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YONGE SUBWAY EXTENSION RECOMMENDED TRANSIT PROJECT

(Regional Council at its meeting on September 18, 2008, adopted this Clause subject to Recommendation 2 being amended to read as follows:

- 2. Council support the continued investigation of the Yonge Street alignments and the siting of the station locations into the Richmond Hill Centre and the options for the siting of the Steeles Avenue bus terminal with key stakeholders during the environmental assessment.***

In considering this clause, Council had before it a letter dated September 18, 2008 from Mayor Frank Scarpitti, Town of Markham.)

The Rapid Transit Public/Private Partnership Steering Committee recommends the following:

- 1. The presentation by Tom Middlebrook, Owner's Engineer, be received; and**
- 2. The recommendations contained in the following report, September 4, 2008, from the Vice-President, York Region Rapid Transit Corporation, be adopted:**

1. RECOMMENDATIONS

It is recommended that:

1. Council endorse the recommended transit description of a six (6) station subway with a bridge crossing over the East Don River.
2. Council support the continued investigation of the Yonge Street alignments into the Richmond Hill Centre and the options for the siting of the Steeles Avenue bus terminal with key stakeholders during the environmental assessment.
3. Council provide authority to initiate the formal six month Environmental Assessment Process commencing on October 3, 2008.
4. Council formally seek the City of Toronto and TTC's support for the Environmental Assessment undertaking.
5. Council endorse the award of the completion of the Yonge Subway Environmental

Assessment work to the joint team of McCormick Rankin and York Consortium 2002, at a cost not to exceed \$1.2 million, and a total cost within the approved Council budget of June 21, 2007 from the Regional Capital reserves of \$3.0 million, and subject to Staff agreement to the final work program and associated fees.

6. This report be forwarded to Metrolinx, the City of Toronto, the TTC and City of Vaughan, Town of Richmond Hill, and the Town of Markham.

2. PURPOSE

The purpose of this report is to provide an update on the technical planning, and engineering work and extensive stakeholder and public consultation on the Yonge Street subway since the June report.

This report outlines the recommended Yonge Subway transit project description and a process to continue to refine the project description and seeks Council authorization to initiate an Environmental Assessment for the project following the new 6 month Environmental Assessment process.

The report also seeks City of Toronto and TTC support for the undertaking, and updates Council on consultations to date with City of Toronto/TTC staff and the Steeles and Yonge Street landowners.

The report updates Council on the progress being made on the benefits case analysis on the Yonge Subway and recommends that this report be forwarded to Metrolinx for their information and assistance in undertaking the benefits case analysis.

Finally, this report seeks approval to award, within the already approved Council budget, the joint team of McCormick Rankin (and sub consultants) and York Consortium 2002 to undertake the formal environmental assessment work program.

3. BACKGROUND

On June 15, 2007, the Province of Ontario announced \$17.5 billion in funding for transit projects for the Greater Toronto Area and Hamilton. Regional rapid transit programmes for surface rapid transit and as well as the extensions of the Yonge and Spadina subway lines were listed in the 52 projects Metrolinx recommended to the Provincial government as priority projects.

On June 21 2007, Council authorized interim funds of \$3 million from the Regional Capital reserve and directed staff to commence the necessary planning, technical and public consultation work to undertake a formal Environmental Assessment in preparation for the timely extension of the Yonge Street Subway to the Richmond Hill Centre.

A work programme for the Yonge Street study was developed jointly by McCormick Rankin/URS and York Consortium 2002 and approved by Council in September 2007.

The Region's Owner's Engineer, McCormick Rankin, and their sub consultant URS, along with York Consortium 2002, were asked to jointly develop a work programme to undertake early work on the EA. All three companies were deemed well qualified to undertake this work having recently worked together to complete the Spadina Subway assessment, both for the TTC and York Region. In addition, the three companies had been qualified to work for York Region through competitive processes, either as the Region's Owner's Engineer (McCormick Rankin with URS as a sub) or as the Region's rapid transit partner, York Consortium 2002.

