING REQUIRED BY
		2024-2033	POST	TOTAL		
Major Control Centre	17.8	458.8	-	458.8	476.6	2026
Facility Renewal Programs	536.9	697.9	194.5	892.3	1,429.2	2025
Sustainability	21.0	69.0	37.7	106.7	127.7	2025
Roofing Rehabilitation	99.1	229.0	53.7	282.6	381.7	2025
<b>TOTAL FACILITY PROJECTS</b>	<b>674.7</b>	<b>1,454.6</b>	<b>285.9</b>	<b>1,740.5</b>	<b>2,415.2</b>	

## *Major Control Centre*

The current Transit Control Centre is a centralized control centre for the operation of the TTC's subway, streetcar and bus networks, including ancillary groups, such as Power Control, Special Constable Service, Equipment Control, and Technical Support. The existing facility now is not able to accommodate existing operational needs or future transit growth and expansion requirements. It is expected to reach maximum useful capacity by 2028.

The new facility will become the primary control centre and is intended to accommodate the long-term TTC Transit Control and ITS Data Centre requirements to 2045. The new facility will also accommodate the Transit Control requirements for Metrolinx's future Ontario Line and planned expansion projects. The existing Transit Control would become a back-up facility.

Operational requirements necessitate a larger primary Transit Control Centre than what can be accommodated in the existing facility. They also necessitate a new primary ITS Data Centre. The new facility is, therefore, critical for Transit Control and ITS Data Centre functionality as well as in allowing for the necessary redundancy to maintain the TTC's commitment to provide reliable transit service to the public during an unplanned event.

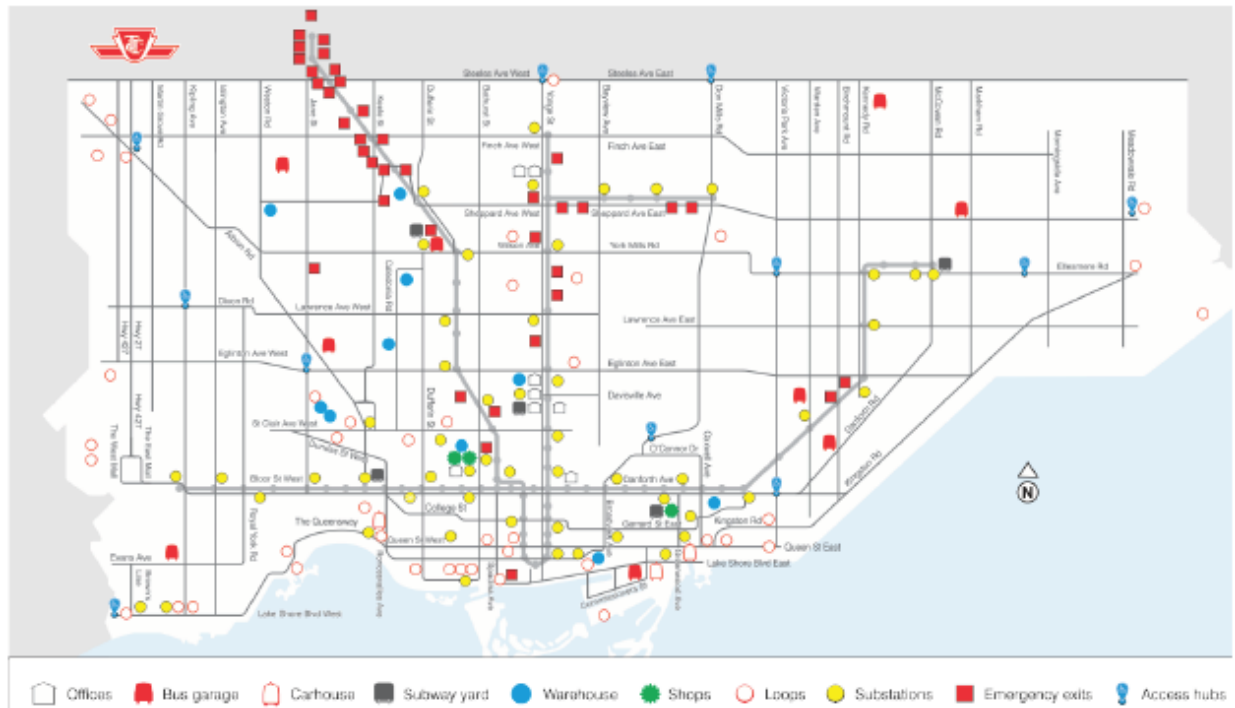
Failure to support this initiative will result in a Transit Control Centre that cannot accommodate future Transit Control requirements and an ITS Data Centre that cannot accommodate future TTC requirements.

## *Facility Renewal Programs*

Outside of property acquisitions and expansions, the CIP includes a myriad of facility renewal programs to ensure all are maintained in a state of good repair to optimize their use in support of the integrated network:

- 70 Subway Stations
- 69 Traction Power Substations
- 41 Maintenance and Storage Facilities
- 27 Bus and Streetcar Loops
- 72 Third Party Access Points at 30 Stations
- 17.4 Million Square Feet of Industrial Space
- 440,000 Square Feet of Office Space

**Figure 2: TTC Property Map**



With \$537 million in funding in the 2024-2033 Capital Budget and Plan, a fair amount of these programs are well under-way. However, the CIP also identifies an additional \$892 million in unfunded requirements. Scope of the facility renewal programs range from heavy equipment replacement (HVAC, Boilers, etc.), structural repairs, safety system upgrades/replacement, staff rooms, including breakrooms, change rooms and washrooms, amongst a number of different assets.

Failure to renew our facilities in a timely manner poses a number of risks that range from Occupational Health and Safety violations, works refusals and/or partial to full closure of facilities, which could effect service depending on the impacted facility.

### *Sustainability*

To aid the City of Toronto in meeting its Net Zero target by 2040, the TTC is committed to identify opportunities and implement initiatives across the organization in order to minimize GHG emissions, improve energy conservation and energy efficiency, and to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters. Two programs to support these goals at TTC facilities includes Energy Efficiency Retrofits and Decarbonization of Facilities.

The Energy Efficiency Retrofits program aims to discover and implement cost-efficient sources of renewable energy generation within the TTC to upgrade energy-consuming systems in TTC buildings. Retrofitting may involve improving or replacing lighting fixtures, ventilation systems, windows, doors, or adding insulation where it makes economic sense. It also looks to include energy efficiency measures in all renovation and repair activities.



The Decarbonization of Facilities program will include activities and projects to reduce GHG emissions from TTC buildings. Major opportunities to reduce emissions from buildings include increased electrification and greater energy efficiency, including the use of “intelligent efficiency” technologies and removing and sequestering emissions (carbon) by industrial or natural techniques.

The CIP currently identifies approximately \$128 million in investments required for these programs. However, all costing estimates are Stage Gate 0 placeholders to be refined and confirmed through studies and stage gate approvals and to ensure full implementation of Net Zero initiatives at all facilities are incorporated, which will likely increase the total estimated cost. By investing in retrofits that make buildings more energy efficient, energy costs and maintenance requirements can be decreased. A more pleasant interior environment can also be created for occupants, as well as an increased value and productivity of the building. An inability to fund these programs will mean that the TTC may fall short of the Net Zero targets and will forego the benefits noted above.

The Innovation and Sustainability Plan will include new program requirements and costs that will need to be incorporated in all projects to meet Toronto Green Standards and to resiliency measures.

*Roofing Rehabilitation*

Roofs on TTC Buildings over subway and rapid transit stations, garages, car-houses, shops, substations, office buildings and other facilities total over 421,000 square metres. Depending on the facility, the normal life expectancy can be in the range of 20-25 years.

Priority Locations	
Roofing Rehabilitation Program	<ul style="list-style-type: none"> <li>• Wilson Signal Shop</li> <li>• Wilson</li> <li>• Davisville Boiler Building</li> <li>• Greenwood Boiler Building</li> <li>• Sheppard</li> <li>• Wilson Hostler</li> <li>• Beaches Substation</li> <li>• Lansdowne Substation</li> </ul>

The assets are regularly inspected, with any deficiencies discovered corrected through spot repairs and patching. As many of the roof assets at TTC facilities exceed 30 years of age, excessive maintenance costs and concern of deterioration of building structures and detrimental effects on mechanical and electrical equipment through prolonged exposure to moisture, dictates the need for a sustained replacement and rehabilitation program.

The program is currently under-funded as the CIP identifies a need for \$229 million in the first 10 years and a further \$54 million in the five years post. If replacement of roofing systems are not carried out, then deterioration will continue; leakage will increase, damage to the underlying building structures and equipment will increase and slippery conditions will be created at floor levels, resulting in unsafe conditions, operational delays, and increased annual maintenance costs.

Given the number of facilities to be maintained, it is critical that the backlog of SOGR activities is managed at a reasonable level. If it continues to grow, the impacts may be too large to overcome and the system will suffer.

**Network Wide Assets**

Some of the assets that the TTC maintains do not support a specific mode, but indirectly support the integrated network of transit services. Table 14 below summarizes the key investments, mostly SOGR programs, necessary to support Network Wide Assets.

**Table 14: Network Wide Assets Funding Requirements**

PORTFOLIO (\$ Millions)	2024-2038 CAPITAL INVESTMENT PLAN					
	FUNDED	CIP UNFUNDED			TOTAL CIP	FUNDING REQUIRED BY
		2024-2033	POST	TOTAL		
Equipment	68.3	212.2	76.0	288.3	356.6	2024
IT Systems / Equipment	431.7	128.6	-	128.6	560.3	2025
Automotive Non-Revenue Vehicle Purchase	79.5	120.6	101.4	222.0	301.5	2026
Various Network Wide Projects	170.9	78.0	7.6	85.6	256.5	
<b>TOTAL NETWORK WIDE PROJECTS</b>	<b>750.3</b>	<b>539.4</b>	<b>185.0</b>	<b>724.5</b>	<b>1,474.8</b>	

*Equipment*

Linked to Sustainability projects within the facility portfolio, Equipment projects under the Network Wide Assets portfolio also aim to support the City’s Net Zero 2040 strategy. The Renewable Energy Project aims to implement cost-efficient sources of renewable energy generation. Renewable energy sources are available in abundance through the sun, wind, water, waste and heat from the Earth. These sources are replenished by nature and emit little to no greenhouse gases or pollutants.

Interdependent with renewable energy generation is the Energy Storage Systems (ESS) project, which can contribute to meeting electricity demand during peak times, when electricity is more expensive. The system gives the TTC the option to buy electricity during off-peak times and use it during peak times. Energy storage also helps provide resilience in extreme weather conditions since it can serve as a backup energy supply during power disruptions.

Energy storage can also integrate diverse resources. It can smooth out the delivery of variable or intermittent resources, such as wind and solar, by storing excess energy when the wind is blowing and the sun is shining, and delivering it when the opposite is happening. By increasing the capacity factor of existing power generation resources, ESS can also improve the efficiency of the grid and offset the need for building new pollution-emitting peak power plants and therefore help to reduce GHG emission.

Absent future investing in these environmentally friendly projects, the TTC will not be able to reduce carbon emissions and air pollution from energy production, and would not be as resilient as planned during unexpected power outages. Funding shortfalls also pose a risk in meeting the climate goals as set out in the Net Zero 2040 strategy.

