

EX20.4 Attachment 1

Attachment 1 - City of Toronto Priority Projects for Phase 1: Federal Public Transit Infrastructure Fund (PTIF)

Project Title	Project Description	Estimated Total Project Cost (\$)	Anticipated PTIF Funding (\$)
Toronto Transit Commission Led Projects			
Bridges/ Structures Maintenance	Rehabilitation of deteriorated bridges and tunnels.	13,545,000	6,772,500
Toronto Rocket / T1 Rail Yard Accommodation	Design and construction of various Subway car facilities and yards to ensure the proper delivery, maintenance and storage of the new fixed 6-car Toronto Rocket (TR) subway trains at Wilson. This will also include the consolidation of the T1 trains on the Bloor-Danforth (BD) line and related impacts of the TR/T1/H series cascading plan on the applicable maintenance facilities.	48,707,000	24,353,500
Subway Facility Renewal Program	Modifications/renewals at 7 subway facilities across the transit system.	7,603,000	3,801,500
Subway Pump Replacement Program	Replacement of existing subway sanitary and storm drainage pumping systems.	10,275,000	5,137,500
Backflow Preventers	Backflow preventer installation on water lines supplying TTC properties.	1,904,000	952,000
On Grade Paving	On-going rehabilitation of the Commission's pavement surfaces at various locations within the transit system, including divisional paved facilities.	8,994,000	4,497,000
Skylight Replacement Program	Repairs or replacement of leaking skylight systems at numerous locations. The scope of the project includes the repairs of the Yorkdale station skylight.	27,356,000	13,678,000

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Stations Transformation (incl Zone Hubs)	Stations Hubs at key interchange and line stations.	20,371,000	10,185,500
Subway Track Rehabilitation Program	If track is not replaced once rail wear has reached its maximum allowable head or gauge wear of one-half inch, a safe reliable track system cannot be assured. Ties and ballast must be replaced to ensure stable and secure foundation for train operation.	63,488,000	31,744,000
Subway Turnout Rehabilitation Program	The special track work components are heavily worn and are approaching their service limits.	29,773,000	14,886,500
Subway Rail Grinding	In certain areas of the mainline Subway, the running rail is damaged by normal train operation. In these areas, the unique nature of the wheel/rail interaction results in two predominate types of rail wear conditions; rolling contact fatigue and rail corrugation.	14,140,000	7,070,000
Train Door Monitoring System - T1 & TR (Overhaul and Communications)	Modifications to the TR trains needed to support the installation of the Train Door Monitoring system.	36,518,000	18,259,000
T1 Subway Cars - 20 Year Overhaul	The 20 year overhaul of 370 T1 cars which will commence in 2015 and will be completed in 2022.	23,705,000	11,852,500
T1 Subway Cars - 15 Year Overhaul	The 15 year overhaul of T1 cars.	24,608,000	12,304,000
Subway Workcars	Retrofit of existing workcars (27) and purchase of the following types of workcars: production tamper, vacuum excavator, geometric/NDT track inspection workcar (1), paper vacuum workcar and crane flatcar (2).	29,340,000	14,670,000
Surface Track Replacement Program	Rail/Roadbed is beyond acceptable standards in certain locations. Replacement of the track structure.	42,924,000	21,462,000

Project Title	Project Description	Estimated Total Project Cost (\$)	Anticipated PTIF Funding (\$)
Surface Special Trackwork Replacement Program	Replacement of worn special trackwork as it approaches the end of its useful life.	13,569,000	6,784,500
Reconstruction of Streetcar Overhead	Upgrades to the existing Overhead Contact System on revenue service routes, as well as the three legacy yards.	15,438,000	7,719,000
Life Extension Overhaul of 30 Articulated Light Rail Vehicles (ALRVs)	Due to deteriorating state of the ageing vehicles the mechanical condition (wheels and trucks) as well as body condition (roof leaks) necessitate their overhaul before these vehicle fail while in service.	17,310,000	8,655,000
Bus Hoists	Bus hoist replacements. Other work includes Implementation of bus hoist safety zones at all hoist positions and the required facility modifications.	3,820,000	1,910,000
Bus Washracks	Upgrade existing bus washing system to improve the quality of washes and to reduce the amount of maintenance required at garages.	10,111,000	5,055,500
Platform Modifications to Accommodate Articulated Buses	Reconstruct bus pads and lengthen bus bays on up to 6,000 bus stops on bus routes where articulated buses are currently deployed and are planned to be deployed.	20,000,000	10,000,000
Opportunities to Improve Transit Service - Transit Priority Measures	Installation of signal priority equipment at existing signalized intersections or new signal equipment, and queue jump lanes.	20,000,000	10,000,000
Purchase of 29 of 99 Low Floor 40 ft Diesel Buses for Customer Service Initiatives	Buses to reduce passenger wait times and crowding and to provide more reliable and expanded services.	19,816,000	9,908,000

