

**For Action**

TTC 15-Year Capital Investment Plan & 2021 – 2030 Capital Budget & Plan

Date: December 21, 2020
To: TTC Board
From: Interim Chief Financial Officer

Summary

The purpose of this report is to:

1. Provide the Board with an update on the Toronto Transit Commission's Capital Investment Plan as it relates to the recommended 10-year Capital Budget and Plan (2021-2030) and 15-year Outlook (2021-2035); and
2. Seek approval for the staff-recommended 2021-2030 TTC Capital Budget and Plan to provide funding for the acquisition, renewal and improvements of TTC's assets that support Toronto's transit service delivery.

Since its inception, the TTC's Capital Investment Plan (CIP) has been key to providing a comprehensive view and understanding of the TTC's capital needs over a 15-year period by all orders of government, recognizing that safe, reliable and resilient transit contribute to the economic, environmental and social well being of the City. As a result, significant progress has been made in securing tri-partite funding and commitments in the order of \$5.7 billion towards previously unfunded projects that contribute to meeting these objectives. Work has begun to move these priority projects forward. As a rolling plan, the CIP has been updated and further refined in accordance with Board and Council direction, resulting in a 2021 to 2035 CIP that totals \$37.7 billion, of which \$10.349 billion is unfunded within the first 10 years and a total of \$23.239 billion over the 15-year period.

Work undertaken during the 2021 Budget process to recalibrate annual cash flow profiling of base capital needs to align with project timelines; spending capacity and project activities; revisit planning assumptions and timing of key facility requirements; and, confirm project priorities and dependencies has enabled the TTC to accommodate \$1.11 billion in capital priorities and needs in the 2021-2030 Capital Budget & Plan, with 95% of the funding being added for Health and Safety, Legislated and State of Good Repair projects which were previously unfunded in the CIP.

The recommended 2021 - 2030 Capital Budget and Plan of \$11.907 billion reflects the critical capital needs identified and cash flowed in the first 10 years of the Capital Investment Plan based on available sources of funding.

The 2021-2030 Capital Budget and Plan:

- Establishes steady state funding for essential safety and SOGR capital works;
- Accelerates critical capital works to leverage lower ridership levels in 2021.
- Ensures funding to meet legislative requirements within timelines
- Aligns with the Board-approved Fleet Procurement Strategy
- Continues business modernization such as SAP; Maximo; Vision, Wheel Trans and Stations Transformation
- Maintains funding to complete ATC Line 1 and adds 10th year funding for ATC Line 2
- Reflects revised timing of requirements for Line 1 & 2 Capacity Enhancements and Bloor-Yonge Capacity Improvements based on early works;
- Adds COVID-related capital works, some of which have been submitted eligible for provincial funding.

The 10-year Capital Budget & Plan includes \$217.781 million for the following transit expansion projects included in the TTC's Capital Works Program:

- SRT Life Extension Overhaul – \$19.644 million in 2021 and \$27.544 million between 2022 and 2026 remains from the original budget to extend the life of the SRT fleet based on the original planned operations for the Line 2 East Extension;
- Waterfront Transit – \$49.976 million in the 10-year Capital Plan to complete the preliminary design for the Exhibition to Dufferin Gate Loop as well as the East Bayfront Area 1 Concept design with funding of \$49.976 million between 2021 and 2023 included in the 10-year Capital Plan.
- Toronto-York Spadina Subway Extension (TYSSE): Following the successful opening on December 17, 2017, \$55.629 million will be spent in 2021 and an additional \$64.988 million between 2022 and 2023 to support project closeout commitments. This funding is consistent with prior budget approval and does not reflect any additional project funding.

The TTC's 2021-2030 Capital Budget Summary is contained in Appendix A. *The Staff Recommended 2021-2030 Budget & Capital Plan Submission by Project* (commonly known as the "Blue Pages") is provided as a supplementary link on the Board's agenda.

The cost of maintaining and operating new infrastructure, rehabilitated or expanded facilities as well as the cost to sustain new technology are some key drivers that impact the TTC's Operating Budget. All costs and savings arising from the completion of capital projects have been identified over the 10-year period and 2021 operating impacts of \$13.6 million have been incorporated in the staff recommended 2021 Operating Budget.

Recommendations

It is recommended that the TTC Board:

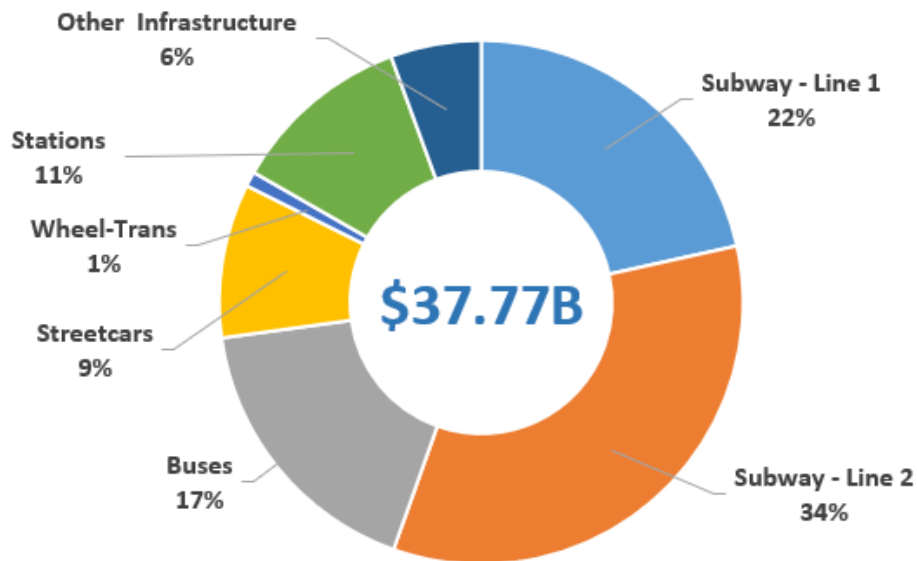
1. Approve the staff recommended TTC 2021-2030 Base Capital Budget & Plan of \$11.689 billion as outlined in Appendix A of this report;
2. Approve the staff recommended TTC 2021-2030 Capital Budget & Plan of \$217.781 million for Transit Expansion Projects including the completion of the remaining scope for the Toronto-York Spadina Subway Extension, SRT Life Extension Overhaul for Line 2 Subway Extension (formerly Scarborough Subway Extension) and Waterfront Transit as outlined in Appendix A of this report;
3. Forward this report to the City Budget Committee and the City Manager as the official 2021-2030 Capital Budget and Plan submission for the Toronto Transit Commission.

Financial Summary

2021-2035 Capital Investment Plan

The 2021-2035 Capital Investment Plan (CIP) totals \$37.774 billion in base capital needs over a 15-year period. The following table summarizes the capital investment requirements by mode.

**2021-2035 Capital Investment Plan
By Mode**



2021-2035 Recommended Capital Investment Plan			
Description (\$ Billions)	2021-2035		
	Years 1-10	Years 11-15	15 Year Total
Funded	11.907	2.628	14.535
Unfunded	10.349	12.890	23.239
Total Program Requirement	22.256	15.518	37.774

**Funding sources in years 11-15 based are based on current levels of city, provincial and federal funding included in the 10-year capital budget and plan*

Given this is a rolling plan, the 2021-2035 Capital Investment Plan (CIP) is approximately \$2.06 billion higher than the \$35.7 billion presented in the 2020-2034 CIP. The Capital Investment Plan has been updated to reflect:

- New or revised project estimates and/or timing for major capital works such as Bloor-Yonge Capacity Improvements; Line 1 and Line 2 Capacity Enhancements and ATC Line 2 projects based on a stage gate methodology,
- Changes in timing for the Western Yard and Subway Maintenance & Storage Facility based on revised assumptions for timing
- Final costs for station redevelopment requirements at Warden and Islington stations to complete the Easier Access Program, Fire Ventilation and Second Exits program as well as
- The addition of new priorities to align with the City’s MoveTO and Rapid TO strategies;
- Alignment with the Board-approved Fleet Procurement Plan; and,
- Revised cashflow requirements for years 11 to 15.

Through the 2021 Budget process, existing funding sources plus a commitment for PTIF 2 funding has enabled the TTC to fund \$11.907 billion of which \$10.524 billion will support the TTC’s base capital program and \$1.383 billion will continue to advance the Bloor-Yonge Capacity Improvements project. The commitment to tri-partite funding allowed the TTC to move the Bloor-Yonge Capacity Improvements project from an unfunded project in the TTC’s CIP to a funded capital project in the 10-year Capital Plan during the 2020 Budget process.

2021-2030 Capital Budget and Plan

The staff recommended 2021-2030 Capital Budget and Plan totals \$11.907 billion.

**2021-2030 Capital Budget & Plan
By Project Category
(\$ millions)**

Category (\$ Millions)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total	% of Total
Health & Safety/Legis.	127.73	160.26	180.53	174.29	162.64	133.59	14.68	13.27	12.70	12.18	991.87	8.4%
SOGR	811.19	1,148.07	935.60	735.49	693.83	596.54	530.42	528.29	515.32	356.44	6,851.19	57.5%
SI/Growth	375.68	352.14	428.08	389.36	398.30	448.60	443.60	417.92	424.54	385.59	4,063.81	34.1%
Total	1,314.60	1,660.47	1,544.21	1,299.14	1,254.77	1,178.73	988.70	959.48	952.56	754.21	11,906.87	100.0%

Over \$7.843 billion or about 66% of the base capital plan for the ten-year period is committed to Health and Safety; Legislated and State of Good Repair (SOGR) capital projects. The staff-recommended 2021-2030 Capital Budget & Plan allocates \$6.85 billion or 57.5% of the proposed funding to SOGR. This will fund the most critical needs to keep the Commission’s capital assets in good repair while also providing a safe and reliable transit service within existing funding sources. Approximately \$992 million is allocated to meet legislative requirements and timelines to complete the Easier Access project,

including costs associated with the redevelopment plans for Warden and Islington Stations.

The remaining 34.1% or \$4.06 billion of the staff-recommended 2021-2030 Capital Budget & Plan is allocated to service improvement and growth related capital projects, funding such major capital projects as the completion of ATC Line 1 and the 10-year funding requirements for ATC Line 2; Bloor-Yonge Capacity Improvement; Line 1 and Line 2 Capacity Improvement projects based on the outcome of early works.