## *ITS Systems / Equipment*

Technology plays a crucial role in the success of the TTC. As a result, many business modernization initiatives and SOGR programs related to ITS Systems/Equipment are in-flight and fully funded. The constraints identified in this program mostly relate to the Corporate Camera Strategy and Delivery project, which has been initiated to develop a consistent, and centralized approach for implementation and oversight of TTC closed circuit television (CCTV) systems, policies and processes. It has the goal to integrate principles of reliability, customer and employee care across the organization into CCTV practice.

If funded, the program will support the delivery of existing video-related projects, introduce innovative and effective applications of video technology and ensure that all key stakeholders and Executive Team members remain informed

## *Automotive Non-Revenue Vehicles*

Automotive Non-Revenue Vehicles are used by various departments throughout the TTC. The program involves the procurement of service trucks, cargo vans, utility trucks, vacuum trucks, fuel trucks, pickup trucks, road rail overhead service trucks and various other types of vehicles based on user group requirements to successfully perform their duties. The current fleet of vehicles have a design life that ranges from 7-15 years, but the actual average age of the fleet ranges from 8-20 years. The fleet plan takes into accounts vehicle usage, age, yearly conditions assessments and maintenance costs to determine the optimal replacement point. Unfortunately, due to a lack of funding, many non-revenue vehicles are kept beyond the recommended design life.

To fully fund the fleet plan for non-revenue vehicles, the CIP identifies a shortfall of \$222 million in the 15-year planning period to address the current backlog of replacements. Continuous underfunding of this program will result in higher maintenance costs for older units, additional rental costs if assets are unavailable and could lead to reduced efficiencies if user groups are unable to perform the core work due to a lack of proper vehicles.

While Network Wide Assets do not support a specific mode, like TTC Facilities, they indirectly support the integrated network of transit services. With full funding, TTC could be on a path towards NetZero 2040 with an initial investment of \$174 million for the implementation low carbon building retrofits, and deployment of renewable energy programs, such as solar generation and energy storage systems, while additional funding for the purchase of non-revenue vehicles of \$222 million would increase the efficiency of various user groups largely responsible for the maintenance of TTC assets

## **TransformTO**

The TTC has two major roles in reducing community-wide emissions that are harmful to people's health and the global environment. One is to eliminate its own direct and indirect emissions, and the other is to increase ridership to maximize emissions avoided from transportation options that are higher in carbon intensity.

### Eliminating TTC's Own Direct and Indirect Emissions

Direct and indirect emissions are primarily from fossil fuel used to power our fleet and facilities. Greening of our conventional buses and Wheel-Trans buses is underway, but must be sustained through funding for Transforming and Electrifying Bus Service and Wheel-Trans Services.

Greening of our facilities includes the design and implementation of building retrofits, public and employee charging, preserving and enhancing biodiversity, and renewable energy systems that are all currently unfunded.

**Enhancing Service Frequency to Maximize Avoided Emissions**

Modeling for TransformTO identified the following suite of transit related actions as a pathway to support achieving the City’s transportation emission reduction goals:

- TTC to increase service frequency on all transit routes over 2016 levels by:
  - 70% for bus
  - 50% for streetcar
  - Subway off-peak service increased to every three minutes
- TTC/City to convert one lane of traffic to exclusive bus lanes on all arterials

Achievement of the bus service enhancement goals requires significant capital investment. Table 15 below summarizes these investments above the base capital plan in order to meet the additional service requirements described in the TransformTO plan.

**Table 15: TransformTO Funding Requirements**

PORTFOLIO (\$ Millions)	2024-2038 CAPITAL INVESTMENT PLAN					
	FUNDED	CIP UNFUNDED			TOTAL CIP	FUNDING REQUIRED BY
		2024-2033	POST	TOTAL		
Vehicles	-	896.7	1,116.9	2,013.6	2,013.6	2026
Infrastructure	-	2,214.3	1,111.9	3,326.2	3,326.2	2024
<b>TOTAL TRANSFORM TO PROJECTS</b>	<b>-</b>	<b>3,110.9</b>	<b>2,228.8</b>	<b>5,339.8</b>	<b>5,339.8</b>	

The current assessment of the impact to financial impact to TTC is \$5.3 billion, which includes approximately 1,130 additional buses, advancing opening of the 10th bus garage, adding an 11th and 12th garage, charging infrastructure, as well as expanding capacity at existing garages and end of line facilities to accommodate a higher bus throughput. However, bus quantities, storage and maintenance capacities, and all costing estimates are Stage Gate 0 placeholders to be refined and confirmed through studies and stage gate approvals.

It should be noted that while the CIP lays out a 15-year outlook of the TTC’s funded and unfunded capital needs in relation to the recommended 10-Year Capital Budget and Plan, some elements have been excluded until a fulsome review is completed. Namely, the construction costs associated with the TTC’s area of responsibility for Waterfront Transit and the full financial impacts related to Net Zero 2040. Future iterations of the CIP will be updated with these initiatives as the plans progress through the stage gate process.

As it is updated annually, the TTC's Capital Investment Plan (CIP) has been key to providing all orders of government a comprehensive view and understanding of the TTC's capital needs and priorities over a 15-year period. Funding the TTC is not only critical for the viability of the transit system today and its adaptability in the future but should be considered sound investments.

Investments are needed to address ageing vehicles, infrastructure, systems and facilities as the SOGR backlog continues to rise. Failure to increase investment the TTC will result in further deterioration of existing assets, putting the system safety and reliability at risk due to possible failure.

The funding required to address the TTC's unmet capital needs is significant. However, these investments would help manage the risks identified in the CIP and ensure a seamless integrated service within the network. Ensuring that assets are maintained in a state of good repair, improving service and expanding capacity will continue to keep Toronto moving, which will accrue economic, environmental and social benefits that not only contribute to the vitality and well-being of Toronto but also for the GTA, Province of Ontario and Canada.

## **Contact**

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## **Signature**

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Josie La Vita  
Chief Financial Officer

## **Attachments**

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Appendix A – Capital Investment Plan Decision History Chronology  
Appendix B – 2024 - 2038 Capital Investment Plan (CIP)  
Appendix C – 2024 - 2038 Capital Investment Plan Cash Flow Summary  
Appendix D – 2024 - 2038 Real Estate Investment Plan

## Appendix A – Capital Investment Plan Decision History Chronology

### 2019 - 15-Year Capital Investment Plan and 10-Year Capital Plan

At its meeting on January 24, 2019, the TTC Board adopted the TTC's 2019 – 2028 Capital Plan of \$6.453 billion for base capital needs and \$3.832 billion for transit expansion projects. The Board also endorsed the TTC's *first* 15-Year Capital Investment Plan, entitled “*Making Headway, Capital Investments to Keep Transit Moving*” which outlined \$33.5 billion over the 2019 – 2033 planning timeframe required to meet State of Good Repair (SOGR); rolling stock; service improvement; capacity improvement and growth capital needs, of which \$23.7 billion was unfunded. This was the first comprehensive review and documentation of the TTC's capital requirements to maintain assets in a state of good repair; replace assets based on their design life and to support ridership growth over a 15-year period.

The TTC Board also directed that the TTC Chief Executive Officer:

- Maintain the 15-Year Capital Investment Plan on an annual basis, refining cost and schedule estimates as projects progress through stage gates;
- Begin steps required to prioritize critical base capital needs in advance of the Board's consideration of the 2020 Capital Budget;
- Engage the City Manager to pursue a tri-party partnership between the Federal government, Provincial government and the City of Toronto for a dedicated, long-term, stable and predictable funding plan to address rolling stock, state-of-good-repair, capacity building, service improvement and growth needs; and;
- Forward the Capital Investment Plan to the City Budget Committee and the City Manager to inform the City's Long-term Financial Plan

[TTC 15-Year Capital Investment Plan and 2019 – 2028 Capital Budget and Plan](#)

At its meeting on March 7, 2019, City Council adopted the TTC 15-Year Capital Investment Plan and 2019 to 2028 Capital Budget and Plan. In summary, the TTC was requested to work with City staff to undertake an assessment of the TTC's 15-Year Capital Investment Plan to determine the incremental needs, timing, prioritization, dependencies and stage gating of projects for consideration and integration into the City's 2020 Capital Planning and Budget Process and Long Term Fiscal Plan.

[EX2.5 - 2019 Capital and Operating Budgets](#)

At its October 2019 meeting, City Council adopted with amendments, the report EX9.1 *Toronto-Ontario Transit Update*, and directed the City Manager to report back to City Council on funding and financing options for “the reallocation of funds previously approved, identified, or contemplated for the Provincial priority projects, for the purposes of state-of-good-repair of the TTC subway network, and other expansion projects.”

The City was required to reallocate approximately \$6 billion of funds previously identified as the City's expected funding for the four Provincial priority projects to other critical transit needs, focused on state of good repair to the subway system, as part of the terms of a Toronto-Ontario partnership on transit. As outlined in the report, and attached terms for the agreement between the parties, the Province and the City would

also advance the Bloor-Yonge Capacity Improvements project for tri-partite funding under the Investing in Canada Infrastructure Program.

#### [EX9.1 - Toronto-Ontario Transit Update](#)

### **2020 - 15-Year Capital Investment Plan and 10-Year Capital Plan:**

At its meeting on December 16, 2019, the TTC Board approved the TTC 2020-2029 Capital Budget and Plan of \$7.4 billion and a 15-year Capital Investment Plan that outlined a total capital need of \$36.1 billion, of which \$28.7 billion would remain unfunded. The 10-Year Capital Plan reflected the now funded \$1.5 billion Bloor-Yonge Capacity Improvements project deemed to be a priority project by all three orders of government, with the receipt of funding commitments of \$500 million from each funding partner.

#### [TTC 15-Year Capital Investment Plan and 2020-2029 TTC Capital Budget and Plan](#)

On December 17, 2019, City Council approved an incremental tax levy dedicated to providing sustainable funding for Community Housing and Transit. The incremental increase to the City Building Fund for transit would help alleviate some of the pressures that encompass the more than almost \$30 billion of unfunded capital needs identified through TTC's 2020-2029 Capital Budget and Plan and the 15-Year Capital Investment. This funding would help raise the approximately \$5 billion needed to invest in new subways, new subway signal systems, new streetcars, and station upgrades as the City's share of the almost \$30 billion transit agreement with the Province:

In doing so, City Council adopted the following:

1. City Council direct the City Manager and the Chief Financial Officer and Treasurer to develop the 2020 to 2029 tax-supported capital plan incorporating the additional revenue generated by an increase to the City Building Levy for priority transit and housing capital projects; the increase to the City Building Levy would start by adding one percent in 2020 and 2021 to the existing 0.5 percent increment, and an additional 1.5 percent annually from 2022-2025, inclusively.

#### [EX11.26 - City Building Fund](#)

At its meeting on January 27, 2020, the TTC Board approved the amended 2020-2029 Capital Budget and Plan of \$11.924 billion, which included \$4.23 billion in net new funding made available through the dedicated City Building Fund of \$4.06 billion and one-time Federal Gas Tax funding of \$167 million. \$3.09 billion fully funded subway infrastructure projects over the 10 year timeframe, and the remaining \$1.14 billion was applied towards the procurement of new vehicles and related systems. A further \$500 million was raised to fully fund the City's one-third share of the Bloor-Yonge Capacity Improvements project.

As a result, the 15-Year Capital Investment Plan was revised from \$36.126 billion with an unfunded capital need of \$28.7 billion to \$35.233 billion and a respective unfunded capital need of \$23.6 billion.

