

**Management’s Response to the Auditor General’s Review of the
Information Technology Projects – Opportunities for Improvement
Toronto Transit Commission**

<u>Rec No</u>	<u>Recommendation</u>	Agree (X)	Disagree (X)	<u>Management Comments:</u> <i>(Comments are required only for recommendations where there is disagreement.)</i>	<u>Action Plan/ Time Frame</u>
1.	The Chief General Manager of the TTC and the City Manager be required to develop a formal working protocol on all issues relating to Information Technology. Such a protocol to include ongoing communication and collaboration, the sharing of information technology systems and software licenses, the development of new systems, the acquisition of new systems and the sharing of resources including staff and consulting services.	X		<p>We concur that a formal meeting to discuss IT related protocols is worthwhile between the Chief General Manger (CGM) and the City Manager.</p> <p>It should be noted that the TTC already works closely with City staff on IT matters of mutual interest. The following are examples of contracts in place of mutual benefit as well as initiatives reviewed together :</p> <ul style="list-style-type: none"> o City Of Toronto Telephone Agreement o TORNET/METRONET o Wireless RFP o Voice over IP (VOIP) <p>The TTC will continue to review our licence needs with City staff and take advantage of any opportunities for sharing.</p> <p>Opportunities for sharing of resources will be undertaken whenever practical.</p>	<p>Formal meeting between TTC CGM and City Manager to establish protocols</p> <p>1st quarter 2008</p> <p>Ongoing discussion between the City staff and TTC staff will occur on an ongoing basis. The City, Police and the TTC IT management will continue to share annual budget and project details via regularly scheduled quarterly meetings.</p> <p>Ongoing</p>

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2.	The Chief General Manager of the TTC, during any preliminary deliberations relating to Information Technology development and acquisitions, consult on a priority basis with the Deputy City Manager and Chief Financial Officer at the City in order to determine whether or not there are opportunities to take advantage of available SAP applications. Further, the City and the TTC ensure that the benefits and advantages accruing to the City as a result of the establishment of the SAP Competency Centre are shared with the TTC.	X		The TTC has already conducted a Life Cycle review of our legacy systems in 2004 / 05, which would appropriately fit within an SAP type enterprise solution. As a result, it was determined that current Financial systems are supportable and can meet the TTC business needs for the next Life Cycle. Potential application of individual SAP modules will be considered when any new systems are being considered by the TTC.	To be considered as part of new TTC IT systems acquisitions. Ongoing

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3.	The Chief General Manager of the TTC develop a formal process for the review and follow-up of recommendations made by the Auditor General. Such a process to take into consideration the review of audit reports relating to City Divisions and its Agencies, Boards and Commissions. Further, the Chief General Manager of the TTC review all audit reports previously issued by the Auditor General pertaining to information technology issues in order to ensure that all appropriate recommendations which may have relevance to the TTC are implemented.	X		TTC IT staff will review previously issued City Audit reports for applicability to TTC systems. Further, as part of the ongoing quarterly meetings between TTC, City and Police IT management, mutual audit reports will be shared and a review and assessed for applicability to TTC systems	ITS Department to review past city audits in 2008 and dependent upon application of findings that may be relevant to the TTC, an action plan will be developed April 2008 Reviews of new Audit reports to form part of meeting between City, Police and TTC IT management, starting with the next meeting Ongoing

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4.	The Chief General Manager develop detailed guidelines or criteria relating to the two-step approval process for the development of large information technology projects. The Chief General Manager ensure that business cases for all proposed information technology projects are prepared in accordance with the two-step TTC approval policy.	X		We concur with the Audit report that when projects were initially established prior to the introduction of our methodology, the 2 step approval process – which includes initial project viability assessments and then formal approvals to proceed by Senior Management, was not adhered to for all projects. However, currently, all projects strictly follow this approval process which forms the basis of the annual TTC Capital Budgeting strategy.	Complete

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5.	The Chief Information Officer at the TTC, in consultation with the Chief Information Officer at the City, develop guidelines, including specific templates for the development of comprehensive business cases for all information technology projects. Information Technology projects not be considered or initiated unless detailed business cases have been prepared, evaluated in detail and approved by senior management. Approval for all such business cases should be in writing.	X		<p>The current ITS Project Methodology, in particular the Project Viability Assessment and the Project Feasibility Study templates, includes the requirements for Senior Management sign-off on business requirements definition and the potential for return of investment (ROI).</p> <p>All current initiated projects follow the defined project methodology, which includes templates for development of business cases.</p> <p>The TTC participates in quarterly meetings between the City and Police IT managers. As part of these quarterly meetings, we will table our current documents and review with the other 2 participants with the aim of creating a common set of methodology and template documents.</p>	<p>To be reviewed at the next quarterly meeting between TTC/ City and Police IT management</p> <p>1st quarter 2008</p>