2021 Capital Budget

The 2021 staff-recommended Capital Budget is almost \$1.315 billion, comprising \$902.7 million for Infrastructure projects and \$411.8 million for Vehicle projects. Consistent with the 10-year Capital Plan, almost 62% is dedicated to state of good repair funding while the balance enables the TTC to begin or continue work on critical service improvement projects and complete vehicle related procurements.

2021-2030 TTC Expansion Capital Plan

Additionally, staff are recommending funding of \$217.8 million between 2021 and 2026 in the 10-year Capital Plan to complete the preliminary design for Waterfront Transit; the SRT Life Extension Overhaul (Line 2 East Extension) and close-out costs for the Toronto York Spadina Subway Extension (TYSSE).

The following table summarizes the cash flow funding estimates for Transit Expansion projects over the next 10 years.

2021-2030 TTC Expansion Capital Plan

Project \$Millions	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
Toronto York Spadina Subway Extension	55.63	64.46	0.52	-	-	-	-	-	-	-	120.61
Scarborough SRT LE OH	19.64	13.25	4.05	4.06	3.35	2.84	-	-	-	-	47.19
Waterfront East Area 1 Concept Design	6.40	32.77	10.81	-	-	-	-	-	-	-	49.98
Total	81.67	110.48	15.38	4.06	3.35	2.84	-	-	-	-	217.78

Capital Funding Sources

Recoverable debt of \$6.684 billion to be funded by the City Building Fund is TTC's primary capital funding source. This reflects an almost \$4.7 billion infusion of funding from City Council with the approval of the incremental tax levy increase approved December 17, 2019 for the 2020 Budget process to provide dedicated and sustainable funding for safe, accessible, and reliable public transit in the City of Toronto. This seminal investment will fund approximately \$4.2 billion in base capital expenditures over the 10-year capital planning period for TTC's major subway capital works and vehicle program and \$500

million for the City's one third share of the priority Bloor-Yonge Capacity Improvement project.

Provincial and Federal funding of \$1.0 billion is also expected to fund the additional two-thirds share Bloor-Yonge Capacity Improvements project under the ICIP PTIF2 program. Since 2020, work has commenced on this project and costs incurred to date are funded through the City's one-third share through the increased recoverable debt funded by the City Building Fund.

The TTC has submitted an application for the COVID-19 UVC Light Disinfecting and Bus Operator Barrier project under the new joint Provincial-Federal COVID-ICIP Resilient Fund. This anticipated one-time funding source has been accounted for in 2021.

TTC's capital funding sources over the 10-year period are summarized below.

2021-2030 Capital Funding Sources

Funding Sources (\$ Millions)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
Provincial Funding	118.26	111.73	120.23	145.30	144.73	163.72	163.72	163.72	163.72	163.71	1,458.84
Federal Funding	191.21	359.89	208.54	233.61	233.04	252.03	252.03	252.03	252.03	252.03	2,486.44
City Funding	815.43	1,062.95	1,067.96	793.37	841.94	739.81	551.43	523.50	516.85	318.05	7,231.29
TTC Internal (Depreciation)	38.54	35.07	19.34	13.88	14.45	11.55	9.91	7.42	7.23	8.14	165.53
Development Charges	151.16	90.83	128.14	112.98	20.61	11.62	11.61	12.81	12.73	12.28	564.77
Total Funding	1,314.60	1,660.47	1,544.21	1,299.14	1,254.77	1,178.73	988.70	959.48	952.56	754.21	11,906.87

Operating Impacts of Completed Capital Projects

The cost of maintaining and operating new infrastructure, rehabilitated or expanded facilities as well as the cost to sustain new technology are some key drivers that impact the TTC's Operating Budget. As well, many projects also accrue benefits, financial and otherwise. The costs and benefits of capital projects are established and form part of their evaluation.

The completion of previously approved capital projects in 2021 will result in an operating cost of \$13.6 million in 2021 but \$13 million over the 10-year period given savings to be realized from the completion of the train door monitoring system project. The 2021 operating impact has been included in the staff-recommended 2021 Operating Budget

Equity/Accessibility Matters

The TTC is deeply committed to making Toronto's transit system barrier-free and accessible to all. We believe all customers should 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 2021-2030 Capital Budget and Plan provides full funding to complete the TTC's Easier Access Program, which is on track to make all subway stations accessible by 2025 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, bus and, new Wheel-Trans fleet, as well as a growing number of accessible bus and streetcar stops.

DECISION HISTORY

At its meeting on December 16, 2019, the TTC Board approved the 2020-2029 TTC Capital Budget and Plan of \$7.696 billion in funding with \$1.077 billion in 2020 cash flow. [http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2019/December 16/Reports/Decisions/2 TTC 15 Year Capital Investment Plan and 2020 2029 Capital .pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2019/December%2016/Reports/Decisions/2%20TTC%2015%20Year%20Capital%20Investment%20Plan%20and%2020%202029%20Capital%20.pdf)

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 and one-time Federal Gas Tax. [http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2020/January 27/Reports/Decisions/10 TTCs 2020 2029 Key Capital Investment Priorities Subway I.pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2020/January%2027/Reports/Decisions/10%20TTCs%202020%202029%20Key%20Capital%20Investment%20Priorities%20Subway%20I.pdf)

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 & Plan to reflect delays in capital project delivery due to COVID-19. [http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2020/May 13/Reports/Decisions/5 Preliminary COVID 19 Financial Impacts for the TTC Decision.pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2020/May%2013/Reports/Decisions/5%20Preliminary%20COVID%2019%20Financial%20Impacts%20for%20the%20TTC%20Decision.pdf)

Issue Background

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 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.

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

The Capital Investment Plan provides:

- Awareness, education and better understanding of required capital needs;
- A clear view of required capital investments over the next 15 years;
- Increased focus on (base) state of good repair and projects to improve ridership capacity and support growth;
- A distinction between what capital requirements are funded vs. 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.

The benefits of having a CIP has produced results. All three orders of government have clearly acknowledged the central role transit plays in contributing to the economic, environmental and social well being of the City of Toronto and the necessity for investments to ensure that transit service is safe, reliable, seamless and adaptable to meeting future change.

To date:

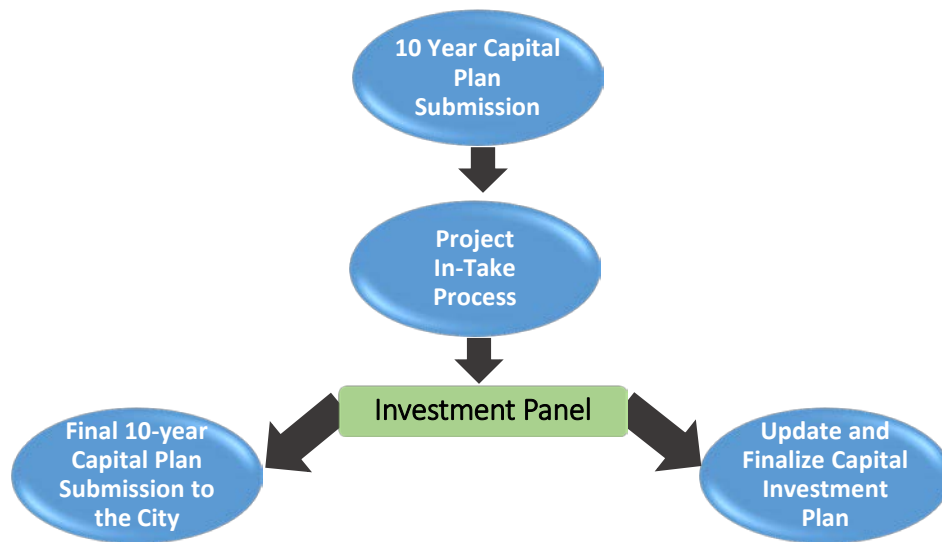
- The new Toronto-Ontario Transit Partnership (October 2019) recognized the need for critical unfunded subway SOGR;
- The Bloor-Yonge Capacity Improvements project was deemed a priority project with a commitment to funding from all three orders of government (1/3 each of \$1.5B total); and
- City Council approved a tax levy increase to raise \$4.7 billion in new City Building Funds dedicated to TTC's capital needs:
 - \$500 million to fund the City's 1/3 share of the Bloor-Yonge Capacity Improvements Project
 - \$3.1 billion for subway infrastructure and capacity improvement projects; and
- The TTC has been the recipient of funding and/or funding commitments totalling \$5.7 billion to fund critical capital projects that otherwise would have remained unfunded.

This new funding has enabled the TTC to achieve the following results during 2020 as a direct result of this new funding:

- Obtained Board approval for a Fleet Procurement Strategy and Plan that is currently being implemented to procure vehicle replacements with the City's \$1.1 billion in new funding: 13 of 60 streetcars; 300 of 1,422 buses; 70 of 512 Wheel Trans buses and planning for future subway train procurement;
- Began planning and early works for the Bloor-Yonge Capacity Improvements; Line 1 and 2 Capacity Enhancements and the ATC Line 2 capital projects
- Accelerated critical asbestos removal due to lower ridership to ensure ATC Line 1 installation is completed as planned.
- Accelerated critical subway track and other SOGR work due to lower ridership.

As recommended by the TTC Board and as directed by City Council, the CIP is updated annually as part of the budget process. As a rolling plan, the CIP will continue to be updated on an annual basis to reflect refined estimates, changes to the plan as well as provide an update on the progress being made on addressing the Commission's SOGR backlog and unmet capital needs.

For the 2021 Budget process, a 3-step process was undertaken to develop the 2021-2030 Capital Budget and Plan and update the CIP as shown in the following diagram:



Step 1: Update and Refine Approved 10-year Capital Plan

The first step of this process was to complete a zero based review of TTC's base 10-year Capital Plan at the lowest project level to ensure annual cash flow funding requirements are aligned with project spending, timelines and activities.

The following key considerations were included as part of the Commission's capital needs review:

- Health & safety, accessibility and legislative requirements;
- Current state of existing assets;
- Fleet replacement, maintenance and storage requirements; and

- Projected existing-system capacity requirements.

A new 10th year was added for approved projects and programs.

Step 2: Establish a Project Intake Process and Confirm Recommended Budget Changes

A project intake process was established to consider, review and requests for budget changes to existing approved projects based on cost increases or increased funding from the unfunded CIP. New project proposals were also submitted for consideration and business cases were provided for new project implementation.