In November 2007, Metrolinx identified both the Yonge Street subway extension and the entire Viva rapid transit surface network as Category One projects for the Alternative Financing and Procurement analysis. Concurrently, Metrolinx commenced a GTA-wide transportation plan and detailed business case analysis for each of these projects, along with bringing forward a detailed investment strategy. Staff, along with TTC representatives, have been contributing to the Alternative Financing and Procurement analysis and business case work being undertaken by Metrolinx and Infrastructure Ontario.

On January 24, 2008, Council received a Yonge Street Subway Extension Technical Progress report and authorized the creation of the Yonge Subway Advisory Task Force.

On March 25, 2008, the Provincial government tabled its 2008 budget, which included funding for the implementation of the automatic train control signalling system for the Yonge Subway line. This, along with the new Toronto Rocket subway trains, will provide for needed capacity on the Yonge line to accommodate the new riders anticipated with the opening of the Yonge Subway line to the Richmond Hill Centre.

4. ANALYSIS AND OPTIONS

4.1 COMMUNICATIONS AND COORDINATION

Public and stakeholder consultations were held in June, July and August to discuss stations/locations, the alignments into the Richmond Hill Centre and East Don River crossing

On June 17 and 18, 2008, public meetings were held to introduce the Yonge Subway project to the public. Invitations were sent to residents and property owners along the corridor and ads were placed in newspapers. Both meetings were well attended by approximately 220 people. Attendees were asked several questions regarding some of the key issues along the corridor and 132 people completed surveys.

Public workshops were held on July 31, 2008 and August 26, 2008. Forty-two and 52 people attended the July and August workshops, respectively.

The July workshop focussed on the number of subway stations along the line, crossing options over the East Don River and alignment choices in the Richmond Hill Centre. The workshop was divided into 4 teams who worked independently on the entire subway extension and identified their preferred subway extension concept. Each group recognized the need for stations at Clark, Royal Orchard and Bunker. The groups were split on the need for a station at Cummer/Drewry within the City of Toronto. The majority of groups felt the bridge crossing of the East Don River should have heritage characteristics rather than be constructed as a modern bridge. At the Richmond Hill Centre three groups were split between alignments 'B' and 'C' and one group was split between options 'A' and 'B' (see Figure 1), balancing the need for optimal integration between transit modes with potential future alignments back to Yonge Street and the location of a future potential station in the 16th Avenue.

The August workshop built upon the July workshop, the ongoing technical work and proposed modifications to the northerly limits of the station boxes of the Bunker Station and Richmond Hill Centre stations as a result of consultation with The Town of Markham through their Calthorpe master planning exercise on the Langstaff lands. An additional option for the termination of the future potential 16th Avenue station was presented at both the municipal and technical stakeholder and public meeting workshop.

The number of stations along the corridor was discussed along with the amenities at each station location. The bridge crossing over the East Don River was discussed and the heritage elements of the proposed bridge were discussed. Additional work will be completed to present heritage bridge features for this crossing for the September public meetings. The preferred alignment within the Richmond Hill Centre was presented. The preliminary concepts and findings from the previous days Steeles Station workshop were presented to the attendees and additional input was received.

The draft recommended subway extension project was presented to an afternoon technical and municipal stakeholder and evening public meetings for comment. The rationale for the selected options was discussed and comments were sought on the four key recommendations for the project.

832 surveys have been completed on the line.

A complete chronology of meetings is provided in *Attachment 1*.

A Steeles Avenue/Yonge Street terminal stakeholder workshop was held on August 25th

A stakeholder workshop was held on August 25, 2008 with invitations to City of

Toronto/TTC staff in conjunction with the Town of Markham, the City of Vaughan, the Town of Richmond Hill, and all four corner landowners within a 200 metre radius of Steeles Avenue to consider options for a terminal at Steeles Avenue.