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6.	The Chief Information Officer review detailed cost estimates for information technology projects for accuracy and reasonableness prior to submission to the Technology Advisory Council. Such a review be clearly documented and approved.	X		We concur with the audit report that detailed cost estimation was problematical in initial work planning. The ITS Department has recognized the importance of project estimation, in particular as it relates to larger, more complex projects. As such, an initiative commenced in 2007 that introduces greater emphasis on Project Estimation, the application of a tool to facilitate consistent approaches to project estimating; and training for all Project Managers on the process for project estimation along with the use of the tool and templates. The project estimating requirements classifies the various stages of project development and implementation which lends itself to more clearly defined costs as more details are learned on the project path. (see attached chart). The ITS Department also called upon representatives from the Gartner Group, IT industry experts, to assess the project methodology and estimating	Complete

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				practices in place. Fundamentally, they indicated the experiences of the TTC were in the norm for companies involved with large complex projects. This information was subsequently shared with the TTC E-committee, which is comprised of the TTC Chair and 2 Commissioners.	
7.	The Chief Information Officer, in approving information technology projects, develop and establish separate budgets for sub-projects within each large information technology project. Such a process will ensure that costs are more easily managed and controlled.	X		We concur that cost control is an important aspect of IT project work. As the City Auditors have found, once TTC IT staff identified deficiencies in this regard when projects commenced in 2001, improvements were introduced. Currently, the ITS Department conducts sub-project work as part of large complex projects to facilitate better management and tracking of the specific deliverables. Although Estimated Final Costs (EFC) information is reflected in the overall line items for these initiative in the TTC Capital Budget submission, specific annual costs (probable and budget) reflected across 5 – 10 year for the sub-project work is detailed in the TTC project submissions. Monthly capital	Complete

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				budget Project Status Reports, which are contained in the Chief General Manager's report, document the status of the sub-project work and report cost / schedule variances. Therefore TTC Senior Management are given the necessary information and opportunity to assess sub-project work against the budget.	
8.	<p>The Chief Information Officer identify areas where the Information Technology Services Department has skill shortages or insufficient staff resulting in repetitive and extensive long-term use of consultants:</p> <p>(a) present the appropriate business cases justifying meeting long-term operational demands by increasing staffing levels, such increases to be financed by the transfer of funds from consulting budgets to salaries and wages budgets;</p>	X		<p>Commencing in 2002, staff identified the need for augmented skill requirements for Project related work.. In order to obtain the necessary skill sets, arrangements were made to establish a series of 8 contracts with vendors to supply technical expertise to ITS. These contacts have permitted ready access to the market for the needed skills, normally for short duration.</p> <p>However, some lessons have been learned over the years, such as:</p> <ul style="list-style-type: none"> • Some skills are common among Projects 	Complete

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	<p>(b) where possible, ensure sufficient TTC staff are trained in skills required frequently and on a long-term basis, thus reducing the TTC reliance on contractors to perform such duties; and</p> <p>(c) ensure that the continuous operation of critical management information systems is not dependant upon a single individual or small groups of consultants.</p>			<ul style="list-style-type: none"> • Some contractors are being rehired from Project to Project • Costs for contractors are higher than for comparable skilled staff employee • Continuity of skills between Projects and post Project support are missing • Skills learned by the contractors acquired while working on the Project leave the Organization when the contractor leaves <p>All these factors led ITS Management to reconsider the method for some staffing of Projects. In 2006, IT staff identified the need for a workforce review and as part of the 2007 ITS Budget Goals and Objectives (Goal #1), plans for such a review were provided for, to not only look at the contractor situation in more detail, but to fundamentally review the Department’s resource alignment for the strategic direction of the department. Internally to assist with this review</p>	

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				<p>process, staff undertook a zero based budget approach, rolling up and assessing all necessary work requirements and determining the time / resource requirements to accomplish them. As well, the Directors reviewed the future technological demands they anticipated the department will face over the next 5 – 10 years, with newer technology coming into the organization through systems’ upgrades and replacements. Finally, to assist staff in the overall review, an outside consultant firm, Compass, was hired.</p> <p>Compass maintains a database of I.T. skills and organization structures gathered from throughout North America. They were contracted to conduct a review of the current resources and skills currently in place in the ITS Department and compare it against their database.</p> <p>Key findings from the Compass review were:</p>	