An Investment Panel comprised of TTC executive staff was formed to review and prioritize the budget requests with priority given to approved capital projects in flight, emergent legislative, critical health and safety funding and any project proposals that provide savings or leverage time limited opportunities. Projects that could not be included in the 10-year capital plan were added to the Capital Investment Plan's unfunded project list.

Step 3: Finalize 2021-2030 Capital Budget and Plan and Update CIP for 2021

Based on the work undertaken in the 2 steps above, those capital budget requests that could be accommodated within TTC's 10-year Capital Plan were and those that could not, were added to the unfunded portion of the CIP. The CIP update also entailed a deeper review of project needs, assumptions, scope and timing of funding as well as key interdependencies with other projects.

This has resulted in a revised cash flow profiling of base capital needs through the 10-year capital planning period and allocating available funding to critical capital works as well as an in-depth review of new requests and priorities through the Investment Panel. These efforts have enabled TTC staff to fund \$1.11 billion in unfunded capital priorities and needs, with 95% of the funding be added for Health and Safety, Legislated and State of Good Repair projects which were previously unfunded.

Comments

2021-2035 Capital Investment Plan

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 Capital Investment Plan for the 2021-2035 period is \$37.77 billion, reflecting an increase of \$2.06 billion from last year's Plan. The increase in the Capital Investment Plan was driven by the following key changes in total requirements:

Key Changes to Capital Investment Plan

Description (\$ billions)	Years 1-10	Years 11-15	15 Year Total
2020-2034 Capital Investment Plan	22.65	13.06	35.71
Capital Investment Plan Changes			
Subway Maintenance and Storage Facility (Western Yard)	(2.00)	3.38	1.38
Bus Lane Implementation	0.23		0.23
Easier Access Program	0.24		0.24
Fire Ventilation Upgrade	0.01		0.01
Other Changes	1.12	(0.92)	0.20
Total Capital Investment Plan Changes	(0.40)	2.46	2.06
2021-2035 Capital Investment Plan	22.25	15.52	37.77

In many cases, CIP capital cost estimates are preliminary rough order of magnitude projections intended for planning purposes only.

The planning and design of large capital projects proceeds through a series of "stage gates", which increase certainty and accountability and reduce risk. At each gate, estimates are further refined. As a result of this practice, estimates will inevitably be subject to change. The updated CIP for 2021 reflects the further refinement of estimates, particularly for Line 1 and Line 2 Capacity Improvements and the Bloor-Yonge Capacity Improvements projects. In addition, the timing of the Subway Maintenance and Storage Facility (Western Yard) was moved to beyond 2030, which resulted in cost escalation. New corridors for the Bus Lane Implementation program were added to the CIP to reflect the City's RapidTO plan. Final costs for station redevelopment requirements at Warden and Islington stations were also added to the CIP as part of the Easier Access program, now that full redevelopment requirements are known.

Further details on the Capital Investment Plan can be referenced in Appendix C.

As a result of the 2021 budget process, \$11.907 billion of the \$22.256 billion in the CIP will be funded in the first 10 years. Based on extending current funding levels to the outer five years, another \$2.628 billion of this CIP can be funded. This leaves a total of \$23.239 billion unfunded, as summarized in the table below.

2021-2035 Recommended Capital Investment Plan			
Description (\$ Billions)	2021-2035		
	Years 1-10	Years 11-15	15 Year Total
Funded	11.907	2.628	14.535
Unfunded	10.349	12.890	23.239
Total Program Requirement	22.256	15.518	37.774

**Funding sources in years 11-15 based are based on current levels of city, provincial and federal funding included in the 10-year capital budget and plan*

2021-2030 Capital Budget and Plan

The Capital Budget & Plan establishes a steady state investment to ensure critical assets are maintained in a state of good repair to preserve system safety and reliability to meet service objectives. To achieve an optimal outcome within available funding sources, it was important to:

- Recalibrate the 10-year Capital Plan’s project estimates based on capacity to spend and project readiness and smooth annual cash flow estimates to match cash flow spending to project activities and timelines;
- Review requirements for major capital projects based on the progress made through the stage gating process;
- Revisit assumptions on needs, scope, and timing to confirm existing capital priorities and requirements, some of which have been moved beyond the 10-year timeframe;
- Identify any emergent capital priorities that must be funded to address critical health, safety or state of good repair requirements.

These efforts have provided additional “funding room” of \$787.2 million. This, combined with additional development charge funding for eligible capital costs of \$323.7 million, has enabled TTC staff to fund \$1.11 billion in unfunded capital priorities and needs, with 95% of the funding be added for Health and Safety, Legislated and State of Good Repair projects which were previously unfunded.

Of the added amount, \$1.058 billion or 95% is attributable to Health and Safety, Legislated and State of Good Repair projects and almost \$53 million or 5% for Service Improvement and Growth capital projects, making progress in the amount of unfunded capital works that could be accommodated in the 2021-2030 Capital Budget & Plan within current funding availability.

The following table provides a breakdown of the \$1.11 billion by project category.

Investment Panel Review By Category (\$ millions)		
Category	10 Year Total	% of Total
Health & Safety / Legislated	299	27%
State of Good Repair	759	68%
Service Improvement	53	5%
Total	1,111	100%

Of the added amount, \$1.058 billion or 95% is attributable to Health and Safety, Legislated and State of Good Repair projects and almost \$53 million or 5% for Service Improvement and Growth capital projects.

As a result, the 2021-2030 Capital Budget and Plan:

- Advances TTC's ability to establish steady state funding for essential safety and SOGR capital works such as:
 - Critical subway track SOGR work, with accelerated funding in 2021 to continue to leverage lower ridership levels
 - Maintains funding to complete ATC Line 1 and ensures 10-year funding for ATC Line 2
 - Increases funding for fire ventilation and second exits, building and subway fire alarm upgrades
 - Establishes a transit security program, including cybersecurity, cameras and monitoring systems.
 - Provides additional funding other critical SOGR programs such as Subway Pump Replacement, Reconstruction of Streetcar Overhead and Subway Escalator Overhaul.
- Provides funding to ensure TTC's is compliant with legislative requirements; such as:
 - Easier Access for Warden and Islington stations in accordance with redevelopment plans for those sites
 - Asset management
 - Bus stop improvements for accessibility
- Aligns with the Fleet Procurement Strategy timing and requirements, providing City portion of funding for vehicle procurements
- Continues business modernization:
 - SAP; Maximo; Vision, Wheel Trans and Stations Transformation
- Maintains funding to complete ATC Line 1 and ensures 10-year funding for ATC Line 2
- Reflects revised timing and requirements based on work completed to date for:
 - Bloor-Yonge Capacity Improvements
 - Line1 and Line 2 Capacity Enhancements, with the timing and cashflows for Western Yard and the Ninth Bus Garage being pushed out largely beyond the 10-year window;
- Adds funding for COVID related Capital works
 - COVID-19 UVC Light Disinfecting and Bus Operator Barriers

- Subway Public Health Initiatives
- Provides partial funding to align with the objectives set out in the 5-year Service Plan
 - Bus Lane Implementation
 - Opportunities to Improve Transit – Streetcar Platforms

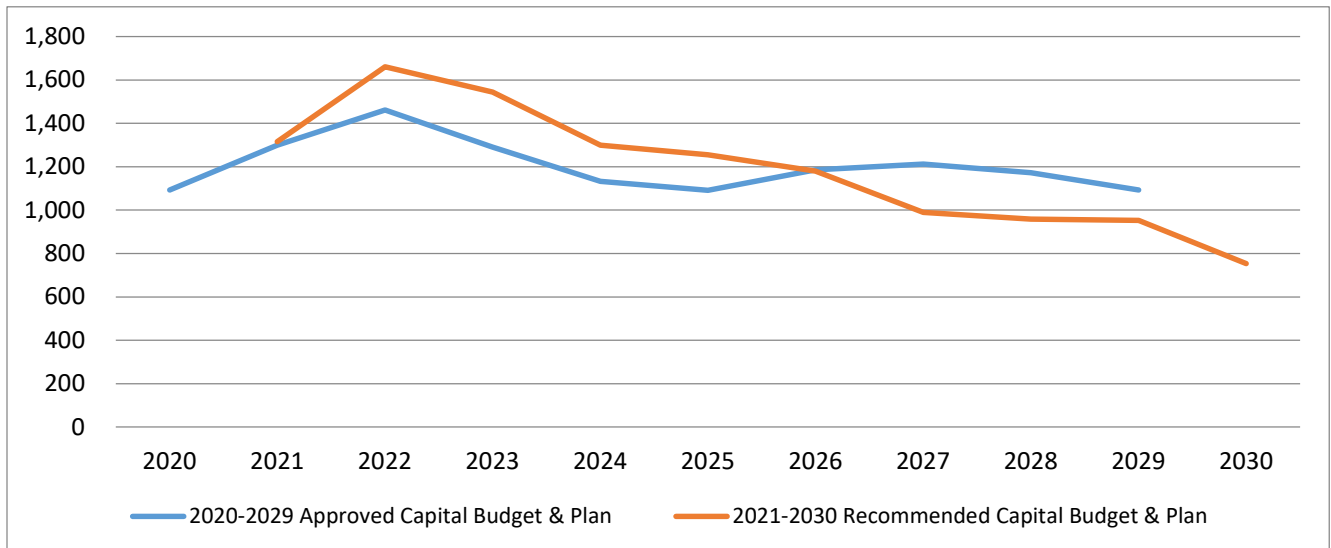
Funding is also recommended for the planning stages of key major projects included in the unfunded portion of the CIP, which are critical to ensure progress is made in preparing for future capital requirements. Funding for the planning stages of the following projects has been included in the recommended 2021-2030 Capital Budget and Plan.

Capital Project	Planning Cost (\$millions)
Platform Edge Doors Study	0.15
Platform Edge Tile Replacement	3.04
New Subway Maintenance & Storage Facility Study	3.50
Hillcrest Track Replacement Expansion	2.30
Easier Access Phase 4 Study	0.50
Inglis Building Renovation Study	1.88
E-Bus Conversion Study	0.40
Retail Assessment Study	0.15
Interchange Station Rehab – Eglinton Crosstown Study	0.08
Communication System Security Risk Study	0.05
Total	12.05

The TTC’s recommended 2021-2030 Capital Budget & Plan totalling \$11.907 billion is the product of the actions outlined above.

