
**TORONTO TRANSIT COMMISSION
REPORT NO.**

MEETING DATE: January 31, 2007

SUBJECT: 2007-2011 TTC Capital Program and 10-Year Capital Forecast

RECOMMENDATION

It is recommended that the Commission:

(1) (a) Approve the 2007 Capital Program in the amount of \$747.1 million as described in this report (and summarized in Appendix A) and the accompanying documents:

- TTC 2007-2011 Capital Program Overview
- TTC 2007-2011 Capital Program (Blue Books)

(2) (b) Approve the 2007-2011 Capital Program in the amount of \$4.035 billion as outlined in this report and the accompanying documents.

(c) Approve the 10-Year Capital Forecast in the amount of \$6.874 billion as shown in this report and the accompanying documents.

(3) Confirm its previous direction and amend the 2007-2011 Capital Program by adding \$9.9 million for 2007 and \$79.1 million for the five years 2007-2011 as outlined in Part 6 (Approved Budget Amendments) of this report and as follows:



(4) Consider additional amendments to the 2007-2011 Capital Program as outlined in Part 7 (Potential Budget Amendments) of this report.

(5) Consider this report in concert with the following:

- (a) the TTC 2007 Operating Budget
- (b) the TTC 2007 Wheel-Trans Operating Budget
- (c) the TTC 2007 Departmental Goals and Objectives
- (d) the TTC 2007 Organization Charts

(6) Forward this report to the City of Toronto for Council approval of the 2007 Capital Program in the amount of \$757.0 million and \$4.114.4 billion for the 2007-2011 Capital Program (as amended per Recommendation 2 above) and approval of the 10 year forecast.

(6) Forward this report to the Ontario Minister of Transportation, the Honourable Donna Cansfield, the Ontario Minister of Public Infrastructure Renewal, the Honourable David Caplan, and to the Ontario Minister of Finance, the Honourable Gregory Sorbara, for information.

(7) Forward this report to the Federal Minister of Transport, Infrastructure and Communities, the Honourable Lawrence Cannon, for information.

(8) Forward this report to Rob McIsaac, Chair of the Greater Toronto Transportation Authority, for information.

PART 1: BUDGET HIGHLIGHTS

The highlights of the 2007-2011 TTC Capital Program are as follows:

- \$747 million is budgeted in 2007 (before amendments):
 - \$390 million for vehicles, including \$222 million for the procurement of 320 buses (220 hybrids and 100 diesel), \$104 million toward the purchase of 234 subway cars, \$20 million for streetcar overhauls and preliminary work for streetcar procurements in 2008 and, \$44 million for various revenue vehicle overhaul programs and Wheel-Trans and non-revenue vehicle purchases.
 - \$357 million for infrastructure and related projects, including \$64 million for subway and surface track work (including the St. Clair Right-of-Way), \$66 million for signal/electrical/communication projects (including \$6 million for the re-signalling of the original portion of the Yonge-University-Spadina subway line), \$192 million for various facility, equipment, yard, bridges and tunnels projects (including \$31 million toward the construction of Mt. Dennis bus garage and \$15 million for fire ventilation upgrades), and \$35 million for various other information technology, environmental and, equipment projects.
 - Sufficient capital funding is available to meet the TTC's capital needs in 2007 (taking into account surplus funds carried forward from 2006 and provided all federal and provincial funds flow as expected).
- \$4.035 billion is budgeted for the five years from 2007 to 2011 (before amendments), including \$2.193 billion (54%) for the procurement and overhaul of vehicles, \$1.842 billion for infrastructure and related projects.
- A high level summary of expenditures (before amendments) is included as Appendix A to this report.
- Certain budget amendments were considered and approved by the Commission after completion of the budget documentation, but, prior to consideration of the overall budget by the

Commission. These amendments include additional expenditures of \$9.9 million in 2007 and \$79.1 million over the five years from 2007-2011. The projects include redevelopment of the stations at Victoria Park, Warden and, Kipling/Islington, together with the commencement of design work at Pape Station under the Station Modernization project and the settlement of a claim re Birchmount Bus Garage. A summary of these amendments is included in Part 6 (Approved Budget Amendments) of this report.