#### [TTC's 2020-2029 Key Capital Investment Priorities: Subway Infrastructure and Accelerated Vehicle Procurements](#)

In February 2020, Toronto and Ontario entered into a *Transit Partnership Preliminary Agreement*, which required the City to redirect \$6 billion in capital contributions that would otherwise be dedicated to the Provincial projects to support modernization upgrades or state of good repair improvements to the existing transit system. Consistent with the Agreement, the City committed to invest an incremental \$8.95 billion between 2019 and 2032 to the TTC system. Of this amount, 70% is directed to the subway mode and associated infrastructure, with the balance funding other critical integrated elements of the network.

**Decision:** [City Council approved decision](#) to enter into an Agreement in October 2019.

**Agreement:** [Province Of Ontario-City of Toronto Transit Partnership Preliminary Agreement](#)

At its meeting on May 13, 2020, the TTC Board approved a net reduction of \$208.1 million to the TTC's 2020 Approved Capital Budget and a reduction of \$117.5 million to the 2020-2029 Capital Budget and Plan to reflect delays in capital project delivery due to COVID-19.

[Preliminary COVID-19 Financial Impacts for the TTC](#)

### **2021 - 15-Year Capital Investment Plan and 10-Year Capital Plan:**

At its meeting on December 21, 2020, the TTC Board approved the 2021-2030 TTC Capital Budget and Plan of \$11.9 billion and a 15-Year Capital Investment Plan of \$37.8 billion, resulting in unfunded capital needs of \$25.9 billion.

[TTC 15-Year Capital Investment Plan and 2021-2030 Capital Budget and Plan](#)

At its meeting on May 25, 2021, the TTC Board approved an amendment to the TTC Streetcar Program by increasing the 2021-2030 Approved Capital Budget and Plan by \$425.785 million for the procurement of an additional 47 streetcars at an incremental cost of \$328.248 million, and the modifications to the Hillcrest Facility to accommodate the additional fleet at an additional cost of \$97.537 million.

Funding of \$139.752 million towards the procurement of the first 13 of the total 60 streetcars was included in the TTC's 2021-2030 Capital Budget and Plan, approved by City Council on February 18, 2021. On May 12, 2021, the Provincial and Federal governments each announced a \$180 million contribution to the TTC Streetcar Program (the "Program"), towards the procurement of 60 new streetcars and supporting infrastructure required at Hillcrest Facility with the balance of funding to come from the City of Toronto, increasing the City's funding contribution to \$208 million in order to fully fund the estimated \$568 million program. This represented a significant investment in the TTC's streetcar network by all three orders of government in a critical component of Toronto's transit network and that moved the unfunded streetcar procurement needs into the TTC's approved (funded) 10-Year Capital Plan.

[TTC Streetcar Program – Procurement of 60 Streetcars](#)

### **2022 - 15-Year Capital Investment Plan and 10-Year Capital Plan:**

At its meeting of December 20, 2021, the TTC Board approved the 2022-2031 TTC Capital Budget and Plan of \$12.051 billion over the 10-year period and the 2022-2036 Capital Investment Plan of \$37.2 billion, with unfunded capital needs totalling \$25.2 billion. The 2022 Capital Investment Plan reflected a major update that took a more



strategic approach to capital investment planning by bringing together critical project interdependencies within four larger capital programs on the basis that a delay to one project would jeopardize the larger program.

In addition, the Board endorsed the principles of the TTC's first-ever 2022-2036 Real Estate Investment Plan and implementation timeline. As a companion document to the CIP, the REIP sets out the strategic direction for the planning and management of the TTC's real estate assets and sets out the 15-year priorities in support of TTC's capital programs and operational needs.

[TTC 15-Year Capital Investment Plan, Real Estate Investment Plan and 2022-2031 Capital Budget and Plan](#)

At its meeting of December 15, 2021, City Council adopted the Net Zero Strategy that builds on the initial Transform TO Strategy to reduce community wide greenhouse gas (GHG) emissions in Toronto, establishing a new Net Zero goal of 2040 from the original 2050 goal and critical steps to achieve the revised goal.

[TransformTO: Critical Steps for Net Zero by 2040](#)

### **2023 - 15-Year Capital Investment Plan and 10-Year Capital Plan:**

At its meeting on January 9, 2023, the TTC Board approved the 2023-2032 TTC Capital Budget and Plan of \$12.491 billion and a 15-Year Capital Investment Plan of \$38.05 billion, of which \$25.555 in capital needs are unfunded.

[TTC 15-Year Capital Investment Plan, Real Estate Investment Plan Update and 2023 – 2032 Capital Budget and Plan](#)

At its meeting on June 12, 2023, the TTC Board approved adjustments to the TTC's 2023-2032 Capital Budget and Plan for the TTC Green Bus Program that increased the approved 10-Year Capital Plan by \$349 million to a total of \$799 million for the TTC Green Bus Program. This increase was fully offset by \$349 million in incremental funding to be received through Infrastructure Canada's Zero Emission Transit Fund for the procurement of 340 eBuses and 248 charge points.

This funding has enabled the TTC to procure previously unfunded buses needed for replacement to the end of 2025, continue to increase the electrification of its fleet to 20% and contribute to advancing TransformTO's Net Zero goal by 2040. The 15-Year Capital Investment Plan's unfunded capital needs were reduced, accordingly.

[Financial and Major Projects Update for the Period Ended April 29, 2023](#)

At its meeting of November 22, 2023, the TTC Board approved recommendations to continue with Line 2 modernization plans, while advancing in parallel the necessary planning should the TTC need to implement temporary measures to extend the Line 2 fleet past design life by 10 years and further extend the life of signalling infrastructure. Specifically, the Board approved prioritizing funding of the TTCs one-third share of the revised estimated cost of the 80 new subway trains of \$3.2 billion, \$130 million to implement a 30-Year SOGR program for the full fleet of Line 2's T1 trains and \$5 million to advance in parallel, risk mitigation activities for Line 2. The Board also approved recommendations to government partners to prioritize new funding in their 2024 Budgets to enable Line 2 modernization to advance, and to support Line 1 growth and expansion by investing in trains and a Train Maintenance and Storage Facility.

[New Subway Train Procurement and Implications for Line 2 Modernization and Future Growth](#)

On November 27, 2023, the Government of Ontario and City of Toronto announced a new deal that will help achieve long-term financial stability and sustainability for the city. As part of this new deal, Ontario has agreed to provide the City with up to \$1.2 billion in Provincial operating supports over three years and significant capital relief, including the following Provincial support that will directly benefit the TTC:

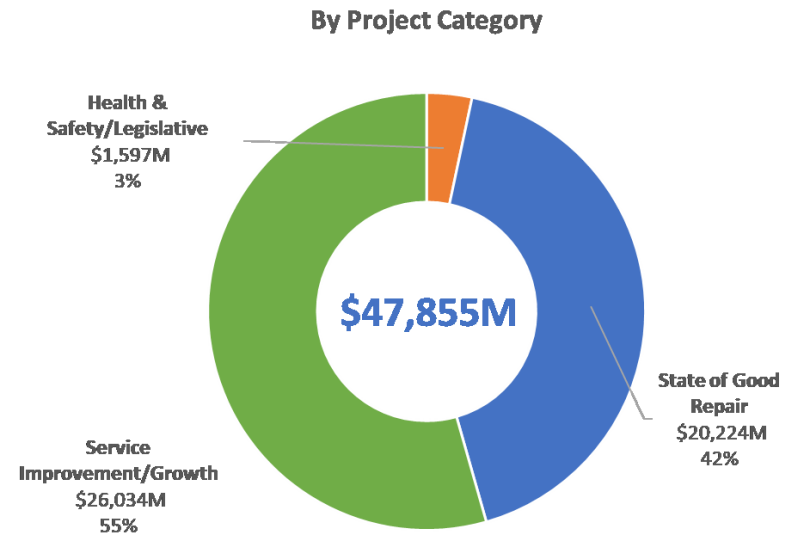
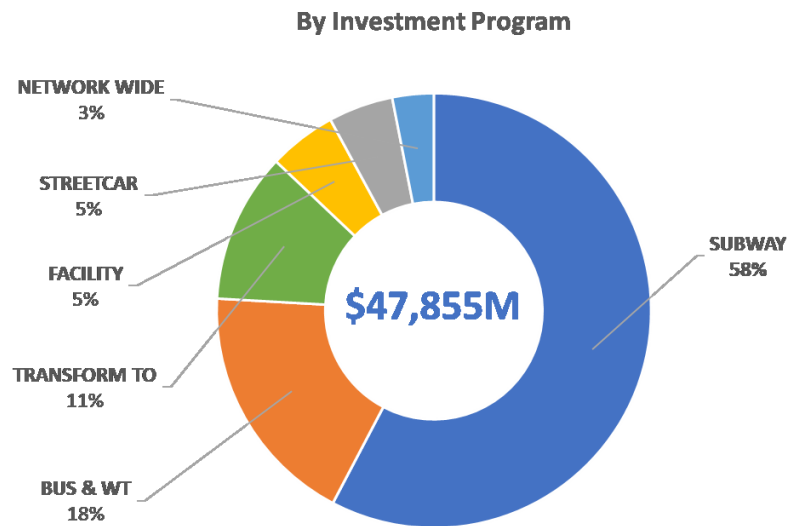
- Annual operating funding of \$330 million over three years beginning in 2024–2025 for new subway-integrated Provincial transit projects — the Eglinton Crosstown LRT and the Finch West LRT;
- \$758 million in funding for 55 new subway trains for the TTC's Line 2, conditional on matching Federal support;
- \$300 million in one-time funding for subways and transit safety, recovery and sustainability that includes commitments on the part of the City related to increased police or safety officer presence on and near transit, continued expansion of transit rider cellular and data services across the TTC network and enhanced emergency reporting options and response timelines for riders.
- The New Deal Term Sheet also requires the City to use immediate financial benefits and "all future financial benefits of the (Gardiner Expressway and Don Valley Parkway) upload" to "support investments in housing and the infrastructure that supports and enables growth". This will allow for current budgeted funding to be reallocated to existing and unfunded City infrastructure priorities and may have potential benefits to the TTC.

[News Release: Ontario and Toronto Reach a New Deal](#)

[Terms of the New Deal between Ontario and Toronto | Ontario Newsroom](#)

## Appendix B – 2024 - 2038 Capital Investment Plan (CIP)

The 2024-2038 Capital Investment Plan totals \$47.855 billion in base capital needs over a 15-year period. The following charts summarize the TTC's 15-Year CIP by investment program and by project category.