The following table compares the staff recommended 10-year Capital Budget & Plan to last year's Council approved 10-year Capital Budget & Plan.

2021-2030 Recommended Budget Compared to the 2020-2029 Approved Capital Plan



2021 - 2030 Capital Budget and Plan												
(\$ Millions)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
2020-2029 Approved Capital Budget & Plan	1,093	1,299	1,461	1,291	1,133	1,091	1,185	1,212	1,173	1,092		12,030
2021-2030 Recommended Capital Budget & Plan		1,315	1,660	1,544	1,299	1,255	1,179	989	959	953	754	11,907
Variance	(1,093)	16	199	253	166	164	(6)	(223)	(214)	(139)	754	(123)

Change over Nine Common Years		16	199	253	166	164	(6)	(223)	(214)	(139)		216
Change %		1%	14%	20%	15%	15%	-1%	-18%	-18%	-13%		2%

As noted in the table above, the recommended 2021-2030 Capital Budget & Plan reflects cashflow funding estimates that have been reprofiled with increases predominantly in years 2022 to 2025. The increases reflect refined cashflows based on revised timing and project scheduling as well as requirements based on project readiness, activities and timelines.

Key increases and accelerations include alignment with the timing of the Fleet Procurement Plan, additional requirements to address surface track replacement work, complete Easier Access at Islington and Warden Stations and Fire Ventilation Upgrades & Second Exits. The 2021-2030 Capital Budget & Plan also reflects a reprofiling of cashflows to align with program schedule and deliverables for major projects underway including Bloor-Yonge Capacity Improvements as well as Line 1 and Line 2 Capacity Enhancements.

The following table outlines the recommended 10-year Capital Budget & Plan by project category.

**2021-2030 Capital Budget & Plan
By Project Category**

Category (\$ Millions)	2021	2022	2023	2024	2025	5 Year Total	10-Year Total	Total 10 Year %
Health & Safety/Legislated	127.73	160.26	180.53	174.29	162.64	805.45	991.87	8.33%
SOGR	811.19	1,148.07	935.60	735.49	693.83	4,324.18	6,851.19	57.54%
Service Improvement/Growth	375.68	352.14	428.08	389.36	398.30	1,943.56	4,063.81	34.13%
Total Funded Recommended	1,314.60	1,660.47	1,544.21	1,299.14	1,254.77	7,073.19	11,906.87	100.00%

As outlined above, over \$7.8 billion or almost 66% of the recommended 10-Year Capital Budget and Plan is committed to State-of-Good-Repair (58%) and Health and Safety & Legislated (8%) projects. As a result, the recommended 10-year Capital Budget and Plan allocates the majority of available funding to establishing a predictable, steady state 10-year program for ongoing SOGR capital work. Priority has been given to funding SOGR projects to ensure the TTC can keep pace with the SOGR needs that must be addressed for assets that have come to the end of their useful life. Due to funding constraints, much of the previously approved growth related projects were moved below the line.

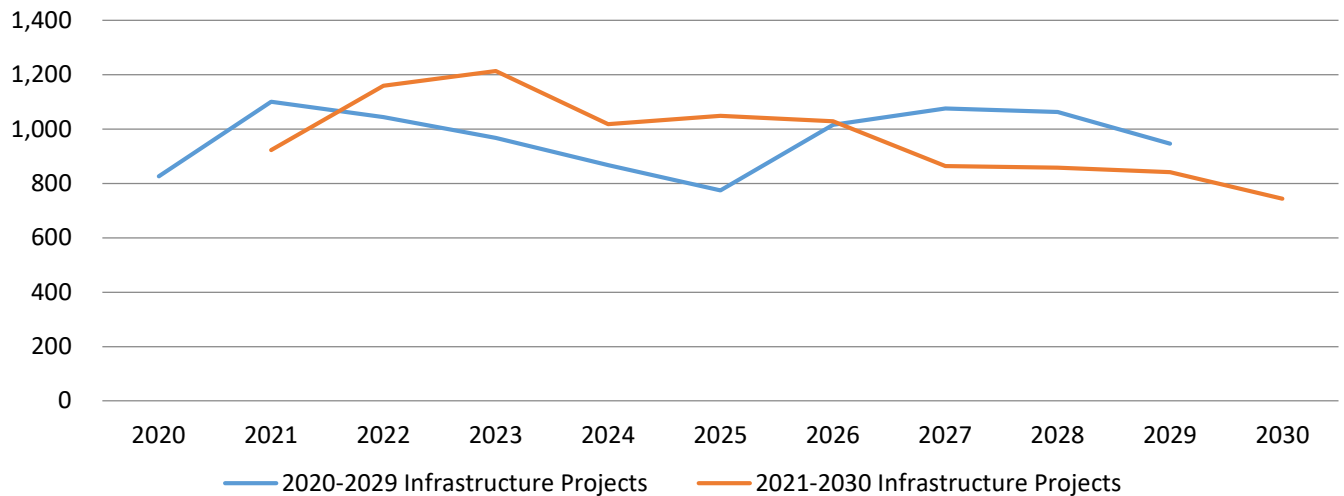
The TTC's capital works program can be categorized into 2 project groups:

- Infrastructure
- Vehicles

The staff recommended 10-Year Capital Plan allocates almost \$9.65 billion to Infrastructure Projects and \$2.25 billion to Vehicle Projects. The following chart compares the 2021 recommended 10-Year Capital Plan to the 2020 approved 10-Year Capital Plan for Infrastructure Projects.

Infrastructure Projects:

Infrastructure Projects
Comparison of 2021-2030 Recommended to 2020-2029 Approved Capital Plan



2021 - 2030 Capital Budget and Plan												
(\$ Millions)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
2020-2029 Approved Capital Budget & Plan	806	1,082	1,031	964	863	770	1,013	1,076	1,064	946		9,615
2021-2030 Recommended Capital Budget & Plan		903	1,146	1,209	1,014	1,046	1,027	865	858	842	744	9,654
Variance	(806)	(179)	115	245	151	276	14	(211)	(206)	(104)	744	39

As noted in the table above, funding for Infrastructure Projects has increased by \$39 million.

Key increases in the 2021-2025 period are driven by aligning the timing of scope as well as additional funding requirements. Both the Subway Track and Surface Track Replacement programs were accelerated (\$68 million) in this period to take advantage of low ridership levels and coordination with City Transportation. Additional funding was added for Streetcar Overhead (\$10 million) to accelerate pantograph conversion completion. Final costs for station redevelopment requirements at Warden and Islington stations were also added (\$243 million) as part of the Easier Access program. Line 1 Capacity Enhancements (\$285 million) and Line 2 Capacity Enhancements (\$47 million) cashflows were refined based on the outcome of early works.

The 10-year Capital Plan provides funding for the following projects:

Transit Infrastructure Projects: \$2.808 billion

- Track replacement - \$725 million
 - Subway Track Replacement - \$345 million
 - Surface Track Replacement - \$380 million
- Installation of automatic train control and resignalling on Line 1 (YUS subway line) - \$175 million

- Installation of automatic train control and resignalling on Line 2 (BD subway line) - \$734 million
- Bridges, tunnels and structure rehabilitation - \$473 million
- Traction Power - \$224 million
- Power Distribution/Electrical Systems - \$159 million
- Communications - \$133 million
- Signal Systems - \$103 million
- Streetcar overhead system rebuild - \$58 million
- Standby Generators Replacement - \$19 million
- Streetcar network upgrades for new Streetcars - \$5 million

Transit Station and Related Projects: \$5.012 billion

- Bloor-Yonge Capacity Improvements - \$1.385 billion
- Line 1 Capacity Enhancement - \$1.154 billion
- Line 2 Capacity Enhancement - \$550 million
- Easier Access Phase III - \$696 million
- Fire Ventilation Upgrade and Second Exits - \$441 million
- Roofing rehabilitation and paving programs - \$144 million
- Finishes - \$98 million
- Subway Escalator Overhaul and Replacement Programs - \$96 million
- Subway Pump Replacement System - \$65 million
- Subway/Bus Platform Ventilation Equipment - \$32 million
- Stations Transformation - \$27 million
- Eglinton Bus Terminal - \$26 million
- Skylights Replacement Project - \$14 million
- Other Transit Station - \$284 million

Transit Garages/Yards and Related Projects: \$670 million

- Land Acquisition for the New Subway Maintenance & Storage Facility (Western Yard) - \$229 million & Study \$4 million
- TR/T1 (Subway car) Rail Yard Accommodation (Subway Vehicle Facilities) - \$169 million
- Equipment (various) - \$59 million
- Greenwood Shop End of Life Replacement - \$53 million
- Bus Hoists - \$37 million
- Streetcar Carhouse Facility - \$35 million
- Subway Carhouse Facility - \$23 million
- Retrofit CH/SH Traction Power Pendent System - \$18 million
- Wilson Garage Ventilation Upgrade - \$15 million
- Bus Garage/Shop Facility Renewal - \$12 million
- Wheel-Trans Facility Renewal - \$10 million
- McNicoll Bus Garage - \$6 million