The TTC's 2007-2011 Capital Program is described in detail in the following:

- The accompanying document entitled "TTC 2007-2011 Capital Program Overview", which provides an overview of the budget, highlights key changes from last year, discusses funding issues and provides the operating impacts of the programs.
- The "Blue Books", which comprehensively describe every project in detail, including project justifications.
- Note that, following City of Toronto Council approval of the 2007-2011 Capital Program, updated summaries and project documentation will be issued to reflect all amendments to the originally published documentation.

PART 2:TTC 2007-2011 CAPITAL PROGRAM

The capital plan must be pursued in the context of the Commission's long-term standing capital budget priorities which remain:

1. State-of-Good-Repair and Safety
2. Legislative
3. Capacity Enhancement
4. Improvement
5. Expansion

In establishing these budgets, a life-cycle approach is used. Detailed system inventories of each class of capital asset are maintained. Budgets are set to replace or rehabilitate assets based on condition assessments, engineering standards, legislative requirements or safety/environmental implications. Five and ten-year programs are developed: all designed to keep the estimated \$9 billion in TTC Capital assets in proper working order. A high level summary, by project classification, is attached as Appendix A. The companion report entitled "TTC 2007-2011 Capital Program Overview" and the Capital Program "Blue Books" describe each project in detail.

The Base Capital Program as outlined in the 2007-2011 Capital Program and 10 Year Forecast is a planned approach to the reinvestment and rehabilitation of physical plant (the original Yonge-Subway celebrated its 50th anniversary in 2004), as well as the replacement of revenue vehicles (rail cars have a useful life of 30 years, while buses have a useful life of 18 years). In addition, it is important to remember that the price of transit vehicles has increased significantly faster than the normal rate of inflation. For example, an H2 subway car cost about \$165,000 in 1971. Assuming a normal rate of inflation, a subway car would cost about \$800,000 in today's dollars. The recently placed order for 234 subway cars cost approximately \$3 million each. Approximately \$6.9 billion

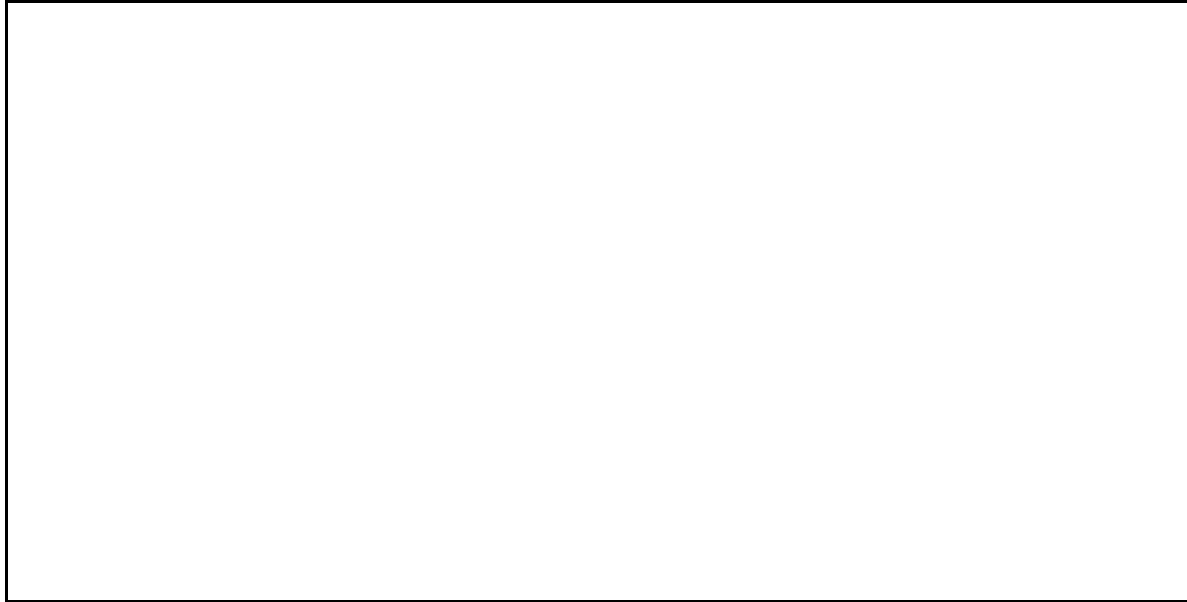
in investment will be needed over the next 10 years for the base capital program (before amendments) as shown in Table 1.