The technical team presented their work to date on station options. Three options were presented to the workshop participants for discussion in break out groups. The three primary options explored were surface bus terminals on the northwest and southwest quadrants and a below grade Steeles Avenue terminal over the subway box. As well, options were prepared for a two-level bus terminal on either side of Steeles Avenue west of Yonge Street, as well as a continuous underground bus terminal within the Steeles Avenue right-of-way, both east and west of Yonge Street. Other facilities, such as passenger pick-up and drop-off, substation, vent shafts and entrance buildings, have been identified and can be placed on any quadrant, except for the passenger pick-up and drop-off facility that would be only on the north side of Steeles Avenue.

Preliminary sketches based on the stakeholders input for Steeles Avenue terminal options were developed and shared at both the staff and public meetings on August 26th.

Technical workshops and meetings were held in July and August with key stakeholder and municipalities

On July 31, 2008, and August 25 and 26, 2008, workshops were held with key stakeholders and municipalities along the corridor, as well as property owners at the Steeles / Yonge Street intersection, seeking their input in filling out detailed technical assessment tables for each of the key decisions to be made on the project.

The July 31, 2008, workshop presented the project to the attendees and discussed the key decision areas for the project, number of stations and their amenities, crossing of the East Don River and the alignments in the Richmond Hill Centre.

The August 26, 2008, workshop presented the draft recommended subway extension project and the decision matrix that was used to inform the decisions that were made. There was discussion within the workshop regarding the alignments from the Bunker Station location through the Richmond Hill Centre up to 16th Avenue intersection. Changes to the alignment to reflect discussions from the Langstaff Land Use study and the relationship of the station in the Richmond Hill Centre and its connection under Highways 7 and 407 to the Langstaff development were presented.

Staff has met regularly with TTC and Toronto staff regarding the progress of the subway project. Meetings with local municipal staff regarding subway planning have occurred at the various workshops. Additional meetings to discuss land use projections and coordination with current land use studies have also occurred. Additional meetings are also being arranged with the local municipalities, individual property owners, key stakeholders, as well as additional meetings with the TTC and the City of Toronto.

Additional Technical Workshops for Steeles Station, East Don River Bridge and Richmond Hill Centre will be held during September 2008.

Yonge Subway Task Force and CAO/Commissioner meetings were held prior to the summer

Meetings with the Yonge Subway Task Force have been held on May 15 and June 24, 2008. The inaugural meeting introduced the project to the Task Force and the next meeting discussed the outcomes of the first public meeting and introduced the technical criteria for the evaluation of the stations, crossing of the East Don River and the alignments in the Richmond Hill Centre.' The next Task Force meeting is scheduled for September 17, 2008.

CAO and Commissioner's meetings were held April 18th, June 2nd and June 22nd on project progress and to seek their input. The next meeting is scheduled for September 19th.

4.2 ENVIRONMENTAL ASSESSMENT

The Ministry of the Environment has approved a 6 month Environmental Assessment approval process for transit projects

On March 28, 2008, the Provincial Government released the details of a proposed Regulation entitled, "Transit Projects and Greater Toronto Transportation Authority Undertakings" for public comment. The Regulation, which outlines a simplified 6 month Environmental Assessment Approval Process for transit projects, including subway projects, was approved on June 24, 2008.

Under the Regulation, the Environmental Assessment process formally commences once a proponent has selected the recommended transit project and has completed enough pre-planning and assessment work to allow for consultation and reviews to occur within 6 months. An Interim Draft Guide released by the Ministry of the Environment in June recommends that proponents have a preliminary draft of the Environmental Project Report prior to formally commencing the process.

The Regulation does not require a proponent to provide a rationale for the recommended project or assess different 'alternatives to the undertaking'. However, it does require a proponent to examine and consult on alternative designs ('alternative methods'). Once the notice of completion is issued, stakeholders have 30 days to review the final Environmental Project Report. Any objections must be received in the 30 day period. If objections are received, the Environment Minister has a 35 day period to consider the objections. The Regulation is very clear in stating that the Minister will only consider objections if the transit project may have a negative impact on matters of provincial importance that relate to the natural environment, cultural heritage value or interest, or a constitutionally protected aboriginal or treaty right.