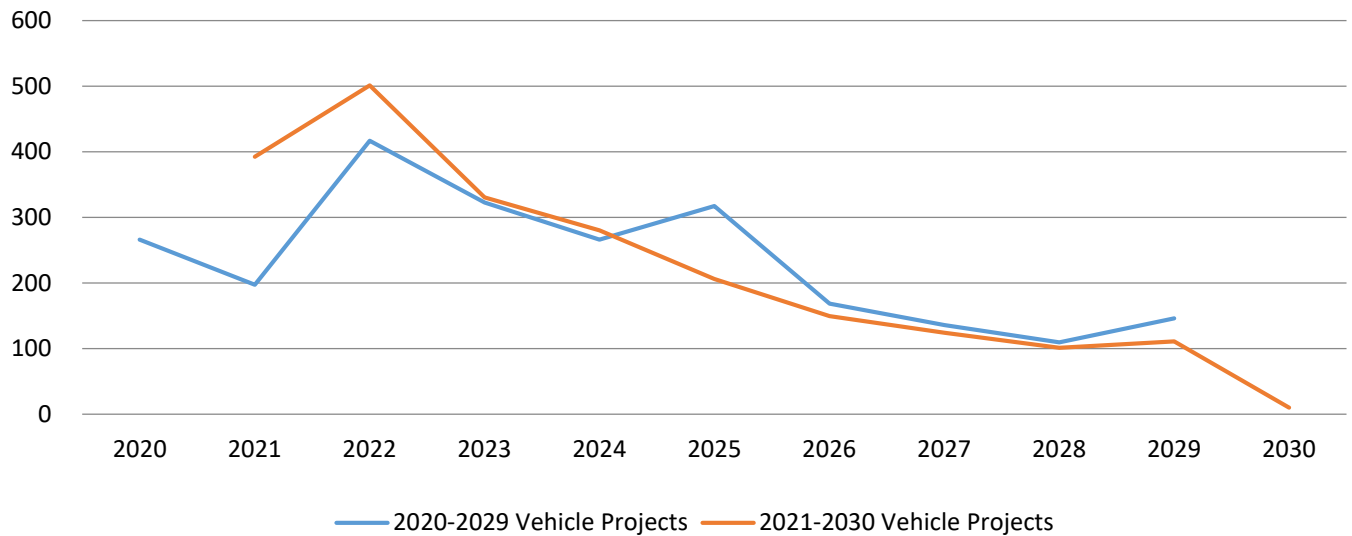
Other Transit Infrastructure Projects Including Expansion Projects: \$1.164 billion

- Investments in information technology assets such as SAP, VISION, Maximo, Cybersecurity, Enterprise Asset Management - \$382 million
- TTC Presto and fare and revenue collection - \$42 million
- Service Planning - \$102 million

- Bus Charging Systems - \$79 million
- Environmental Programs - \$66 million
- Wheel Trans Transformation - \$23 million
- Backflow Preventers - \$19 million
- TYSSE - \$121 million
- Waterfront - \$50 million
- Other - \$280 million

Vehicle Projects:

Comparison of 2021-2030 Recommended to 2020-2029 Approved Capital Plan (\$ Millions)



2021 - 2030 Capital Budget and Plan												
(\$ Millions)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
2020-2029 Vehicle Projects	287	217	430	327	270	321	172	136	109	146		2,415
2021-2030 Vehicle Projects		412	514	335	285	209	152	124	101	111	10	2,253
Variance	-287	195	84	8	15	-112	-20	-12	-8	-35	10	-162

As noted above, funding for Vehicle Projects has decreased by \$162 million over the 10-year period given that the last major payment for the 204 LRVs was funded in 2020. The increases over the 2021 to 2025 period mainly reflect the acceleration of funding for the \$1.1 billion in vehicle purchase based on the approved Fleet Procurement Plan.

The 10-year Capital Plan provides funding for the following projects:

- The purchase of Low Floor Buses: \$695 million
 - This includes the procurement of 300 Hybrid Buses and the development of an RFP for 300 eBuses - \$390 million
- The replacement of 181 Wheel Trans Buses - \$48 million
- The final payment for the delivery of 204 LRVs plus the procurement of up to 13 LFLRVs for ridership growth - \$237 million

- City's share of funding for the purchase of 372 New Subway Cars - T1 Replacement - \$458 million
- City's share of funding for the additional purchase of Subway Cars (Ridership Growth) - \$164 million
- Vehicle Overhaul Programs - \$461 million:
 - Bus Overhaul - \$183 million;
 - Streetcar Overhaul - \$53 million;
 - Subway Car Overhaul - \$225 million
- Purchase of Non-Revenue Rail Cars and Vehicles - \$96 million
- Overhaul of non-revenue Rail cars and Vehicles - \$39 million
- SRT LE Overhaul - \$47 million
- Other - \$8 million

Capital Funding Sources

The following table summarizes the available sources of funding over the next 10 years:

Funding Sources (\$ Millions)	2021-2030 Recommended Capital Budget & Plan by Funding Source										Total
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Recoverable Debt	678,115	994,247	1,043,422	779,927	831,631	735,853	548,084	520,581	513,858	38,362	6,684,080
Debt	134,685	68,706	24,544	13,459	10,308	3,965	3,344	2,925	3,007	279,692	544,635
Provincial	118,260	111,728	120,228	145,295	144,730	163,715	163,715	163,715	163,715	163,714	1,458,815
Federal	191,207	359,889	208,539	233,606	233,041	252,026	252,026	252,026	252,026	252,025	2,486,411
Dev. Charges	151,162	90,834	128,136	112,977	20,606	11,617	11,614	12,812	12,730	12,284	564,772
TTC Internal Depr.	38,544	35,069	19,339	13,876	14,452	11,553	9,915	7,418	7,227	8,138	165,531
LRV LD's	2,627	0	0	0	0	0	0	0	0	0	2,627
Total	1,314,600	1,660,473	1,544,208	1,299,140	1,254,768	1,178,729	988,698	959,477	952,563	754,215	11,906,871

The 2021-2030 Capital Budget & Plan reflects the following key assumptions:

- Assumed approved level of debt in the absence of debt targets over the 10-year period;
- Continuation of Provincial and Federal Gas Tax funding based on current funding levels;
- Federal PTIF Phase 1, which is expected to end in 2021;
- Federal PTIF Phase 2 funding and equal cost sharing from the Province and the City (through recoverable debt) for the Bloor-Yonge Capacity Improvements Project.

As a result, funding for TTC's 2021-2030 Capital Budget and Plan will require:

- \$6.684 billion in Recoverable Debt funding, representing 56.1% of total funding; when adding base debt, total City Debt funding equals \$7.229 billion or 60.7% of all funding sources.
- \$2.945 billion plus an additional \$1 billion in expected Provincial and Federal funding for their respective shares in the 3-way sharing of the Bloor-Yonge Capacity Improvements project. This brings the total to \$3.945 billion or 33.1%.
- Development charges (including reserves) will provide \$565 million or 4.7%.
- Other funding including TTC Internal (Depreciation) and LRV Liquidated Damages will provide \$168 million to complete the funding required for this 10-Year Capital Plan.

Operating Impacts of Completed Capital Projects

The cost of maintaining and operating new infrastructure, rehabilitated or expanded facilities as well as the cost to sustain new technology are some key drivers that impact the TTC's Operating Budget. These impacts must be identified when evaluating capital projects to determine the costs and benefits of proposed capital projects.

Approval of the 2021-2030 Capital Plan will result in costs and/or savings arising from the completed capital projects. While the completion of various capital projects included in the 2021-2030 Capital Plan will result in a reduction of approximately 160 capital positions over the next 10 years, operating costs of \$13.6 million are required in 2021 and an overall \$13.0 million over the next 10 years, given the savings to be realized from the implementation of the train door monitoring project, as noted below.

The 2021 operating impact has been reflected in the staff-recommended 2021 Operating Budget.

Operating Impacts of Completed Capital Projects

Projects	2021 Budget		2022 Plan		2023 Plan	
	\$000s	Positions	\$000s	Positions	\$000s	Positions
Previously Approved						
Fare System	74.0		0.0			
Information Technology System-Infrastructure	1,779.0	0.0	0.0		806.0	
McNicoll Bus Garage Facility	3,723.0	23.0	0.0		0.0	
Train Door Monitoring	0.0	0.0	(5,600.0)	(152.0)	(18,000.0)	0.0
Purchases of Buses	7,162.0	17.0				
Purchase of Rail Non-Revenue Vehicle	0.0		(109.0)		32.0	0.0
Signal Systems - Various	530.0		535.0		129.0	0.0
Other Various OBIs	379.0	9.0			138.8	
Total (Net)	13,647.0	49.0	(5,174.0)	(152.0)	(16,894.2)	0.0

Projects	2024 Plan		2025 Plan		2021-2025		2021-2030	
	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions
Previously Approved								
Fare System					74.0	0.0		
Information Technology System-Infrastructure	3,196.0	(4.0)	13,315.0	(2.0)	19,096.0	(6.0)	33,658.0	17.0
McNicoll Bus Garage Facility	0.0		0.0		3,723.0	23.0		0.0
Train Door Monitoring	(469.0)		(479.0)		(24,548.0)	(152.0)	(26,958.9)	(188.0)
Purchases of Buses					7,162.0	17.0		0.0
Purchase of Rail Non-Revenue Vehicle	83.0		84.0		90.0	0.0	3,360.0	0.0
Signal Systems - Various	31.0		33.0		1,258.0	0.0	1,580.0	8.5
Other Various OBIs	209.4		373.2	1.5	1,100.4	10.5	1,363.0	2.5
Total (Net)	3,050.4	(4.0)	13,326.2	(0.5)	7,955.4	(107.5)	13,002.1	(160.0)

2021 Capital Budget

The recommended 10-year Base Capital Plan of \$11.906 billion includes almost \$1.315 billion in project funding required for 2021. The following chart outlines the cashflow funding recommended for 2021.

TTC 2021 Capital Budget

<u>Infrastructure Projects:</u>	<u>(\$ Millions)</u>	
Track Programs	92.81	} 902.8 69%
Electrical Systems	7.74	
Signal Systems (inc. Line 1 and Line 2 ATC)	80.45	
Finishes	24.86	
Equipment	51.72	
Yards & Roads	5.03	
Bridges & Tunnels	33.71	
Other Buildings & Structures		
Bloor Yonge Capacity Improvements	45.00	
New Subway Maintenance & Storage Facility	40.05	
Fire Ventilation Upgrade & 2nd Exits Program	30.62	
Easier Access Phase III	83.48	
TR/T1 (Subway car) Rail Yard Accommodation (Subway Vehicle Facilities)	34.74	
LRV Carhouse Facility Renewal	6.00	
Wilson Garage Ventilation Upgrade	8.36	
Stations Transformation	8.94	
Wheel-Trans 10Yr Transformation Program	5.34	
Enterprise Asset Management	6.78	
Other Building & Structure Projects	59.71	
Fare System	12.97	
Information Technology	82.73	
Expansion Projects (TYSSE - 55.6M & Waterfront - 6.4M)	62.03	
Other Projects	119.71	
 <u>Vehicles Projects:</u>		} 411.8 31%
Purchase of Buses	6.48	
Purchase of Future Wheel Trans Buses	27.66	
Purchase of Subway Cars	11.77	
Purchase of Streetcars	235.46	
Vehicle Overhaul Programs (Bus, Subway, Streetcar)	99.65	
Expansion Projects (SRT LE OH)	19.64	
Other (Non-Revenue)	11.16	
Total Programs	1,314.60	

Infrastructure Projects

In 2021, work will continue to maintain TTC infrastructure assets in a state of good repair, including subway and surface track, signal systems, yards/roads and bridges/tunnels as well as the installation of ATC on Line 1. Planning and early works will continue on the following major projects: Bloor-Yonge Capacity Improvements, Line 1 and Line 2 Capacity Enhancements and ATC Line 2.

