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YORK REGION TRANSIT
GREATER TORONTO AREA FARE COLLECTION SYSTEM

The Transit Committee recommends:

1. **The presentation by Rajeev Roy, Manager, Transit Management Systems be received; and**

2. **The recommendations contained in the following report, June 6, 2006 , from the Commissioner of Transportation and Works and the Commissioner of Finance be adopted:**

1. RECOMMENDATIONS

It is recommended that:

1. Council authorize the expenditure of up to $7.39 million as the capital cost for the implementation of the Greater Toronto Area Fare System (GTAFS or "Smart Card"), based on the price quoted by the selected vendor, exclusive of applicable taxes.

2. Council pre-commit the funding for the GTAFS to be included in the 2007 and 2008 Business Plans and Budgets.

1. Council approve the Ministry of Transportation, Ontario (MTO) entering into, as authorized agent, a contract with the selected vendor for the implementation of GTAFS, pursuant to the provisions of the GTA Fare System Procurement Governance Agreement.

2. The Region enter into the GTA Fare System Operational Agreement with MTO, the Greater Toronto Transit Authority (GO Transit) and other participating municipalities for the purpose of providing for the operation and use of the GTAFS, subject to review by Legal Services.

3. Council authorize Rajeev Roy, as its Steering Committee Member, and Donald Gordon, as its Executive Committee Member, each to perform any action, and provide any required recommendations, instructions and approvals to their respective Committees, on the Region's behalf, to complete the operation within the scope of the GTA Fare System Operational Agreement, and to appoint alternate members to the Steering Committee and Executive Committee to perform same in their absence.

4. The Region enter into a funding agreement with MTO and the above mentioned parties in respect of the provincial one-third share of the capital costs of the GTAFS, subject to review by Legal Services.

5. The Region enter into a Service Level Agreement with MTO in respect of service level standards for the Region's municipal system under the GTAFS, subject to review by Legal Services.

6. The Regional Chair and the Regional Clerk be authorized to sign the above-mentioned agreements on the Region's behalf, together with any ancillary documents thereto, subject to review by Legal Services.

2. PURPOSE

The purpose of this report is to seek Regional Council authorization for the following:

- MTO to enter into a contract with the selected vendor for the implementation of the Greater Toronto Area Fare System (GTAFS) in the Region. MTO was assigned the right within the Procurement Governance Agreement signed by all participating agencies in June 2005, to act as the agent for the Region in the procurement of the equipment and services required for the GTAFS.
- The Region to enter into an Operating Agreement between the participating agencies that set out the terms and conditions of the management and operation of the GTAFS.
- The Region to enter into a Funding Agreement with MTO that sets out the terms and conditions for the sharing of the GTAFS capital cost.
- The Region to enter into a Service Level Agreement with MTO that sets out the expected levels of service during the management and operation of the GTAFS.

3. BACKGROUND

The proposed GTAFS is intended to provide a common fare card (smart card) that would allow customers to ride on any participating GTA transit system without pre-purchasing tickets or passes, and without knowing in advance the fare policies or having the exact cash fare for each transit system. This GTA fare card would provide fare payment on all systems and accommodate the fare policies of all service providers, including intersystem transfers, discounts and customer loyalty schemes, in a way that would be essentially transparent to the customer. Customers would still be able to pay in cash if they choose. The GTAFS would act as an important enabler of transit integration in the GTA.

There are two major components to an integrated smart card system. York Region Transit, as well as all other participating municipal transit service provider system transit agencies, will require a computer system, and all buses will be equipped with card readers known as fare transaction processors. A central system will enable fare integration between transit systems, and will reconcile transit system revenues on a daily basis to ensure each service provider agency receives the appropriate revenues.

GO Transit defined a need for a new fare collection system, which coincided with the needs of surrounding GTA transit systems. Given the desirability of integrating transit services, a collaborative effort between operating authorities made sense. MTO recognized this need and committed up to $40 million to cover a portion of the two major components needed for successful fare integration. MTO will cover 33% of capital costs attributed to each local transit authority smart card system needs, and 100% of the capital and ongoing operating expense of the common central system.

In 2003, York Region Transit (YRT) signed an administrative framework accord between the Ontario Ministry of Transportation and GTA transit agencies. The accord constitutes the administrative framework needed to coordinate the design-related activities between the signatories. The accord is not a legally binding document, rather it was designed to enable the project Steering Committee to make timely decisions and recommendations to successfully complete procurement documents and address transit authority concerns during the design process.

In December 2004, Regional Council confirmed its commitment to the GTAFS and approved an allocation of up to $2.8 million in the 2006 through 2008 capital budgets for the Region’s share of the capital costs of the system. Regional Council requested staff to report back with the results of the procurement to enable Council to determine whether the Region will proceed with its participation in the GTAFS, should its share of the estimated costs exceed the approved amount by 15% or more.