Confirmation of a Federal Environmental Assessment Act trigger may also result in the requirement for a Federal Environmental Assessment. The project team will consult Federal agencies, the Ministry of the Environment and Metrolinx in an effort to integrate the Federal Environmental Assessment process into the new 6 month Provincial Environmental Assessment Approval Process,

A draft schedule for the Yonge Street Subway Environmental Assessment and Approval Process has been prepared

Attachment 2 provides a study process and schedule for the Yonge Subway Extension, which reflects the process outlined in the proposed new Transit Regulation.

The Environmental Assessment schedule assumes that

- Some form of formal endorsement by the City of Toronto and the TTC for the Environmental Assessment will be provided prior to or during the EA process.
- That the Metrolinx business case and Alternative Financing and Procurement process will continue as a concurrent activity during the fall of 2008.

Once the Environmental Assessment has formally commenced, there will be up to 120 days to finalize and file the Environmental Project Report (followed by up to 65 days of reviews). These 120 days provide time for a streamlined public and stakeholder consultation process. These timelines do not provide for the previous practice of first reporting to Regional Committee and Council, followed by reports to affected area municipalities, before reaching consensus on the project and several months of report preparation and approvals. In addition, other affected stakeholders will also have to provide input and comments in a condensed timeframe. We have endeavoured to provide and will continue to provide for extensive consultation throughout the next several months.

4.3 RECOMMENDED PROJECT DESCRIPTION

A technically preferred Richmond Hill Centre station alignment east of Yonge Street is emerging however further stakeholder consultation is warranted to examine all three alignments over the next several weeks

The Richmond Hill Centre is subject to several constraints. These include operational constraints of the subway system (e.g. tunnel alignment and track geometry), the Hydro Corridor, including several major transmission towers with deep foundations, adjacent land uses and storm water retention ponds.

Numerous alignment alternatives into the Richmond Hill Centre site were generated. One alternative was along the Yonge Street. Other alternatives were between Yonge Street and the Richmond Hill GO Line. Three were carried forward for further analysis and public and stakeholder consultation; one on Yonge Street, and two on the Richmond

Hill Centre site east of Yonge Street (see *Figure 1*).

With over 40,000 passengers per day passing through the Richmond Hill Centre, the subway station should be as closely integrated with the future bus terminal(s), future 407 transit corridor, GO Transit, and other transit modes. This integration will facilitate ease of transfer between modes and pedestrian and commuter connectivity with planned transit-oriented developments in this important regional growth centre. All alignments also need to be designed to ensure future northerly extensions of the subway in the Yonge Street corridor.

The three alignments within the Richmond Hill Centre were analysed against a set of evaluation criteria that included transportation, land use, natural environment, technical, constructability and cost.