Projects scheduled for completion in 2021 include: VISION, Bus Rapid Transit (BRT)-Spadina to York, Bicycle Parking at Stations, POP Legacy Fare Collection and McNicoll Garage.

Vehicle Program

The recommended 2021-2030 Capital Plan does not include funding for new conventional bus fleet requirements beyond 2024 or any procurements of Wheel Trans buses beyond the planned purchases in accordance with the Fleet Procurement Plan.

All 204 LRVs have been delivered and the balance of funding included in the 2021 Capital Budget addresses the contractual commitments remaining for this order.

10 Year Recommended Capital Budget and Plan: Implications for TTC's Unmet Capital Needs

Due to limited funding in the 10 year planning period, over \$10.349 billion is currently unfunded as noted in the table below.

Project Description	Cash Flow (In \$ Millions)						
	2021	2022	2023	2024	2025	5 Year Total	10 year Total
HEALTH & SAFETY/LEGISLATIVE	0.9	19.7	25.6	16.3	13.6	76.1	119.6
FLEET PURCHASE PROGRAMS	99.3	212.7	191.7	172.0	313.8	989.5	3,475.9
PURCHASE OF BUSES			4.9	12.1	231.9	248.9	1,519.4
PURCHASE OF SUBWAY CARS		168.3	83.4	48.6	80.1	380.4	1,596.2
PURCHASE OF STREETCARS	99.3	44.5	103.4	111.3	1.8	360.2	360.2
OVERHAUL PROGRAMS			36.5	104.3	133.7	274.5	1,103.9
BUS OVERHAUL				59.7	69.3	129.0	461.4
STREETCAR OVERHAUL				20.2	20.3	40.5	95.5
SUBWAY OVERHAUL			36.5	24.4	44.1	105.0	547.1
SERVICE PLANNING	7.8	23.1	37.9	54.1	35.7	158.8	371.8
KEY BUILDINGS AND STRUCTURES		1.5	11.3	37.3	31.3	81.4	1,571.6
Hillcrest Track Replacement Expansion		1.5	11.3	37.3	31.3	81.4	81.4
Line 1 Capacity Enhancement							1,490.2
STATE OF GOOD REPAIR	20.8	56.6	179.5	338.1	323.6	918.7	2,419.9
SERVICE IMPROVEMENTS	0.4	2.6	14.6	17.1	8.5	43.2	300.7
GROWTH	0.2	104.9	39.3	90.8	25.5	260.7	986.1
Total Unmet Needs (Not Included)	129.5	421.2	536.4	830.1	885.7	2,802.9	10,349.5

As a result, TTC's capital needs have been constrained. There is a need for \$3.476 billion for the balance of funding required to purchase bus, subway and streetcars, as identified in the Fleet Procurement Plan. In order to maintain our existing fleet in a state of good repair \$1.104 billion is required to complete vehicle overhauls. An additional \$371.8 million is required for Service Planning initiatives such as Bus Lane Implementation and Transit Priority Measures.

Lastly, key buildings and structures projects that are not funded includes the Hillcrest Track Replacement Expansion, \$81.4 million, and the Maintenance and Storage Facility that is part of the Line 1 Capacity Enhancement project, \$1.490 billion.

It should be noted that both of these facilities have dependencies. The Hillcrest facility work will be required should additional funding become available for the balance of the vehicle procurement, as there is insufficient capacity at existing storage facilities. The planned Maintenance and Storage Facility (MSF) required for Line 1 must be funded, constructed and operational by 2030 to coincide with the currently timed Yonge North Subway Extension (YNSE) project and staff continue working with counterparts at Metrolinx and York Region to determine actual needs. Additional funding remains to be secured from all levels of government for the construction costs and discussions continue with Metrolinx on a possible cost-sharing element from the YNSE project.

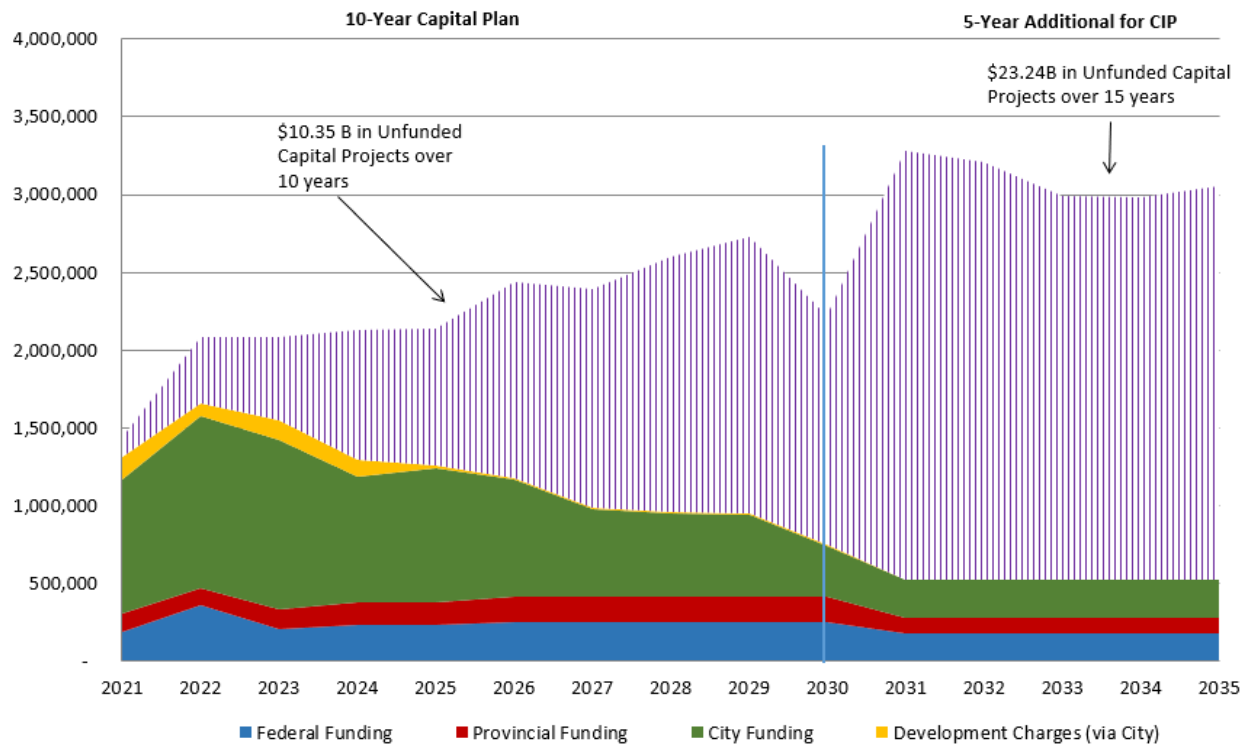
The following table outlines by project category, the unfunded capital needs over the 15-

year timeframe. Nearly \$13.56 billion or about 58.34% of unfunded projects in the 15-year Capital Investment Plan time horizon can be attributed to State-of-Good-Repair (SOGR 57.6%) and Health & Safety/Legislated (0.7%) capital needs.

	2021	2022	2023	2024	2025	5 Year Total	10 Year Total	15 Year Total	15 Year Total %
Health & Safety/Legislated	0.9	19.7	25.6	16.3	13.6	76.1	119.6	171.4	0.7%
SOGR	21.1	194.7	289.7	508.1	758.6	1,772.1	6,331.2	13,385.8	57.6%
SI/Growth Related	107.5	206.8	221.1	305.7	113.5	954.6	3,898.7	9,681.8	41.7%
Total Unfunded	129.5	421.2	536.4	830.1	885.7	2,802.8	10,349.5	23,239.0	100.0%

As noted above, a total of \$10.35 billion remains unfunded in the first 10 years of the CIP and \$25.87 billion over the 15-year period. However, when extending existing funding assumptions based on current levels of City, Provincial and Federal funding (\$2.628 billion) to the last five years of the CIP period, the total 15-year capital needs constraints is reduced to \$23.24 billion with \$12.89 billion unfunded in years 11-15. The total CIP over the 15-year period is presented in the chart below.

2021-2035 Recommended Capital Investment Plan



* Funding sources in years 11-15 are based on current levels of city, provincial and federal funding included in the 10-year capital budget and plan

Next Steps

The Capital Investment Plan will be reviewed and updated on an annual basis. It is expected that the timing and costs of projects in the annual CIP will change from year to year given this is a rolling plan.

Significant progress was made during the 2021 Budget process to review the unfunded list of projects to confirm need, scope, timing and key interdependencies and priorities through the Investment Panel review, but more work is required.

The next step is to undertake the prioritization process that will take into consideration the interdependencies between various projects and programs in order to manage risk and achieve desired benefits. The three values that form the cornerstone for capital investments at the TTC will be taken into consideration – safety and security; accessibility; and sustainability.

As the TTC matures its asset management practices, new information regarding TTC's asset conditions will be used to update, refine SOGR or add new SOGR requirements as they are known. Finally, new priorities or needs may emerge that must also be added to the CIP. It is anticipated that TTC's CIP will continue to mature and evolve. These actions will result in changes in the CIP that will be reported annually along with the progress that will be made in the funded portion of the CIP.