Program / Project	Description	Funded	Unfunded	Total CIP
<b>Modernizing the Subway &amp; Expanding Capacity</b>				
Purchase of Subway Cars	Purchase of new subway trains to replace the aging T1 trains, meet ATC requirements and align the fleet with ridership growth forecasts	918.8	2,305.0	3,223.8
Line 2 Automatic Train Control	The implementation of an ATC system on Line 2 which will increase capacity by reducing headway, providing more reliable service	593.3	273.5	866.9
Line 2 Capacity Enhancements	Increasing Line 2 capacity through infrastructure upgrades to various station capacity and traction power systems, as well as the modification of Greenwood Yard	872.9	1,798.3	2,671.2
Line 1 Capacity Enhancements (Includes TMSF)	Increasing Line 1 capacity through purchase of a new train maintenance and storage facility and various enhancements and additions to achieve target capacities at specific horizon years	1,028.8	5,165.3	6,194.1
Line 2 Maintenance & Storage Facility	Construction of maintenance and storage facility and connection to the main line to meet growth	2.5	3,615.4	3,617.9
Platform Edge Doors	Improve subway service reliability and efficiency, while maintaining physical separation between passengers on the platform	-	4,100.0	4,100.0
Bloor-Yonge Capacity Improvements	Construction of additional platforms, escalators and elevators to improve vertical circulation and address overcrowding at the Bloor-Yonge station	1,182.9	252.2	1,435.1
Line 4 Resignalling	Increasing capacity by reducing headway, providing more reliable service	-	136.4	136.4
Line 1 Resignalling	Increasing capacity by reducing headway, providing more reliable service	37.1	-	37.1
<b>Upholding the State-of-Good-Repair</b>				
Subway Car Overhaul	Overhaul of the T1 and TR subway fleet to maintain state-of-good-repair	460.2	252.8	713.0

Program / Project	Description	Funded	Unfunded	Total CIP
Traction Power	Replacement of electrical systems that power the subway, including substation electrical rebuild and LV feeder cables	120.8	172.4	293.2
Power Distribution / Electric Systems	Replacement of electrical systems that power the subway, including cables, station breakers and backup power systems	148.5	146.2	294.7
Communications	Various radio, antenna, video equipment and alarm upgrades and replacement projects	122.9	167.8	290.7
Signal Systems	Signal cable alterations and replacement, switch machine replacement and refurbishment	121.0	96.8	217.7
Equipment	Overhaul and replacement of pumps, elevators and escalators within the TTC subway system	226.0	348.5	574.5
Bridges & Tunnels	Structural rehabilitation programs to ensure the subway tunnels and bridges maintain in state of good repair	496.3	286.7	783.0
Subway Track	Subway track and turnout rehabilitation, rail grinding, rail vehicle-based inspection system	338.0	197.9	535.9
Easier Access Phase III	Increasing accessibility of TTC stations through the addition of elevators, ramps, automatic doors and associated modifications to stations' structural and electrical components	525.1	-	525.1
Fire Ventilation & Second Exits	The replacement and upgrades of subway fire ventilation fans and the creation of new stairs and exists for emergency situations.	366.2	77.9	444.1
Other Buildings & Structures	Various infrastructure replacement and upgrades supporting the TTC subway systems	73.7	83.6	157.3
Finishes	Station finishes renewal projects such as tactile wayfinding upgrades and platform edge tile replacements	64.0	53.3	117.4
Shop Equipment	Engineering and shop equipment purchases to support subway SOGR work	14.7	102.1	116.8

Program / Project	Description	Funded	Unfunded	Total CIP
Environmental Programs	Asbestos removal program	56.6	30.0	86.6
Rail Non-Revenue Vehicle Purchase	Various subway workcars required for the TTC maintenance and construction work within the subway system	63.2	-	63.2
Toronto-York Spadina Subway Extension	Close-out costs for the TYSSE project	49.1	-	49.1
Rail Non-Revenue Vehicle Overhaul	SOGR maintenance of subway workcars	33.8	8.2	42.1
Fare Handling Equipment	The replacement of turnstiles at TTC stations	12.0	-	12.0
Other Maintenance Equipment	Subway infrastructure maintenance equipment purchases	3.0	-	3.0
Other Subway Projects	Various Subway SOGR Projects	11.1	-	11.1
<b>Grand Total - Modernizing the Subway &amp; Expanding Capacity</b>		<b>7,942.7</b>	<b>19,670.3</b>	<b>27,613.0</b>

Program/ Project	Description	Funded	Unfunded	Total CIP
<b>Transforming &amp; Electrifying Bus Service</b>				
Purchase of Hybrid / Electric Buses	Purchase of low/zero emissions conventional service buses	681.7	4,019.2	4,700.9
Purchase of Wheel-Trans Buses	Purchase of accessible buses for WT service	27.5	351.5	378.9
Install Charging Infrastructure	Bus charging system required for the operation of low/zero emission buses	66.8	983.9	1,050.8
Implement Transit Priority Measure	Construction of special dedicated bus lanes and bus transit priority initiatives	88.7	263.1	351.8
10th Bus Garage	Construct a new garage that will allow for several years of growth	5.3	463.0	468.3
<b>Upholding the State-of-Good-Repair</b>				
Bus Overhaul	Includes the mid-life rebuild and Scheduled Maintenance Plan (SMP) work	548.4	655.2	1,203.6
SRT Transition	Bus replacement infrastructure for Line 3 service replacement	21.5	55.7	77.2
Equipment	Bus Hoists and bus cleaning infrastructure	75.2	142.0	217.2
Service Planning	Bus stop accessibility improvements	15.2	77.1	92.3
Environmental Programs	Storage tank replacements for bus garages	51.6	5.1	56.6
Other Buildings & Structures	Eglinton Bus terminal, WT 10-Year Transformation Program, and various bus infrastructure construction projects	97.3	-	97.3
Shop Equipment	Various bus maintenance equipment purchases	7.7	2.5	10.3
<b>Grand Total - Transforming &amp; Electrifying Bus Service</b>		<b>1,686.9</b>	<b>7,018.3</b>	<b>8,705.2</b>

Program/ Project	Description	Funded	Unfunded	Total CIP
<b>Supporting a Larger Streetcar Fleet</b>				
Purchase of Streetcars	Purchase of articulated low-floor streetcars for ridership growth	325.0	-	325.0
Upgrade Overhead Power	The reconstruction of streetcar overhead infrastructure and overhead pole replacement	94.9	84.4	179.3
Hillcrest Maintenance & Storage Facility	Addition of tracks, storage and maintenance capacity at Hillcrest complex to support a larger fleet	140.7	-	140.7
Renew Russell Carhouse	Carhouse extension at Russell, track replacement and interior modifications to accommodate servicing of new low floor LRVs	158.1	-	158.1
Other Streetcar Projects	Various Streetcar SOGR Projects	2.1	2.7	4.8
<b>Subtotal: Supporting a Larger Streetcar Fleet</b>		<b>720.9</b>	<b>87.1</b>	<b>807.9</b>
<b>Upholding the State-of-Good-Repair</b>				
Streetcar Overhaul	Comprehensive overhaul program to ensure the state-of-good-repair of the streetcar fleet	80.7	493.0	573.7
Surface Track	Ongoing surface track replacement for streetcar routes	402.7	276.3	679.0
Traction Power	Traction power distribution systems and alternative traction feeds for intersections	60.4	44.8	105.2
Transit Shelters & Loops	SOGR transit loop construction as well as new/reconstruction work on streetcar shelters	5.7	39.3	45.0
Waterfront Transit	Advancing the design of a two-way streetcar connection between Exhibition Loop and Dufferin Gates Loop, as well as the concept design for Waterfront East Area 1.	30.6	-	30.6
Signal Systems	Rehabilitation work for streetcar track switches and controllers	15.0	10.6	25.5
Shop Equipment	Streetcar carhouse shop equipment purchases	8.7	11.1	19.8
Service Planning	Extension platforms at Dundas West and Broadview station to accommodate low-floor LRVs and automatic passenger counting systems on streetcars.	13.6	-	13.6
Other Maintenance Equipment	Maintenance equipment required for TTC streetcars	4.9	2.2	7.1
<b>Grand Total - Supporting a Larger Streetcar Fleet</b>		<b>1,343.1</b>	<b>964.3</b>	<b>2,307.4</b>



Program/ Project	Description	Funded	Unfunded	Total CIP
<b>Facility Maintenance</b>				
Major Control Centre	Construction of new transit control to support TTC growth across various modes	17.8	458.8	476.6
Facility Renewal Programs	Various facility renewal and construction projects	382.1	784.3	1,166.3
Sustainability	Energy Efficiency Retrofits and De-carbonization of Facilities	21.0	106.7	127.7
Roofing Rehabilitation	Replacement of roofs at TTC facilities	99.1	282.6	381.7
Communications	Building fire alarm upgrades and garage intercom systems	23.4	12.4	35.8
Environmental Programs	Subsurface remediation at TTC garages	2.6	1.0	3.6
On-grade Paving	Ongoing assessment and rehabilitation of on-grade pavement surfaces including stations, yards, substations, bus loops and commuter parking facilities	125.7	94.7	220.4
Power Distribution / Electric Systems	Replacement for lighting at various buildings, garages, workshops and other facilities	3.1	-	3.1
<b>Grand Total - Facility Maintenance</b>		<b>674.7</b>	<b>1,740.5</b>	<b>2,415.2</b>

Program/ Project	Description	Funded	Unfunded	Total CIP
<b>Network Wide Assets</b>				
Equipment	Energy storage and renewable energy generation systems, and fall prevention systems	68.3	288.3	356.6
IT Systems / Software	IT systems including the SAP ERP and Corporate Camera Strategy and Delivery projects	431.7	128.6	560.3
Purchase Automotive Non-Revenue Vehicles	Procurement of service trucks, vans, utility trucks, road rail overhead service trucks and various other vehicles required for various TTC departments to fulfil their duties.	79.5	222.0	301.5
Other Buildings & Structures	Climate change mitigation and adaptation program	39.7	36.6	76.3
Corporate Initiatives	Enterprise asset management and safety/reliability projects in accordance with provincial safety orders	104.7	-	104.7
Fare System	TTC Presto	8.7	49.0	57.7
Other Maintenance Equipment	Service delivery and plant maintenance equipment purchases	6.7	-	6.7
Shop Equipment	Materials management and warehouse handling equipment purchases	6.1	-	6.1
Fare Handling Equipment	Revenue and fare handling equipment purchases	2.1	-	2.1
Furniture & Office Equipment	Various office equipment including graphic services/printers	1.3	-	1.3
Service Planning	Automatic passenger counting enhancements	1.0	-	1.0
Warehouse Consolidation	Non-revenue material handling equipment for the Sheppard Warehouse	0.5	-	0.5
<b>Grand Total - Network Wide Assets</b>		<b>750.3</b>	<b>724.5</b>	<b>1,474.8</b>

Program/ Project	Description	Funded	Unfunded	Total CIP
<b>TransformTO</b>				
Vehicles	Additional buses required to meet the TransformTO targets	-	2,013.6	2,013.6
Infrastructure	Additions of an 11th and 12th bus garage, charging infrastructure as well as expanding capacity at existing garages and end of line facilities to accommodate a higher bus throughput.	-	3,326.2	3,326.2
<b>Grand Total - TransformTO</b>		-	<b>5,339.8</b>	<b>5,339.8</b>

<b>Total Capital Investment &amp; Plan</b>		<b>12,397.7</b>	<b>35,457.7</b>	<b>47,855.4</b>
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## Appendix C – 2024 – 2038 Capital Investment Plan Cashflow Summary