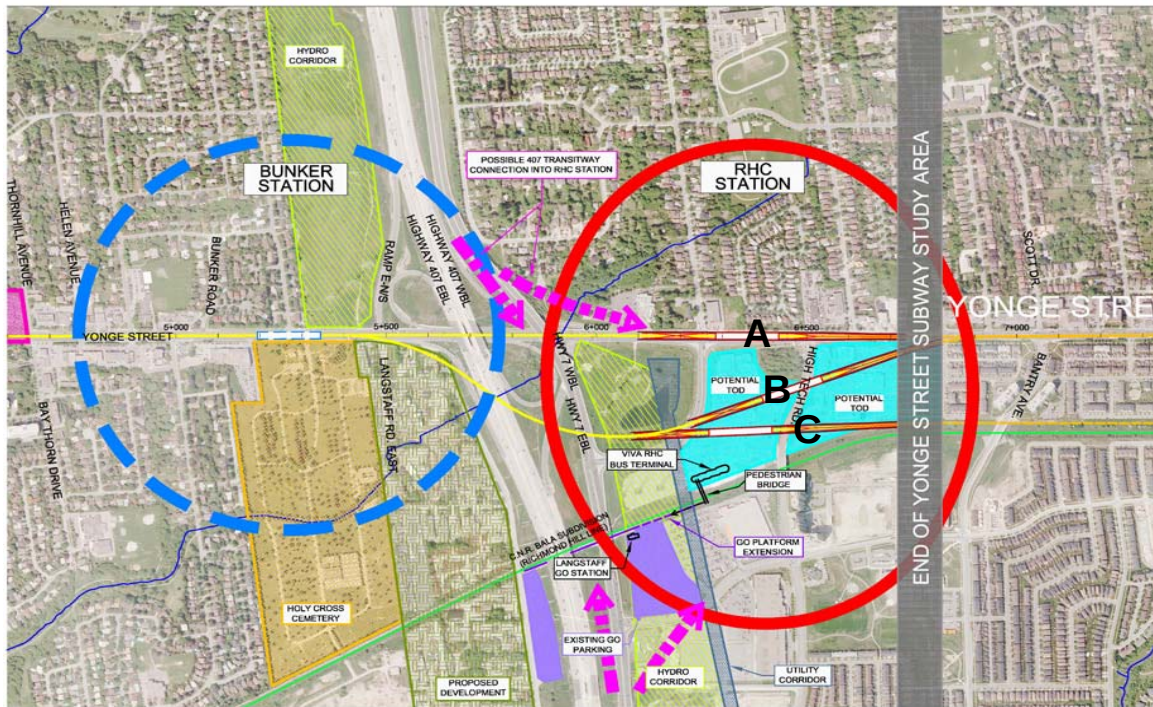
At the August 26th meeting, based on stakeholder, public, and technical input, an emerging technically preferred alignment of option 'C' was presented to the public. The public were advised that Option 'C' appeared to provide the most compact transportation hub with the subway, bus terminal, GO Rail and 407 Transitway, and also provides larger land parcels with frontage on Yonge Street for redevelopment than Option 'B'.

Both alignments 'B' and 'C' east of Yonge Street and west of the Richmond Hill GO Line will minimize construction impacts to Yonge Street and the adjacent stable residential low-density neighbourhood, and will provide for better transit integration and better opportunities for transit supportive development north and south and west of the station.

Since that time the team has been involved in discussions with the Town of Richmond Hill, Metrus-the principal property owner of the site, and Ministry of Transportation Ontario (MTO) on the alignment options. MTO's work on the Highway 407 bus rapid transit (BRT)/light rail transit (LRT) alignments is progressing and further work on their alignments into Richmond Hill Centre with the three options is being examined. Furthermore, both Metrus and Richmond Hill have sought to enter into more detailed stakeholder consultations on the three options over the next several weeks before committing to an alignment.

The team agrees that further stakeholder consultation on the three options is warranted. The parties have agreed that it is desirable to narrow the selection of alternative alignments if possible prior to the commencement of the formal Environmental Assessment process and have undertaken to meet immediately to confirm if the alignments can be narrowed prior to the September 25th public meeting. If a preferred or reduced number of alignments can not be determined prior to that date the study team is satisfied that the formal Environmental Assessment process can commence with more than one alignment for the Richmond Hill centre site being examined. By no later than mid-November a preferred alignment for submission in the final Environmental Assessment report should be determined.

Figure 1
Richmond Hill Centre Alignment Options



As indicated in Figure 1, options 'A', 'B' and 'C' all preserve the opportunity for a further extension beyond the existing study area north and with the alignment able to resume its course along Yonge St. Option 'B' reconnects with Yonge Street just north of the of the study area. Option 'C', follows the CN rail corridor and can reconnect with Yonge Street, either north or south of 16th Avenue, and would be studied, if carried forward as the preferred alignment, as part of any future environmental assessment for the extension of the subway north of the Richmond Hill Centre site.

A bridge crossing of the East Don River is recommended

The horizontal alignment for the Yonge Street Subway extension through the East Don River section is generally within the Yonge Street right-of-way. However, for the vertical alignment, the presence of the East Don River valley limits the possibilities to two main options (see *Council Attachment 3*). The first option is for a combined road / subway ridge over the river or over a culvert, and the second is to tunnel the subway under the river and leave the road as it exists today. Both options have been subjected to thorough analysis based on a number of criteria, taking into account the heritage area and a number of other engineering considerations. The recommended crossing is a bridge over the East Don River with an approximate span of 150 metres (see Figure 2).