Contact

Josie La Vita,
Interim Chief Financial Officer
416-393-3914
Josie.LaVita@ttc.ca

Jennifer Imbrogno,
Director, Capital Accounting
416-393-3619
Jennifer.Imbrogno@ttc.ca

Signature

Josie La Vita
Interim Chief Financial Officer

Attachments

Appendix A – 2021 – 2030 Capital Budget and Plan Summary
Appendix B – 2021 – 2030 Capital Budget and Plan Funding Summary
Appendix C – 2021 – 2035 Capital Investment Plan

**TORONTO TRANSIT COMMISSION
2021-2030 CAPITAL BUDGET & PLAN SUMMARY**

Appendix A

\$Millions

Programs	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2021-2030
Infrastructure Related Programs:											
Tracks:	92.8	93.3	77.2	62.9	55.9	68.2	70.8	76.3	64.0	63.7	725.0
1.1 Subway Track	41.3	28.5	27.9	26.6	32.2	39.7	39.4	37.4	37.6	34.8	345.3
1.2 Surface Track	51.5	64.8	49.3	36.3	23.7	28.5	31.5	38.8	26.4	28.9	379.7
Signals, Electrical, Communications:	130.9	144.2	167.7	129.4	169.0	174.3	175.4	172.2	166.3	157.1	1,586.5
2.1 Traction Power	25.5	24.8	24.7	24.0	28.8	29.1	30.0	30.0	31.8	32.9	281.6
2.2 Power Distribution	7.7	9.3	8.8	12.6	15.4	20.9	27.6	27.3	20.1	9.3	159.1
2.3 Communications	17.2	15.4	15.3	13.9	12.4	13.8	12.2	11.3	10.7	11.0	133.0
2.4 Signal Systems	16.9	14.9	18.0	13.9	12.4	10.6	5.6	3.6	3.8	4.0	103.5
2.4 YUS/BD Resignalling	63.6	79.7	100.9	65.0	100.0	100.0	100.0	100.0	100.0	100.0	909.3
Buildings and Structures:	466.7	669.5	846.9	737.5	762.0	748.3	597.1	592.4	594.8	506.3	6,521.5
3.1 Finishes	24.9	48.6	29.4	9.5	7.4	0.8	0.8	0.8	0.8	0.8	123.9
3.2 Equipment	51.7	65.3	68.9	46.3	25.0	23.5	22.5	23.4	18.9	11.0	356.6
3.3 Yards & Roads	15.6	25.6	11.4	9.5	8.7	9.6	13.0	13.0	12.6	12.7	131.8
3.4 Bridges & Tunnels	33.7	49.4	52.0	49.0	47.5	46.8	45.5	48.5	49.4	50.8	472.6
3.9 Fire Ventilation Upgrade	30.6	49.5	42.2	35.9	38.7	28.1	44.5	60.7	76.3	34.3	440.8
3.9 Easier Access Phase III	83.5	99.1	132.3	130.7	143.3	107.5	-	-	-	-	696.4
3.9 Leslie Barns	3.1	6.0	-	-	-	-	-	-	-	-	9.1
3.9 Toronto Rocket (Subway Car) Yard & Storage Track	-	-	-	-	-	-	-	-	-	-	-
Accommodation	34.7	42.5	37.1	28.9	25.3	-	-	-	-	-	168.6
3.9 McNicoll Bus Garage	0.7	5.8	-	-	-	-	-	-	-	-	6.4
3.9 Line 1 Capacity Enhancement	12.5	24.9	182.7	105.1	123.7	102.9	161.7	167.2	154.3	119.3	1,154.4
3.9 Line 2 Capacity Enhancement	7.1	11.6	18.5	50.2	76.0	108.5	49.2	63.8	84.6	80.6	550.2
3.9 Corporate Initiatives	10.8	10.8	9.1	10.8	9.5	9.5	9.5	9.5	9.4	9.4	98.2
3.9 Yonge-Bloor Capacity Improvement	45.0	55.0	80.5	155.7	154.0	179.0	179.0	179.0	179.0	179.0	1,385.2
3.9 Other Buildings & Structures	112.8	175.4	182.6	105.9	102.9	132.1	71.5	26.5	9.5	8.3	927.5
Tooling, Machinery and Equipment	24.7	17.4	14.7	9.2	5.1	2.6	2.6	3.6	3.6	4.3	87.8
5.1 Shop Equipment	8.7	7.4	5.2	1.5	2.6	0.9	1.0	1.0	1.0	1.6	30.8
5.2 Revenue & Fare Handling Equipment	8.4	3.3	2.3	1.8	1.2	0.4	0.4	1.3	1.3	1.3	21.6
5.3 Other Maintenance Equipment	3.0	1.8	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.4	15.1
5.4 Fare System	4.6	5.0	6.0	4.7	-	-	-	-	-	-	20.3
Environmental Issues	8.5	13.4	7.0	6.0	7.0	7.1	7.3	7.6	6.8	6.0	76.7
6.1 Environmental Program	8.5	13.4	7.0	6.0	7.0	7.1	7.3	7.6	6.8	6.0	76.7
Computer Equipment & Software	82.7	76.8	74.3	63.1	43.5	23.0	8.1	3.2	3.2	3.5	381.5
7.1 IT Systems/Infrastructure	82.7	76.8	74.3	63.1	43.5	23.0	8.1	3.2	3.2	3.5	381.5
Other:	34.4	34.4	10.7	6.5	3.1	3.0	2.9	3.1	2.8	2.9	103.9
9.1 Furniture & Office Equipment	0.3	0.2	0.3	0.1	0.3	0.2	0.1	0.3	0.0	0.1	1.9
9.2 Service Planning	34.2	34.3	10.4	6.4	2.8	2.8	2.8	2.8	2.8	2.8	102.0
Subtotal - Infrastructure Related Programs	840.7	1,049.1	1,198.5	1,014.6	1,045.5	1,026.5	864.4	858.3	841.5	743.8	9,482.9
Vehicle Related Programs:											
4.11 Purchase of Buses	6.5	347.3	167.4	162.2	8.7	0.6	0.6	0.6	0.6	0.6	695.2
4.11 Purchase of Wheel Trans Buses	27.7	8.7	11.3	-	-	-	-	-	-	-	47.7
4.12 Purchase of Subway Cars	11.8	6.6	18.1	49.2	153.7	116.3	111.0	83.9	79.4	-	630.0
4.13 Bus Overhaul	62.9	55.9	58.9	0.0	0.8	1.1	0.9	1.0	1.0	1.1	183.4
4.15 Streetcar Overhaul	4.6	15.7	17.9	12.8	1.0	0.6	-	-	-	-	52.7
4.16 Subway Car Overhaul	32.2	35.3	36.2	31.2	31.4	18.5	8.2	10.0	22.5	-	225.4
4.18 Purchase of Streetcars	235.5	1.4	-	-	-	-	-	-	-	-	236.9
4.21 Purchase Non-Revenue Vehicles	5.7	14.2	4.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	44.2
4.22 Rail Non-Revenue Vehicle Overhauls	4.4	9.4	10.1	4.9	4.5	1.9	0.7	0.7	0.7	2.0	39.3
4.23 Purchase Rail Non-Revenue Vehicle	1.0	6.5	5.8	17.4	3.0	7.6	-	2.2	4.1	3.9	51.5
Subtotal - Vehicle Related Programs	392.2	500.9	330.3	280.5	206.0	149.4	124.3	101.2	111.1	10.4	2,206.2
TOTAL - BASE PROGRAM	1,232.9	1,550.0	1,528.8	1,295.1	1,251.4	1,175.9	988.7	959.5	952.6	754.2	11,689.1
Transit Expansion Programs:											
SRT Life Extension	19.6	13.2	4.1	4.1	3.3	2.8	-	-	-	-	47.2
Waterfront Transit	6.4	32.8	10.8	-	-	-	-	-	-	-	50.0
Toronto-York Spadina Subway Extension (TYSSE)	55.6	64.5	0.5	-	-	-	-	-	-	-	120.6
TOTAL - TRANSIT EXPANSION PROGRAM	81.7	110.5	15.4	4.1	3.3	2.8	-	-	-	-	217.8
TOTAL - BASE & TRANSIT EXPANSION PROGRAMS	1,314.6	1,660.5	1,544.2	1,299.2	1,254.8	1,178.7	988.7	959.5	952.6	754.2	11,906.9

2021-2030 Capital Budget Funding Summary											
\$Millions											
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
2020 to 2029 Council Approved Capital Budget and Plan	1,298.566	1,461.251	1,290.522	1,133.529	1,091.530	1,185.287	1,211.785	1,172.990	1,092.305		10,937.766
2021 to 2030 Capital Budget & Plan	1,314.600	1,660.473	1,544.208	1,299.140	1,254.768	1,178.728	988.698	959.476	952.562	754.215	11,906.871
Changes to 10 Year Capital Budget and Plan	16.034	199.222	253.687	165.611	163.238	(6.559)	(223.087)	(213.514)	(139.743)	754.215	969.105
2021 to 2030 Capital Budget & Plan Submission	1,314.600	1,660.473	1,544.208	1,299.140	1,254.768	1,178.728	988.698	959.476	952.562	754.215	11,906.871
Funding Sources											
Provincial Gas Tax - Base 2 cents	93.395	93.395	93.395	93.395	93.395	93.395	93.395	93.395	93.395	93.395	933.950
PTIF 2: Yonge Bloor Capacity Improvements	-	18.333	26.833	51.900	51.335	70.320	70.320	70.320	70.320	70.319	500.000
Provincial COVID Resilience Stream	0.561										0.561
204 LRV Funding	24.304										24.304
Total Provincial Funding	118.260	111.728	120.228	145.295	144.730	163.715	163.715	163.715	163.715	163.714	1,458.815
Base Federal Gas Tax - 5 cent (population)	174.135	341.556	181.706	181.706	181.706	181.706	181.706	181.706	181.706	181.706	1,969.339
PTIF 1	13.978										13.978
PTIF 2: Yonge Bloor Capacity Improvements	-	18.333	26.833	51.900	51.335	70.320	70.320	70.320	70.320	70.319	500.000
Federal COVID Resilience Stream	2.244										2.244
NR Canada	0.850										0.850
Public Transit Infrastructure Fund (PTIF)											-
Total Federal Funding	191.207	359.889	208.539	233.606	233.041	252.026	252.026	252.026	252.026	252.025	2,486.412
TTC Internal (depreciation)	38.544	35.069	19.339	13.876	14.452	11.553	9.915	7.418	7.227	8.138	165.529
Other Reserves / Funding Partners (Water; Roads DC - Transit Priorities)	1.760	1.760	1.760	1.760	1.760	1.760	1.760	1.760	1.760	1.760	17.600
LRV LD's	2.628										2.628
Development Charges	149.402	89.074	126.376	111.217	18.846	9.857	9.854	11.052	10.970	10.523	547.172
CFC											-
LARF											-
Bombardier LD's											-
Total Other Funding	192.333	125.903	147.475	126.853	35.058	23.170	21.529	20.230	19.957	20.422	732.930
City Debt Request (including PGT 2 cent replacement)	116.128	68.706	24.544	13.459	10.308	3.965	3.344	2.925	3.007	279.692	526.078
PTIF 2: Yonge Bloor Capacity Improvements - City Share	44.931	18.249	26.710	51.660	51.092	38.084	38.084	38.084	38.084	38.086	383.062
Recoverable Debt	582.306	975.998	1,016.712	728.267	780.539	697.769	510.000	482.497	475.774	0.276	6,250.138
City Funding - Reserve Funds (Capital Financing Strategy)											-
Total Carryforward	69.437										69.437
Total City / Other Funding	1,005.134	1,188.856	1,215.441	920.239	876.997	762.987	572.957	543.735	536.821	338.476	7,961.644
Total Funding	1,314.600	1,660.473	1,544.208	1,299.140	1,254.768	1,178.728	988.698	959.476	952.562	754.215	11,906.871
Funding Shortfall / (Surplus)	-	-	-	-	-	-	-	-	-	-	-

2021 - 2035 Capital Investment Plan Update

1. Background

In January 2019, the TTC introduced a 15 Year Capital Investment Plan (CIP) outlining the TTC’s comprehensive state of good repair needs, and capital requirements to support asset lifecycle replacement and ridership growth. The CIP outlines capital needs across all TTC asset type categories including streetcars, buses, stations, Wheel-Trans and subway infrastructure. Required capital investments of \$33.5 billion over a 15-year period (2019-2033) were identified based on order of magnitude cost estimates.