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				<ul style="list-style-type: none"> • A significant number of contractors were augmenting the IT projects – consideration should be given to replacing some of these resources by hiring employees • The overall structure and allocation of the Department was generally in line with the industry – some opportunities for re-allocation of resources between areas should be explored • The full time equivalent (FTE) staffing of the Department was in line with the industry – noting this was only accomplished by considering contractor resources as FTE (i.e.: ITS approved workforce is 150 – Compass suggests this should be in the range of 200) • There were opportunities for outsourcing some work done within the department 	

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				<p>Based upon all the reviews, ITS have now incorporated a plan in the 2008 budget that calls for commencing the conversion of up to 37 contractor positions into regular staff positions. It is anticipated that it will take up to 2.5 years for the full conversion to be completed, as the integrity of work requirements on current projects must be maintained. Consideration was given to hiring of temporary or contract employee resources. However, in view of the salary differential between an employee and a contractor, it was not deemed likely that a skilled contractor would give up their current lucrative arrangement for a temporary contract job offer.</p> <p>A period of overlap of the contractor with the newly hired employees has been factored into the conversion plan as well to allow for information exchange on Project activities before the contractor is released. It is projected that the conversion program will result in a net</p>	

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				<p>budget reduction of \$200k in 2008, eventually rolling up to approximately \$1.5M (\$1.2M Capital and \$300k Operating) over time.</p> <p>The approach being taken will allow for assessments on the expected benefits from the conversion process. Should these benefits not be forthcoming, staff will stop the process and re-assess. Further, for any future IT Project initiatives, consideration will be undertaken up front to determine if the necessary skills requirement are best met by a contract position or through the hiring of an employee. Again, this will be undertaken prudently to ensure any proposed increase to staff is necessary and sustainable for the long term and not to meet an immediate skills shortfall.</p> <p>As well, some minor re-allocation of staff resources between sections to better align the skills within the department, as recommended by Compass, have been</p>	

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				<p>incorporated into the 2008 budget. No net workforce increase results from these changes.</p> <p>Also, a standard has been established within the Project Management group called for Project Management Professional (PMP) certification for all current and any new hires into that group.</p> <p>This information has been tabled with our TTC E-Committee and the Commission who have approved the approach which has subsequently been factored into the ITS 2008 budget submissions.</p>	

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9.	The Chief Information Officer ensure that measurable deliverables, standards, acceptance and payment criteria are included in all consultant contracts. Invoices not be paid unless they contain an adequate level of information to support such payment. Standard consultant contracts in place at the City be used as a guideline in developing contracts at the TTC.	X		Details of contracts and deliverables have been tightened up. Invoices are reviewed for accuracy of work / time submissions by Contractors. The technical resources utilized by the TTC are contractors not consultants – they provide a technical service and expertise to IT related projects. The contracts established with 8 vendors were created according to established Procurement procedures and standards in the TTC for the hiring of contractors. The TTC M&P staff will confer with City procurement staff to determine if any changes to TTC procurement standards are required in this regard.	Documentation and measurement of deliverables from IT contractors Complete M&P Staff to confer with City procurement staff on potential content changes for IT technical contractual procurements June 2008
10.	The Chief Information Officer, in consultation with the City's Chief Information Officer, establish minimum documentation standards required in support of information technology projects.	X		Improvements to the standards for document administration and management have been introduced ... TTC ITS will contact the City CIO and share our information	Contact with city CIO and arrangements for providing TTC documentation standards June 2008

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11.	The Chief General Manager review the role and mandate of the Technology Advisory Council, particularly in relation to monitoring of the ongoing progress of major technology projects. The Technology Advisory Council be required to review the progress of information technology projects in terms of costs and completion dates.	X		<p>A review of the TAC role was completed January 2005 and its responsibilities clarified. The current process for TAC review of new project submissions involves a review, presented by the TTC CIO, on the status of all projects, which is necessary to assess where and how a new project may fit into the IT programme at the TTC.</p> <p>Once a project has been approved, on an ongoing basis, the project review process calls for the CIO and project Steering Committee management being responsible for the ongoing monitoring and reporting of project activities to the Senior Management, TTC-E-Committee and the Commission. Steering Committees meet on a monthly basis to review project status and provide guidance to the Project Manager and their staff to resolve issues to advance the project. This approach has proven most effective.</p>	Complete