In June 2005, the Region signed the procurement agreement with all other participating agencies. The procurement agreement authorizes MTO to act as an agent of the Region and all participating agencies for the procurement of the equipment and services required for the GTAFS.

It is noted that the following branches/staff have provided significant support in attending various working group and sub-committee meetings and their contribution is appreciated by the MTO project office and York Region Transit:

- Supplies and Services – Stan Gal, Keith McClatchie
- Finance – Ken Hill
- Legal Services – Elizabeth Wilson, Janis Vanderburgh
- York Region Transit – Paul Tobin, Steven Baldo, Roman Yusfin

3.1 Request for Qualification (RFQ)

MTO, with participation from all other GTA transit agencies, went through a request for qualification (RFQ) process for short-listing the potential vendors capable of successfully delivering the GTAFS. The process involved a written response to 50% ready specifications at that time, general specifications and oral interviews. The process was completed in March 2005. The following four vendors were short-listed as part of the RFQ process:

- IBM Canada Ltd.
- Accenture Inc.
- CGI Inc.
- CSC Computer Sciences Canada Inc.

3.2 Request for Proposal (RFP)

The draft request for proposal (RFP) documents were released to the short-listed vendors in advance of the final RFP, and the short-listed vendors were given the opportunity to provide comments on the design specifications. Their comments were reviewed by the project procurement, finance and legal subcommittees and incorporated into the RFP to the extent possible.

The final RFP documents were released to four short-listed vendors in October 2005 and three responses were received in January 2006. CSC Computer Sciences Canada Inc. advised MTO that they would not be submitting a response.

4. ANALYSIS AND OPTIONS

4.1 Revised Cost

4.1.1 Capital Cost

Council had approved an allocation of up to $2.8 million in December 2004 as the Region’s share of the capital costs for GTAFS. The original cost estimate was based on the following quantities and assumptions:

- 240 YRT buses
- Estimated equipment supply and installation costs
- Estimated program management, design, testing and warranty costs

The capital cost has been revised based on the unit rates quoted by the selected vendor, and equipment quantities projected for 2008, the likely year of implementation in the Region. The revised quantities also include the equipment for Viva bus rapid transit shelters and handheld card readers for the enforcement officers. The revised capital cost estimate is based on the following quantities and unit rates quoted by the selected vendor:

- 344 YRT buses
- 110 Viva bus rapid transit shelters having approximately 150 fare transaction processors
- 20 handheld card readers

A summary of the cost estimates is provided in Table 1.

Table 1
GTAFS Capital Cost

	Dec'04 Quantities (Estimated Unit Rates)	Dec'04 Quantities (Quoted RFP Unit Rates)	Projected 2008 Quantities (Quoted RFP Unit Rates)
Estimated Capital Cost	\$2.8M	\$5.04M	\$7.39M
MTO's Share (1/3rd)	\$0.93M	\$1.68M	\$2.46M
York Region's Share (2/3rd)	\$1.87M	\$3.36M	\$4.93M

4.1.2 Operating Cost

The operating cost estimates have changed since December 2004 due to the introduction of Viva in September 2005. The changes have been primarily due to the following:

- Maintenance cost of off-board fare collection equipment.
- Additional fare media for the ticket vending machines.
- Revenue collection costs for collecting revenue from the ticket vending machines.
- Establishment of the Enforcement group within YRT to enforce proof-of-payment.
- Establishment of Transit Management Systems (TMS) group to provide in-house support to the off-board fare collection system.

It is estimated that there will be a net savings in operating costs of approximately \$3.23 million over a ten year period, or \$323,000 per year. The following additional costs and savings have been taken into account while estimating the net operating costs:

- Additional hardware maintenance cost due to fare transaction processors installed on-board and at Viva bus shelters.
- Savings in ticket/pass printing costs.
- Savings in revenue collection costs.
- Savings in maintenance costs on ticket validators installed at Viva bus shelters as validators will not be required after the implementation of GTAFS.

4.1.3 Total Cost

A summary of the ten year total cost, including capital and operating costs, is provided in Table 2.

Table 2
Ten Year Total Cost

Cost Components	2004 Estimates	No Change in Existing 2006 Fare Collection System	GTAFS
GTAFS capital costs including Ramp-up costs	N/A	N/A	$9.20M*
MTO's Share (1/3rd)	N/A	N/A	$3.07M
York Region's share of capital cost	N/A	N/A	$6.13M
Ten year operating cost	$10.7M	$35.3M	$32.07M
Ten year total cost	$10.7M	$35.3M	$38.2M

* $ 9.20 million includes the estimated capital costs ($7.39 million) and ramp-up costs such as contract administration costs, additional design costs for integration with Viva bus rapid transit shelters etc.