TABLE 1

Expenditures for the next decade (before amendments) are dominated by: (i) the need to overhaul and replace aging buses and subway cars (\$2.225 billion), (ii) the need to overhaul and replace streetcars (\$929 million) and undertake streetcar track rehabilitation, including St. Clair Right-of-Way (\$277 million), (iii) major structural rehabilitation of the Commission bridges, tunnels, buildings and structures, (iv) the decision to upgrade the Scarborough RT and acquire 44 new SRT vehicles (\$500 million), and (v) the need to update the Commission's IT assets (\$178 million). In addition, several major projects requiring significant investment over the next 10 years will be undertaken including: the installation of elevators in the subway system (\$276 million), the construction of two new bus garages to meet fleet capacity requirements (\$120 million) and the upgrade of fire ventilation equipment and installation of second exits in the subway (\$318 million).

Expenditures for the next five years (before amendments) are budgeted in the order of \$4.0 billion as shown in Table 2.

TABLE 2
BASE CAPITAL PROGRAM
By Major Category
(\$ Millions)



As can be seen from the chart, 84% of the capital budget for the next five years is committed to State-of-Good Repair/Safety and Legislative projects. In addition, 54% of budgeted expenditures for the next five years (52% in 2007) is for vehicle procurement or overhauls. Key elements of the budget over the next five years include:

- The procurement of 234 new subway cars (\$591 million).
- The delivery of 795 new buses (\$582 million).
- The rebuild of 100 CLRV's and the procurement of 85 LRV's (\$693 million - 64 to replace the remaining 96 CLRV's and 21 to meet normal service growth on the streetcar network).
- The commencement of re-signalling on the Yonge-University-Spadina line (\$111 million – including track crossovers).
- The upgrade of the Scarborough Rapid Transit line (\$152 million), including the acquisition of 44 new SRT cars (\$109 million).
- The completion and opening of Mt. Dennis bus garage in late 2007 (\$32 million).
- Proceeding with the upgrade of the fire ventilation system (and second exits) in the subway system (\$137 million).
- Continuing with the installation of elevators under the Easier Access program (\$105 million).

Each program or project element identified above is described in detail in the Blue Books and the “2007-2011 Capital Program Overview” that accompany this report.

PART 3: BUDGET COMPARISON WITH LAST YEAR'S APPROVED BUDGET

Tables 3 shows the change in the Commission's Base Capital Program (before amendments) from that approved by City Council in December 2005.

TABLE 3



Expenditures in 2007 are estimated to increase by \$31 million compared to last year's approved program. The largest components of this increase relates to Security projects (\$23 million), timing of expenditures re subway car acquisition (\$13 million) and \$6 million re streetcar overhaul programs. These increases are offset by a reduction of \$11 million related to delays in proceeding with the Fire Ventilation project.

Expenditures over the 5 year period from 2006 to 2010 are estimated to increase by \$659 million compared to last year's approved program. The single largest component of the overall increase is \$462 million associated with the streetcar fleet plan. The budget includes the procurement of 64 new LRT cars to replace 96 of the TTC's aging CLRVs (as compared to completing a life-extension program for these vehicles) and the procurement of a further 21 LRT cars to address normal service growth on streetcar routes. An additional \$66 million is required for the Scarborough RT (new vehicles and facilities upgrade). Approximately \$40 million more is required for the project to re-signal the Yonge-University-Spadina subway line. In addition, approximately \$21 million is required during this time frame associated with various security enhancement initiatives. The remainder of the change represents about a 2% increase (\$70 million) on the balance of the program. Much of this increase relates to a reassessment of needs and priorities, and is based on more current information on costs and condition assessments for programs including Streetcars, Buses, Bus Garages, as well as cost increases based on refined estimates or scope for safety critical requirements.