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Purchase of 76 of 108 LF 40ft Diesel Buses	Buses to reduce passenger wait times and crowding and to provide more reliable and expanded services.	46,110,000	23,055,000
Purchase of 182 of 272 LF 40ft Diesel Buses	Buses to reduce passenger wait times and crowding and to provide more reliable and expanded services.	123,908,000	61,954,000
Purchase of 496 LF 40ft Diesel buses	Buses to reduce passenger wait times and crowding and to provide more reliable and expanded services.	325,277,000	162,638,500
Orion VII Diesel & Nova Artic Bus Rebuild Program	Mid-life rebuild of the Orion VII Diesel, Orion VII Hybrid and Nova Articulated Bus Fleets.	115,107,000	57,553,500
Replacement of Orion VII Hybrid Bus Components	Orion VII Hybrid Bus Fleet components. These include the following major hybrid components: AC Traction Generator, AC Traction Motor & Propulsion Control System.	21,525,000	10,762,500
APC expansion to remainder of TTC 40' bus fleet and ALRVs	Purchase and installation of approx. 1160 Automatic Passenger Counting (APC) systems for 40' bus fleet.	9,318,000	4,659,000
Customer Facing Information Screens (CFIS)	Deploy (a) LED displays at up to 250 shelters, (b) LED/LCD displays at 6 TYSSE stations and (c) Alternate Energy Pilot at 5 stops.	5,000,000	2,500,000
VISION (CAD/AVL)	This project will deliver: CAD/AVL functionality; integrated vehicle borne systems; integration with automated stop displays; automated stop announcements; onboard camera replacement or integration with existing; tools and automation of selected business rules for route management; mobile supervision tools; integration with maintenance system to automate work order generation, Asset Management; Yard Management System; KPI reporting; system interfaces to existing enterprise applications including the planned enterprise data warehouse for reporting; dashboards and analytics.	30,000,000	15,000,000

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Easier Access Phase III	Modifications to make remaining subway/SRT stations accessible to persons with disabilities, through the addition of elevators easier access fare gates, automatic sliding doors and minor modifications.	6,550,000	3,275,000
400 Wheel-Trans Buses	Replacement buses in order to maintain a reliable service for our customers.	21,469,000	10,734,500
Bus Stop Improvements for Accessibility	Reconstruct the concrete pads at about 1400 bus stops to make them accessible to customers using mobility devices and comply with AODA.	20,000,000	10,000,000
Wheel Trans Transformation Program	Implementation of IT systems to provide improved abilities to manage customer information, customer relationships, ride reservations, scheduling and dispatch. Construction of Mobility Transfer Hubs.	19,555,000	9,777,500
Maintenance of Joint TTC / Toronto Transportation Bridges	Major maintenance of deteriorated structures.	9,695,000	4,847,500
Structure Rehabilitation Program	Deteriorated bridge and tunnel structures will be rehabilitated to ensure that an acceptable level of structural adequacy is maintained for the delivery of safe and reliable service.	25,438,000	12,719,000
Storage Tanks - Oil Interceptors	Replacement of Underground Storage Tanks (UST) and Aboveground Storage Tanks (AST).	1,237,000	618,500
Roofing Rehabilitation Program	On-going planned rehabilitation of full or partial roof replacement of TTC facilities as identified in a five-year matrix schedule.	26,684,000	13,342,000
Surface Way Building Replacement	Design and construction of a new rail bending building with the capability to bend long pieces of rail, office area and a Mobile Dispatch Area (MDA) to prepare crew vehicles for daily operations and provide an area for assignment of work activities at the Hillcrest complex.	33,169,000	16,584,500
Sub-Total TTC		1,363,357,000	681,678,500