4.2 Cost Justification

The revised capital cost is based on the unit rates quoted by the selected vendor. The selected vendor has scored highest on the technical and management proposal and is also lowest on the financial proposal. The GTAFS project office has provided the following justification for an increase in the estimated capital costs:

4.2.1 Fixed Cost Contract

MTO and the participating agencies wanted cost certainty and the short-listed vendors were requested to quote for the ten year contract for both capital and operating costs. These were based on volume estimates provided for a progressive roll-out of the system across the GTA. The cost includes the following:

- Fixed capital and operating costs for the term of the contract (ten years).
- Hardware replacement in year five.
- Contract termination costs if it is terminated at the end of ten years.
- All business and technical requirements will be documented and submitted.

4.2.2 Risk Transference

MTO and participating agencies wanted the majority of the development and operational risks transferred to the vendor. As such, the contract requires the vendor to deliver quality systems on time and meet stringent service levels during operations. To protect the interests of MTO and participating agencies, the vendors were required to include the following:

- Performance bond to cover delivery and operational risks.
- Unlimited liability for most risks up to a limit of $50 million.
- Contract exit ramps at key delivery points if the vendor is unable to meet the expectations.
- Prime vendor will be responsible for all of its sub-contractors.

4.2.3 Service Levels

Since the GTAFS is a customer-facing payment system, system availability is a high priority for all participating agencies. The service level agreement has been set at a very high level and includes penalties for non-performance. Disaster recovery plan conditions are stringent to avoid system outages in case of prime system failure. Duplication of production sites and equipment for back-up are mandatory.

4.2.4 Software Licenses

The contract includes volume licenses for all custom and off-the-shelf software products. It provides the following:

- Protection against negotiation for additional licenses in the future for increases in the numbers of buses, garages, sale locations and card holders.
- Preserves the right to connect equipment from other vendors in future without additional payment.
- Software will be designed to accommodate maximum anticipated transaction volumes to avoid costly and risky software upgrades in the future.
- Right to extend the GTAFS to include parking or other municipal services without additional license.

4.2.5 Open Interface Standards

The GTAFS project office has developed Open Interface Standards, compliance to which will allow the participating agencies to purchase equipment from any other vendor in future. This safeguards the interest of the participating agencies against getting locked-in with one vendor due to a proprietary central system and field hardware supplied by them. The initial cost of developing this Open Interface Standard is very high, but the return in the long run is expected to be very beneficial. The vendors have indicated that the compliance to the Open Interface Standards has been a direct cost driver in their proposals.

4.2.6 Business Requirements

The 1,200 pages of business and technical requirements were developed over a two year period, reflecting the detailed business model and functions required by the participating agencies to meet all of the needs for a farecard. The vendor must deliver 100% of the requirements at a fixed cost. It is expected that the project will involve minimum change orders.

4.3 Selected Vendor

In June 2005, the Region signed a procurement agreement with all other participating agencies. The procurement agreement authorizes MTO to act as the agent of the Region, and all participating agencies, for the procurement of the equipment and services required for the GTAFS. The Ontario Provincial Standards procurement policy requires that the name of the selected vendor not be revealed until the contract is awarded. Since award will follow the approval process for each of the ten participants and a final Executive Committee meeting, it is not possible to abide by Ontario Provincial Standards policy to protect the name throughout the process. Unlike other procurements that are conducted within a single organization, maintaining confidentiality of the name across ten organizations over a two month period is not practical.

Considering the above, the GTAFS project office has not disclosed the name of the selected vendor. However, the selected vendor will be one of the three short-listed vendors who submitted their proposal in response to the RFP. They are:

- IBM Canada Ltd.
- Accenture Inc.
- CGI Inc.

This is consistent with the provisions of section 14 (Co-operative purchasing) of the Region's purchasing By-law.

Once approvals are received from all participants (target end of June) and the GTAFS Executive Committee has recommended entering into a contract with the vendor, MTO will be in a position to announce the award to the successful vendor and release the name. Formal signing of the contract will follow shortly afterwards, once the contract documents are prepared and finalized with the vendor.

4.4 Operating Agreement

In December 2004, Regional Council authorized York Region staff to negotiate the terms and provisions of an operating agreement for the GTAFS with MTO that will define:

- a framework for detailed decision-making regarding the operation of the GTA Fare System involving MTO, GO Transit and GTA municipalities.
- the roles and responsibilities of participating agencies.

It includes the terms and conditions necessary in the operation of the GTAFS and legally binds all the participating agencies.