As can be seen from the table, capital expenditures over the 10-year period 2006-2015 are increasing by \$1,633 million. Approximately \$702 million relates to the purchase of new LRT cars as soon as possible and LRT facility modifications. \$231 million more is required for the SRT (vehicles and facilities upgrade). Costs to re-signal the entire Yonge-University-Spadina have been incorporated (\$221 million). A further \$101 million relates to the procurement of buses as part of the overall bus fleet plan (which incorporates a 2% ridership growth assumption). An additional \$91 million is required for the Fire Ventilation Upgrade project as a result of significant cost estimate increases based on assessment of the work at the initial York Mills location. \$63 million has been included to provide for Wilson Carhouse modifications to accommodate the new subway cars and a further \$17 million is required for various safety/security initiatives. The balance (\$207 million) represents an increase of about 4% on the existing program and includes refined scope of work and revised estimates based on updated information.

Further background of the specific changes is contained in the "TTC 2007-2011 Capital Program Overview".

PART 4:FUNDING

The City of Toronto is ultimately responsible for funding 100% of the TTC's Capital Program. Several Provincial and Federal programs are in various stages of being rolled out. These include funding under the tri-partite Canada Strategic Infrastructure Fund (CSIF), the Ontario Transit Vehicle Replacement Program (OTVP), the Ontario Bus Replacement Program (OBRP), the Ontario Transit Technology and Infrastructure Program (TTIP), the Provincial gas tax (two-cents per litre effective October 2006), the Federal base gas tax (up to five-cents per litre by 2009) the Public Transit Capital Trust fund, and the Transit-Secure Contribution Program.

After the inclusion of contributions from TTC depreciation charges (charged to the TTC Operating Budget), City reserves and development charges, net City funding for the remainder is financed as best determined by the City. City funding may be in the form of current charges in the City's operating budget (capital from current) or through the issuance of long-term debt instruments. City Council has approved multi-year debt targets for the TTC's capital program, including \$237 million in 2005, \$200 million in each of 2006 & 2007 and \$186 million in 2008. The City's Chief Financial Officer has indicated that he is prepared to recommend debt targets of \$175 million in each of 2009, 2010 and 2011.

Table 4 summarizes the projected funding sources for the TTC's base capital program as compared to budgeted expenditures (before amendments).

TABLE 4

The table shows that:

- Provincial funding of \$1,183 million is projected over the five-years from 2007 to 2011, including \$229 million in 2007 (net of \$91 million gas tax applied to operating by the City).
- Federal funding of \$1,051 million is projected over the five years from 2007 to 2011, including \$229 million in 2007.
- City funding of \$1,005 million (inclusive of TTC depreciation, property reserves, development charges and debt financing) is projected over the five years from 2007 to 2011, including \$223 million in 2007.
- The table shows that there is currently projected to be a \$66 million funding shortfall for 2007 which will have to be covered by the City; however, this can be covered by the anticipated \$72 million funding surplus in 2006.
- In total, there is currently projected to be a \$795 million funding shortfall over the five years from 2007 to 2011.

During its approval of the TTC's 2005-2009 Capital Program, Council approved a motion that requested the Deputy City Manager and Chief Financial Officer to review the impact of extending the debenture period beyond 10 years. While this work has yet to be completed, it is anticipated that it would have a favourable impact with regard to the City's financing of the TTC's capital program.

Details on funding are available in the "TTC 2007-2011 Capital Program Overview" document.

PART 5:CAPITAL WORKFORCE

In order to deliver the projects within the TTC's capital program a combination of internal and external resources is utilized, taking into account consideration of operational constraints, safety concerns and the need to minimize costs. Resources are adjusted as necessary in order to meet individual project plans and the TTC's capital workforce fluctuates accordingly.

Based on the 2007-2011 Capital Program, 171 additional capital positions will be required to support the following projects: Safety/Security related programs (37), Structure Maintenance Program (33), Streetcar Life Extension (26), various communications, wiring and signals projects (34), Speed Control/Train Stops/YUS Resignalling programs (22), T1 Overhaul Program (13), New Subway Train (6), H6 Subway Car Overhaul Program (5), Roof Rehabilitation (4), SRT Trackwork (3), Spadina Subway Extension project (3 – this resource requirement will grow to 25 to 30 staff and 60 consultants following project approval), and various other capital projects (12). These increases are partially offset by a net reduction in various vehicle overhaul programs (27).