Program Description (\$ Millions)	CIP	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 10 Year	Post 2033	Total 15 Year
Subway Track	Funded	33.1	34.1	34.6	34.1	33.3	33.5	34.7	33.0	33.5	34.0	338.0	-	338.0
Subway Track	Unfunded	-	-	-	-	-	-	-	-	-	-	-	197.9	197.9
<b>Subway Track</b>	<b>Total CIP</b>	<b>33.1</b>	<b>34.1</b>	<b>34.6</b>	<b>34.1</b>	<b>33.3</b>	<b>33.5</b>	<b>34.7</b>	<b>33.0</b>	<b>33.5</b>	<b>34.0</b>	<b>338.0</b>	<b>197.9</b>	<b>535.9</b>
Surface Track	Funded	40.7	71.2	88.8	85.4	77.2	34.6	36.0	36.0	36.0	45.0	550.9	-	550.9
Surface Track	Unfunded	-	-	-	-	-	10.4	9.0	9.0	9.0	-	37.4	238.9	276.3
<b>Surface Track</b>	<b>Total CIP</b>	<b>40.7</b>	<b>71.2</b>	<b>88.8</b>	<b>85.4</b>	<b>77.2</b>	<b>45.0</b>	<b>45.0</b>	<b>45.0</b>	<b>45.0</b>	<b>45.0</b>	<b>588.3</b>	<b>238.9</b>	<b>827.2</b>
Traction Power	Funded	29.2	29.2	27.1	26.6	28.1	28.8	29.9	23.8	21.7	31.9	276.3	-	276.3
Traction Power	Unfunded	5.4	2.4	2.4	2.6	1.7	8.7	8.7	15.7	17.8	8.5	73.7	227.9	301.6
<b>Traction Power</b>	<b>Total CIP</b>	<b>34.6</b>	<b>31.5</b>	<b>29.6</b>	<b>29.2</b>	<b>29.8</b>	<b>37.5</b>	<b>38.5</b>	<b>39.5</b>	<b>39.4</b>	<b>40.4</b>	<b>350.0</b>	<b>227.9</b>	<b>577.9</b>
Power Distribution / Electric Systems	Funded	7.4	7.7	10.6	17.8	31.3	34.6	13.8	9.8	10.4	8.3	151.6	-	151.6
Power Distribution / Electric Systems	Unfunded	0.8	3.8	5.3	5.3	5.4	5.8	14.7	15.7	5.2	5.3	67.3	78.9	146.2
<b>Power Distribution / Electric Systems</b>	<b>Total CIP</b>	<b>8.2</b>	<b>11.5</b>	<b>15.9</b>	<b>23.2</b>	<b>36.6</b>	<b>40.4</b>	<b>28.5</b>	<b>25.5</b>	<b>15.6</b>	<b>13.5</b>	<b>218.9</b>	<b>78.9</b>	<b>297.8</b>
Communications	Funded	15.2	13.8	19.7	17.2	17.2	15.9	13.5	11.7	10.9	11.2	146.3	-	146.3
Communications	Unfunded	5.3	8.5	8.3	10.9	8.5	6.6	6.2	12.0	12.1	11.8	90.2	89.9	180.1
<b>Communications</b>	<b>Total CIP</b>	<b>20.5</b>	<b>22.3</b>	<b>27.9</b>	<b>28.2</b>	<b>25.7</b>	<b>22.5</b>	<b>19.6</b>	<b>23.7</b>	<b>23.0</b>	<b>23.0</b>	<b>236.5</b>	<b>89.9</b>	<b>326.4</b>
Signal Systems	Funded	21.6	22.3	26.6	17.3	7.9	7.4	7.3	12.9	13.2	10.3	146.8	-	146.8
Signal Systems	Unfunded	5.2	7.4	6.3	14.2	31.7	31.7	35.9	36.7	20.6	6.4	196.1	58.5	254.6
<b>Signal Systems</b>	<b>Total CIP</b>	<b>26.8</b>	<b>29.6</b>	<b>32.9</b>	<b>31.5</b>	<b>39.6</b>	<b>39.1</b>	<b>43.2</b>	<b>49.5</b>	<b>33.8</b>	<b>16.8</b>	<b>342.9</b>	<b>58.5</b>	<b>401.4</b>
Finishes	Funded	22.2	34.4	24.9	19.6	13.5	10.6	9.1	11.3	13.9	12.9	172.4	-	172.4
Finishes	Unfunded	-	4.6	42.5	58.8	38.6	50.1	46.5	15.1	11.9	11.0	279.2	61.8	341.0
<b>Finishes</b>	<b>Total CIP</b>	<b>22.2</b>	<b>39.1</b>	<b>67.4</b>	<b>78.4</b>	<b>52.1</b>	<b>60.7</b>	<b>55.6</b>	<b>26.5</b>	<b>25.8</b>	<b>23.9</b>	<b>451.6</b>	<b>61.8</b>	<b>513.5</b>
Equipment	Funded	68.9	70.9	67.1	60.2	44.7	28.3	24.3	22.7	24.4	25.1	436.5	-	436.5
Equipment	Unfunded	100.5	178.6	161.2	242.9	122.1	109.8	139.3	84.8	79.6	83.0	1,301.9	460.9	1,762.7
<b>Equipment</b>	<b>Total CIP</b>	<b>169.4</b>	<b>249.5</b>	<b>228.3</b>	<b>303.2</b>	<b>166.8</b>	<b>138.1</b>	<b>163.6</b>	<b>107.4</b>	<b>104.0</b>	<b>108.1</b>	<b>1,738.4</b>	<b>460.9</b>	<b>2,199.2</b>
Yards & Roads	Funded	0.5	0.1	1.2	-	-	-	-	-	-	-	1.8	-	1.8
Yards & Roads	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Yards &amp; Roads</b>	<b>Total CIP</b>	<b>0.5</b>	<b>0.1</b>	<b>1.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.8</b>	<b>-</b>	<b>1.8</b>
Ongrade Paving	Funded	10.8	12.9	14.0	6.4	14.9	21.4	14.8	0.8	14.7	15.0	125.7	-	125.7
Ongrade Paving	Unfunded	-	-	-	-	-	-	-	14.5	-	-	14.5	80.2	94.7
<b>Ongrade Paving</b>	<b>Total CIP</b>	<b>10.8</b>	<b>12.9</b>	<b>14.0</b>	<b>6.4</b>	<b>14.9</b>	<b>21.4</b>	<b>14.8</b>	<b>15.3</b>	<b>14.7</b>	<b>15.0</b>	<b>140.2</b>	<b>80.2</b>	<b>220.4</b>
Bridges & Tunnels	Funded	44.2	55.7	61.2	61.1	52.0	37.5	39.7	46.9	48.2	49.8	496.3	-	496.3
Bridges & Tunnels	Unfunded	-	-	-	5.0	8.0	8.0	8.0	-	-	-	29.0	257.7	286.7
<b>Bridges &amp; Tunnels</b>	<b>Total CIP</b>	<b>44.2</b>	<b>55.7</b>	<b>61.2</b>	<b>66.1</b>	<b>60.0</b>	<b>45.5</b>	<b>47.7</b>	<b>46.9</b>	<b>48.2</b>	<b>49.8</b>	<b>525.3</b>	<b>257.7</b>	<b>783.0</b>
Fire Ventilation & Second Exits	Funded	23.7	29.3	30.8	27.6	41.9	46.1	52.0	48.3	40.6	25.9	366.2	-	366.2
Fire Ventilation & Second Exits	Unfunded	-	-	0.4	1.4	1.2	3.9	1.5	4.2	9.3	5.8	27.9	50.0	77.9
<b>Fire Ventilation &amp; Second Exits</b>	<b>Total CIP</b>	<b>23.7</b>	<b>29.3</b>	<b>31.2</b>	<b>29.1</b>	<b>43.1</b>	<b>50.0</b>	<b>53.5</b>	<b>52.5</b>	<b>50.0</b>	<b>31.8</b>	<b>394.1</b>	<b>50.0</b>	<b>444.1</b>