Through the 2021 budget process, the TTC’s 15-year outlook of base capital requirements has been updated for the period 2021 to 2035. The following provides an update on the refined cost estimates across each category of the CIP, and highlights areas across each mode requiring investment. It is important to note some capital cost estimates continue to be preliminary order of magnitude projections intended for planning purposes. Estimates will continue to be refined as projects mature through the project lifecycle.

2. Summary – 2021 – 2035 Base Capital Requirements

The total base capital requirements for the TTC over the next 15 years (2021 to 2035) is in the order of \$37.774 billion of which approximately \$23.239 billion is currently unfunded.

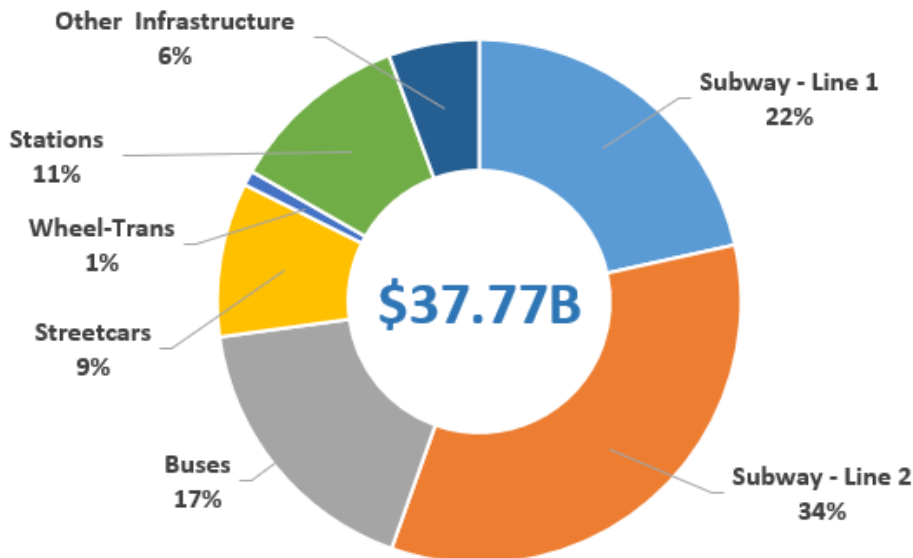


Table: 2021-2035 Capital Investment Plan (\$B)

Project/ Program	Summary Description	Estimated Cost (15 Year)	Funded (15 Year)	Unfunded (15 Year)
Subway				
Line 1 Capacity Enhancement	Increasing capacity through purchase of new trains, new northern yard and other station infrastructure enhancements	4.724	1.507	3.217
Automatic Train Control - Resignalling Line 1	Increasing capacity by reducing headway, providing more reliable service	0.175	0.175	0.000
Subway Track	Subway track and turnout rehabilitation, rail grinding, rail vehicle-based inspection system	0.640	0.394	0.246
Traction Power	Replacement of electrical systems that power the subway, including substation electrical and cable rebuilds	0.333	0.169	0.164
Subway Infrastructure	Maintenance of bridges and tunnels, communications, signal systems	1.128	0.811	0.317
Fire Ventilation Upgrade	Increasing the capacity of the subway fire ventilation system and constructing second exits	1.956	0.697	1.259
Toronto Rail/ T1 Rail Yard Accommodation (Line 1)	Increasing subway train storage capacity at Wilson and Davisville Yards	0.169	0.169	0.000

Project/ Program	Summary Description	Estimated Cost (15 Year)	Funded (15 Year)	Unfunded (15 Year)
Purchase of Subway Trains- Ridership Growth on Line 1 in 2026	Purchase of new subway trains to meet ATC requirements and ridership growth forecasts	0.501	0.172	0.329
Subway Train Overhaul	Overhaul of the subway fleet to maintain state-of-good-repair	0.872	0.241	0.631
Other Subway- State of Good Repair	Work car purchase and overhaul, subway asbestos removal, pump and lighting replacement	0.371	0.346	0.025
Line 2 Capacity Enhancement	Increasing capacity through purchase of new trains, traction power upgrades and other station infrastructure enhancements	3.667	1.078	2.589
Automatic Train Control (ATC) Resignalling – Line 2	Increasing capacity by reducing headway, providing more reliable service	0.811	0.747	0.064
Purchase of 372 Subway Cars (T1 replacement)	End-of-life replacement of existing T1 subway train fleet. This project will continue beyond the 15-year horizon	1.742	0.461	1.281

Project/ Program	Summary Description	Estimated Cost (15 Year)	Funded (15 Year)	Unfunded (15 Year)
Western Yard	Purchase of land, construction of maintenance and storage facility and connection to the main line to meet growth	3.849	0.806	3.043
Subway Total		20.938	7.773	13.165
Bus				
Bus Procurement Program	Purchase of low-floor low/zero emissions buses for state-of-good-repair replacement and ridership growth	4.019	1.016	3.003
Ninth Bus Garage	Construct a double garage that will allow for several years of growth	0.545	0.072	0.473
Purchase of Automotive Non-Revenue Vehicles	Purchase of vehicles used by TTC staff for transit enforcement, plant maintenance, etc.	0.131	0.050	0.080
Bus Overhaul Program	Mid-life overhaul of the bus fleet to maintain state-of-good-repair	0.952	0.235	0.717
Bus Garages	McNicoll bus garage completion, construction of collision centre and heavy-overhaul bus facility, garage upgrades	0.427	0.055	0.372
Other Bus	Transit signal priority measures, bus stop improvements, autonomous vehicle program	0.502	0.097	0.405
Bus Total		6.576	1.526	5.050

Project/ Program	Summary Description	Estimated Cost (15 Year)	Funded (15 Year)	Unfunded (15 Year)
Stations				
Bloor – Yonge Capacity Improvements	Construction of additional platforms, escalators and elevators to improve vertical circulation	1.495	1.495	0.000
Station Rehabilitation	Roofing rehabilitation on subway rapid transit stations and station finish renewal	0.271	0.129	0.142
Elevator and Escalator Overhaul and Replacement	Replacement, modification and upgrades to escalators and elevators to extend their useful life	0.313	0.114	0.199
Easier Access Phase III (AODA) and Enhanced Station Access	Installing elevators to make all stations accessible by 2025 and additional future elevator installations	0.697	0.697	0.000
Platform Edge Doors	Installation of doors on subway platforms to prevent passengers accessing subway tracks	1.335	0.088	1.247
Other Stations	Station transformation, subway station fire alarms, bus platform ventilation	0.098	0.075	0.023
Stations Total		4.209	2.598	1.611
Streetcar				
Purchase of 204 Streetcars	Purchase of 204 accessible articulated low-floor streetcars	0.098	0.098	0.000
Purchase of 60 Streetcars for Ridership Growth	Purchase of 60 accessible articulated low-floor streetcars for growth	0.499	0.139	0.360
Streetcar Overhaul Program	Overhaul of the streetcar fleet to maintain state-of-good-repair	0.496	0.104	0.392
New Streetcar Maintenance and Storage Facility	Consideration of the conversion of the Hillcrest complex to streetcar-only with additional track; upgrading the Harvey Shop	0.903	0.020	0.883

Project/ Program	Summary Description	Estimated Cost (15 Year)	Funded (15 Year)	Unfunded (15 Year)
Surface Track and Traction Power	Ongoing surface track replacement and traction power upgrades	1.183	0.580	0.603
Streetcar Facility Upgrades	Enhancements to streetcar facilities	0.321	0.028	0.293
LRV Carhouse Facility Renewal Program-	Includes Russell, Roncesvalles	0.093	0.019	0.074
Streetcar Total		3.593	0.988	2.605
Wheel-Trans				
Purchase of Future Wheel-Trans Buses/ Transformation	Replacement of "Friendly" bus fleet and additional facilities based on the Family of Service model	0.346	0.090	0.256
Wheel-Trans Total		0.346	0.090	0.256
Other Infrastructure				
Facilities	Renewal projects for facilities, furniture, office equipment, paving and new industrial space	0.703	0.455	0.248
Information Systems	New Transit Control and ITS Centre, implementation of SAP, VISION, Enterprise Asset Management	0.725	0.663	0.062
Office Consolidation	Start of consolidation of office space to increase efficiency and reduce occupancy costs	0.032	0.000	0.032
Health, Safety and Security Infrastructure	Storage tank replacement, backflow preventers, standby generator procurement	0.134	0.063	0.071
Other Infrastructure Total	Shop equipment, culvert rehabilitation, service planning and completing the implementation of the PRESTO farecard program	0.518	0.379	0.139
Other Infrastructure Total		2.112	1.560	0.552
GRAND TOTAL		37.774	14.535	23.239

** Funding in years 11-15 totaling \$2.6 billion is anticipated funding based on current levels of city, provincial and federal funding included in the 10- year capital budget and plan.*