Project Title	Project Description	Estimated Total Project Cost (\$)	Anticipated PTIF Funding (\$)
City of Toronto Led Projects			
Union Station - Northwest PATH	Investigation of optional routes with cost comparisons to include retail to support commuters. As part of the Metrolinx-City agreement, a PATH connection is to be constructed to serve the western portion of the downtown core serving Union Station.	200,000	100,000
Union Station - Security Analysis	A security analysis for the Union Station precinct, to be done in consultation with area stakeholders. This funding will be for a consultant to undertake the analysis, and provide a detailed design for the front portion of Union Station. Work was requested by the Government of Canada, Metrolinx and City of Toronto.	500,000	250,000
Union Station - Security Access Tunnel	Implementation of a Traffic Management Plan for the shared service tunnel, which services Union Station and surrounding developments. Funding is required for the computer program and equipment to manage both traffic and loading. The computer schedule program will coordinates deliveries, pre-screening, approval in-and-out, and traffic lights at the various loading docks.	300,000	150,000
Union Station - Signage and Wayfinding	Additional exterior wayfinding which is necessary at Union Station. Work was determined by the City of Toronto and Metrolinx after reviewing existing signage and wayfinding at Union Station.	400,000	200,000
Union Station - Cove Lighting	Preparation and installation of lighting, within the existing cove, around the perimeter of the Great Hall to meet building code requirements and improve customer safety and experience.	100,000	50,000
Finch West LRT Early Works	City Share of utility relocation related to construction of the Finch West Light Rail Transit Line.	50,000,000	25,000,000
SmartTrack & Eglinton West LRT	Planning, design, environmental assessment preparation and other eligible predevelopment expenditures related to the proposed six SmartTrack Stations on the Stouffville, Kitchener GO, and Lakeshore East corridors and the Eglinton West LRT.	71,000,000	23,667,000

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Scarborough Subway Extension Planning and Design	As per Council approved Transit Network Plan to 2031, detailed review of design options.	250,000	125,000
Eglinton East LRT Planning and Design	As per Council approved Transit Network Plan to 2031, technical and planning analysis with respect to an Eglinton East LRT extension including Kennedy station, realignment of Military Trail, next phase to Malvern.	7,000,000	3,500,000
Relief Line Planning and Design	As per Council approved Transit Network Plan to 2031, design and study of tunnelling/construction impacts.	55,520,000	27,760,000
Waterfront Transit Design	As per Council approved Waterfront Transit Reset, phase 2; preliminary design for Exhibition to Dufferin Gate Loop.	3,600,000	1,800,000
Finch Avenue East Grade Separation	City Share of GO Stouffville Corridor Grade Separation (RER initiative).	40,000,000	6,000,000
Scarborough Golf Club Road Grade Separation	City Share of GO Lakeshore East Corridor Grade Separation (RER initiative).	30,000,000	4,500,000
Morningside Avenue Grade Separation	City Share of GO Lakeshore East Corridor Grade Separation (RER initiative).	45,000,000	6,750,000
Exhibition Place/Ontario Place Land Bridge Study	Pre-engineering and costing study to provide preliminary information on the feasibility and cost of an enhanced pedestrian and cycling bridge across Lake Shore Boulevard West between Exhibition Place and Ontario Place. The bridge will enhance the connectivity between local and regional transit hubs (GO and TTC stations), Exhibition Place and Ontario Place. Scoped in consultation with Provincial partners, the study will provide information on site conditions in the project area, design concept options and preliminary cost estimates to support project planning and budgeting.	600,000	300,000

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Exhibition Place/Ontario Place Transit Study	Transportation study to develop a transportation plan to support ongoing revitalization of Exhibition Place and Ontario Place, and identify short term transit options to support new programming at both sites in 2017. The findings will inform revitalization plans, support Phase 2 of the Waterfront Transit Reset, and inform TTC service planning for the area. The scope of the study was developed in consultation with Provincial partners.	300,000	150,000
Eglinton Connects Streetscape Improvements and Cycle Tracks	Detailed design of streetscape and cycle tracks along Eglinton Connects LRT project and construction of an 800 m segment of cycling facilities from Jane Street to Weston Road.	17,800,000	8,900,000
West Toronto Railpath Extension	Southerly extension of West Toronto Railpath.	23,500,000	11,750,000
East Don Trail	Key connection in multi-use trail network.	22,500,000	11,250,000
Surface Transit Operational Improvement Studies - Phase 2	Data collection, analysis, and preparation of recommendations for traffic regulations, traffic signal timing, roadway modifications, and transit operations, for reduction of delays and improved reliability of service on major surface routes.	210,000	105,000
Surface Transit Operational Improvement Studies - Phase 3	Data collection, analysis, and preparation of recommendations for traffic regulations, traffic signal timing, roadway modifications, and transit operations, for reduction of delays and improved reliability of service on major surface routes.	500,000	250,000
King Street Modelling Study	Evaluation of a range of options to prioritize and improve downtown streetcar operations on King Street (from west of Strachan to King E /Queen E intersection) through microsimulation modelling, while mitigating effects on the broader road network. King Street is Toronto's busiest surface transit route.	600,000	300,000