Program Description (\$ Millions)	CIP	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 10 Year	Post 2033	Total 15 Year
Easier Access Phase III	Funded	114.9	152.4	121.8	101.4	34.5	-	-	-	-	-	525.1	-	525.1
Easier Access Phase III	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Easier Access Phase III</b>	<b>Total CIP</b>	<b>114.9</b>	<b>152.4</b>	<b>121.8</b>	<b>101.4</b>	<b>34.5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>525.1</b>	<b>-</b>	<b>525.1</b>
Sheppard Subway	Funded	0.2	0.2	3.0	-	-	-	-	-	-	-	3.4	-	3.4
Sheppard Subway	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sheppard Subway</b>	<b>Total CIP</b>	<b>0.2</b>	<b>0.2</b>	<b>3.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.4</b>	<b>-</b>	<b>3.4</b>
Wheel-Trans Bus Purchase	Funded	15.8	9.6	2.1	-	-	-	-	-	-	-	27.5	-	27.5
Wheel-Trans Bus Purchase	Unfunded	-	-	2.3	2.8	47.0	56.4	9.3	11.3	7.9	31.1	168.2	183.2	351.5
<b>Wheel-Trans Bus Purchase</b>	<b>Total CIP</b>	<b>15.8</b>	<b>9.6</b>	<b>4.4</b>	<b>2.8</b>	<b>47.0</b>	<b>56.4</b>	<b>9.3</b>	<b>11.3</b>	<b>7.9</b>	<b>31.1</b>	<b>195.7</b>	<b>183.2</b>	<b>378.9</b>
Purchase Of Subway Cars	Funded	2.2	80.2	52.5	38.8	15.6	170.1	133.8	162.8	153.2	109.6	918.8	-	918.8
Purchase Of Subway Cars	Unfunded	-	160.3	105.0	77.6	31.2	340.3	267.5	325.7	306.4	219.2	1,833.1	471.8	2,305.0
<b>Purchase Of Subway Cars</b>	<b>Total CIP</b>	<b>2.2</b>	<b>240.5</b>	<b>157.4</b>	<b>116.4</b>	<b>46.8</b>	<b>510.4</b>	<b>401.3</b>	<b>488.5</b>	<b>459.6</b>	<b>328.8</b>	<b>2,751.9</b>	<b>471.8</b>	<b>3,223.8</b>
Streetcar Overhaul	Funded	37.4	18.9	10.0	1.3	5.5	7.5	-	-	-	-	80.7	-	80.7
Streetcar Overhaul	Unfunded	1.0	18.5	64.1	25.3	40.3	13.5	22.1	63.3	63.4	63.4	374.9	118.1	493.0
<b>Streetcar Overhaul</b>	<b>Total CIP</b>	<b>38.4</b>	<b>37.4</b>	<b>74.1</b>	<b>26.6</b>	<b>45.8</b>	<b>21.0</b>	<b>22.1</b>	<b>63.3</b>	<b>63.4</b>	<b>63.4</b>	<b>455.6</b>	<b>118.1</b>	<b>573.7</b>
Subway Car Overhaul	Funded	38.3	46.6	33.0	31.9	37.8	68.0	65.1	63.4	46.6	29.5	460.2	-	460.2
Subway Car Overhaul	Unfunded	-	-	30.7	31.7	33.9	4.6	5.6	5.2	4.1	-	115.7	137.1	252.8
<b>Subway Car Overhaul</b>	<b>Total CIP</b>	<b>38.3</b>	<b>46.6</b>	<b>63.7</b>	<b>63.6</b>	<b>71.8</b>	<b>72.6</b>	<b>70.7</b>	<b>68.6</b>	<b>50.7</b>	<b>29.5</b>	<b>575.9</b>	<b>137.1</b>	<b>713.0</b>
Purchase Automotive Non-Revenue Vehicles	Funded	16.5	24.0	10.5	8.1	10.3	2.7	2.7	2.7	1.9	-	79.5	-	79.5
Purchase Automotive Non-Revenue Vehicles	Unfunded	-	-	8.9	13.7	12.7	16.4	13.8	9.8	19.9	25.4	120.6	101.4	222.0
<b>Purchase Automotive Non-Revenue Vehicles</b>	<b>Total CIP</b>	<b>16.5</b>	<b>24.0</b>	<b>19.4</b>	<b>21.7</b>	<b>23.0</b>	<b>19.1</b>	<b>16.6</b>	<b>12.5</b>	<b>21.9</b>	<b>25.4</b>	<b>200.0</b>	<b>101.4</b>	<b>301.5</b>
Rail Non-Revenue Vehicle Overhaul	Funded	2.2	3.4	4.4	5.7	5.3	4.2	3.6	1.9	1.6	1.6	33.8	-	33.8
Rail Non-Revenue Vehicle Overhaul	Unfunded	-	-	-	-	-	-	-	-	-	-	-	8.2	8.2
<b>Rail Non-Revenue Vehicle Overhaul</b>	<b>Total CIP</b>	<b>2.2</b>	<b>3.4</b>	<b>4.4</b>	<b>5.7</b>	<b>5.3</b>	<b>4.2</b>	<b>3.6</b>	<b>1.9</b>	<b>1.6</b>	<b>1.6</b>	<b>33.8</b>	<b>8.2</b>	<b>42.1</b>
Rail Non-Revenue Vehicle Purchase	Funded	0.7	4.4	6.3	6.9	5.6	9.9	12.9	8.4	5.5	2.6	63.2	-	63.2
Rail Non-Revenue Vehicle Purchase	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Rail Non-Revenue Vehicle Purchase</b>	<b>Total CIP</b>	<b>0.7</b>	<b>4.4</b>	<b>6.3</b>	<b>6.9</b>	<b>5.6</b>	<b>9.9</b>	<b>12.9</b>	<b>8.4</b>	<b>5.5</b>	<b>2.6</b>	<b>63.2</b>	<b>-</b>	<b>63.2</b>
Shop Equipment	Funded	10.1	11.5	3.0	2.3	2.4	1.4	1.6	1.5	1.6	2.1	37.3	-	37.3
Shop Equipment	Unfunded	1.2	7.0	11.2	9.9	7.2	6.5	9.1	6.2	9.2	6.8	74.3	41.4	115.7
<b>Shop Equipment</b>	<b>Total CIP</b>	<b>11.2</b>	<b>18.5</b>	<b>14.1</b>	<b>12.1</b>	<b>9.6</b>	<b>8.0</b>	<b>10.7</b>	<b>7.8</b>	<b>10.8</b>	<b>8.9</b>	<b>111.6</b>	<b>41.4</b>	<b>153.0</b>
Fare Handling Equipment	Funded	1.3	1.2	1.2	1.2	1.2	1.2	1.7	1.7	1.7	1.7	14.1	-	14.1
Fare Handling Equipment	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Fare Handling Equipment</b>	<b>Total CIP</b>	<b>1.3</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>	<b>14.1</b>	<b>-</b>	<b>14.1</b>
Environmental Programs	Funded	9.2	14.5	18.3	18.2	12.6	8.6	9.3	7.9	6.2	6.0	110.8	-	110.8
Environmental Programs	Unfunded	-	1.2	1.0	2.1	1.8	-	-	-	-	-	6.1	30.0	36.1
<b>Environmental Programs</b>	<b>Total CIP</b>	<b>9.2</b>	<b>15.7</b>	<b>19.3</b>	<b>20.3</b>	<b>14.3</b>	<b>8.6</b>	<b>9.3</b>	<b>7.9</b>	<b>6.2</b>	<b>6.0</b>	<b>116.9</b>	<b>30.0</b>	<b>146.9</b>
IT Systems / Software	Funded	87.0	87.1	78.8	78.9	18.0	16.8	16.2	14.2	18.1	16.5	431.7	-	431.7
IT Systems / Software	Unfunded	5.8	14.3	30.1	38.7	28.7	7.5	0.6	0.4	0.4	2.1	128.6	-	128.6
<b>IT Systems / Software</b>	<b>Total CIP</b>	<b>92.9</b>	<b>101.4</b>	<b>108.9</b>	<b>117.6</b>	<b>46.7</b>	<b>24.3</b>	<b>16.8</b>	<b>14.6</b>	<b>18.5</b>	<b>18.7</b>	<b>560.3</b>	<b>-</b>	<b>560.3</b>

Program Description (\$ Millions)	CIP	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 10 Year	Post 2033	Total 15 Year
Furniture & Office Equipment	Funded	0.1	0.3	0.2	0.1	0.2	0.1	0.1	0.3	0.1	0.1	1.3	-	1.3
Furniture & Office Equipment	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Furniture &amp; Office Equipment</b>	<b>Total CIP</b>	<b>0.1</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>0.1</b>	<b>1.3</b>	<b>-</b>	<b>1.3</b>
Service Planning	Funded	17.8	21.2	24.8	27.5	10.0	3.8	3.6	3.1	3.3	3.3	118.4	-	118.4
Service Planning	Unfunded	-	8.5	25.5	33.3	51.1	59.4	50.3	41.9	41.9	14.9	326.7	13.6	340.2
<b>Service Planning</b>	<b>Total CIP</b>	<b>17.8</b>	<b>29.8</b>	<b>50.3</b>	<b>60.7</b>	<b>61.1</b>	<b>63.2</b>	<b>53.9</b>	<b>45.0</b>	<b>45.2</b>	<b>18.2</b>	<b>445.1</b>	<b>13.6</b>	<b>458.7</b>
Transit Shelters & Loops	Funded	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.6	5.7	-	5.7
Transit Shelters & Loops	Unfunded	-	0.6	7.0	14.8	12.8	0.8	-	-	-	-	36.0	3.3	39.3
<b>Transit Shelters &amp; Loops</b>	<b>Total CIP</b>	<b>0.4</b>	<b>1.1</b>	<b>7.5</b>	<b>15.3</b>	<b>13.4</b>	<b>1.4</b>	<b>0.6</b>	<b>0.6</b>	<b>0.7</b>	<b>0.6</b>	<b>41.7</b>	<b>3.3</b>	<b>45.0</b>
Other Buildings & Structures	Funded	75.3	119.8	180.3	121.6	75.5	58.5	1.4	0.7	5.5	5.7	644.2	-	644.2
Other Buildings & Structures	Unfunded	1.5	20.9	101.2	234.5	352.6	350.4	437.2	673.6	592.8	537.5	3,302.1	6,311.1	9,613.3
<b>Other Buildings &amp; Structures</b>	<b>Total CIP</b>	<b>76.8</b>	<b>140.7</b>	<b>281.4</b>	<b>356.0</b>	<b>428.1</b>	<b>408.9</b>	<b>438.6</b>	<b>674.2</b>	<b>598.3</b>	<b>543.2</b>	<b>3,946.3</b>	<b>6,311.1</b>	<b>10,257.4</b>
Purchase Of Buses	Funded	200.2	456.4	25.1	-	-	-	-	-	-	-	681.7	-	681.7
Purchase Of Buses	Unfunded	17.7	135.5	265.7	263.0	374.5	325.0	372.1	335.1	301.9	279.1	2,669.6	1,349.6	4,019.2
<b>Purchase Of Buses</b>	<b>Total CIP</b>	<b>217.9</b>	<b>591.9</b>	<b>290.8</b>	<b>263.0</b>	<b>374.5</b>	<b>325.0</b>	<b>372.1</b>	<b>335.1</b>	<b>301.9</b>	<b>279.1</b>	<b>3,351.2</b>	<b>1,349.6</b>	<b>4,700.9</b>
Bus Overhaul	Funded	70.6	31.8	6.3	2.8	47.6	81.4	81.3	73.0	77.6	76.0	548.4	-	548.4
Bus Overhaul	Unfunded	1.0	29.6	68.9	66.5	27.3	23.3	4.5	12.2	14.0	5.2	252.5	402.7	655.2
<b>Bus Overhaul</b>	<b>Total CIP</b>	<b>71.6</b>	<b>61.4</b>	<b>75.2</b>	<b>69.3</b>	<b>74.9</b>	<b>104.7</b>	<b>85.8</b>	<b>85.2</b>	<b>91.6</b>	<b>81.2</b>	<b>801.0</b>	<b>402.7</b>	<b>1,203.6</b>
Other Maintenance Equipment	Funded	3.6	2.0	1.4	1.1	1.0	1.1	1.1	1.1	1.2	1.0	14.6	-	14.6
Other Maintenance Equipment	Unfunded	0.7	-	-	-	0.7	0.1	-	-	-	-	1.5	0.7	2.2
<b>Other Maintenance Equipment</b>	<b>Total CIP</b>	<b>4.3</b>	<b>2.0</b>	<b>1.4</b>	<b>1.1</b>	<b>1.7</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.2</b>	<b>1.0</b>	<b>16.1</b>	<b>0.7</b>	<b>16.8</b>
Queensway Garage Renovations	Funded	-	-	-	-	-	-	-	-	-	-	-	-	-
Queensway Garage Renovations	Unfunded	-	0.7	2.7	7.9	-	-	-	-	-	-	11.2	-	11.2
<b>Queensway Garage Renovations</b>	<b>Total CIP</b>	<b>-</b>	<b>0.7</b>	<b>2.7</b>	<b>7.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11.2</b>	<b>-</b>	<b>11.2</b>
Purchase Of Streetcars	Funded	217.8	90.9	16.3	-	-	-	-	-	-	-	325.0	-	325.0
Purchase Of Streetcars	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Purchase Of Streetcars</b>	<b>Total CIP</b>	<b>217.8</b>	<b>90.9</b>	<b>16.3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>325.0</b>	<b>-</b>	<b>325.0</b>
Toronto-York Spadina Subway Extension	Funded	42.3	6.8	-	-	-	-	-	-	-	-	49.1	-	49.1
Toronto-York Spadina Subway Extension	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Toronto-York Spadina Subway Extension</b>	<b>Total CIP</b>	<b>42.3</b>	<b>6.8</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>49.1</b>	<b>-</b>	<b>49.1</b>
Fare System	Funded	3.8	2.4	2.5	-	-	-	-	-	-	-	8.7	-	8.7
Fare System	Unfunded	-	2.0	27.0	20.0	-	-	-	-	-	-	49.0	-	49.0
<b>Fare System</b>	<b>Total CIP</b>	<b>3.8</b>	<b>4.4</b>	<b>29.5</b>	<b>20.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>57.7</b>	<b>-</b>	<b>57.7</b>
ATC Resignalling	Funded	18.3	31.9	57.2	69.3	69.7	60.6	78.2	81.7	80.5	83.3	630.5	-	630.5
ATC Resignalling	Unfunded	-	-	-	-	-	-	-	-	-	-	-	273.5	273.5
<b>ATC Resignalling</b>	<b>Total CIP</b>	<b>18.3</b>	<b>31.9</b>	<b>57.2</b>	<b>69.3</b>	<b>69.7</b>	<b>60.6</b>	<b>78.2</b>	<b>81.7</b>	<b>80.5</b>	<b>83.3</b>	<b>630.5</b>	<b>273.5</b>	<b>904.0</b>
Streetcar Maintenance & Storage Facility	Funded	0.2	1.3	2.8	2.4	-	-	-	-	-	-	6.7	-	6.7
Streetcar Maintenance & Storage Facility	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Streetcar Maintenance &amp; Storage Facility</b>	<b>Total CIP</b>	<b>0.2</b>	<b>1.3</b>	<b>2.8</b>	<b>2.4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6.7</b>	<b>-</b>	<b>6.7</b>