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12.	The Chief Information Officer review the Project Management Framework to ensure Project Status Reports provide a comparison of actual costs with original estimated costs and timelines.	X		The current TTC budgeting practice for IT projects involves the frequent updating of project status to Senior Management, the TTC E-Committee and the Commission. Initial ‘budget markers’ within the outer years of the 10 year Capital Budget forecast should not be used as the definitive costs for a project. Only once the PVA and Feasibility assessments are complete, will more accurate project cost estimates be possible. With regards to the audit report summary of project variances since 2001, please note that these estimates were established immediately following Y2K and formed part of an initial long term strategy for planning IT related work. The \$\$\$ shown in 2001 were the ‘best guess’ by the TAC group and no detailed project costing was carried out. As experience was gained by IT staff over the course of the projects which commenced in 2001, it was determined that the 2001 high level estimates were	Complete

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				<p>not good enough to allow for strategic planning and budgeting. This was determined through actual experience with projects; the identified need to increase quality assurance testing and their resulting costs; more detailed reviews being conducted. As such, during the 2004 budget presentations by the CIO and TAC, revised project estimates were tabled which are more representative of project costs and timelines. The increased costs were of concern to the CGM who agreed to move forward with some of the major projects with the new increased costs (eg: VWO, DOSS, Fare Media Management); canceled some projects (eg: Wheel Trans AVL); and called for a revised mandate for TAC (implemented January 2005). As a result, the baselines established for projects from 2004 onward are to be used for comparative purposes for project tracking.</p>	

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13.	<p>The Technology Advisory Council periodically report to the General Manager on major information technology projects and related information technology priorities. The reporting process for each project should at a minimum include:</p> <ul style="list-style-type: none"> • a detailed description of each large information technology project; • progress to date; • budget and milestones, including historical budget information; • return on investment; and • related performance measures. <p>Consideration be given to initiating a similar reporting process to the Commission.</p>	X		<p>We concur that the Chief General Manager must be kept apprised of any major developments regarding IT related projects. A review of the TAC role was completed January 2005 and its responsibilities clarified. Their primary function is to review new projects for consideration for implementation. The CIO and project Steering Committee management are responsible for the ongoing monitoring and reporting of project activities to the Senior Management, TTC-E-Committee and the Commission. Steering Committees meet on a monthly basis to review project status and provide guidance to the Project Manager and their staff to resolve issues to advance the project. This approach has proven most effective. Further, members of the Commission are kept apprised of project status and issues via presentations to the regularly scheduled TTC E-Committee; monthly Project Status Reports, which are contained in the CGM</p>	Complete

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				report tabled with the Commission each month; and detailed Capital Budget reviews. At the direction of the E-Committee, reports are directed to the Commission's attention, as required.	
14.	The Chief Information Officer review and update the Project Management Manual to ensure existing project management processes, procedures and templates are relevant and applicable to the TTC's information technology environment. Periodic updates should be undertaken to ensure procedures are complete, current and consistent with industry best practices. Consultations be held with the Chief Information Officer at the City in connection with the review and update of the Project Management Manual.	X		The TTC IT Department is completing an exercise that will merge its IT Project Methodology with the Life Cycle Management process. The intent is to update all our documentation accordingly. Annual reviews of the documentation for all IT processes is already in place. TTC IT have already provided copies of the TTC Project methodology and the revised accountability charts associated with our review. Once our updated documents are completed, these too will be provided to the City CIO.	Provide final version of TTC IT Project Methodology documents to City CIO June 2008

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15.	<p>The Chief Information Officer ensure that, subsequent to the completion of all information technology projects, final “close-out” reports are submitted to the Chief General Manager through the Technology Advisory Council. Such reports to include a comparison of original cost estimates, benefits and timelines to actual results. Further, the Chief Information Officer, upon completion of a project, ensure that consultants’ performance is documented and made available to all appropriate staff including those at the City.</p>	X		<p>The TTC IT Department has already established a process for creating a ‘Lessons Learned’ document at the completion of a project, which is shared with the other Project Managers and Directors in IT.</p> <p>TTC CIO will provide a summary report at the conclusion of a project to Senior Management, advising them on the project deliverables, costs, timelines and lessons learned. Performance of contractors is already a project requirement ... on an annual basis and upon completion of a project a formal evaluation of the individual contractors is conducted.</p> <p>The CIO will review the proposal for making contractor evaluations available to City staff with our Legal and Material & Procurement Department staff to determine if this is appropriate.</p>	<p>Report to Senior Management at completion of a project to be established as a standard practice.</p> <p>Immediate implementation</p> <p>Performance measurement of contractors already in place</p> <p>Complete</p> <p>Legal and M&P review of providing TTC contractor information to the City</p> <p>April 2008</p>