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REimagining Yonge North Study	Design work related to the Reimagining Yonge Street Environmental Assessment (Sheppard Avenue to Finch Avenue). Project will improve the streetscape and public realm for all users in the central corridor within North York Centre with planned bicycle lanes, wider sidewalks, and a connection to the Finch Hydro Cycling Trail. Corridor includes 3 subway stations and is a key route for regional buses connecting to the subway network.	4,000,000	2,000,000
Bicycle parking at 40 TTC stations	New and enhanced bike parking at 40 rapid transit stations.	850,000	425,000
Bike Share Toronto Expansion at 50 TTC stations	Expansion of Bike Share Toronto stations at 50 rapid transit stations.	2,500,000	1,250,000
Flemingdon Park-Thorncliffe Park Neighbourhood Cycling Connections	Neighbourhood connections to Eglinton Crosstown LRT. Projects include boulevard multi-use trails and/or cycle tracks.	3,000,000	1,500,000
Eglinton Avenue East Bicycle Lanes	Proposed bicycle lanes or cycle tracks on the section of Eglinton Avenue east of the terminus of the Crosstown LRT.	1,082,000	541,000
Burnhamthorpe/Renforth Boulevard multi-use trail to Kipling Station	Proposed boulevard multi-use trail connection to Kipling TTC station, the reconstruction of Six Points and to the City of Mississauga in conjunction with other capital projects.	2,090,000	1,045,000
York University Cycling Connections	Various cycling improvements near York University, which would improve cycling access to the Toronto - York Spadina Subway Extension.	223,000	111,500
Dufferin Street North Trail/Cycle Track	Proposed boulevard multi-use trail or cycle tracks.	1,400,000	700,000

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Midland Avenue Multi-Use Trail	Proposed boulevard multi-use trail cycling facility.	9,000,000	4,500,000
Transit Signal Priority System Renewal	Architecture and Design for Transit Signal Priority System (Part of Congestion Management Plan) - deployment at up to 6 intersections.	100,000	50,000
Accessible Pedestrian Signals Expansion	Expansion of APS to improve access to transit stops. Program to undertake 20 locations per year.	2,400,000	1,200,000
Automated Pedestrian Detection Upgrades	Upgrades to traffic signals to automatically detect waiting pedestrians and ensure that they have enough time to safely cross the street at 10 locations per year.	300,000	150,000
New mid-block crossings to transit stops	Provide additional controlled crossing opportunities to improve safe pedestrian access to transit stops at 10 locations per year.	3,000,000	1,500,000
Reductions of curb radii at key intersections	Reduce the corner radii at 5 key intersections per year in order to shorten pedestrian crossing distances and times, and reduce the speeds of vehicles making right turns.	250,000	125,000
Geometric Safety Improvements - Removal of Channelized Right Turns	Removal of right-turn channels and islands at 5 intersections per year to reduce vehicle speeds and add accessible pedestrian signals at key intersections.	1,800,000	900,000
Missing sidewalk links - 2017	Construction of new sections of sidewalk, curb cuts, and tactile pavers to improve access to transit stops.	1,320,000	660,000
Missing sidewalk links - 2018	Construction of new sections of sidewalk, curb cuts, and tactile pavers to improve access to transit stops.	1,710,000	855,000
Missing sidewalk links - 2018 Road Safety Plan	Construction of new sections of sidewalk, curb cuts, and tactile pavers to improve access to transit stops.	500,000	250,000

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Increase Crossing Times - Modification of signals and timings	Modify walk speeds and re-time traffic signals to allow more time for pedestrians to safely cross a signalized intersection at 40 locations per year.	230,000	115,000
Reduced Crossing Distance - Curb extensions/neckdowns	Implement curb extensions/neckdowns to reduce pedestrian crossing distances on local and collector roads and improve visibility and protection of pedestrians at 5 locations per year.	180,000	90,000
Sidewalk extensions for accessibility	Widen sidewalks to better accommodate mobility devices and provide improved access to transit stops.	150,000	75,000
Signalized Crossings for Cyclists	Expand the installation of dedicated traffic signals for cyclists at 5 locations per year.	180,000	90,000
Pavement Marking Improvements	Provide additional and improved pavement markings to improve the visibility of pedestrians at 14 corridors per year.	400,000	200,000
Real-time alternative transportation information screens	Installation and maintenance of screens in City facilities showing real-time status of transit, car sharing, bike share, etc.	60,000	30,000
LED Blank-Out Signs for turn restrictions	Expand the installation of illuminated prohibited turn signs on additional streetcar corridors to improve compliance to turn restrictions at up to 40 locations.	760,000	380,000
Other	Projects that will be identified as part of the 2017 Budget Process.	-	22,966,152
Sub-Total City of Toronto Projects		407,365,000	174,565,652
Total		1,770,722,000	856,244,152