Program Description (\$ Millions)	CIP	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 10 Year	Post 2033	Total 15 Year
TR / T1 Rail Yard Accommodation	Funded	7.0	48.2	23.0	13.4	23.0	-	-	-	-	-	114.6	-	114.6
TR / T1 Rail Yard Accommodation	Unfunded	-	0.9	-	3.2	3.2	3.3	-	-	-	-	10.6	-	10.6
<b>TR / T1 Rail Yard Accommodation</b>	<b>Total CIP</b>	<b>7.0</b>	<b>49.1</b>	<b>23.0</b>	<b>16.6</b>	<b>26.2</b>	<b>3.3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>125.2</b>	<b>-</b>	<b>125.2</b>
SRT Transition	Funded	7.0	22.2	-	-	-	-	-	-	-	-	29.2	-	29.2
SRT Transition	Unfunded	3.7	20.0	20.0	12.0	-	-	-	-	-	-	55.7	-	55.7
<b>SRT Transition</b>	<b>Total CIP</b>	<b>10.7</b>	<b>42.2</b>	<b>20.0</b>	<b>12.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>84.9</b>	<b>-</b>	<b>84.9</b>
McNiccoll Bus Garage	Funded	0.3	1.6	1.8	0.6	-	-	-	-	-	-	4.4	-	4.4
McNiccoll Bus Garage	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>McNiccoll Bus Garage</b>	<b>Total CIP</b>	<b>0.3</b>	<b>1.6</b>	<b>1.8</b>	<b>0.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.4</b>	<b>-</b>	<b>4.4</b>
Waterfront Transit	Funded	0.7	0.6	2.9	1.0	12.0	9.1	4.3	-	-	-	30.6	-	30.6
Waterfront Transit	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Waterfront Transit</b>	<b>Total CIP</b>	<b>0.7</b>	<b>0.6</b>	<b>2.9</b>	<b>1.0</b>	<b>12.0</b>	<b>9.1</b>	<b>4.3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>30.6</b>	<b>-</b>	<b>30.6</b>
Safety & Reliability	Funded	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	10.0	-	10.0
Safety & Reliability	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Safety &amp; Reliability</b>	<b>Total CIP</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>10.0</b>	<b>-</b>	<b>10.0</b>
Warehouse Consolidation	Funded	0.2	0.2	-	-	-	-	-	-	-	-	0.5	-	0.5
Warehouse Consolidation	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Warehouse Consolidation</b>	<b>Total CIP</b>	<b>0.2</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.5</b>	<b>-</b>	<b>0.5</b>
Corporate Initiatives	Funded	6.8	7.8	8.3	9.0	10.0	10.3	10.3	10.5	11.0	11.0	94.8	-	94.8
Corporate Initiatives	Unfunded	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Corporate Initiatives</b>	<b>Total CIP</b>	<b>6.8</b>	<b>7.8</b>	<b>8.3</b>	<b>9.0</b>	<b>10.0</b>	<b>10.3</b>	<b>10.3</b>	<b>10.5</b>	<b>11.0</b>	<b>11.0</b>	<b>94.8</b>	<b>-</b>	<b>94.8</b>
Bloor-Yonge Capacity Improvements	Funded	13.7	19.6	39.9	82.4	102.6	140.4	194.8	247.8	189.4	152.2	1,182.9	-	1,182.9
Bloor-Yonge Capacity Improvements	Unfunded	-	-	-	-	-	-	-	-	-	-	-	252.2	252.2
<b>Bloor-Yonge Capacity Improvements</b>	<b>Total CIP</b>	<b>13.7</b>	<b>19.6</b>	<b>39.9</b>	<b>82.4</b>	<b>102.6</b>	<b>140.4</b>	<b>194.8</b>	<b>247.8</b>	<b>189.4</b>	<b>152.2</b>	<b>1,182.9</b>	<b>252.2</b>	<b>1,435.1</b>
Line 1 Capacity Enhancements	Funded	17.6	50.0	123.7	217.2	205.1	111.4	84.6	62.7	48.1	108.3	1,028.8	-	1,028.8
Line 1 Capacity Enhancements	Unfunded	-	-	53.2	159.6	304.5	236.8	460.8	860.7	678.7	246.2	3,000.5	2,164.8	5,165.3
<b>Line 1 Capacity Enhancements</b>	<b>Total CIP</b>	<b>17.6</b>	<b>50.0</b>	<b>176.9</b>	<b>376.8</b>	<b>509.7</b>	<b>348.2</b>	<b>545.4</b>	<b>923.4</b>	<b>726.8</b>	<b>354.5</b>	<b>4,029.3</b>	<b>2,164.8</b>	<b>6,194.1</b>
Line 2 Capacity Enhancements	Funded	10.7	27.1	72.2	66.0	144.3	148.8	143.3	130.9	79.8	49.7	872.9	-	872.9
Line 2 Capacity Enhancements	Unfunded	-	-	-	-	2.3	25.6	20.1	18.6	30.0	54.0	150.6	1,647.7	1,798.3
<b>Line 2 Capacity Enhancements</b>	<b>Total CIP</b>	<b>10.7</b>	<b>27.1</b>	<b>72.2</b>	<b>66.0</b>	<b>146.6</b>	<b>174.4</b>	<b>163.4</b>	<b>149.6</b>	<b>109.8</b>	<b>103.7</b>	<b>1,023.5</b>	<b>1,647.7</b>	<b>2,671.2</b>
TransformTO	Funded	-	-	-	-	-	-	-	-	-	-	-	-	-
TransformTO	Unfunded	106.4	124.4	367.4	412.1	320.5	378.7	372.1	369.7	359.9	299.7	3,110.9	2,228.8	5,339.8
<b>TransformTO</b>	<b>Total CIP</b>	<b>106.4</b>	<b>124.4</b>	<b>367.4</b>	<b>412.1</b>	<b>320.5</b>	<b>378.7</b>	<b>372.1</b>	<b>369.7</b>	<b>359.9</b>	<b>299.7</b>	<b>3,110.9</b>	<b>2,228.8</b>	<b>5,339.8</b>
<b>Grand Total</b>	<b>Funded</b>	<b>1,368.7</b>	<b>1,779.2</b>	<b>1,341.8</b>	<b>1,284.1</b>	<b>1,213.4</b>	<b>1,216.1</b>	<b>1,126.3</b>	<b>1,135.2</b>	<b>1,001.9</b>	<b>931.1</b>	<b>12,397.7</b>	<b>-</b>	<b>12,397.7</b>
	<b>Unfunded</b>	<b>256.3</b>	<b>749.8</b>	<b>1,418.3</b>	<b>1,769.6</b>	<b>1,869.5</b>	<b>2,083.7</b>	<b>2,315.0</b>	<b>2,941.2</b>	<b>2,596.1</b>	<b>1,916.2</b>	<b>17,915.7</b>	<b>17,542.0</b>	<b>35,457.7</b>
	<b>Total CIP</b>	<b>1,625.0</b>	<b>2,529.0</b>	<b>2,760.1</b>	<b>3,053.7</b>	<b>3,082.9</b>	<b>3,299.8</b>	<b>3,441.3</b>	<b>4,076.4</b>	<b>3,598.0</b>	<b>2,847.3</b>	<b>30,313.4</b>	<b>17,542.0</b>	<b>47,855.4</b>

## Appendix D – 2024 – 2038 Real Estate Investment Plan

In recognition that the TTC's real estate portfolio is large and complex, and that real estate needs are a critical interdependency for the implementation of TTC's capital works, the TTC's first ever 15-Year REIP was established in 2022. The TTC Board endorsed the REIP's guiding principles, implementation plan and timelines over the REIP's 15-year planning horizon.

The following guiding principles were established to provide a TTC-wide approach to planning and managing the TTC's real estate portfolio:

- Optimize existing property before acquiring new property
- Acquire property rather than expropriate
- Own property rather than lease
- Separate timing of acquisition from construction timing
- Include "back of house" support and training needs when planning for growth
- Integrate resiliency into projects and processes to mitigate environmental impacts over the long-term
- Provide flexible and sustainable solutions that support innovation
- Maximize value creation opportunities for TTC surplus properties

The REIP classifies the TTC's real estate portfolio into the following three pillars or property types that work together to deliver a safe, reliable and seamless transit system:

- **Facilities** that house the operations which support the fleet;
- **System Network** properties required to deliver transit service; and
- **Office Space** that house the staff that support the TTC Facilities and System Network.

For each property pillar, the REIP lays out strategies, and service objectives, with actions organized into one of the following four actionable classifications that are grounded in the REIP's guiding principles:

- **Optimize** existing real estate assets first
- **Acquire** land where TTC cannot optimize
- **Explore** opportunities for best use
- **Support** city-building objectives where possible

As a result, the REIP's implementation action plan is structured to include all TTC programs and initiatives that have a direct impact on the TTC's real estate portfolio. The REIP outlines a comprehensive set of principles, strategies and an implementation plan with over 70 projects and initiatives to achieve TTC's strategic real estate goals and objectives.



<b>Facilities – Mode Support</b>					
<b>Implementation Action</b>	<b>IO/CIP #</b>	<b>Funded (Y/N)</b>	<b>Project Type</b>	<b>Property Timing</b>	<b>Project Finish</b>
<b>Bus Garages, Wheel-Trans, Heavy Repair and Storage</b>					
<b>Optimize Existing</b>					
Assess expansion potential of bus garages to accommodate new technologies and changing fleet requirements		N	Proactive	Future Planning Initiative	TBD
Eliminate use of trailers and storage containers		N	Proactive	Future Planning Initiative	TBD
eBus Charging Systems Feasibility Study	7166	Y	Capital	Pending Study Completion	2026
Accommodate space for Wheel-Trans fleet at 780 Kipling		Y	Functional	2026	2026
<b>Explore Opportunities</b>					
Incorporate TTC's bus electrification network at appropriate locations across City		N	Proactive	Ongoing	Ongoing
<b>Streetcar</b>					
<b>Optimize Existing</b>					
Eliminate use of trailers and storage containers		N	Proactive	Future Planning Initiative	TBD
<b>Acquire Land</b>					
Re-evaluate property needs for Streetcar Way at 480 Unwin Ave		N	Functional	2026	2027
<b>Subway/LRT</b>					
<b>Optimize Existing</b>					
Line 1 Capacity Enhancement Program					
a. Upgrades and expansion to Wilson Yard	7108	N	Capital	Planning Stages	2028
b. Davisville Yard upgrades and modifications	7108	N	Capital	Planning Stages	2028
Line 2 Capacity Enhancement Program – Greenwood Yard, Carhouse, and Shop upgrades and modifications	7148	Y	Capital	Planning Stages	2038
Eliminate use of trailers and storage containers		N	Proactive	Future Planning Initiative	TBD

### Facilities – Mode Support

Implementation Action	IO/CIP #	Funded (Y/N)	Project Type	Property Timing	Project Finish
Determine future TTC use(s) at McCowan Yard site		N	Capital	2024	2024
<b>Acquire Land</b>					
Western Yard - Yard Access Connection	6910/7110	N	Capital	2024	2034
Line 1 Capacity Enhancement Program - Train Maintenance and Storage Facility Capacity	7108	N	Capital	2025	2031