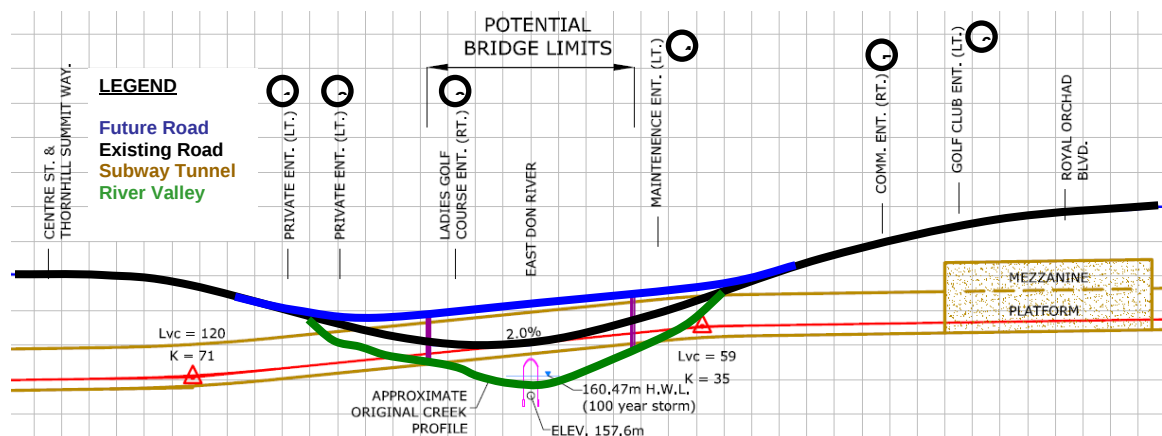
The advantages of the bridge option include:

- Shallower emergency exit buildings on either side of the East Don River to effect easier and quicker tunnel evacuations in the event of an emergency.
- Improvement of the Yonge Street road profile, reducing the gradients which cause pedestrian and traffic hazards in winter and affect bus operations.
- Removal of existing structures within the East Don River with the opportunities to re-naturalize the river valley, and re-establish wildlife corridors.
- Elimination of long term pumping of storm water from the subway tunnels.
- Improved vertical profile of the subway alignment with associated benefits to operations.
- Reduced impact to groundwater during and post construction.

Though independent from the decision to adopt the bridge option, a bridge does benefit the choice of station at Royal Orchard, allowing it to be located closer to the surface whereas a tunnel would require the station to be up to twice as deep as any subway station currently within the System. This thereby eliminates the construction costs of a deep station and ensures good accessibility.

Through our consultation, we have determined that the characteristics of the bridge should reflect the heritage nature of the surrounding area and will also address noise concerns and preserve access to the local golf clubs and other entrances along Yonge Street. The specific characteristics of the bridge, including landowner access, will continue to be subject to public, municipal and stakeholder review and consultation.

Figure 2
East Don River Bridge Concepts



A 6 station subway extension is recommended

The analysis of the possible and preferred station locations was undertaken on a technical basis considering integration with other transit modes, constraints of the right-of-way, opportunities for land use intensification, and anticipated future ridership. In addition, extensive consultation with the public and stakeholders on the number of stations was conducted.

One of the determinants for a successful subway station is the land use density surrounding the station. The TTC, in its 2001 “*Rapid Transit Expansion Study*” summarized that, “...development densities of over 100 jobs and residents per hectare are required to support a high enough quality of transit service to achieve transit mode splits in the order of 30%”. Preliminary land use projections for the recommended stations have yielded densities in excess of the minimum 100 jobs and residents per hectare.