PART 6:APPROVED BUDGET AMENDMENTS

Since the time of publication of the 2007-2011 budget documents, the Commission has considered and approved several initiatives that have impacted the Capital Program as noted in the following table:

These amendments increase the 2007 requested expenditure level by \$9.9 million to \$757.0 million and increase the five year 2007-2011 requested expenditure level by \$79.1 million to \$4.114 billion. The impact of these amendments on funding has yet to be confirmed, however, it is currently estimated that they would increase the 2007 shortfall by \$0.5 million to a total of \$67 million and they would increase the five year 2007-2011 funding shortfall by \$7.7 million to a total of \$803 million.

PART 7:POTENTIAL BUDGET AMENDMENTS

Several initiatives have been identified in recent months that have not been factored into the 2007-2011 Capital Program. This includes projects outlined in the following table:

The most significant potential budget amendment noted here relates to the Streetcar Fleet Plan. The cash flow reflected in this table represents the difference between what is included in the proposed Capital budget outlined in this report (i.e. 100 CLRV life-extension rebuilds plus the acquisition of 85 LRV's – 64 to replace the remaining 96 CLRV's that have not been rebuilt and a further 21 LRV's to provide for normal service growth on the existing streetcar network) compared to a proposal to proceed with full fleet replacement at an earlier date (without any rebuilds). The various streetcar fleet plan options are set out in a separate presentation.

The remaining items noted on this list of potential adjustments, together with the alternate Streetcar Fleet Plan, must be considered by the Commission to confirm whether they should be factored into the Capital Program which will be forwarded to City Council for approval. If all of the items detailed in the table above were to be included in the recommended budget, 2007 expenditures would increase by \$2.5 million and the five year 2007-2011 expenditures would decrease by up to \$17.6 million. The impact of these amendments on funding has yet to be confirmed, however, it is currently estimated that they would increase the 2007 shortfall by \$3.4 million and they would decrease the five year 2007-2011 funding shortfall by up to \$3.4 million.

PART 8:BELOW THE LINE PROJECTS

During the 1970's and 1980's the population of the City of Toronto grew by 9%. In those same two decades, TTC ridership grew from 275 million riders in 1970 to almost 465 million – a 70% increase. This growth was achieved through continuous investment in transit capacity and expansion. The Yonge Subway Line was extended north, the Bloor/ Danforth Line went further east and west and, the Spadina Subway and Scarborough RT Lines were built. In addition, a significant investment in revenue vehicles was made: subway cars (400 cars purchased), streetcars (196 CLRVs and 52 ALRVs), SRT cars (28) and a 70% increase in the size of the bus fleet. Predictable long-term funding, fare increases in line with inflation and steady expansion of the system resulted in large shifts of commuters from the automobile to public transit.

During the 1990's a recession hit. By 1996, City of Toronto employment had fallen by almost 15%. TTC operating subsidies were cut in half in real terms. Fares were increased in real terms by about 50% over the rate of inflation. Large service cuts were made (reducing the bus fleet by 22% and closing two operating garages). As a result, ridership fell to 372 million in 1996 – over 90 million (or 20%) from the late 1980's highs. This is the classic transit downward spiral. Transit in Toronto was

cheaper for governments, however, there was a lot less of it.

The latter half of the 1990's was somewhat better than the first half. City of Toronto employment had recovered almost to pre-recession levels. However, TTC ridership had recovered less than half of what was lost. For the decade, City of Toronto population grew by 9%, yet TTC ridership was down by 11%. A significant contrast to the 1970's and 1980's.

Since 2001, the TTC has had to deal with a very uncertain operating environment where many non-controllable events have impacted ridership. Labour strikes in 2002 (OPSEU, CUPE) and the SARS outbreak and hydro blackout in 2003 all had an immediate effect on ridership. 2006 ridership was 444.5 million rides and the 2007 budget is projected at 454 million rides. Additional details on ridership are available in the 2007 Operating Budget report.

The City of Toronto's Official Plan calls for 18% growth in City of Toronto population by 2031, but virtually no new arterial road capacity is planned during this time. This growth can only occur if the TTC is not only able to maintain what it has, but, is able to expand. The 2007-2011 base capital program only addresses the state-of-good-repair needs of the system. Additional projects have been identified; however, they can only proceed following identification of funding. The financial impact of these "Below the Line Projects" is reflected in Table 5.