At a very high level, the operating agreement defines the following:

- The respective roles, rights, responsibilities and relationships of the participating agencies.
- The relationships between the vendor, MTO, municipalities and GO Transit.
- The mechanisms that will allow changes to the GTA Fare System and to adapt to new circumstances.
- The mechanisms for the parties to work together at various levels.
- A framework that would allow the parties to work within a longer term governance context.
- The level of commitment of all parties in working together fairly and responsibly.
- All participants are equal parties to the agreement.
- The Operating Agreement is consistent with the Procurement Governance Agreement signed in June 2005.
- A communication plan for MTO and municipalities to communicate with the public about the GTA Fare System and to enhance opportunities for appropriate, continuous and consistent recognition of the co-operative efforts of the participating agencies.
- Ownership interests in all aspects of their system including all related devices, equipment, parts, spares and related networks that it had paid for.
- Operating funding arrangement between the municipalities and MTO.
- Data access rights between the municipalities and MTO.
- Liability of MTO and municipalities in various claims.

The agreement has an initial term of ten years with the option of three extensions of three years each when agreed by all participating agencies.

The Region's Legal and Transit staff have been actively involved in the finalization of operating agreement terms and conditions. The Region is satisfied with the final version of the operating agreement.

4.5 Funding Agreement

The Region will be entering into a Funding Agreement with MTO to obtain the province's share of one-third of the capital cost of the GTAFS. The funding agreement will describe the terms and conditions of the sharing of capital costs of the GTAFS. The funding agreement is based on the procurement agreement signed in June 2005 by all participating agencies.

The Region's Legal and Transit staff will be actively involved in the finalization of funding agreement terms and conditions.

4.6 Service Level Agreement

MTO will sign a Service Level Agreement with the selected vendor to ensure that the service level standards are in compliance with the operational requirements as stated in the RFP. MTO will, in turn, sign a service level agreement with the municipalities in order that they secure the same level of service on their system. Following are the important service level standards/requirements stated in the RFP:

- Data upload and download between the central and municipal systems.
- Technical support and maintenance to the municipal systems.
- Third party network support.

The Region's Legal and Transit staff will be actively involved in the finalization of service level agreement terms and conditions.

4.7 Implementation Schedule

The GTAFS is proposed to be implemented in accordance with the following schedule:

- Fall 2007 – GO Transit, Mississauga Transit, TTC (Union Station) on a pilot basis.
- Early 2008 – Burlington, Oakville, York Region, GO Transit (Lakeshore West).
- Late 2008 – Mississauga, Hamilton, Brampton, Durham Region, GO Transit (Other routes).
- TTC – to be determined.

4.8 Relationship to Vision 2026

The development of a GTA fare system using smart card technology is supportive of the Vision 2026 goal to "… have effective, efficient and environmentally sensitive transportation, waste management and water systems", and the action areas around that goal, including "developing an integrated transportation network " and "making transit accessible".

5. FINANCIAL IMPLICATIONS

The total capital cost to the Region to purchase, install, test and rollout the GTAFS is estimated at $7.39 million. This will need to be included in the 2007 and 2008 Business Plans and Budgets.

Table 3 provides the cost sharing arrangement between the Region and MTO.

Table 3
Cost Sharing Arrangement

Cost Components	MTO	York Region
Capital costs – municipal system	1/3rd ($2.46M)	2/3rd ($4.93M)
Capital costs – central system	100%	-
Operating costs – central system	100%	-
Operating costs – municipal system	-	100%

It is estimated that there will be a net saving in operating costs of approximately $3.23 million over a ten year period, or $323,000 per year resulting from a reduction in maintenance costs for Viva ticket validators and printing costs for fare media.

Funds for this project had been identified for 2007 and 2008 in the 2006 capital budget, however in order to commit to the contract terms, this funding now needs to be pre-committed.

One of the criteria to qualify for the provincial gas tax funds is to demonstrate participation in the GTA Fare System project. York Region was one of the first municipalities to join the GTA Fare System project. For 2007 provincial gas tax funds will be available for offsetting operating and capital costs on a 50:50 basis.

Table 4 provides a summary of actual and projected federal and provincial gas tax funding provided to the Region.

Table 4
Gas Tax Revenues – Actual and Projected ($million)

	2005	2006	2007	2008	2009
Provincial	7.7	9.1	11.3	11.3	*
Federal	7.1	7.1	9.5	11.8	23.7
Total	14.8	16.2	20.8	23.1	-

* Information not available at this time.

6. LOCAL MUNICIPAL IMPACT

The development of a fully integrated GTA fare system using the smart card technology will further enhance public transit as a transportation option. This, in turn, will support the modal split objectives of the Region and all local municipalities.

7. CONCLUSION

It is recommended that an expenditure of up to $7.39 million towards the capital cost for the implementation of Greater Toronto Area Fare System (GTAFS) be approved.

It is also recommended that the council authorize the Regional Chair and Regional Clerk to sign the following agreements subject to review by Legal Services:

- Operating Agreement
- Funding Agreement
- Service Level Agreement

The Senior Management Group has reviewed this report.