Further criteria have also been analyzed, including, but not limited to:

- Future development opportunities.
- Local destinations.
- Integration with other transit services.
- Opportunities for commuter parking.
- Impact on and benefits to the environment.
- Constructability and cost.

Based on the analysis of the criteria a six station configuration north of Finch, including Cummer/Drewry, Steeles, Clark, Royal Orchard, Bunker and Richmond Hill Centre is recommended. Figure 1 depicts the Bunker station and the Richmond Hill Centre options, while Figure 3 excludes the Richmond Hill options but shows the locations of the remaining five proposed stations north of the current Finch terminal.

Figure 3
Proposed Station Locations, excluding Richmond Hill Centre



4.4 METROLINX ANALYSIS

Metrolinx benefits case and Infrastructure Ontario's alternative financing and procurement analysis are progressing

The benefits case will confirm that respective projects will deliver optimal economic, environmental and social benefits, in accordance with the principles of the Regional Transportation Plan. The Technical Teams, made up of municipal and transit-agency partners, Infrastructure Ontario, and chaired by Metrolinx staff, continue to meet to discuss the analysis for the Yonge Subway project.

York Consortium 2002 has provided costing details, such as capital ridership forecasts under all scenarios to be evaluated, in the benefits case.

On a parallel track, Infrastructure Ontario is in the process of developing a public-sector comparator that will enable the Alternative Financing and Procurement analysis. The comparator will help determine any cost, time and other public benefits (including "value for money") in delivering the project using an Alternative Financing and Procurement approach such as Design-Build or Design-Build-Finance compared to the traditional Design-Bid-Build approach.

The Benefits Case and Alternative Financing and Procurement evaluations are running in an integrated fashion with the Region Transportation Plan being developed by Metrolinx and the completion of the Environmental Assessment.

5. FINANCIAL IMPLICATIONS

The Yonge subway work has been progressing on schedule and on budget within the \$3 million budget approved by council on June 21, 2007. The initial approved work program is ready to progress to the final work program including all activities to complete the Yonge Street Environment Assessment under the six month process. The final work program and associated cost estimate falls within the \$3 million approved budget that was authorized by Council at its meeting of June 21, 2007. It is recommended that this work continue with the existing team of McCormick Rankin and York Consortium 2002, subject to Staff agreement to the final work program and associated fees at a cost not to exceed \$1.2 million dollars for a total of \$3.0 million.

It is anticipated that the recovery of all or the majority the costs to undertake the preliminary planning and technical work and full environmental assessment may be possible upon the successful endorsement of the Yonge Subway project by Metrolinx as part of its RTP, Benefits Case, AFP and Investment Strategy work programme.

6. LOCAL MUNICIPAL IMPACT

The extension of the Yonge Street subway discussion will shape the development of four municipalities for many generations and the continued involvement of these stakeholders throughout the environmental assessment process will be critical.

7. CONCLUSION

The project description for purposes of the Environmental Assessment process was determined after considerable consultation with the public, key stakeholders and municipalities during the summer. The recommended Yonge Subway Extension project description is a 6 station subway with a bridge crossing over the East Don River. The final alignment into the Richmond Hill Centre will continue to be refined throughout the Environmental Assessment process. The initial approved work program is nearing completion and ready to progress to the final work program including all activities to complete the Yonge Street Environment Assessment under the six month process. This report recommends that this work continue with the existing team of McCormick Rankin and York Consortium 2002 at a cost not to exceed \$1.2 million dollars for a total of \$3.0 million. It is anticipated that all or the majority of costs can be recovered upon the successful endorsement of the Yonge Subway project by Metrolinx as part of its Regional Transportation Plan, Benefits Case, Alternative Finance and Procurement and Investment Strategy work programme.

The work for the Yonge Street Subway Extension is progressing towards commencement of the Yonge Subway Assessment and Approval Process, targeting approval in early 2009.

For additional information please contact Mary-Frances Turner, Vice-President, York Region Rapid Transit Corporation at (905) 886-6767 ext. 2226.

The Senior Management Group has reviewed this report.

(The three attachments referred to in this clause are attached to this report.)