### Facilities – Cross System Support

Implementation Action	IO/CIP #	Funded (Y/N)	Project Type	Property Timing	Project Finish
<b>Cross Mode Support</b>					
<b>Optimize Existing</b>					
Renewable Energy Storage System Installation	7270	Y	Capital	2024	2025
Hillcrest Complex Master Plan	7169	Y	Capital	2025	2025
Accommodate interim uses at Western Yard until subway yard required and 780 Kipling until 10 <sup>th</sup> garage is required		N	Proactive	Ongoing	2038
Integrate Employee Parking Charging Systems	7270	N	Capital	Ongoing	Ongoing
<b>Explore Opportunities</b>					
Implement energy audits, decarbonisation studies, renewable energy studies, and climate resiliency studies to scope TTC's Green Facility Program		N	Proactive	Future Planning Initiative	2024
<b>Training Space</b>					
<b>Optimize Existing</b>					
Determine optimal indoor and outdoor training space for increased efficiencies and improved workforce training		N	Proactive	Ongoing	Ongoing
<b>Explore Opportunities</b>					
Maximize utilization through shared usage with City partners		N	Proactive	Ongoing	Ongoing

<b>Facilities – Cross System Support</b>					
<b>Implementation Action</b>	<b>IO/CIP #</b>	<b>Funded (Y/N)</b>	<b>Project Type</b>	<b>Property Timing</b>	<b>Project Finish</b>
<b>Business Support</b>					
<b>Optimize Existing</b>					
Continually monitor highest and best use of space and identify suitable relocation opportunities		N/A	Proactive	Ongoing	Ongoing
Warehouse and storage rationalization and utilization		N	Proactive	Ongoing	Ongoing
<b>Acquire Land</b>					
Replace existing leased space at Carl Hall, and loss of space at Danforth Garage	7257	N	Capital	2025	2027
Replace space due to demolition for 10 <sup>th</sup> garage at 780 Kipling	7257	N	Capital	2032	2038
<b>Explore Opportunities</b>					
Assess property requirements for a new Major Control Centre to meet the needs of the expanded fleet, including the new data centre	6115	Y	Capital	2025	2032
Assess options to accommodate a temporary transit control centre		N	Proactive	2025	2025

System					
Implementation	IO/CIP #	Funded (Y/N)	Project Type	Property Timing	Project Finish
<b>Buses and Wheel-Trans</b>					
<b>Acquire Land</b>					
Additional loops, as required		N	Proactive	Ongoing	Ongoing
Intermodal connections for future LRT and subway lines (i.e. Eglinton Crosstown, Ontario Line, Waterfront East LRT, Yonge Subway Extension)		N	Proactive	Ongoing	Ongoing
a. Port Lands flood protection landform interim bus loop		N	Proactive	2024	2024
<b>Explore Opportunities</b>					
Reconfigured Eglinton bus terminal	7139	Y	Capital	2025	2026
Implement bus electrification program through third party developments and on City-owned property		N	Proactive	Ongoing	Ongoing
Provide access to sufficient washroom facilities throughout system		N	Proactive	Ongoing	Ongoing
<b>Streetcar</b>					
<b>Acquire Land</b>					
Additional loops, as required		N	Proactive	Ongoing	Ongoing
Broadview Station Loop Expansion	7051	N	Capital	Future Planning Initiative	TBD
Park Lawn GO Station Loop	7118	N	Capital	Planning Stages	TBD
Exhibition – Dufferin Gate Loop Expansion	7035	Y	Capital	2026	2030
<b>Explore Opportunities</b>					
Polson Loop		N	Functional	Future Planning Initiative	TBD
Pape/Carlaw Loop (Ontario Line)		N	Functional	2025	2027
Broadview Ave. Streetcar Extension Loop		N	Functional	2025	2030
Queen – Broadview Loop		N	Functional	2025	2030
Provide access to sufficient washroom facilities throughout system		N	Proactive	Ongoing	Ongoing
<b>Subway/LRT</b>					
<b>Optimize Existing</b>					
Ensure third party compliance with development and maintenance agreements		N/A	Proactive	Ongoing	Ongoing

<b>System</b>					
<b>Implementation</b>	<b>IO/CIP #</b>	<b>Funded (Y/N)</b>	<b>Project Type</b>	<b>Property Timing</b>	<b>Project Finish</b>
<b>Acquire Land</b>					
Line 1 Capacity Enhancement Program					
a. Granby Substation Power Upgrade	7108	Y	Capital	2024	2026
b. Markdale Emergency Service Building	7108	N	Capital	2025	2028
c. St. Clair West Fire Ventilation Upgrade	7108	Y	Capital	2025	2028
d. New Substation (Pioneer Village – Vaughan)	7108	Y	Capital	2026	2031
e. Lytton Emergency Service Building	7108	N	Capital	2027	2031
f. Davisville North Track	7108	N	Capital	2034	2041
g. VMC Pocket Track	7108	N	Capital	2035	2041
Line 2 Capacity Enhancement Program					
a. Spadina Station Streetcar Platform Extension	7148	Y	Capital	2024	2027
b. Spadina Station Concourse Expansion	7148	N	Capital	2025	2035
c. Warden Station Pocket Track	7148	N	Capital	2029	2031
d. New Danforth Substation	7148	N	Capital	2031	2039
Fire Ventilation Program	5776/7242	Y	Capital	2026	2033
Acquisition through third party developments:					
a. Line 2 westerly subway extension		N/A	Proactive	Future Planning Initiative	2041
b. Protecting existing system		N/A	Proactive	Ongoing	Ongoing
Waterfront East LRT	7186	N	Capital	Planning Stages	2033
a. Fire Ventilation				Planning Stages	2033
b. Fan Plant				Planning Stages	2033
c. Substation Facility				Planning Stages	2033
d. Acquisition of property with Waterfront Toronto for at-grade section				Planning Stages	2033
SRT Busway Conversion	7243	N	Capital	2025	2027
<b>Explore Opportunities</b>					
Surplus portions of the former SRT not required for TTC use		N	Proactive	2024	2025
Implement TTCs Digital Connectivity Strategy and the City's ConnectTO initiative		N	Proactive	Future Planning Initiative	TBD

**Stations, Depots, Terminals, Stops, and Access Hubs**

**Optimize Existing**

<b>System</b>					
<b>Implementation</b>	<b>IO/CIP #</b>	<b>Funded (Y/N)</b>	<b>Project Type</b>	<b>Property Timing</b>	<b>Project Finish</b>
Integrate Customer Parking Charging Systems	7271	N	Capital	Future Planning Initiative	2028
<b>Acquire Property</b>					
Easier Access Phase III Program – Old Mill Station	5666	Y	Capital	2024	2028
Second Exit Program	5776/7242	Y	Capital	2026	2033
Bloor-Yonge Capacity Improvement Project	6285	Y	Capital	2024	2033
Line 1 Capacity Enhancement Program					
a. King Station – Concourse Expansion	7108	Y	Capital	Planning Stages	2029
b. St. George Station – New Stacked Expansion	7108	N	Capital	2029	2040
c. St. Andrew Station Second Exit	7108	N	Capital	2034	2037
Expand Eglinton Station through Oxford redevelopment	7139	Partial	Capital	2025	2026
Runnymede Station Permanent Easements		N	Proactive	Planning Stages	TBD
Spadina North Entrance Temporary Easements	6963	Y	Capital	2024	2024
Waterfront East LRT - New connections with Union Station, Queens Quay Station and third party developments	7186	N	Capital	Planning Stages	2033
<b>Explore Opportunities</b>					
Monitor station functionality and expand to meet increased capacity		N	Proactive	Ongoing	Ongoing
<b>Support City-Building</b>					
Work with CreateTO to:					
a. Coordinate commuter parking (i.e. Warden, Islington, and Victoria Park Stations)		N/A	Proactive	Future Planning Initiative	TBD
b. Relocate the PPUDO at Victoria Park Station		N/A	Proactive	2025	2025
c. Assess parking at Finch Station due to Yonge North Extension		N/A	Proactive	Future Planning Initiative	TBD
d. Identify granting air rights and redevelopment opportunities		N/A	Proactive	Ongoing	Ongoing
Work with Metrolinx on the integration of the provincial LRT and transit expansion programs at interchange stations		N/A	Proactive	Ongoing	Ongoing
New bus depots through Warden Station and Islington Station redevelopments	7240/7241	Y	Capital	2024	2027

<b>Office Space</b>					
<b>Implementation</b>	<b>IO/CIP #</b>	<b>Funded (Y/N)</b>	<b>Project Type</b>	<b>Property Timing</b>	<b>Project Finish</b>
<b>Corporate Office Space</b>					
<b>Explore Opportunities</b>					
Monitor departmental structures and growth		N/A	Proactive	Ongoing	2028
<b>Support City-Building</b>					
Implement ModernTO consolidation of TTC offices		N	Functional	2025	2028
Transfer McBrien building to City		N	Functional	2031	2031
Implement Workplace Transformation of TTC's existing offices		Y	Functional	Ongoing	2027
<b>Operational Office Space</b>					
<b>Optimize Existing</b>					
Minimize use of trailers		N	Proactive	Ongoing	Ongoing
Review to ensure that uses support the facility in an efficient manner		N	Proactive	Ongoing	Ongoing
<b>Explore Opportunities</b>					
Find permanent location for Structures group presently at Davisville		N	Proactive	Future Planning Initiative	TBD
Re-incorporate Divisional offices within the redeveloped Danforth Garage		Funded by City	Functional	Planning Stages	TBD
Explore Workplace Transformation, where feasible		N/A	Proactive	Ongoing	Ongoing
<b>Other Space</b>					
<b>Explore Opportunities</b>					
Implement Workplace Transformation of construction offices		N/A	Proactive	Ongoing	Ongoing
Long-term solution for Transit Enforcement and Revenue Protection	7258	N	Capital	2025	2025
Determine uses that cannot be accommodated through ModernTO consolidation and find long-term solution		N	Proactive	Planning Stages	Ongoing

<b>Other Real Estate Opportunities</b>				
<b>Implementation</b>	<b>IO/CIP #</b>	<b>Funded (Y/N)</b>	<b>Project Type</b>	<b>Property Timing</b>
<b>Other Real Estate</b>				
<b>Explore Opportunities</b>				
Ensure a robust antennae network to support TTC's communications infrastructure		N	Ongoing	Ongoing
<b>Support City-Building</b>				
Monitor compliance of third party obligations		N/A	Proactive	Ongoing
Execute required agreements for future third party developments		N/A	Proactive	Ongoing
Value creation underway at southwest corner of Yonge St. and Eglinton Ave. W		N/A	Functional	Future Planning Initiative
Explore value creation opportunities with City and CreateTO on:		N/A	Proactive	Future Planning Initiative
a. 7 Jackes Ave. and 16 Summerhill Ave.		N/A	Proactive	Future Planning Initiative
b. 44 Jackes Ave. and 33 Rosehill Ave.		N/A	Proactive	Future Planning Initiative
c. 15 Price St.		N/A	Proactive	Future Planning Initiative
d. 15 Dundonald St.		N/A	Proactive	Future Planning Initiative
e. 1155 Yonge St.		N/A	Proactive	Future Planning Initiative
f. 33 Bloor St. E		N/A	Proactive	Future Planning Initiative
g. 2 Bloor St. W		N/A	Proactive	Future Planning Initiative
h. Existing open cut areas		N/A	Proactive	Future Planning Initiative