TABLE 5

**BASE CAPITAL PROGRAM
+ BELOW-THE-LINE PROJECTS
2007 TO 2016**

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"Ridership Growth Strategy" initiatives would cost \$410 million over the next ten years. These investments include an Environmental Assessment for the Sheppard Subway Extension to Scarborough Town Centre (\$2 million), Commuter Parking Expansion (\$3 million) and, Construction of BRT Lines on the Avenues (\$405 million). No funding has been identified for these projects at this time.

"Other TTC Recommended" projects, at an estimated cost of \$868 million over the next ten years, are capital expansion elements identified in the Building a Transit City program including

the expansion of, and upgrades to the Harbourfront (Waterfront West) streetcar line including \$69 million for the section between the Exhibition Place Loop and Dufferin/King, and \$297 million for the section between Dufferin/King and Roncesvalles/King. Also included is the Bremner Streetcar project for \$179 million, the purchase of more streetcars for use on the new streetcar lines for \$105 million, \$58 million for the TTC's Station Modernization program and, \$20 million for the University Subway Station Renaissance program. Other than the Renaissance program (to be funded 75% by the Toronto Community Foundation), no funding has been identified for these projects at this time.

The "Waterfront Initiatives (TWRC)" category, which is also part of the Building a Transit City program, includes \$313 million over the next ten years for the East Bayfront streetcar line and associated station expansion (\$148 million), the West Don Lands streetcar extension (\$20 million), the purchase of 11 more streetcars (\$55 million) and construction of a second platform at Union Station (\$89 million). The cost of these projects is expected to be covered by the Toronto Waterfront Revitalization Corporation which is funded by all three levels of government.

The Subway Expansion Plan was premised on subway construction averaging \$175 million per year for the duration of construction of the extensions of the Spadina and Sheppard Subway lines. The Spadina Subway Extension from Downsview to Vaughan Corporate Centre will require \$1,514 million over the next five years and would cost in the order of \$2.4 billion to complete. To date, Federal funding for this project has not been secured. The Sheppard Subway Extension to Scarborough Town Centre would require \$948 million over the next ten years and is estimated to cost in the order of \$2.4 billion in total. No funding has been identified for extension of the Sheppard subway at this time.

In total, these additional programs, for which funding is not yet confirmed (other than the Union Station second platform project and the East Bayfront and West Donlands Environmental Assessments), would require an investment of a further \$4.9 billion over the next 10 years – on top of the Commission's base capital program requirement of \$6.9 billion during the same time frame. The expenditure profile for these investments is shown in Figure 1 below.

Figure 1

EXPENDITURE PROFILE
1991 TO 2016 (Base +SSE +Expansion)



PART 9: OVERALL BUDGET CONCLUSIONS

The following conclusions can be made:

- (1) The proposed 2007 budget is affordable within the City approved debt guidelines after factoring in the 2006 capital funding surplus and anticipated Federal and Provincial funding programs for 2007.
- (2) The way-forward for the streetcar fleet plan must be confirmed as part of the 2007 capital budget process (the issue of life-extending the existing CLRV streetcar fleet which is reaching the end of its 30 year life versus moving forward more quickly to replace the streetcar fleet with new accessible LRV's).
- (3) A funding deficiency for the State-of-Good Repair budget or base capital program remains over the longer term (\$803 million including the approved amendments). It will be necessary to:
 - (a) confirm a long-term funding agreement with the Province
 - (b) confirm the Provincial allocation of the Federal Public Transit Capital Trust funds
 - (c) secure successor funding to the initial Canada Strategic Infrastructure Fund (CSIF) agreement.
 - (d) ensure that flexible rules are in place for the gas tax funding.

(4) Federal funding must be secured before the Spadina Subway Extension to Vaughan Corporate Centre is able to proceed.

(5) Additional funds (beyond those for State-of-Good-Repair) must be secured in order to proceed with the “below-the-line” initiatives that have been identified (but, currently are not included in the budget) to help Build a Transit City consistent with the City’s Official Plan.

January 24, 2007
42-107-34

Attachment: Appendix A - 2007-2011 Capital Program Summary

Companion Reports: TTC 2007-2011 Capital Program Overview
TTC 2007-2011 Detailed Blue Books